

Michelle M. Langston. Using WordPress as a Content Management System for Community Newspaper Websites. A Master's Paper for the M.S. in I.S. degree. January, 2010. 76 pages. Advisor: Paul Jones

This project examines how WordPress, a weblog publishing platform, can be used as a content management system for community newspaper websites. Because it is free and open source, WordPress has emerged as a viable alternative to its commercial counterparts. This paper documents the planning, design, development and proposed implementation procedures of "Citizen Press", a newspaper-style WordPress website layout, or *theme*. The launch user of Citizen Press, *The Carrboro Citizen*, is a weekly newspaper covering the town of Carrboro, North Carolina. *The Carrboro Citizen* will test Citizen Press for several months to uncover bugs and usability issues. Later, a generic version of Citizen Press will be released to the WordPress community so that similar newspapers may use it. Citizen Press was designed with attention to web standards, information architecture, usability, accessibility, cross-browser compatibility and search engine optimization.

Headings:

Websites - Design

Websites – Design – Standards

Information Systems – Design

Website Development

Content Management System

News/Internet Resources - Web sites

USING WORDPRESS AS A CONTENT MANAGEMENT SYSTEM FOR
COMMUNITY NEWSPAPER WEBSITES

by
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A Master's paper submitted to the faculty
of the School of Information and Library Science
of the University of North Carolina at Chapel Hill
in partial fulfillment of the requirements
for the degree of Master of Science in
Information Science.

Chapel Hill, North Carolina

January 2010

Approved by

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Acknowledgements

I am grateful to Mr. Kirk Ross, editor of *The Carrboro Citizen*, for the opportunities he has provided me, including designing the paper's website. I would also like to thank my advisor, Professor Paul Jones, for his patience, advice and support.

Finally, I would like to thank all of those who supported me in any respect during the completion of this project.

Introduction and Rationale

Purpose

This project has two objectives. The first is to argue that utilizing a free, open-source content management system can be an effective way for community newspapers to start and maintain a website. The second is to demonstrate exactly how community newspapers can design, build and implement such a website using such a system. This project defines “community newspapers” as newspapers that: 1) have a circulation of less than 100,000; 2) serve a narrowly defined audience; 4) do not publish daily and 5) are under local ownership. Examples of newspapers that meet these criteria include small local papers, neighborhood papers, organizational papers and school papers. A paper need not meet *all* of the criteria listed above, but many meet at least one.

To accomplish the first objective, I first provide an overview of content management systems, followed by a discussion of the differences between free and proprietary content management systems. Finally, I will make a special case for WordPress, the content management system selected for this project — arguing how its features make it a viable content management system for a community newspaper website.

To accomplish the second objective, I describe the planning, design, development and proposed implementation of a newspaper website template. The convention within the WordPress community is to refer to templates as “themes”, which this paper will do henceforth. Another convention is to name all themes; therefore I refer to the theme developed for this project as “Citizen Press.” The launch user of the Citizen Press theme is *The Carrboro Citizen*, a weekly newspaper covering the town of Carrboro, North Carolina. *The Carrboro Citizen* will implement the completed Citizen Press theme on its website. After about five to six months of use and testing, I will release a generic version

of Citizen Press to the WordPress community, so that newspapers similar to *The Carrboro Citizen* may use the theme for their websites.

This report is divided into six chapters. Chapter 1 discusses the role of community newspapers, followed by an introduction of *The Carrboro Citizen* and its website. Chapter 2 contains a brief overview of content management systems with an emphasis on WordPress. This chapter also takes a look at some initiatives designed to help community newspapers get online. Chapter 3 presents an overview of best practices in website design based on a review of relevant literature. In Chapter 4, the design and development processes of Citizen Press are described in detail. Chapter 5 outlines the proposed implementation plan and use-case scenarios for the completed Citizen Press theme, and Chapter 6 discusses limitations, conclusions and lessons learned. The Appendix contains resources that aid in the usage of the theme.

Rationale – Challenges facing newspapers

The role of the World Wide Web in society has never been as prominent as it is now. In response to this, websites have become a necessity for individuals and organizations. News organizations are no exception. The Pew Research Center found in its 2008 news media consumption survey that print-only newspaper readership among participants dropped from 34% in 2006 to 25% in 2008; while the readership of online newspapers increased by 6% in the same time period (Dilling 2009). Even though younger generations (Generations X and Y) were more likely to read the news online than their older counterparts (the Silent/Greatest Generations), the study found that newspaper readership among all generations has declined over the past decade (Pew Research Center, 2009). The real-time nature of the web offers such instant gratifications as continuous coverage, free availability and the ability to share and access the news from any location with an Internet connection. Furthermore, the rise in popularity of social media websites such as Twitter and Facebook has led to speculation that social media will become the “new mass media”, heavily influencing the behavior and expectations of consumers as a result (Mermigas 2009).

Another challenge facing news organizations is an overall decline in advertising revenue, which for most is a major source of income. In 2008, print advertising revenues saw a decline of 17.7% when compared to that of 2007, and classifieds declined by 29.7% (Schonfeld 2009). Online advertising revenues also declined by 1.8% (Schonfeld 2009). News organizations have compensated for these losses either by downsizing — be it their staff, editions or publishing frequency — or by ceasing operations entirely (Schonfeld 2009).

Despite the challenges consumer usage of the web poses for news organizations, it need not spell the end of these organizations. A news website that utilizes social media effectively can generate considerable advertising income (Kintzler 2008). To that end, many news websites have embraced online community-building features such as user comments, forums, customizable home pages, “most popular content” lists, and links that allow users to share stories with friends on social networks such as Twitter and Facebook. The use of social media can help community newspaper websites become a central source of information for the locality or organization they serve, as well as potentially strengthening the print edition by generating more reader interest (Kintzler 2008).

While such interactive news websites can bring financial benefits, their setup and maintenance can be expensive. Large news organizations, especially those owned by parent corporations, invest thousands of dollars into proprietary content management systems and outside web development firms. Some news organizations develop their own in-house content management systems. Maintaining these systems requires a specialized staff; often an entire web team. Community papers may not have access to the same financial resources. With a smaller staff and circulation, these papers may find a free, open source content management system such as WordPress to be a feasible alternative platform for building a website.

Rationale – Why WordPress?

WordPress was selected as the content management system for the development of the Citizen Press theme because *The Carrboro Citizen*, the theme’s launch user, currently runs its website on WordPress. There are no plans to migrate to a new system within the

time period of this project. *The Carrboro Citizen* first installed a newspaper-style WordPress theme in 2007 that I developed as a project during the Fall 2007 SILS course INLS 572: Internet Applications, and continued to use it through 2009. Citizen Press is intended to serve as the second generation of this theme. *The Carrboro Citizen* has seen how WordPress's features can be adapted to meet the needs of a newspaper website. Citizen Press will push the limits of WordPress even further to show the extent of its flexibility.

Despite the fact that WordPress was selected because *The Carrboro Citizen* uses it, it is an attractive content management system in its own right. As we will see in Chapter 2, the extensibility of its features allows developers to adapt it to just about any type of website. The strength of its user community and wide availability of third-party contributions all help to make WordPress a stable platform on which to build. The goal of this project, however, is not to convince users to choose WordPress over similar content management systems. Most of the concepts and procedures described in this paper can benefit those who wish to build an online presence using any content management system.

Chapter 1: Intended Users

The Role of Community Newspapers

In the Introduction, I described some of the characteristics of community papers: 1) circulation of less than 100,000; 2) serve a narrowly defined audience; 4) do not publish daily; 5) under local ownership. Those characteristics help distinguish community papers from their larger counterparts. This chapter takes a closer look at these characteristics. This examination is necessary because it leads to a greater understanding of the intended users of Citizen Press. Understanding the users is a crucial factor in the success of any interaction design (Head 2000;).

Because they focus on a specific audience — be it a town, a school or organization or a neighborhood — community papers are more likely to cover events of interest to that audience that larger papers may not pick up. For example, the North Carolina town of Carrboro, with a population of approximately 18,000, rarely gets coverage in the larger papers of the area unless something extraordinary occurs (such as the time when anti-war activist Cindy Sheehan dropped by the town's main mall in July 2007). *The Carrboro Citizen* is able to step in and provide news coverage specific to Carrboro. Examples of such news include proceedings from town meetings, school honor rolls and local politics. Furthermore, by selling advertising space to local businesses, papers like *The Carrboro Citizen* can help promote the local economy.

Another characteristic of community papers is their generally less-frequent publication schedule. While some may publish daily, many, such as *The Carrboro Citizen*, publish once weekly or even once a month. A website offers the opportunity to reach a wider audience, both within the community and outside of it. A community newspaper can also use its website to publish exclusive online content in between the regular publication schedule. As Kintlzer (2008) points out, a website that allows users to participate may help the community to better connect with itself.

The Carrboro Citizen

The Print Edition

As mentioned in Section 1.1, *The Carrboro Citizen* covers stories of interest to the town of Carrboro. Often referred to as the “Paris of the Piedmont”, Carrboro has a vibrant arts scene, a nearby university, active politics and many locally owned and managed businesses, including a nationally-recognized Farmer’s Market. The citizens of Carrboro voted to add a printed newspaper to the list as well.

The Carrboro Citizen published its first issue on Thursday, March 22, 2007, and continues to publish every Thursday. The length of the paper varies by week, but it usually ranges from 8 to 12 pages. Coverage includes music and arts calendars, a community calendar, community news, celebrations, opinions and commentary, stories centered on farms, food and nature, general local news, schools (complete with lunch menus and honor rolls) and local sports. In addition, the paper includes classified and display advertising, real estate listings and a local service directory. It is free to pick up *The Carrboro Citizen* in Carrboro and the surrounding towns of Chapel Hill, Hillsborough and Pittsboro. Sustainability is one of the paper’s principles. Instead of delivering a copy to every single driveway in Carrboro, readers must pick up the paper themselves at designated locations in town. This saves money and resources and allows the paper to adapt easily to changing circumstances.

On October 4, 2007, *The Carrboro Citizen* launched the first issue of *Mill*, a monthly publication that runs stories about art, music and literature. In addition to *Mill*, the paper publishes special editions on occasion, such as an annual guide to living and working in Carrboro and guides to town festivities such as Carrboro Day.

The Website

Unique about *The Carrboro Citizen* is the fact that its accompanying website launched concurrently with the first edition of the printed paper. The website consists of the “main site” and a family of themed blogs¹. The main site contains stories and calendars from the print edition, as well as classifieds and links to pages with general

¹ Blog is short for “weblog”, type of website with content posted in a diary-like fashion.

information about the paper. Stories are posted to the site on Thursdays, the same day that the paper is published. Citizen Press will essentially serve as a redesign of this main site. The main site also serves as the gateway to the Carrboro Citizen Blog Network, a collection of blogs about specialized subjects (ranging from politics to sports). Some stories from the paper are also posted on the blogs, and the blogs may be updated in between the paper's regular publication schedule. This project will not focus on the Blog Network except when it comes to directing users from the main site to the individual blogs.

As mentioned in earlier, *The Carrboro Citizen* runs its main site on WordPress using a newspaper theme that I developed previously. Figure 1 shows a screenshot of this theme. The blogs run WordPress also, but they do not use the newspaper theme.



Figure 1. Screenshot of Carrboro Citizen website using news theme developed in 2007.

Community Newspaper online publishing initiatives

There have been several outreach programs — ranging from teaching to web hosting — that are dedicated to helping community newspapers publish online. One such

program, J-Learning, was founded as a project of J-Lab. J-Lab is part of the School of Communication at American University in Washington, D.C. The goal of the J-Learning project is to “help individuals, civic groups and school groups jumpstart their own community media projects” (J-Lab.org). The organization’s “Newspaper in a Box” guide is an example of progress toward this goal. The comprehensive guide, written by Mark Briggs, instructs in detail how to build a newspaper website, from layout and design to promotion and implementation. It also includes primers on WordPress and Blogger. The primer is thorough in its overview of WordPress, but it does not go into detail about creating a theme.

CoPress, another project aimed at community journalists — college journalists in particular — was founded by a group of student journalists in 2009. CoPress states that its aim is to develop a collaborative, community-oriented resource for college news publishing (CoPress.org). Like J-Learning, CoPress dedicates itself to innovation in journalism. One way in which CoPress is working to achieve its goal is by helping college news websites transition to WordPress as an alternative to commercial solutions (CoPress.org). CoPress offers web hosting, workshops and WordPress plugins.

Chapter 2: Content Management Systems and WordPress

2.1 Brief Overview of Content Management Systems

Traditionally, the practice of creating websites involved writing multiple HTML or XHTML pages that contained both content and design elements. HTML, (*hypertext markup language*), and XHTML (*extensible hypertext markup language*) are languages that use a set of pre-defined tags¹ to describe how a single web page should look and the content it should contain. Web browsers interpret these tags and display the resulting page on a computer screen. The World Wide Web Consortium (W3C), the organization responsible for creating standards in the practice of web coding, writes the specification for both languages. HTML and XHTML are virtually identical in syntax, with XHTML containing additional attributes that make it compatible with XML (*Extensible Markup Language*). From this point forward, this paper uses the convention (X)HTML in the singular to refer to both languages.

Because (X)HTML does not manipulate variables, it is said to be static. Gradually, the W3C began to push toward standardizing (X)HTML, including the practice of separating a website's content from its design. In fact, the W3C recommends that web designers use a different type of document to write all of the design rules for a webpage — the Cascading Stylesheet (CSS). An (X)HTML document that links to a stylesheet “imports” the styles. Figuratively speaking, (X)HTML serves as the “body” of a webpage while CSS serves as the clothes.

While design can be shunted off into a CSS document, the content — that is, the body text — can also be separated. Relational databases such as MySQL, PostgreSQL and MS Access can store content, and web scripting languages such as PHP and

¹ This paper does not provide tutorials on how to write any of the mark-up and scripting languages that are mentioned. Links to primers can be found in the Appendix.

ASP.NET act as “glue”, bringing the content stored in databases together with the design (CSS) and page structure ((X)HTML) stored in directories on the web server. In this manner, web pages are created dynamically. A content management system is an application that allows web designers to build websites that 1) store content in a database; 2) store site design in CSS and (X)HTML templates; and 3) use a scripting language to fuse all of these components together. Content management systems vary in difficulty and in purpose. Some are highly specialized, intended to power a certain type of website, while others are more general. For example, osCommerce is a content management system that functions as an online shopping cart. Joomla! and Drupal were specifically intended to support any type of website. WordPress’s intended function is to serve as a content management system for blogs. Popular content management systems often have vibrant user communities, which provide user-to-user support as well as third-party “modifications” and “plug-ins” that extend the capabilities of the system.

2.2 Free vs. Proprietary

Content management systems fall into two broad categories — free and proprietary. Free systems, like WordPress, do not require a fee for use. They are also more likely to be developed by a large community rather than by a for-profit organization. Proprietary systems do require purchase of a license and are often considered commercial products. Expression Engine is an example of a proprietary content management system.

The term *open source software* is often used interchangeably with “free”, but the terms are not synonymous. When an application is “open source”, users can view and modify its source code. In contrast, a closed-source application only runs; its source code is inaccessible. The majority of commercial applications are closed-source — the Microsoft Office suite, Apple iTunes and Adobe Photoshop to name a few. Google’s Gmail is an example of a free, closed source application. Due to the nature of the web, almost all content management systems are open source. The license under which a system is released controls the legal use of the source code. Many free open source systems such as WordPress are released under the GNU’s General Public License (GPL). The GPL allows any user to modify or redistribute the source code and all derivative works. Proprietary

open source systems such as Expression Engine are released under licenses that restrict free distribution of the source code.

Free and proprietary content management systems both carry advantages and disadvantages, outlined in Table 1. Organizations must weigh these and decide which best fits their current need. While I do not attempt to convince users to use either, I support free, open source content management systems because they are readily available and thus accessible to a wider audience, especially community newspapers.

<i>Table 1 – Free vs. Proprietary Content Management Systems – Advantages and Disadvantages</i>		
Type of System	Advantages	Disadvantages
Free	<ul style="list-style-type: none"> • Does not require the purchase of a license. • Often carry strong user communities. • Accessible to a wider audience. • Fewer restrictions on use of source code. • The product does not have to be tied to a particular business, organization or individual. 	<ul style="list-style-type: none"> • No guaranteed support from developers; carries a “do-it-yourself” aspect. • Documentation is often incomplete or lacking altogether. • Source code is more likely to be buggy and have security flaws. • The product’s survival relies on the strength of the user community and dedication of the developers.
Proprietary	<ul style="list-style-type: none"> • Often carry more premium features. • Guaranteed support from the developers and less “do-it-yourself.” • Source code is less likely to have bugs or security holes. • Can still have a strong user community to supplement support from the developers. • Well-documented. 	<ul style="list-style-type: none"> • Require a license for use, which can be expensive. • Restrictions on use of the source code and development of third-party add-ons. • Financially tied to a particular organization that may affect the nature and direction of the product. • Not as accessible to wide audiences due to the cost.

2.3 Advantages of Content Management Systems

The main advantage of content management systems is that *all* users need not be web designers or programmers in order to create and maintain a website. A robust

content management system can allow content producers to update pages without touching a line of code. Advanced functionality such as searchable content, page comments and site configuration are handled automatically. Content management systems also help novice web designers create a consistent design throughout the entire site. Advanced web designers and developers can apply custom modifications to create a more unique look. Finally, most content management systems have a user role system which can facilitate the flow of content onto the website.

2.4 Disadvantages of Content Management Systems

The use of a content management system can also bring disadvantages, primarily on the issue of information security. Unlike static markup languages such as (X)HTML and CSS, the scripting languages that power a content management system are designed to manipulate variables in order to “make something happen”. When static websites were the norm, hackers and other malicious users generally had no means of breaking into web servers other than guessing at administrative passwords placed on the server. Websites that run dynamic applications provide hackers with more potential entry points into a web server, especially if the code is either outdated or poorly written. For example, I mentioned earlier that many content management systems store data in relational databases such as MySQL and PostgreSQL. A common technique hackers use to break into such databases is SQL injection, in which ambiguous SQL queries are exploited. Through SQL injection, hackers may be able to create, drop and manipulate database tables, leading to disastrous results. A recent report from the Secure Enterprise 2.0 Forum stated that hacking attempts are on the rise for sites using “Web 2.0” social media technologies (Newswire Today 2009). Traditional media sites accounted for 18% of the hacking attempts in early 2009 (Newswire Today 2009). Furthermore, if hackers know that certain content management systems are popular among certain types of sites, they will quickly attempt to identify weaknesses in these systems so that they may target sites that run them.

Another potential disadvantage of a content management system is the increased strain that they place on the web server in the form of database queries and repeated script execution. Most modern website hosts maintain powerful servers that can support

power-hungry applications, and a website with moderate traffic would not even notice the additional strain. But a site that sees heavy traffic may use up many more resources than allowed by the host, and this may lead to considerable rise in hosting costs if the site must be moved to a dedicated server.

Ultimately, the decision to use a content management system must be backed by a commitment to information security and server resources management. Content management systems are not a “set-and-forget” mechanism. All data must be backed up regularly; the system must be updated at all times to avoid vulnerability to security holes, and the permissions of files on the server must be monitored regularly to ensure that they are not open to exploitation. Just as the system itself is dynamic, so too must be its maintenance.

2.5 WordPress

In 2003, developers Matt Mullenweg and Mike Little released WordPress as the successor to the discontinued blog publishing system b2/cafelog (WordPress.org). WordPress is written in PHP and uses the open source MySQL database system to store all content. At the time of this writing, there have been twelve major releases of the WordPress software, all but the first named after famous Jazz musicians. The twelfth and current release (at the time of this writing), is version 2.9: Carmen. The WordPress development team puts out a major release at least once every six months, with smaller maintenance releases in between. By September 2009, the number of people using WordPress was 202 million worldwide; 62.8 million within the United States (Wikipedia 2009). WordPress has matured from a small blogging platform to a flexible publishing system that has powered websites of all kinds — from individuals to portfolios to newspapers to corporations.

As mentioned in Section 2.2, WordPress is released under the GNU GPL license. The GPL license grants users the freedom to run, modify and redistribute the software as long as any derivative works retain the GPL license (WordPress.org). Users are also free to develop third-party plugins and themes, which they may either sell or release for free. Under the GPL license, developers of third-party plugins and themes must release all parts of their work that contains WordPress code under the GPL, regardless of whether or

not they charge a fee for the plugin or theme. In other words, any part of a third-party add-on that uses WordPress code must also be subject to free modification, improvement and distribution. This requirement has caused some disagreement within the WordPress community — primarily among developers of paid, or “premium” — themes (Mullenweg 2009), especially after WordPress removed all premium themes that do not conform to the GPL from its official theme directory (Mullenweg 2009). The debate continues today.

2.5.1 Server Requirements

In order to install WordPress, one must have a web hosting account that provides ample space and some sort of uniform resource locator (URL) to access this space.¹ A top-level domain name is not necessary to install and run WordPress, but it is recommended for professional purposes. Top-level domains can be registered with either a registrar or a web host and then pointed at the web space. This paper does not go into detail about registering for domains and hosting, but the Appendix includes a section with links to tips on setting up a web hosting account and a domain name.

WordPress will run on any server that supports PHP and MySQL, but the WordPress developers recommend running WordPress in either an Apache or Lightspeed server environment (WordPress.org). At the time of this writing, WordPress requires PHP 4.3 or greater and MySQL 4.0 or greater. Most web hosts support both, especially those that run the Linux or Unix operating system. The amount of disk space required for a basic installation is approximately 15 megabytes, well under the minimum offered by many web hosts. Over time, the addition of content will increase the amount of space required.

Finally, the web host must provide access to the web space via file transfer protocol (FTP). FTP allows the transfer of files between a local computer and the web server. FTP access usually involves a user name, password and an FTP client application. A list of recommended FTP clients is provided in the Appendix. Some web hosts do provide automatic installations of software like WordPress through the hosting control panel, but I recommend the installation of WordPress using the FTP method, because

¹ There is also a hosted version of WordPress at <http://www.wordpress.com>, but at the time of this writing, WordPress.com does not provide the ability to install custom themes or plugins. Therefore, I focus on the developer version of WordPress available from <http://www.wordpress.org>.

manual installation provides greater control over files and initial settings. Furthermore, it is not possible to add themes and plugins using an automatic installer.

2.5.2 Installation and Configuration

The latest release of the WordPress software is always available as a free ZIP download at <http://www.wordpress.org/download>. The unzipped archive contains the source code, default templates and plugins and basic installation instructions. The WordPress Codex (<http://codex.wordpress.org>) provides more detailed installation instructions. A typical WordPress installation usually completes in less than ten minutes. After it is installed, WordPress can then be configured. Figures 2-8 show screenshots of the WordPress installation and configuration screens.

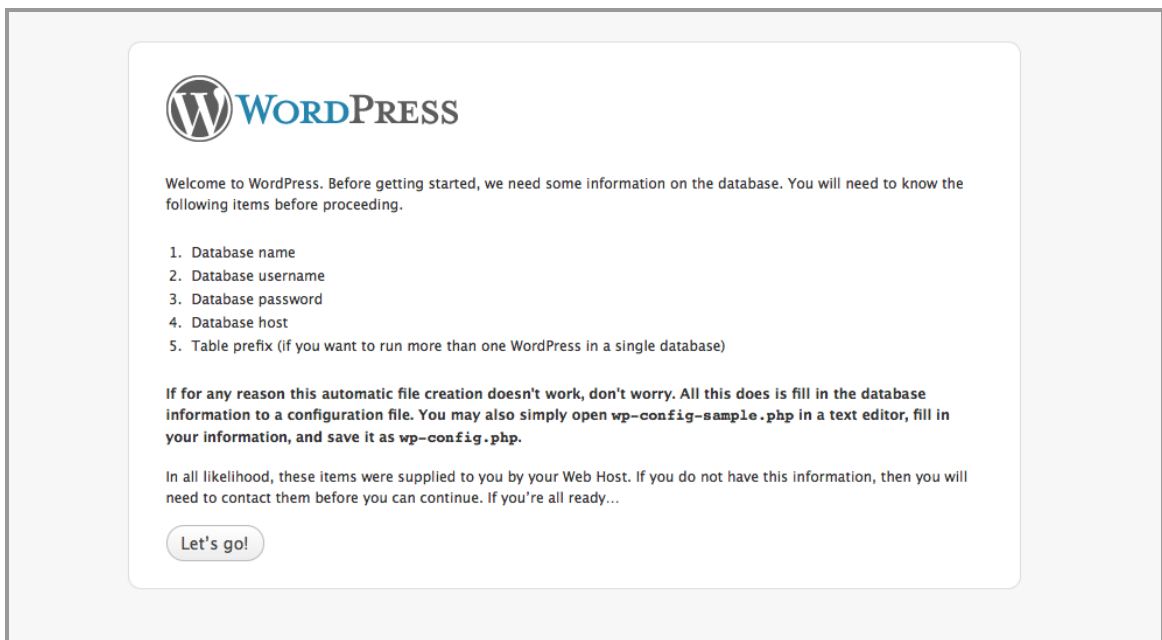
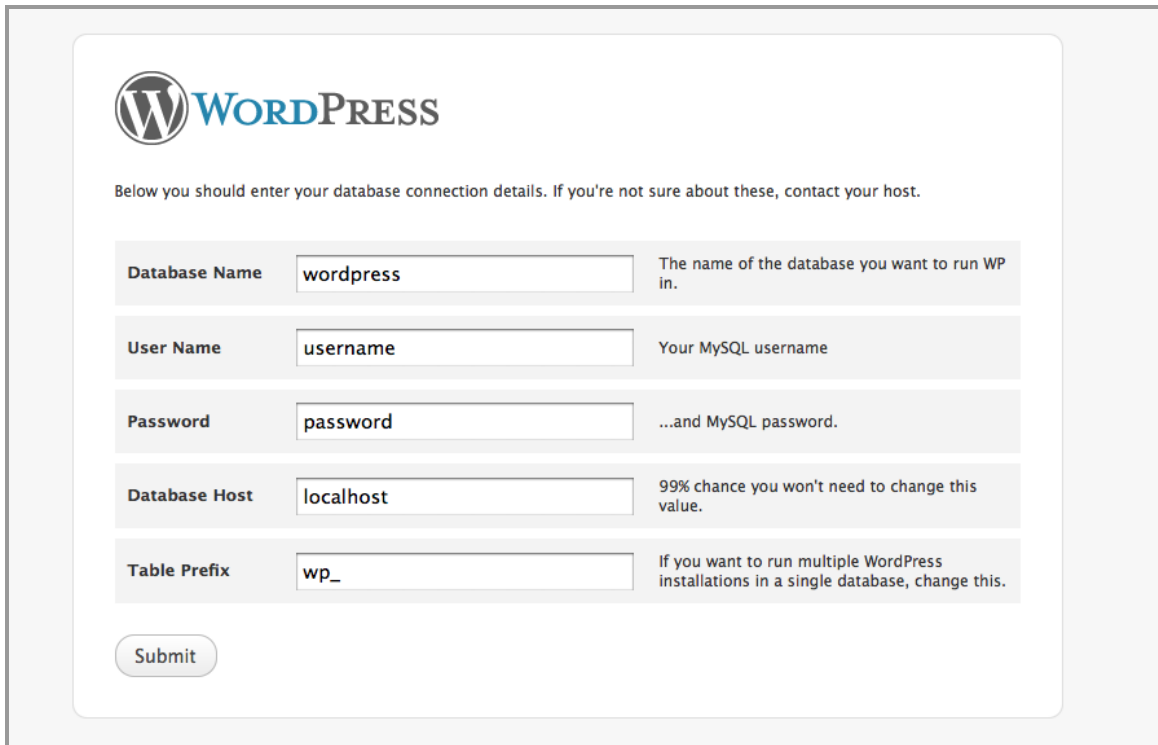


Figure 2 - Pre-Installation Screen

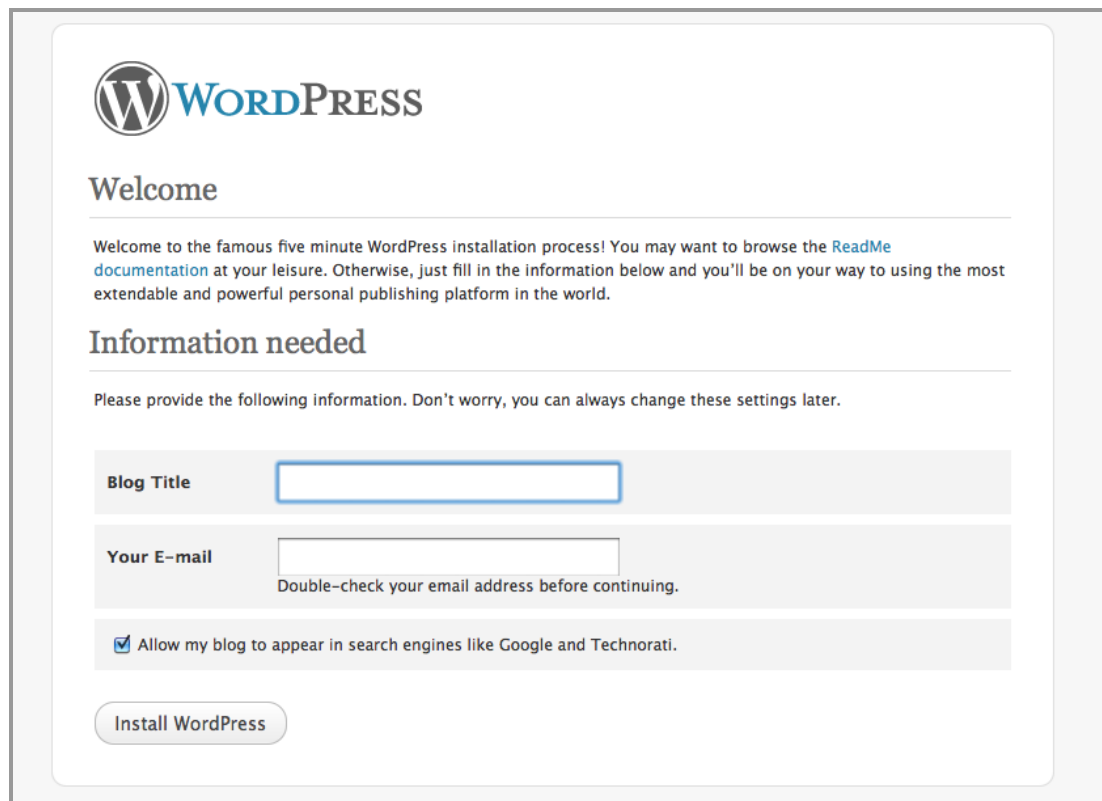


The image shows the WordPress database configuration screen. At the top left is the WordPress logo. Below it, the text reads: "Below you should enter your database connection details. If you're not sure about these, contact your host." There are five input fields, each with a label and a description:

- Database Name:** Input field contains "wordpress". Description: "The name of the database you want to run WP in."
- User Name:** Input field contains "username". Description: "Your MySQL username"
- Password:** Input field contains "password". Description: "...and MySQL password."
- Database Host:** Input field contains "localhost". Description: "99% chance you won't need to change this value."
- Table Prefix:** Input field contains "wp_". Description: "If you want to run multiple WordPress installations in a single database, change this."

At the bottom left is a "Submit" button.

Figure 3 – Next, the installer prompts the user to enter information about the MySQL database.



The image shows the WordPress "Welcome" and "Information needed" screen. At the top left is the WordPress logo. Below it, the text reads: "Welcome". There is a horizontal line. Below the line, the text reads: "Welcome to the famous five minute WordPress installation process! You may want to browse the [ReadMe documentation](#) at your leisure. Otherwise, just fill in the information below and you'll be on your way to using the most extendable and powerful personal publishing platform in the world."

Information needed

Please provide the following information. Don't worry, you can always change these settings later.

There are three input fields:

- Blog Title:** An empty input field.
- Your E-mail:** An empty input field. Below it, the text reads: "Double-check your email address before continuing."
- Allow my blog to appear in search engines like Google and Technorati.

At the bottom left is an "Install WordPress" button.

Figure 4 – Creating the blog title and administrative email address.



Figure 5 – After WordPress is installed, the root administrative user and password are automatically generated.



Figure 6 – The login screen to gain access to the Dashboard (administrative back-end).

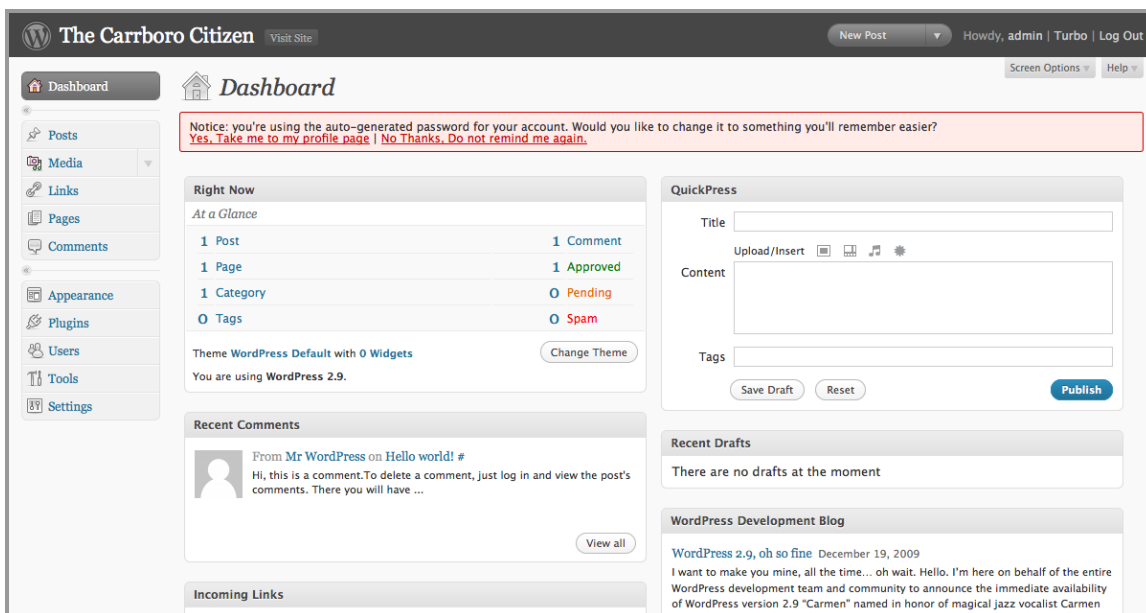


Figure 7 – The WordPress Dashboard (back-end), where posts, pages and other content can be created.

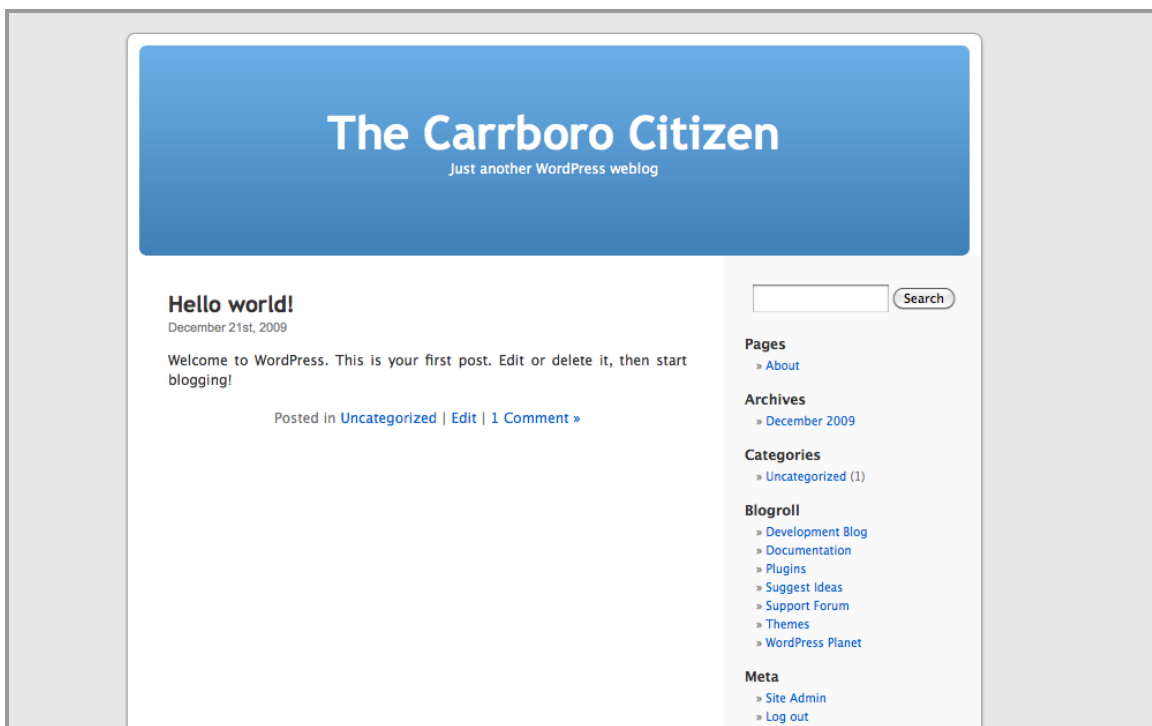


Figure 8 – The appearance of every WordPress site after WordPress is first installed

2.5.3 Posts, Pages, Categories, Tags, Widgets and Plugins

Because it is at its core a blogging system, WordPress creates two types of content — *posts* and *pages*. Both can contain text, images and rich embedded media. Posts are associated with a time-stamp: a day, month, year and time. As a result,

WordPress can list posts chronologically, like a diary. WordPress can also archive, search and sort posts using the date or time attributes as criteria. Every aspect of post display — from the order in which they appear to aesthetics — is controlled by the current theme in use. Pages are like posts, but are not associated with a time-stamp and so fall outside of the post chronology. Thus, pages are suitable for more “static” content, such as an “About Us” or a “Contact us” page. In addition, pages can have “children”, or sub-pages.

WordPress organizes posts into *categories* and *tags*. For example, a newspaper website may contain several categories: “Schools”, “Community” and “Opinion.” A post about a new school opening in town would then be placed in the “Schools” category. Posts can appear in an unlimited number of categories. Categories can also contain sub-categories. For example, “Columns” can be a sub-category of “Opinion.” Like categories, tags classify posts. And like categories, a post can contain any number of tags. However, tags are intended to be more descriptive of the actual post content. “Schools” does not reveal much information about the particular schools discussed in the posts. Tagging a post with an actual school name would provide this detail. In this way, users can browse a WordPress website using a general organizational scheme (categories) or specific topics (tags).

Widgets are boxes of content that appear in designated areas on a given theme. WordPress community members refer to these areas as “sidebars”, even though sidebars can appear anywhere. Originally available as a third-party plugin, widgets became a standard feature with the release of WordPress 2.8. Widgets can provide quick access to any type of internal and external content. Widgets that come preinstalled with WordPress include category and tag listings; a “blogroll” (links to other blogs), polls, a calendar archive of posts, RSS feeds and plain text boxes. They are also useful for displaying advertising banners. Third-party plugins may add specialized widgets, such as a box that displays the latest posts from Twitter or thumbnails of the latest photos added to a Flickr account. The WordPress Dashboard includes a drag-and-drop interface that allows users to configure the position of widgets for the current theme.

Aside from its core features, third-party plugins constitute a major part of the success of WordPress. Plugins are small programs that add new features to Wordpress. Some plugins enhance existing features. In most cases, plugins can be installed, activated

and deactivated through the built-in plugin management page on the Dashboard. Currently, the official WordPress extensions database (<http://www.wordpress.org/extend/plugins>) lists over 7600 plugins. Before adding a plugin, it is important to ensure that it is compatible with the version of WordPress in use and that it does not conflict with other installed plugins.

2.5.4 WordPress Themes

Now that I have briefly touched upon the fundamental aspects of WordPress, I will describe themes in a little more detail. As mentioned earlier, WordPress refers to the website’s design as a “theme.” I also drew an analogy earlier, stating that a design separate from content is like the “clothing” of a website. A WordPress theme is like the “clothing” of a WordPress site. In technical terms, a theme is a folder within the Wordpress installation on the server containing the files responsible for controlling the website’s appearance. These files include (X)HTML, CSS, PHP, JavaScript and JPEG, GIF or PNG graphics. Because WordPress themes are independent from the site content, the webmaster can select a different theme for the site at any time without affecting the content itself — the only thing that changes is how that content is *displayed*. Figure 9 shows the contents of a typical WordPress theme.

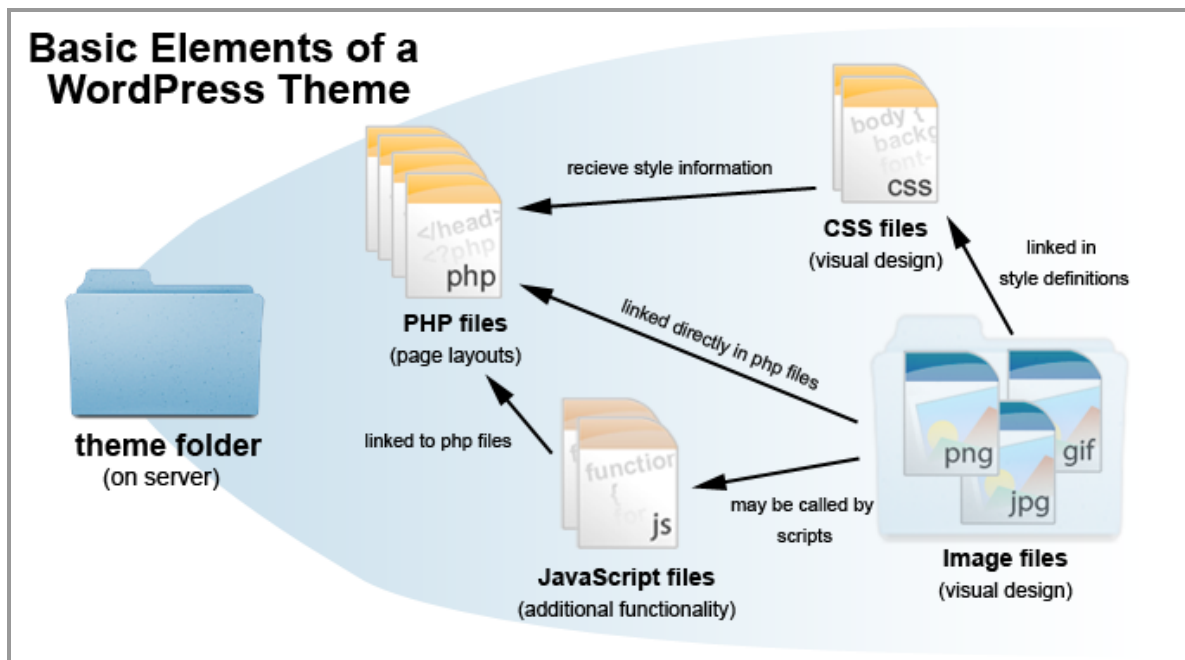


Figure 9 – Basic Elements of a WordPress theme.

WordPress includes a large number of “template tags”, PHP functions that can perform such tasks as retrieving and displaying a list of categories, retrieving and displaying posts from a specific category and retrieving and displaying metadata associated with a post. Wrapping (X)HTML mark-up tags around the WordPress template tags allows the designer to control the visual appearance of the output. A full list of template tags can be found at the WordPress Codex. Clever usage of these tags allow for the creation of any type of site, including newspapers.

Template tags are useful for programmers and for designers who either enjoy or do not mind digging deeper into code, but many people who use WordPress are neither designers nor programmers. They cannot adjust the content that is displayed without an understanding of PHP, CSS and (X)HTML. The *theme options page* is a common tool that allows these users to customize parts of the design without needing to edit raw code. Figure 10 shows a simple theme options page. Citizen Press will make extensive use of a theme options page, discussed in Chapter 4. Theme options pages are currently not standard in WordPress and must be created separately by the theme designer.

Figure 10 – Options page from Simple Balance 2.2, a free, open-source theme from <http://blogsessive.com/>

So far, I have examined WordPress, but there are a number of similar content management systems that are newspaper-friendly. Table 2 lists and compares two popular free, open source systems with WordPress.

*Table 2 – Comparison of Content Management Systems
Some content adapted from (Stiffler-Dean 2009)*

System	Advantages	Disadvantages
WordPress wordpress.org	<ul style="list-style-type: none"> • Simplistic and lightweight • User-friendly interface • Large number of third-party plugins and themes • Strong user community • Website can easily be turned into a “blog” format • Built-in image editor 	<ul style="list-style-type: none"> • Not a “traditional” content management system • No built-in menu management yet • Themes can only be built with WordPress template tags, which some developers may find limiting • Limited metadata for content • Limited built-in search-engine-optimization (SEO) options • Can’t run multiple sites on one installation. • Permission/user role system is limited
Joomla! joomla.org	<ul style="list-style-type: none"> • Built-in menu manager • Built-in layout management • Strong user community • Large number of third-party modifications and themes • SEO options for each page • Can create “Sections” and each section can contain categories and sub-categories, making it easy to create newspaper “issues” 	<ul style="list-style-type: none"> • Interface is not as user-friendly; there may be a learning curve for new users • Permission/user role system is limited • Content cannot be created as quickly in Joomla! as it can in WordPress • Can’t run multiple sites on one installation
Drupal drupal.org	<ul style="list-style-type: none"> • Most flexible from a developer’s standpoint. • Strong user community • Large number of third-party modifications and themes • Supports multiple sites on one installation • Strong permission/user role system • Can use multiple template engines • Can define any type of content 	<ul style="list-style-type: none"> • High learning curve • Requires a seasoned programmer to customize and configure Drupal and take advantage of the power the system offers. • Site development can take longer than with other systems • Building themes is not as intuitive

2.5.6 Drawbacks of WordPress

As highlighted in Table 2, WordPress is not without disadvantages. The lack of built-in menu management, extensive user roles and multiple content types may prove challenging and unintuitive, especially for those who are not technically inclined. In a similar vein, the default theme and accompanying options page drives the functionality of the website, right down to the navigation structure. If the site administrator changes the theme, all widgets, menus and customized content display are lost. Indeed, most of the “content management system” functionality of WordPress comes in the form of the current theme and that theme’s options page (if present).

WordPress also does not have as many built-in features as a traditional content management system. Examples include search engine optimization tools and multiple display options. These features can be added through plugins and themes, but once again, it contributes to a heavy reliance on themes and plugins. This reliance can turn problematic if developers do not ensure that their themes and plugins work properly with the latest version of WordPress. New releases are frequent, and failure to upgrade creates a potential security risk. News organizations hoping to build traffic and advertising revenue from a WordPress site should take these drawbacks into consideration. While running a specialized site on WordPress can be cost-effective and exciting, it also involves active maintenance, a willingness to learn technical skills and a welcoming attitude toward innovation.

2.5.7 Examples of WordPress Newspaper Themes

The remainder of this chapter takes a look at current approaches to newspaper website design using WordPress as a content management system. Newspaper-style themes have risen in popularity, and now there is an ample number available. The themes highlighted here represent the variety of layouts that can be achieved with WordPress. All information given about these themes was current at the time of this writing and may have changed since.

2.5.7.1 Premium Themes

Premium WordPress themes can cost anywhere from \$11 to \$100+, depending on the theme designer and the complexity of the theme. The primary benefit of a premium theme is support from the designer. They also tend to be feature-rich, well-coded and updated with each WordPress release. Most premium themes provide multiple options for layout and color scheme. If the newspaper staff does not have the means to hire a full technical staff, investing in a premium theme might be a reasonable option.



Figure 11 – WordPress Advanced Newspaper from Gabfire Themes (<http://www.gabfirethemes.com/>). \$59 for use on a single domain; \$179 for use on multiple domains.

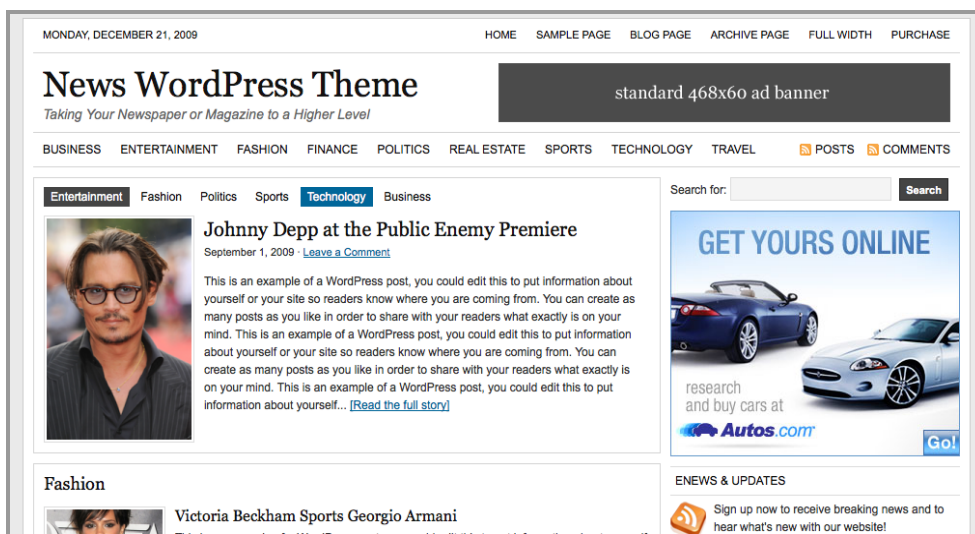


Figure 12 – Studio News Theme from Studio Press Themes (<http://www.studiopress.com/>). \$59.95.

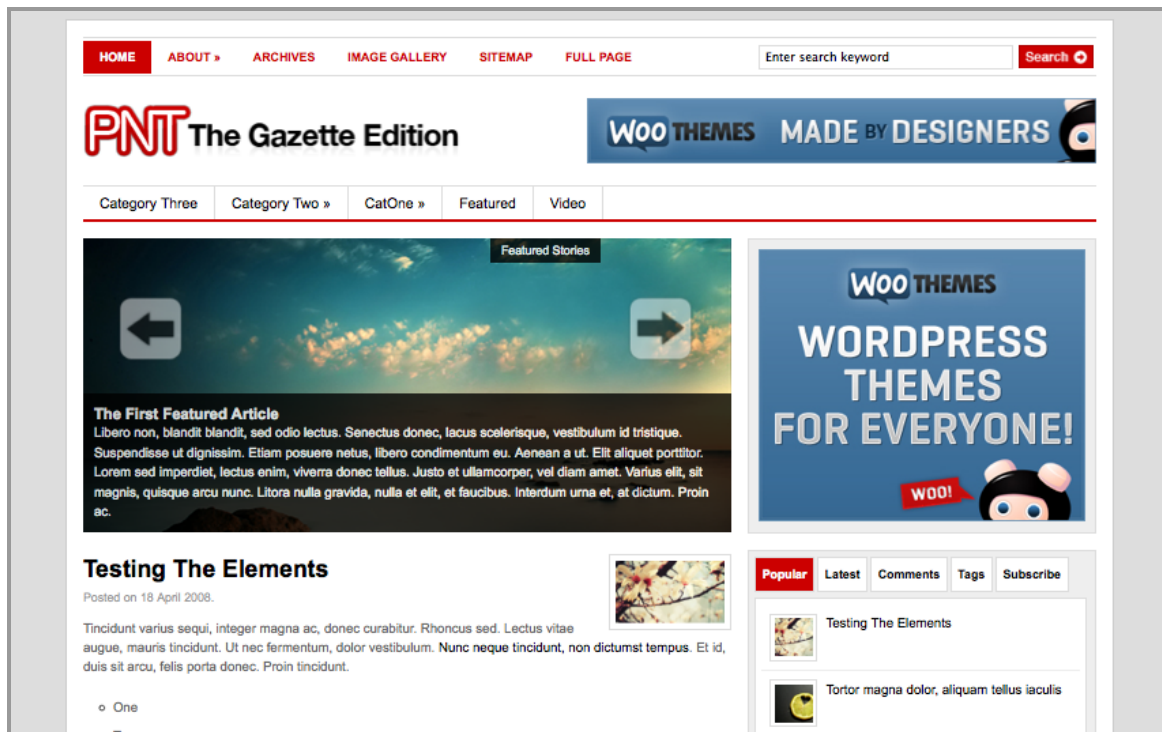


Figure 13 – The Gazette Edition from Woo-Themes. (<http://www.woothemes.com/2008/02/gazette/>). \$70 for use on a single domain; \$150 for use on multiple domains.

2.5.7.2 Free Themes

In sticking with the open source nature of WordPress, a free theme provides the ability to start a website with minimal up-front cost. A free theme might be a good option for a newspaper that has at least one person comfortable working with (X)HTML, CSS and PHP. While some designers of free themes do provide support, they often do not guarantee it.

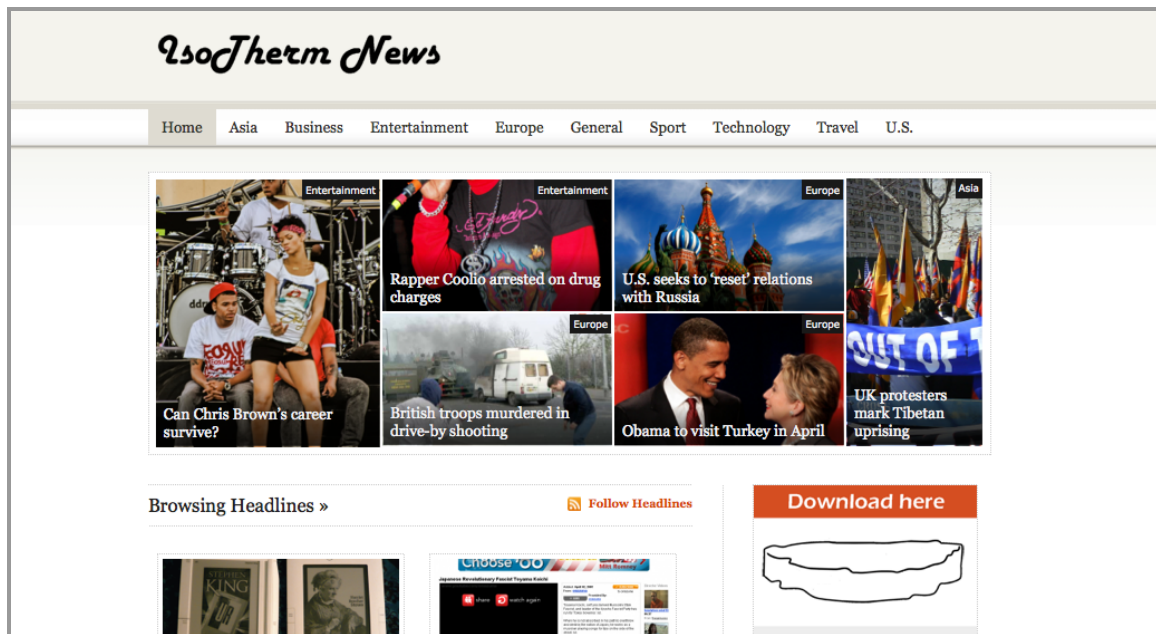


Figure 14 - Isotherm News Theme from bizzArtic (<http://bizzartic.com>).

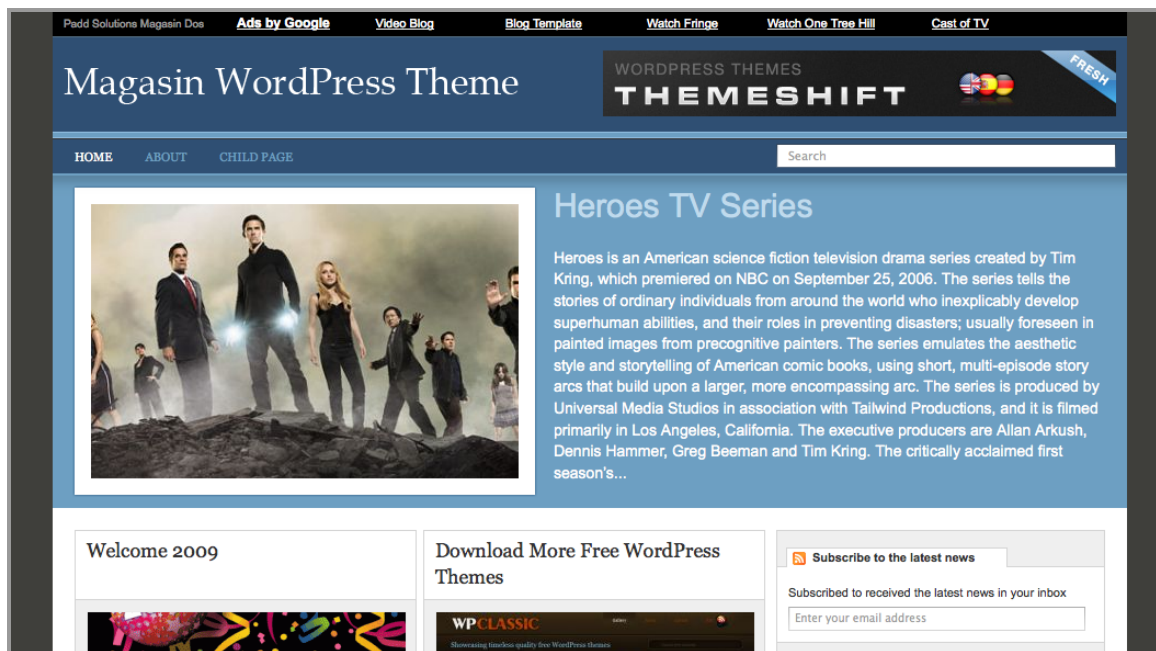


Figure 15 - Magasin WordPress Theme from Padd Solutions (<http://www.paddolutions.com/magasin/dos/>).

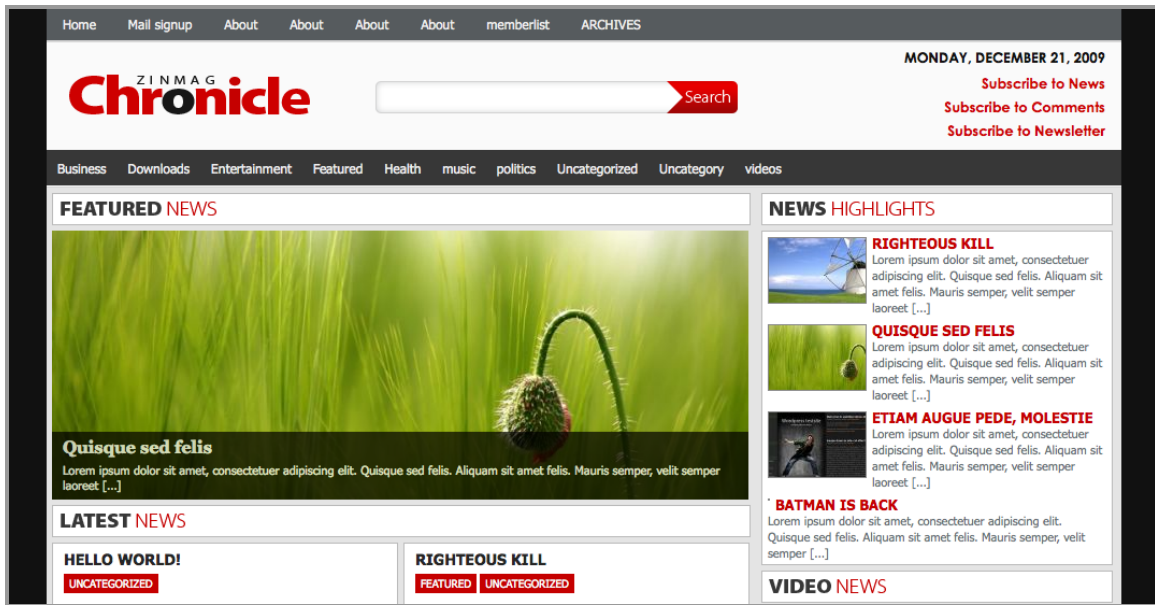


Figure 16 - Chronicle from Web2Feel (<http://www.jinsonathemes.com/demo/?themedemo=chronicle>).

2.5.7.3 Newspapers that use WordPress

The following are examples of newspapers (aside from *The Carrboro Citizen*) that have built their sites on WordPress.

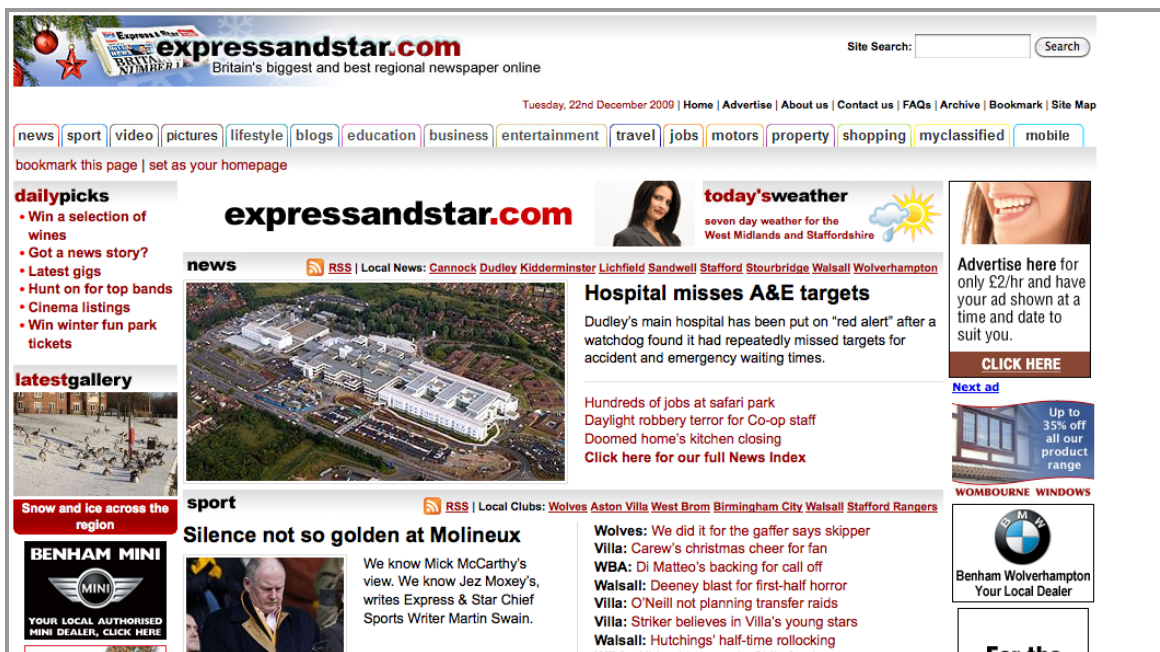


Figure 17 - The Express and Star, Wolverhampton, West Midlands, UK (<http://www.expressandstar.com/>)

The Cougar

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The Cougar Online is the online companion to the printed version of the AHS Cougar, the school newspaper of Albany High School.

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The Princess and the Frog – Review »

The Shattuck Cinema’s showing of the new Disney movie, The Princess and the Frog, was far from crowded. In fact, the theater held about 25 people, the majority of them over the age of 12. As the movie began, six high school girls sat in the third row, hyperventilating with excitement, myself included. The opening scene was reminiscent of an older Disney movie, from the animation to the original music. However, there was one major difference. This movie starred the ...

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Figure 18 - The Cougar Online, Albany High School, California (<http://albanyhighcougar.com/>).

Monday, December 21, 2009 9:14 PM

The Nevada Sagebrush

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Dec. 7 6:47 PM PST

Fight boredom with quirky niche Web sites

Figure 19 - The Nevada Sagebrush, University of Nevada, Reno (<http://nevadasagebrush.com/>).

Chapter 3: Best Practices in Web Design

So far, I have: 1) discussed the role of community newspapers and how they can benefit from running a website using a free, open source content management system such as WordPress; 2) introduced content management systems and WordPress and 3) taken a look at the types of newspaper layouts that are possible with WordPress. This chapter examines best practices for the designing and coding of a website; all of which will be applied during the development of the Citizen Press theme.

As society continues to advance into the information age, the need for websites that successfully balance form and function has never been more apparent. However, unlike architecture, interior design, software design and the fine arts, designing for the web is a discipline that has not yet left its infancy stage. This is due to the fact that the relatively easy and highly accessible nature of the practical aspects of web design makes it possible for any individual to learn the trade provided they have the time, tools and desire. Formal theoretical training is not necessary to become a web designer.

But even so, could there be a place for theory and best practices in web design? If websites are to play a larger role in society, a theoretical approach to building them can help designers to think about what they are designing and about why they are making the decisions they are making. In other words, the designers can “get it right” the first time around, sparing organizations the cost of fixing expensive design faults later on.

3.1 Web Standards

The W3C, the organization responsible for developing specifications for (X)HTML and CSS, lists guidelines for the correct use of each markup language. These guidelines, or “web standards”, are intended to encourage clean, semantically correct coding practices. Clean code removes unnecessary markup, and semantic code expresses the nature of the content it describes. Web standards also requires the use of CSS for

aesthetic design and (X)HTML for the page structure. Adhering to standards can bring many benefits, including wider accessibility, sustainability over time and greater visibility in search results (Nedregard et. al. 2002). Drawbacks of standards compliancy include a higher learning curve, imposed restrictions and the fact that it can be difficult to ensure that a large, complex site remains compliant in the midst of frequent updates. However, most of the drawbacks are workflow-related and thus a clear web markup style guide and proper training can help to alleviate these issues.

Listing 1 – Standards-compliant markup versus non-standards-compliant markup

Complies with W3C specifications for XHTML 1.0 Transitional

```

1 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 strict//EN"
  "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
2 <html xmlns="http://www.w3.org/1999/xhtml">
3 <head>
4 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
5 <link rel="stylesheet" type="text/css" href="layout.css">
6 <title>Acme Newspaper</title>
7 </head>
8
9 <body>
10
11 <div id="header">
12 
13 <h1>Welcome to Acme Newspaper</h1>
14 <p class="bodyText">Lorem ipsum dolor sit amet.</p>
15 </div>
16
17 </body>
18 </html>
19

```

Does not comply with W3C specifications for XHTML 1.0 Transitional

```

1 <html>
2 <head>
3 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
4 <TITLE>Acme Newspaper</TITLE>
5 </head>
6
7 <body>
8
9 <TABLE width="100%" border="0" cellpadding="3" cellspacing="0">
10 <tr><td>
11 
12 <center><h1>Welcome to Acme Newspaper</h1></center>
13 <p><font face="Arial" size="2" color="000000">Lorem ipsum dolor sit amet.</font></p>
14 </td></tr>
15 </TABLE>
16 </body>
17 </html>
18
19

```

3.2 Cross-Browser Compatibility

An important reason to design with web standards in mind is that it helps to promote cross-browser compatibility. Web browsers — from the traditional to the hand-held — render code differently, resulting in variations in the appearance of a website. In most cases, these variations are barely detectable, but in others they can be extreme (such as a text-based browser versus a graphical browser; or an outdated browser that does not support the latest web standards versus a recent browser). The appearance of a website varies across platforms as well. For example, Mac OS and Windows use different methods for rendering fonts for display on a screen, which can impact the readability of text on a website. Indeed, there is no guarantee that a site will look the same for all users, but it is important to ensure that all users can access the content (Nedregard et. al. 2002). This is particularly applicable to newspaper websites due to the diversity of users they attract. Decisions to use the latest technologies must take into account alternatives for viewers whose browsers may not fully support those technologies. For example, CSS-based drop-down menus and JavaScript-based image slideshows are increasingly popular web page elements. However, they may not function as intended on all browsers and on all platforms, especially not on dated ones. Therefore, extensive testing in multiple environments is tantamount.

Standards-compliant code can increase the interoperability of a website, but older browsers that predate a particular set of standards often do not support those standards correctly. Old browsers are still in use for a variety of reasons. It is up to the organization that is building a website to decide whether or not to support these browsers. If a good portion of the intended audience uses them, it would be a good idea to support them. There are many technologies web designers can use to achieve interoperability — conditional markup, which involves detecting the browser in use and feeding it alternative code; browser-specific stylesheets, which allow the designer to fine-tune aspects of the display for different browsers; and graceful degradation, a technique that involves designing for the “latest and greatest” platform first and then ensuring that a less “pretty” but still very usable version exists for users on all other platforms. Web designers can make use of all of these techniques, depending on the nature of the project.

Table 3 – Techniques for achieving an interoperable website

Technique	Advantages	Disadvantages
<p>Conditional Mark-up The use of (X)HTML conditional tags within the source code to feed markup to one or more browsers. This mark-up is hidden from all other browsers.</p>	<ul style="list-style-type: none"> • Quick solution for small sites with only a few conditions needed. • Eliminates the need for multiple versions of an (X)HTML document. • Possible to make a site look identical or next to identical on all platforms. 	<ul style="list-style-type: none"> • Can bloat an (X)HTML document with extra markup, increasing file size. • Not recommended for a large, complex site as maintaining many conditions may prove time-consuming. • May not be possible to create conditions for all platforms.
<p>Browser-specific stylesheets The creation of a separate stylesheet for different browsers or versions of browsers.</p>	<ul style="list-style-type: none"> • Offers designers the greatest control over a site's appearance across multiple browsers. • Avoids bloating a page with extra mark-up. • May work well for medium to large sites that do not require frequent markup changes and only require one or two browser-specific stylesheets. • Works best if the alternative stylesheets provide only a few browser-specific rules. 	<ul style="list-style-type: none"> • Maintaining multiple stylesheets may prove tedious and time-consuming. • May be impractical for a site that is maintained by a team of people. • May not be sustainable in the end because browsers and stylesheet specifications are continuously changing.
<p>Graceful Degradation Designing a site for the latest browser first, and then ensuring that the content is readable on older browsers, even if the design "breaks."</p>	<ul style="list-style-type: none"> • Eliminates the need for conditional mark-up and alternative stylesheets. Can save time. • Sustainable in the long run; backward-compatibility built-in • Recommended for large, complex sites maintained by many people. 	<ul style="list-style-type: none"> • Designers have to accept variation in the site's appearance across multiple browsers • May need to do away with certain technologies (such as special JavaScript effects) that do not degrade gracefully

3.3 Website Usability

So far, I have shown that web standards and cross-browser compatibility are important best-practice considerations for web design. This section will take a look at the importance of considering the users when designing a website, because even the most

sophisticated website can turn out useless if it does not address the physical and psychosocial needs of its audience (Head 2000). Understanding the intended audience for a website also can help the designer to decide which features to include in the website (Head 2000).

3.3.1 Physical Needs – Web Architecture

A good user interface acts as a compass that guides users through a space. According to Laurence Gonzales, author of *Deep Survival*, “most of us are lost most of the time...artificial cues, such as signs, lead us around” (“A Conversation with Laurence Gonzales”, 2008). For example, a man wandering through an unfamiliar mall can find his way with the help of signs and the building’s architectural structure. In the same manner, a woman browsing a website knows where to look on the screen to find what she is looking for thanks to the site’s architectural structure. This physical aspect is the most basic level of T.P. Moran’s four levels of user interaction with an interface (Beaulieu 2000). Emilia Djonov (2007) proposes a method for conceptualizing websites with respect to navigation and information architecture. According to Djonov, the perceived freedom that users experience when browsing a website is important, but it is also troublesome when the website does not have a clear hierarchical structure in place to prevent the user from losing his or her “direction” within the site (Djonov 2007). In fact, Djonov goes on to state that a successful website will aid users in developing a “conceptual model of the organization in hypermedia texts” and also that users build this model by the interplay between navigational structure, content organization and general interface design (Djonov 2007). This method of thinking about website organization draws an analogy between systemic functional linguistics theory and web design. Just as modal verbs and introductory words can set the theme for a text, so the homepage and navigational structure can set the *Theme*¹ for a website (Djonov 2007). A “Theme” can be defined as a specific section within a website — a section that focuses on a specific topic and within which users can navigate. For example, “Community News” and “School News” would be considered *Themes* on a community newspaper website, while the homepage would be considered the overarching “macro-Theme”, thus forming a hierarchy of

¹ Not to be confused with WordPress themes. The capitalized term *Theme* is used to distinguish Djonov’s Themes from WordPress themes.

themes (I revisit Djonov’s approach in Chapter 4 when discussing the site architecture for the Citizen Press theme). Thus, preventing users from becoming “lost” is a primary goal when designing with the user needs in mind.

3.3.2 Psychological Needs – Interface Design

A thorough understanding of the target audience and its particular characteristics can help the designer create effective interfaces. Effective interfaces make good use of “aesthetic design” — the harmonic interplay between the visual display of text, graphics, and colors. There have been many research studies that have revealed the importance of a good aesthetic design when it comes to usability. One such study, carried out by Canadian researchers, found that the human brain makes a judgment about aesthetic quality within the first 20th of a second of viewing a single page (BBC, 2006). In general, user interfaces that pay close attention to form are actually perceived to perform better in all areas than those that do not (BBC 2007; Anderson 2009). A possible explanation for this could be that when users feel that an interface is well designed, they are more likely to forgive or overlook faults in the function because they *want* the interface to perform well (Anderson 2009). Conversely, if users feel that an interface is poorly designed, they may dwell on that rather than focus on the task at hand.

The choice of style and color in a website can also affect user behavior. For example, a button with shiny 3D highlights, bevels and a large label may compel more users to click it than would a “button” with no such effects. Poorly designed interface elements that do not employ metaphors such as buttons effectively can lower user opinion of the interface at hand – the level of trust may decrease, as may the perceived credibility (Anderson 2009). In sum, if a website is to be perceived as an authority on a subject, its visual appearance plays a crucial role. End-users cannot view the “innards” of a site — they can only see the “clothes”. If those clothes are not aesthetically pleasing, there is no guarantee that all users will stick around long enough to discover the innards, no matter how sophisticated those innards might be.

Cultural norms and user expectations are other important points of consideration when it comes to users’ psychological needs. Suppose a compass utilizes playing card suits to represent direction instead of the letters N, S, E and W — how useful would such

a compass be to people in countries that use those letters? According to D. Norman's framework for human-computer interaction, users have an idea of how a given system works (Preece, Rogers & Sharp 2007). The user's "idea" is further shaped by cultural conventions. These conventions lead to user expectations. Web designers should understand these expectations in order to create intuitive interfaces. Purple "cancel" buttons and a website that scrolls horizontally may be "innovative", but if they stray too far from established norms, they will likely confuse the user. Compasses are not useful if they *cause* users to become lost. Thus, just as the vast ocean is difficult to navigate without a compass; so the physical and virtual spaces users inhabit on a regular basis are meaningless without a compass of design that provides direction and shapes experience.

3.3.2 Ethical Needs – Accessibility

The final user need I wish to discuss is accessibility. *Accessibility* devotes specific attention to ensuring that a website is inclusive of the widest variety of users. This includes those who are disabled in some way and must thus browse websites with assistive devices such as screen readers, voice-only browsers and screen magnifiers. Web designers must take care to produce code that such devices can interpret. Creating accessible sites is a bigger challenge when much of the newer technologies and user-generated in use today (such as streaming video and sophisticated JavaScript) are often troublesome for assistive devices (Moss 2007). However, there are specific things that a web designer can do to ensure that a site is accessible, according to Moss (2004): providing alternative text on all images; providing text-based transcripts for important audio and video content; ensuring that web forms are clearly labeled; ensuring that all text can be resized, making sure the site is usable without a mouse, providing a site map and making sure hyperlinks are meaningful out of context. In addition, there are a number of automated systems that check a site's accessibility (Moss 2004).

3.3 Search Engine Optimization

Because a newspaper website's advertising revenue correlates positively with high traffic, a high ranking in search results is crucial. Search engines such as Google send automatic crawlers, known as *spiders* and *robots*, to analyze and index webpages in

preparation for listing. The nature of the mark-up affects the spider or robot's ability to analyze the page. Search engine optimization (SEO) is the set of best practices web designers can follow to improve a site's ranking in search results. Some of these best practices are highlighted in Table 4.

Table 4 – Basic SEO Techniques - adapted from Webconfs 2006 (<http://www.webconfs.com/15-minute-seo.php>).

Technique	Usage
Keyword Density	<ul style="list-style-type: none"> • Ensuring that important keywords (the terms people will use to search for a site) appear in the body text, site title tags, meta tags and in the page title.
(X)HTML Metatags.	<ul style="list-style-type: none"> • Not as important as they once were, but at the least, the <description> and <keywords> tags should be filled out.
Hyperlinks	<ul style="list-style-type: none"> • Keywords should appear within inbound links. • Exchanging links with reputable, high-ranking sites. • Exchanging links with similar sites.
Website Content	<ul style="list-style-type: none"> • Ensuring that content is original and unique. • Ensuring that content is updated frequently.
(X)HTML Markup	<ul style="list-style-type: none"> • Standards-compliant markup is easier for search engine spiders to read and comprehend. • Correct use of (X)HTML header tags (<h1>, <h2>, <h3>, etc) helps search engines denote important content.

Chapter 4: Design Phase

This chapter applies lessons learned from the discussions of content management systems, WordPress and best practices in web design to guide the design and development of Citizen Press. There are four stages in this process: needs assessment, information architecture, prototyping and WordPress integration. This section focuses heavily on *The Carrboro Citizen*, as it serves as the launch user for the Citizen Press theme.

4.1 Needs Assessments

A meeting with the editor of *The Carrboro Citizen* yielded a list of essential features he wanted to incorporate into the redesign of the paper's website. Some of these features will be carried over from the current theme in use on the site, while others highlight the intended direction in which the editor wishes to move. Table 5 lists these features and how they can be mapped to WordPress. This list will prove useful later on in the development process. Built-in features of WordPress are indicated in bold in the right-hand column. Features new to *The Carrboro Citizen* website are shaded in gray in the left-hand column.

<i>Table 5 – Features to include in the Citizen Press theme based on needs assessment</i>	
Feature	How to Achieve it in WordPress
Built-in space for advertisements	<ul style="list-style-type: none"> Designate as sidebars all regions where ads should appear; treat individual ads as widgets. Manual ad code or plugin.
General sidebar content	<ul style="list-style-type: none"> Citizen Press will have several general-purpose sidebar regions where widgets can be added as needed.
AJAX (Asynchronous JavaScript and XML) Tabbed content boxes	<ul style="list-style-type: none"> Treat the content box as a special sidebar; and treat the individual tabs of the box as widgets within that sidebar. Add AJAX tab functionality with the jQuery JavaScript library. Tutorial: http://jeffgran.com/180/blog/wordpress-tabbed-sidebar-widgets-with-jquery

Table 5 (Continued) – Features to include in the Citizen Press theme based on needs assessment

Feature	How to Achieve it in WordPress
RSS feeds of all content	<ul style="list-style-type: none"> WordPress automatically generates RSS feeds of posts, categories, comments and tags. Subscription via email to feeds can be achieved using Feedburner (http://www.feedburner.com).
Search content	<ul style="list-style-type: none"> Built-in WordPress search feature.
Archive of past stories	<ul style="list-style-type: none"> An archive page template is included with WordPress. This page can be manipulated using template tags. <i>Optional third-party plugin can enhance archive page</i>
Featured story on front page	<ul style="list-style-type: none"> Designate a certain area on the front page as the “featured post” area. In that area, display the latest post from a certain category. The category (or categories) can be set in the theme options page.
AJAX News Ticker that rotates through post titles	<ul style="list-style-type: none"> Third-party “News Ticker for WordPress” plugin: http://18elements.com/tools/news-ticker-for-wordpress Designate a certain area on the front page as the “news ticker” area. In that area, display the content from the plugin. Ticker can be set in the options page provided by the plugin.
Visitor comments and trackbacks on posts	<ul style="list-style-type: none"> Comments and trackbacks are standard WordPress features. This tutorial describes how to separate comments from trackbacks: http://wphacks.com/how-to-separate-wordpress-comments-and-trackbacks/
Option to share posts on social media sites	<ul style="list-style-type: none"> Share-This button incorporated into Citizen Press by default: http://sharethis.com/ <i>Optional third-party plugin</i>
Show news stories on front page organized by category; with automatic thumbnail image and excerpt next to story	<ul style="list-style-type: none"> Use the WordPress loop (http://codex.wordpress.org/The_Loop) to display news stories as posts, in sections, or categories. Multiple loops can be used on the front page to filter posts by category. To prevent posts from appearing multiple times (if they appear in multiple categories), see this tutorial: http://wordpress.org/support/topic/256875 Thumbnails can be achieved either using WordPress 2.9’s new image thumbnail feature, or through the WordPress custom fields: http://c.hadcoleman.com/2008/06/adding-timthumb-to-your-wordpress-theme/ Post Excerpts are a default feature of WordPress. Posts can be displayed side-by-side: http://wordpress.org/support/topic/268100 and http://www.wprecipes.com/how-to-display-posts-in-columns
Photo and video galleries	<ul style="list-style-type: none"> For video gallery, create a category for videos. Videos can be added to posts using WordPress’s built-in add media link.

Table 5 (Continued) – Features to include in the Citizen Press theme based on needs assessment

	<ul style="list-style-type: none"> For photo gallery, choose one of the many third-party plugins. <i>The Carrboro Citizen</i> is currently using “NextGEN Gallery” - http://wordpress.org/extend/plugins/nextgen-gallery/ and Flickr slideshows (http://www.flickr.com).
Search Engine Optimization (SEO)	<ul style="list-style-type: none"> Write the XHTML mark-up of Citizen Press to provide a good base structure for SEO: http://www.nathanrice.net/blog/ultimate-guide-to-wordpress-seo-optimized-heading-tags/ Use “All in One SEO Pack” third-party plugin for additional SEO enhancements: http://semperfiwebdesign.com/portfolio/wordpress/wordpress-plugins/all-in-one-seo-pack/
Clickable author names; contact information on stories	<ul style="list-style-type: none"> Post author name is clickable using WordPress built-in author functions: http://codex.wordpress.org/Author_Templates Include author contact information template tag in the loop when displaying posts. Post author can be selected when creating or editing a post.
Blog Network Show latest posts from the <i>Carrboro Citizen's</i> themed blogs.	<ul style="list-style-type: none"> Use built-in WordPress RSS widgets Or use Citizen Press customized blog display box, configurable in the theme options page.
Media Carousel Side-scrolling highlight of latest posts from a category or categories	<ul style="list-style-type: none"> Shows the post thumbnail and post title of the latest posts from one or more specified categories. Category specified in the theme options page. Step Carousel uses jQuery JavaScript library: http://www.dynamicdrive.com/dynamicindex4/stepcarousel.htm
Navigational Menus	<ul style="list-style-type: none"> Categories and pages are linked in the navigation menus. Menu items can be set in the theme options page.
Links to additional material for stories Additional material can be related photos, links, videos, etc.	<ul style="list-style-type: none"> Use custom fields to allow for the entry of content.
Index of all sections	<ul style="list-style-type: none"> Formatted using XHTML, CSS and the WordPress loop. Can be configured in the theme options page.
Theme options page	<ul style="list-style-type: none"> Allows users to customize certain settings on the CitizenPress theme, such as the title, logo, categories, ad content, trackers, simple text colors and more. Tutorials on building a theme options page: http://forthelose.org/how-to-create-a-theme-options-page-for-your-wordpress-theme and http://wps shout.com/create-

Table 5 (Continued) – Features to include in the Citizen Press theme based on needs assessment

	an-awesome-wordpress-theme-options-page-part-1/
Mobile version of template Mobile phone-friendly browsing.	<ul style="list-style-type: none"> • Third-party plugin.
Contact form	<ul style="list-style-type: none"> • Third party plugin.
Additional functionality/features not listed here	<ul style="list-style-type: none"> • Add third-party plugins as needed. http://www.wordpress.org/extend

4.2 Information Architecture and Prototyping

The first step in the design process is building the website’s architecture, or central framework. This step involves taking into consideration all of the best practices discussed in Chapter 3, a procedure that can be facilitated with a theoretical approach to web architecture. However, in comparison to other disciplines of design, website design is rather new. Therefore, there are currently no universally accepted theories to guide the construction of a website’s architecture. It is up to the web designer to select an approach that best suits the project. I found Emilia Djonov’s (2007) hierarchy of Themes¹ approach (introduced in Chapter 3) to be a suitable framework from which to design the architecture of the Citizen Press theme, because not only does it bridge form and function together, but it also accounts for the non-linear, highly complex nature of a newspaper website.

4.2.1 Hierarchy of Themes and Citizen Press

According to Djonov (2007), traditional methods of thinking about website hierarchy have either failed to take into account the fact that websites are non-linear and also the fact that a website’s content, navigation and design are interdependent. Djonov (2007) presents a new definition of website hierarchy as influenced by the idea of systemic functional theory, the main points of which I summarize briefly:

- a. Every website consists of hierarchies of Themes (for example, “Home”, About Us”, “Community News” are all examples of Themes). Each sub-section’s homepage

¹ Again, this paper uses the capitalized word “Theme” to distinguish Djonov’s Hierarchy of Themes from WordPress themes.

serves as the gateway for that particular “Theme.” The website’s main homepage unifies all of the sub-Themes into one macro-Theme.

- b. Each Theme can have a vertical dimension (revealing sub-Themes) and a horizontal dimension (revealing pages within that Theme).
- c. Hyperlinks allow users to either navigate within a Theme (thus making a site’s organization clear) or outside a Theme (obscuring the hierarchical structure).
- d. The combination of logos, section titles, digital metaphors, color schemes and navigation bars can help communicate these Themes through out a website and help the user to predict the type of content offered as well as the organizational structure.

Djonov (2007) uses concentric circles (which I have adapted in Figure 20) to illustrate the hierarchy of Themes. This method of thinking about websites is useful for several reasons: first, it highlights how important it is that all aspects of a website’s design relate back to its content and organization. Secondly, it takes into account the fact that many large websites are complex and do not always follow the same structure throughout. Finally, it places much emphasis on the user experience.

One of the limitations of Djonov’s approach is that it does not cover the dynamic nature of content management systems such as WordPress. In WordPress, designers typically create one template to be reused multiple times. For example, all pages in WordPress themes typically use a single “page.php” template, while all categories typically use a single “category.php” template. To compensate for this, it may be helpful to group Themes into several *classes*. For example, in systemic functional linguistics, “paragraphs” and “sub-headings” can represent two classes of themes. A single document may contain many paragraphs and many sub-headings and thus, many Themes. However, each paragraph can follow the same general design rules (such as 12-point Times New Roman font). Much in the same manner, a WordPress site may contain categories, posts and pages, all of which represent different *types* of Themes. While each individual category represents a different Theme, all categories can share the same general architecture.

Heirarchy of Themes

The homepage acts as the **macro-Theme** enclosing all **sub-Themes**. The solid circle indicates a highest-level theme. The dotted borders around a **sub-Theme** circle indicates that it can be both a **sub-Theme** (below the **macro-Theme**) and also a main-Theme (for sub-sub pages, posts or categories contained within them). There can be an infinite number of sub-Themes inside single site.

When a Theme contains no sub-Themes, it is indicated by a solid circle in the center of a Theme hierarchy. The blue arrows indicate hyperlinks that follow logical navigation within a single Hierarchy (e.g. the homepage can link to level-1 categories). Double blue arrows indicate reciprocating hyperlinks. Single blue arrows indicate links that do not reciprocate on both ends. Red arrows indicate links that break out of a theme hierarchy entirely. The arrow points to the page that is being linked to.

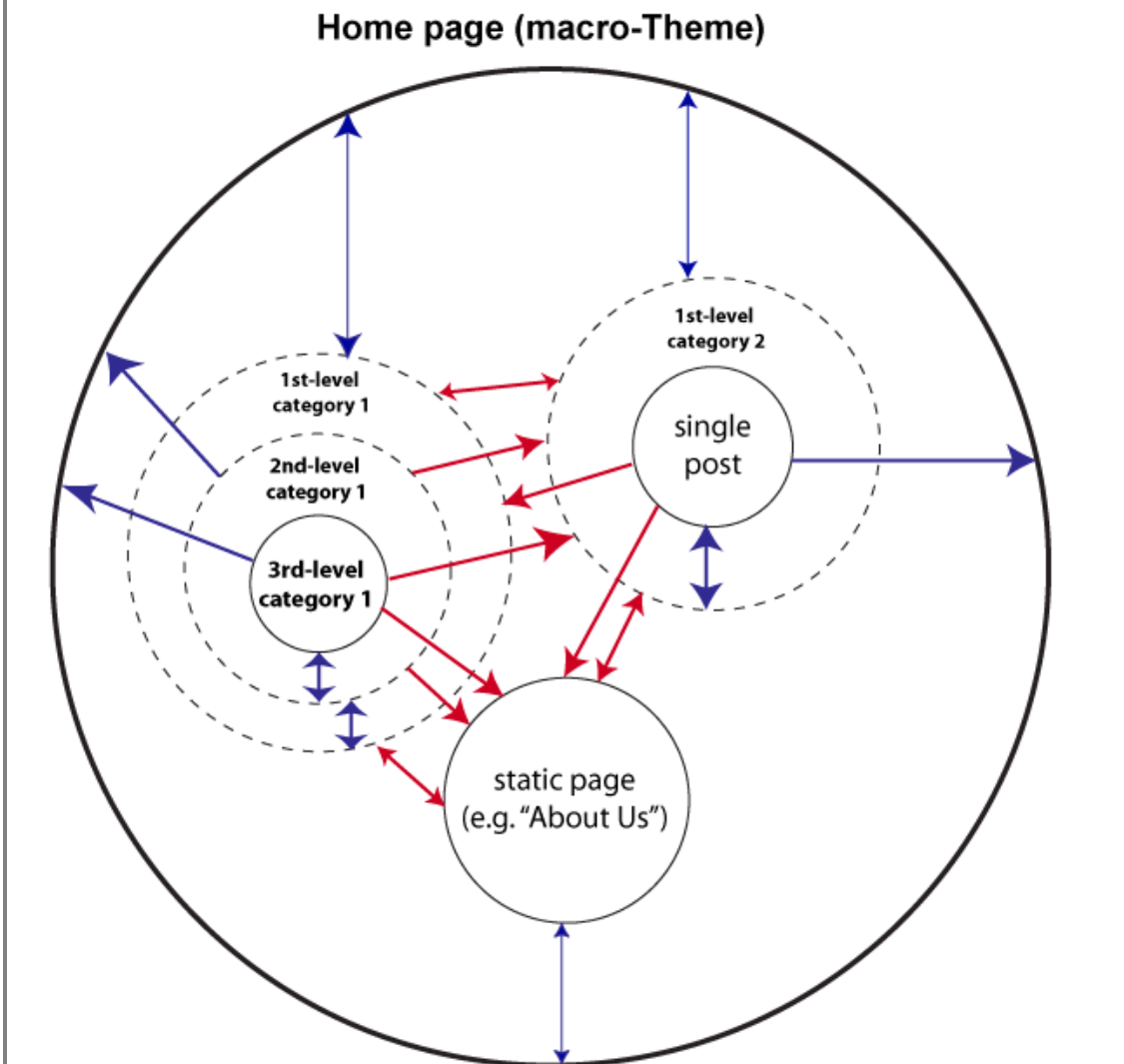
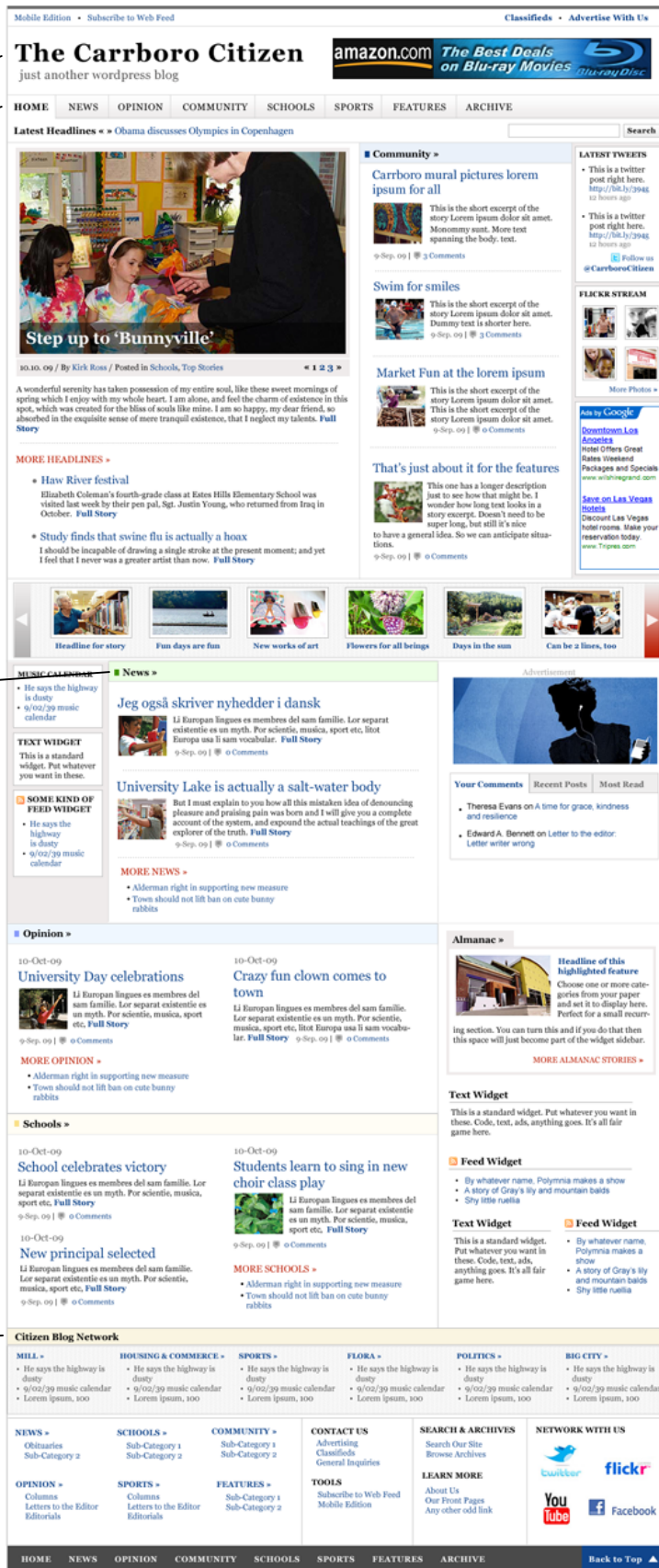


Figure 20 - Hierarchy of Themes in a WordPress site

4.2.2 Design Prototypes

After conceptualizing hierarchy of Themes for a typical WordPress site, I proceeded to create visual mock-ups of Citizen Press in Adobe Photoshop CS3. The mock-ups represent the macro-Theme (the front page), and the major classes of regular Themes: single post view, category and tag view, and page view.



Main navigation with current sub-Theme highlighted.

Large title or logo indicates macro-Theme.

Links to sub-Themes throughout the mock-up are indicated with different font styles and arrows to show that the links lead to a different section. (">>>"). Stories are grouped by section to show their location in the Theme hierarchies.

Links to blogs within the Carrboro Citizen Blog Network.

Links to static pages.

Sidebar with widgets.

Media carousel.

Wide sidebars with widgets.

Index of all sections and navigation in the footer.

Figure 21 – Mock-up of front page

The Carrboro Citizen
just another wordpress blog

HOME NEWS OPINION COMMUNITY **SCHOOLS** SPORTS FEATURES ARCHIVE

Subcategory 1 Subcategory 2 Subcategory 3

Schools [Subscribe to this section](#)

Step up to 'Bunnyville'
Thursday, October 9, 2009 / By **Kirk Ross** / Posted in **Schools, Top Stories**

Li European lingues es membres del sam familie. Lor separat existentie es un myth. Por scientie, musica, sport etc, litot Europa usa li sam vocabular. Li European lingues es membres del sam familie. Lor separat existentie es un myth. Por scientie, musica, sport etc, litot Europa usa li sam vocabular. **Full Story**

Tags: McDougle, Bunnyville, elementary school
0 Comments

Jeg også skriver nyheder i dansk
Li European lingues es membres del sam familie. Lor separat existentie es un myth. Por scientie, musica, sport etc, litot Europa usa li sam vocabular. **Full Story**
9-Sep. 09 | 0 Comments

By **Taylor Sisk** / Posted in **Schools** / Tags: Carrboro, high schools

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9-Sep. 09 | 0 Comments

By **Taylor Sisk** / Posted in **Schools** / Tags: Carrboro, high schools

Traveling Dog.net
Travel gear and accessories for your dog. Feedback - Ads by Google

Jeg også skriver nyheder i dansk
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BROWSE MORE SCHOOL STORIES:

[Prev](#) | [1](#) | [2](#) | [3](#) | [4](#) | [5](#) | [6](#) | [7](#) | [8](#) | [9](#) | [10](#) | [Next](#)

Cheap hotels
Find Hotels By Price, Star Rating Or Location. Cheap hotels

Save on Las Vegas Hotels
Amazing Las Vegas hotel discounts. Easily book your room today.

Advertisement
amazon.com *The Best Deals on Blu-ray Movies*

Advertisement
 Two million songs and counting. iTunes

Your Comments Recent Posts Most Read

- Theresa Evans on A time for grace, kindness and resilience
- Edward A. Bennett on Letter to the editor: Letter writer wrong
- E. Evans on Make the insurance companies do the right thing on health care reform
- Sean Weiback on Letter: Voice responds

Almanac

Headline of this highlighted feature
Choose one or more categories from your paper and set it to display here. Perfect for a small recurring section. You can turn this and if you do that then this space will just become part of the widget sidebar.

[MORE ALMANAC STORIES](#)

Text Widget
This is a standard widget. Put whatever you want in these. Code, text, ads, anything goes. It's all fair game here.

Feed Widget

- By whatever name, Polymia makes a show
- A story of Gray's lily and mountain balds
- Shy little ruelle

Advertisement
AT&T High Speed Internet
\$19.95 [SHOP NOW](#)

Text Widget
This is a standard widget. Put whatever you want in these. Code, text, ads, anything goes. It's all fair game here.

Feed Widget

- By whatever name, Polymia makes a show
- A story of Gray's lily and mountain balds
- Shy little ruelle

Text Widget
This is a standard widget. Put whatever you want in these. Code, text, ads, anything goes. It's all fair game here.

Ads by Google
DownTown Las Angeles
Hotel Offers Great Rates Weekend Packages and Specials
[www.wlvgrand.com](#)

Save on Las Vegas Hotels
Discount Las Vegas hotel rooms. Make your reservation today.
[www.Trines.com](#)

Sub-categories (sub-Themes) clearly indicated.

Latest story in category is highlighted.

Posts that fall within the category or tag are listed.

Paginated navigation allows the user to access more posts.

Figure 23 – Mock-up of a section (category) or tag listing layout

4.2.3 Overview of Page Elements

4.2.3.1 Front Page (index.php)

Header. The header region is divided into three sections: *auxiliary navigation*, *masthead* and *primary navigation*. At the very top is the auxiliary (or secondary) navigation menu. This menu uses a simple (X)HTML list structure, and its style and placement is controlled by CSS. If CSS is turned off, the menu will appear as a standard (X)HTML bulleted list, still accessible by the user. The auxiliary menu is intended to provide quick and easy access to content that is not directly related to the news, such as classifieds, contact information and a link to the mobile version of the template. To avoid overcrowding the auxiliary menu, I divided it into left and right sides. The user will be able to decide whether or not to activate one, both or all sides of the menu. They will also be able to enter the specific URLs of links that should appear in the menu. To emphasize that this menu is secondary, a smaller font size is used.

The *masthead* contains three important elements — the site logo, the site tagline and an advertising region. By default, the logo and tagline will be text-only elements. The theme options page will allow for the uploading of a customized logo image. The tagline can also be set to “invisible.” On the front page, the tagline (if in use) or the logo will be set to the only <h1> tag, for SEO purposes (see Chapter 3). On subsequent pages, they will be wrapped in regular <div> tags. To the right of the logo is the first advertising region. There is enough space by default for a horizontal leaderboard-sized advertisement.

The *primary navigation* menu appears just below the masthead. Like the auxiliary menu, it is a simple (X)HTML list, styled by the CSS. When a menu item is clicked, it will remain highlighted, with any sub-sections appearing in the area immediately below the primary menu. On the front page, an optional “breaking news” ticker that rotates through the latest post titles will occupy this sub-menu area. In the far right column of the submenu area, the search box appears.

Re-usable news content items. Highlighted next are elements that can be reused throughout the front page. Their widths and heights will adjust accordingly.

Top Story. This section contains a featured news story with one large photo and a brief excerpt of the story underneath. Meta information is also provided (date, time, author, number of comments and category). The top story photo is the largest visual element on the front page. Below this top story is a bulleted list with the heading “More Top Stories.” This list will contain links to other top stories that are either of lesser importance or of lesser time significance.

News Boxes. A news box consists of a header with a distinctive box surrounding it. The header links to a designated category. Below the header are the latest posts appearing within that category. Small thumbnail images (if present) accompany each post, along with an excerpt and metadata. A bulleted list with links to more posts from the category follows the leading posts. These boxes come in two varieties, vertical and horizontal. The vertical version lists leading stories first, followed by more stories. The horizontal version is split into two columns: the leading stories on the left and the links to more stories on the right. By default, five boxes (two vertical, three horizontal) will appear in the theme, all of which are configurable through the theme options page. Each box will also contain a link that allows the user to jump back to the top of the page in order to quickly navigate other sections.

Media Carousel. The media carousel is an optional interactive JavaScript-driven slider that presents posts from one or more categories (selected in the theme options page). The user can scroll left and right through the box. This box is ideal for highlighting a variety of different content — photos, videos or “editor’s pick” stories. The media box appears only on the front page.

Blog Box. The “blog box” is a feature that was developed specifically for *The Carrboro Citizen* and likely will not appear in the distribution version of Citizen Press. The box showcases the various blogs that *The Carrboro Citizen* runs, and displays RSS feeds of the latest posts from each blog. Like the media carousel, the blog box only appears on the front page and can be turned on or off in the theme options page.

Site Index. The site index appears above the footer and below the blog box. This index is designed to provide a quick way for users to browse through the site and all of its deeper sections without needing to scroll back up to the top of each page. Each category is listed, along with its sub-categories, and there are also links to each static page (e.g.

“About Us,” “Contact Us”, “Advertising”, etc). Finally, there is a column that displays links to the paper’s profiles on social media sites such as YouTube, Facebook and Twitter. The site index appears only on the front page.

Footer. The footer is the final element on the page and contains a duplicate of the primary navigational menu, along with a “Back to Top” link to allow users to jump back to the top of the page without the need to scroll. Below the menu in the footer is the copyright information, as well as links to pages such as terms of service, privacy policy and disclaimer.

Sidebars and widgets. Citizen Press offers three styles of standard widgets. Widgets of the first style are white boxes with gray borders that appear in a shaded sidebar column. Widgets of the second variety are white boxes with thick top borders and bold, uppercase in their headers to set them off. Widgets of the third variety are “tabs” that appear in the dynamic “tabbed sidebar.” The default version of Citizen Press identifies eleven sidebar regions on the front page and seven on all other pages. The site administrator is free to determine which widgets to place in each region, allowing for greater flexibility in customization.

4.2.3.2 Single Post or Page (single.php and page.php)

The single-post and single-page layouts are very similar. The layout consists of two columns, with the post or page content on the left and the sidebars and widgets on the right. The site administrator has the option to display advertising before and after the post or page content. Submenus (when applicable) appear below the main menu to indicate page hierarchy.

4.2.3.3 Category or Tag Archive (category.php and tag.php)

Category and tag archives list all posts that fall under a specific category or contain a specific tag. The latest post in these listings will appear at the top as a large featured story, followed by a list of older posts. Users reach these listings by clicking on any category or tag link. These templates follow the same two-column format as the single post and single page layouts.

4.2.3.4 Search Results Page (search.php)

The search results page displays results from a site-wide search. The original search query will be shown, followed by the results. If there are no results, the search form is presented again, along with messages that direct the user to other pages throughout the site.

4.2.3.5 Archive Page (archive.php)

The archive page allows users to browse for past posts. The default configuration of Citizen Press provides several criteria on which to browse — by date, by category, by author and by tag.

4.3 XHTML and CSS Prototype

Upon completion of the information architecture and graphical prototypes, I constructed static versions of the prototypes, conforming to the XHTML 1.0 strict and CSS Level 2 standards. Special care was taken to test the static mark-up in multiple browsers on multiple platforms to ensure compatibility. Due to the variations in font and image sizes between Photoshop CS3 and the web browser, the XHTML prototype differs in appearance from the Photoshop version.

4.2.1 Grid-based Design

The decision to build Citizen Press on a CSS grid framework came after the Photoshop prototypes were complete. CSS grids are the web equivalent of the grid structure often used in print design. Just as they do for a printed publication, grids provide websites with a consistent, intuitive organizational structure (Knight 2009). Equal margins between elements throughout can enhance the ease by which a user can read and navigate the content. (X)HTML tables once served as a common stand-in for creating grid-like structure for web pages, but the separation of content from design has shifted the trend toward the use of CSS for all aspects of layout (Chapter 2). CSS grids provide a set of classes that define “columns” with pre-determined widths, margins and padding. There are many CSS grid systems available on the web, ranging from simple to complex. For Citizen Press, I selected to use the 1KB Grid by Tyler Tate

(<http://www.1kbgrid.com>), a simple grid that is based on 12 columns; each 60 pixels wide with a 20-pixel “gutter” in between.

Simple grid systems can help streamline both the initial design and maintenance of a website. Once the website maintenance team learns how to use the grid, they can make rapid changes to the layout that are guaranteed to display properly without needing advanced (X)HTML and CSS skills. The main drawback of using CSS grids is the fact that they require the addition of non-semantic, merely presentational mark-up to the (X)HTML code. For example, consider the additional mark-up when using a grid: `<div id=“navigation” class=“column grid_5”>` versus not using a grid: `<div id=“navigation”>`. For some web designers, the additional markup may be an issue, but in the case of Citizen Press — a WordPress theme intended for newspaper websites — the benefits outweigh the drawbacks.

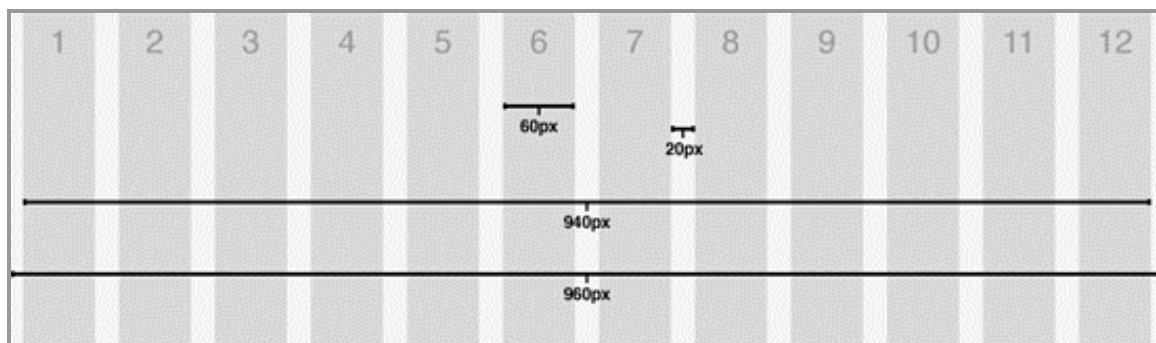


Figure 24 – The 1KB CSS Grid by Tyler Tate (<http://www.1kbgrid.com>)

4.3 Development Process

Converting the static XHTML prototype to WordPress involved determining the areas in the prototype where dynamic content would appear and then inserting WordPress PHP template tags (http://codex.wordpress.org/Template_Tags) into those areas. Because some content such as the header, sidebars and footer could be reusable, separate template files were created and then referenced in the main `index.php` file using PHP includes (see Figure 25 and recall Figure 9). Once all of the template tags were inserted, the base theme was complete. The next step was to add the third-party plugins and JavaScript functionalities listed in Table 5 (Section 4.1).

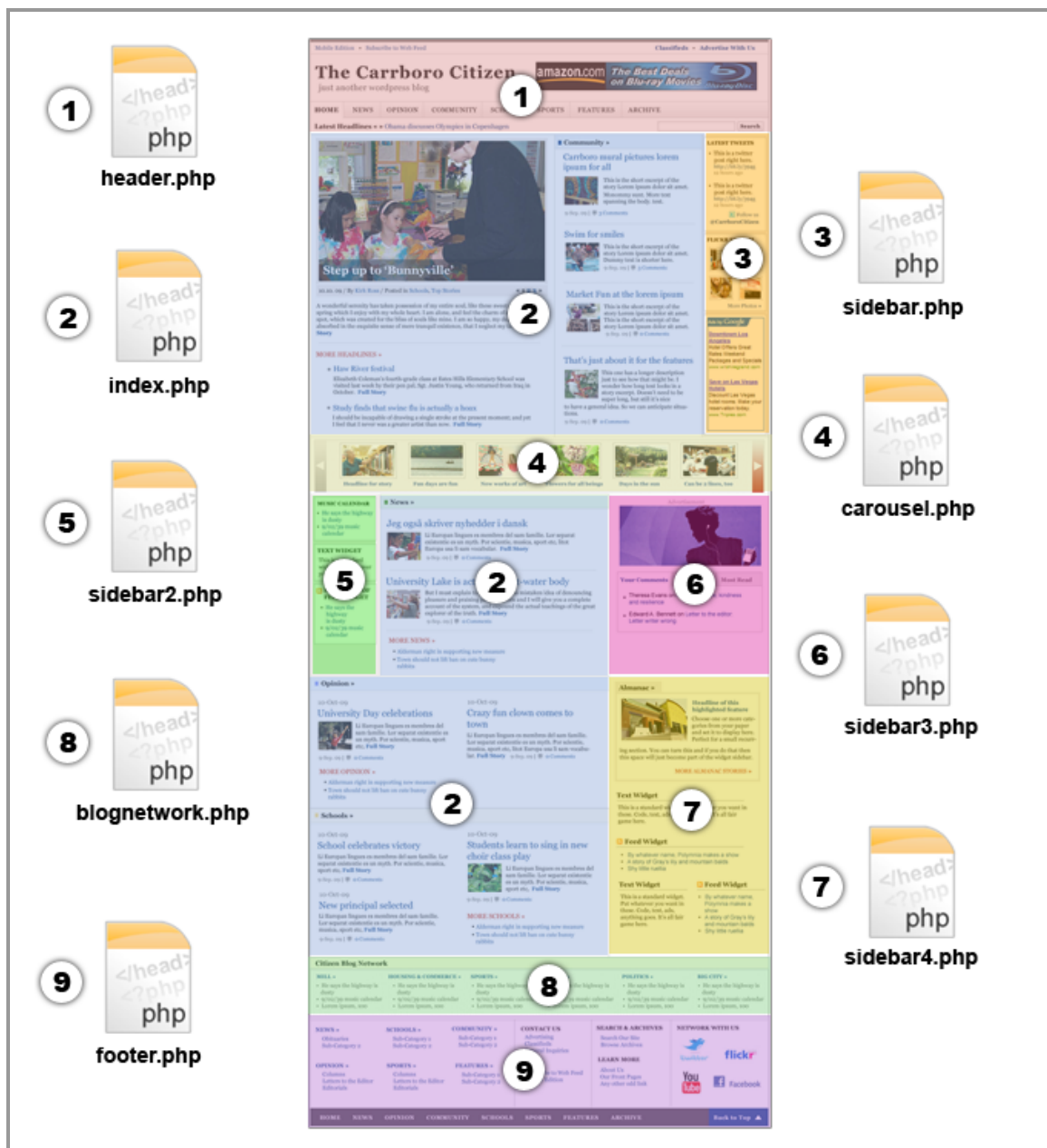


Figure 25 – This diagram depicts which content will appear in the main `index.php` file (in blue) and which content will be included separately.

4.3.1 Theme Options Page

The theme options page allows the site administrator to customize various aspects of Citizen Press without needing to edit source code. All of the customizable elements of the theme were assigned a unique PHP variable to store customized settings from the options page. The variables were placed in designated regions within the Citizen Press template files. They were then declared and initialized in a file within the Citizen Press

theme directory called “functions.php.” This file is reserved for specialized functions that WordPress should perform whenever a page is loaded. WordPress will check functions.php for the values of the variables and display the customized settings. Finally, I constructed the options form that the administrator can access through the WordPress Dashboard.

Table 6 – Specifications for the Theme Options Page

Option	Notes
Site Logo and Tagline Display	<ul style="list-style-type: none"> • Default: Logo is set to the blog title (from the main WordPress configuration page), with tagline visible. • Custom options: Text logo can be replaced with an image, either uploaded from the options page or linked from a URL. Tagline can be set to invisible.
Advertising Content	<ul style="list-style-type: none"> • Default: Advertising regions (in the header and in post, page and category templates) are invisible. • Custom options: Set the ad regions to visible. Insert custom ad code to appear in each region.
Tracking code(s)	<ul style="list-style-type: none"> • Default: No tracking code. • Custom options: Insert tracking code(s) to appear in the header and footer.
Front page news display	<ul style="list-style-type: none"> • Default: All six news sections are set to display the latest 3 posts from the first six categories, respectively. • Custom options: Each news region can be set to display the latest X posts from the latest X category or categories. Administrator can set the title for each news section.
Auxiliary Menu (left and right)	<ul style="list-style-type: none"> • Default: Menu links to the first six WordPress pages; 3 on the left and 3 on the right. • Custom options: Administrator can choose which pages and URLs to include in the menu.
Main Navigation Menu	<ul style="list-style-type: none"> • Default: Menu links to the first five categories plus the archive.php page. • Custom options: Administrator can choose which categories, URLs (and pages) to include in the menu.
Search box	<ul style="list-style-type: none"> • Default: Visible. • Custom options: Set invisible.
Breaking News ticker (requires plugin)	<ul style="list-style-type: none"> • Default: Invisible. • Custom options: Set visible (third-party plugin must be installed. Configuration is handled on plugin settings page); set title.
Media Carousel	<ul style="list-style-type: none"> • Default: Invisible. • Custom options: Set visible; choose which category or categories to feature in the carousel; how many posts to display; the title of the carousel.

Table 6 – Specifications for the Theme Options Page

Tabbed Sidebar Region (sidebar3.php)	<ul style="list-style-type: none"> • Default: Invisible. • Custom options: Set visible. Widgets configured through WordPress widget control panel.
Blog Network	<ul style="list-style-type: none"> • Default: Invisible • Custom options: Set visible. Set title. Considered a sidebar, so widgets can be added in the WordPress widget control panel.
Site Index (footer.php)	<ul style="list-style-type: none"> • Default: Visible. All pages, categories and sub-categories shown by default. Social networking section displays links to RSS feeds by default. • Custom options: Set invisible. Choose which content to display in the 3 regions of the index.
Footer menu (footer.php)	<ul style="list-style-type: none"> • Default: Mirrors the main navigation menu. “Back to top” link shown. • Custom options: Site administrator can select which items should appear in the menu. Hide “Back to top” link.
Colors	<ul style="list-style-type: none"> • Default: Default colors. • Custom options: Site administrator can customize various colors, including links, text, headlines, news box backgrounds and borders.
Almanac (Editor’s choice box; appears in sidebar4.php)	<ul style="list-style-type: none"> • Default: Invisible. • Custom options: Set visible. Set category from which to draw content; or set specific story to feature.

4.3.2 Child Theme

Citizen Press at this point is a complete WordPress theme that can be packaged and distributed to *The Carrboro Citizen*. However, there is one more layer of customization to provide which will improve the theme’s long-term sustainability. Recall from Chapter 2 that one of the drawbacks of WordPress is its frequent release schedule. As a result, new versions of Citizen Press may need to be released as well in order to stay compatible. Site administrators may lose all customizations and settings by upgrading the theme. Thankfully, WordPress’s parent- and child-theme feature can help to rectify this issue. A child theme derives functions, CSS styles and (X)HTML markup from its designated parent theme. If the administrator wishes to add customizations, he or she can modify the child theme, leaving the parent theme unchanged. To upgrade the theme to a later version in the future, the administrator can reinstall the parent while preserving customizations in the child theme.

Converting Citizen Press into a parent theme involved adding a few lines to the theme's `index.php` file and then creating a separate theme with the name "Citizen_Press Child." The final package consists of the parent theme — Citizen Press, and the child theme, Citizen_Press Child. Both themes must be installed separately, with the child theme set as the default theme.

Chapter 5: Implementation, Testing and Usage

The Carrboro Citizen will be the first to implement and test Citizen Press. The implementation process will occur outside the timeframe of this project. However, I have proposed a plan for the migration to Citizen Press, leading toward the theme's later release to the general WordPress community.

5.1 Proposed Implementation Plan

Phase 1: *The Carrboro Citizen* will create a backup copy of its current website. Due to the high number of posts on the site, this step could prove lengthy. All posts, comments, categories and tags should be exported to the local hard drive using WordPress's built-in export tool. The files stored on the server should also be saved to the hard drive.

Phase 2: The second phase involves installing a fresh copy of WordPress 2.9 (the latest version available at the time of this writing) into a new directory on the server. This new installation can either use a new MySQL database or it can use the old one with a different table prefix. When the install completes, the content exported in the Phase 1 can be imported using the built-in import tool.

Phase 3: When all categories, posts, tags and comments have been reinstated, *The Carrboro Citizen* should hold conversations to plan a standard structure for categories, tags and pages. Once those standards are in place, a specification document should be written to aid future web content producers. Each individual post will need to be re-categorized and re-tagged as necessary. This phase may also prove lengthy, but it will help to streamline the adjustment to the Citizen Press theme.

Phase 4: Install and activate the Citizen Press parent and child themes. After the themes are installed, settings and adjustments can be made through the options panel and on the child theme's stylesheet. Sidebars and widgets can be customized through WordPress's widget control panel in the Dashboard.

Phase 5: Reinstall third-party plugins as needed.

5.2 Testing

The Carrboro Citizen will likely use Citizen Press for at least six months to uncover and fix bugs and errors. Eventually, after enough trials and feedback from users, I will develop a distribution version of Citizen Press and release it to the WordPress community as a free theme.

5.2.1 Ongoing Maintenance and Requirements

As with any information system, it is important to pay attention to maintenance and usage requirements. Citizen Press requires knowledge of basic (X)HTML, CSS, PHP and JavaScript to make significant changes to the design and layout beyond the options provided through the theme options page. In addition Citizen Press requires the use of FTP, the WordPress Dashboard and some image editing. Therefore, newspapers using Citizen Press will need to have at least one staff member whose technical expertise includes these technologies. Another requirement of Citizen Press is continuous monitoring of WordPress development progress and the ability to install upgrades to the theme, plugins and WordPress when needed.

5.3 Use-Case Model

The following use-case model depicts a general overview of the flow of data between the user, the server, the database and the WordPress application. The numbers on the model represent the logical steps in the process for each user. Each step is explained in colloquial English along with Unified Modeling Language (UML) naming conventions to facilitate understanding. In prose form, the model states the following (from the point of view of the site administrator, depicted with orange numbered steps): *The Carrboro Citizen* website administrator wants to visit the WordPress Dashboard in order to add a new post. He proceeds to type in the URL of the WordPress Dashboard. When the web server that hosts *The Carrboro Citizen* website receives the request (this model does not include the ISP and DNS process), it reads the main index of the WordPress administration folder on the server (“wp-admin”) and executes the PHP scripts. The scripts connect to the MySQL database in order to gather all settings

necessary to display the necessary site content and configurations. When all of the scripts are executed, XHTML pages have been generated. They are sent back to the site administrator, who views them on his browser in the form of a web page, in this case, the login screen to the WordPress Dashboard. The regular web user's request is handled in an identical fashion, with the exception of a different web page displayed in the final step.

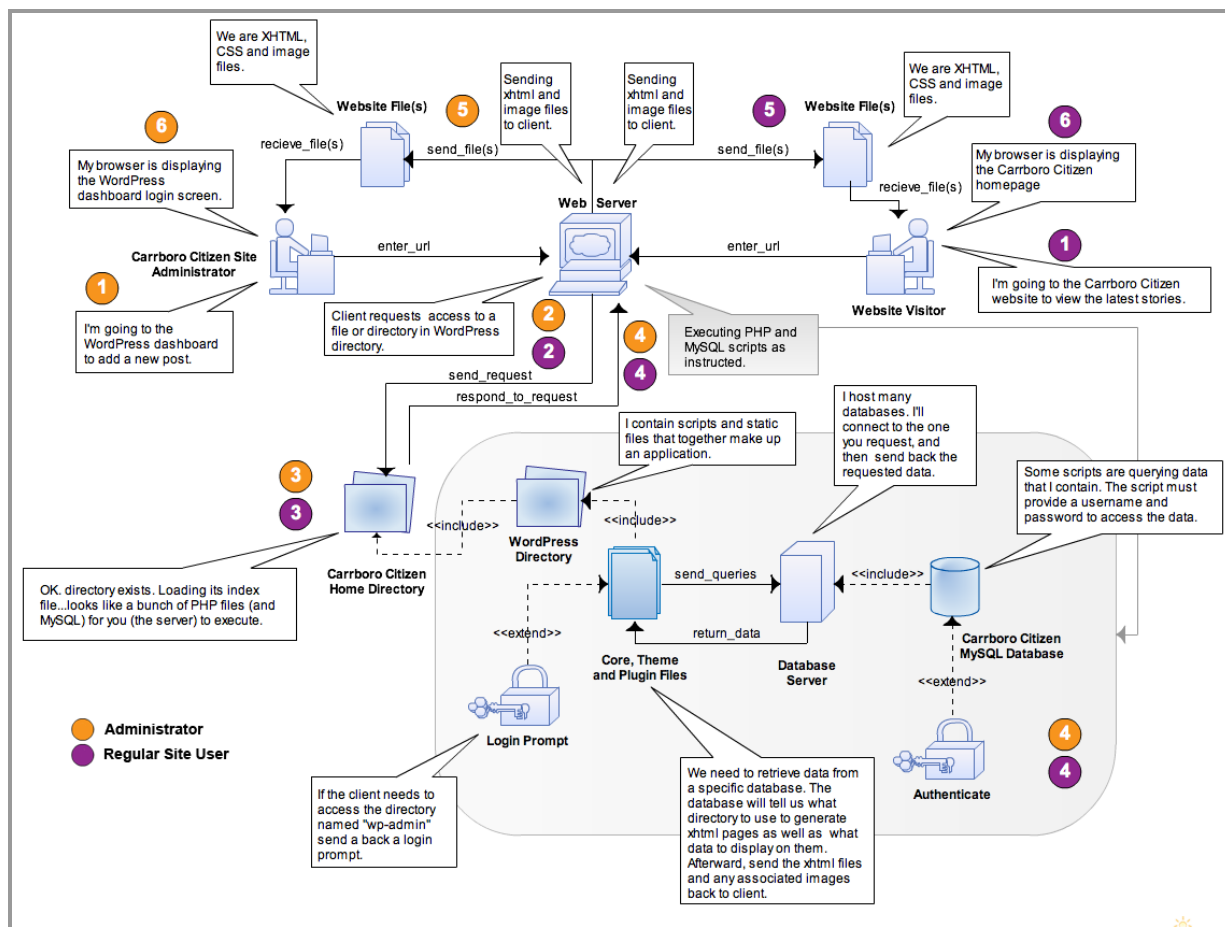


Figure 26 – Use Case Model depicting interaction between the user, the web server, WordPress and the database.

Chapter 6: Limitations and Conclusions

6.1 Limitations

Ideally, all major phases of any web design project should include a usability test. Situating usability tests throughout the project can help to identify potential problems before they have a chance to affect the final product. However, due to constraints in time and resources, I did not conduct formal usability tests. All usability decisions were instead based on findings from the literature cited in Chapter 3. It is likely that usability-related changes to Citizen Press will occur after *The Carrboro Citizen* has installed and used the theme for a few months.

Another limiting factor is the fact that the WordPress development team will inevitably release a version of WordPress that renders the WordPress theme development process described in this paper obsolete. The upcoming release of HTML 5 and CSS 3 may also render the static XHTML and CSS structure of Citizen Press obsolete. Finally, the other content management systems listed in Table 4 in Chapter 2 can also serve as solutions for community papers building an online presence. Future projects may wish to do for Joomla! and Drupal what I did for WordPress in this paper.

6.1.1 Lessons Learned

Development of the Citizen Press theme involved not only a written report, but also a deliverable web design project. Citizen Press is a highly complex theme that required many lines of XHTML, CSS and PHP code. Crafting the theme took a considerable amount of time, especially since some aspects of the theme (namely, the options page and custom functions in PHP) were near the limits of my skill level. This project emphasized that planning an information system is one thing; actualizing it is another. For example, I often had a plan for how I would accomplish any given feature, but once I sat down to implement that feature, I would either discover a new way to

accomplish it or I would realize that the feature would be too complex to be feasible within the timeframe. On other occasions, I would spend many hours contemplating whether or not to use a certain design or coding technique. All of this hindered progress. It would have been helpful to start the conceptualizing, needs-assessment and prototyping during the summer prior to the Fall semester, leaving more time between late August and mid-November to focus on building the WordPress-related aspects of the theme as well as to conduct usability tests.

Upon the completion of this project, I have increased my knowledge of WordPress, PHP, CSS, JavaScript and (X)HTML. I learned that while it does carry some standards, the practice of web design does not always come with absolutes. For every ten web designers who laud a technique (such as a CSS grid or a browser-compatibility standard), there are 10 others who advise against it. Ultimately, the needs of the project and the end-user should drive all decisions.

6.2 Conclusions

This project has shown how community newspapers can design, build and implement a website using WordPress, a free, open source content management system. The theme produced, aside from helping *The Carrboro Citizen* achieve its goals of building the next generation of its website, will serve as a valuable resource and starting point for other community newspapers looking for a low-cost way to get online. Citizen Press represents just one response to a growing trend — as the information age continues, so too does the way in which we present that information. It also provides a possible solution to the problems that plague an already struggling industry.

Works Cited

1. A conversation with Laurence Gonzales, author of *Deep Survival*. Retrieved 4 December, 2009 <<http://home.comcast.net/~laurencegonzales/ds/QandA.html>>.
2. Anderson, S (2009). In Defense of Eye Candy. *A List Apart*. Retrieved 9 May, 2009 <<http://www.alistapart.com/articles/indefenseofeyecandy/>>.
3. Beaulieu, M. (2000). Interaction in information searching and retrieval. *Journal of Documentation*, vol. 56(4), 431-439.
4. CoPress. *CoPress | College Media's Backbone*. Retrieved December 21, 2009, from <<http://www.copress.org/about/>>.
5. Dilling, E. (2009, March 3). Study: newspaper readership down, despite online increase - Shaping the future of the newspaper blog. *Shaping the Future of the Newspaper Blog*. Retrieved December 13, 2009, from <http://www.sfnblog.com/circulation_and_readership/2009/03/study_newspaper_readership_down_despite.php>.
6. Djonov, E. (2007). Website hierarchy and the interaction between content organization, webpage and navigation design: A systemic functional hypermedia discourse perspective. *Information Design Journal*, vol. 15(2), 144-162.
7. First Impressions Count for Web. BBC. 16 January, 2006. Retrieved 1 December, 2009 from <<http://news.bbc.co.uk/2/hi/technology/4616700.stm>>.
8. Head, A. J. (2000). 1. *Design Wise: A Guide for Evaluating the Interface Design of Information Resources* (2 ed., pp. 44-47). Medford, New Jersey: Information Today, Inc..
9. J-Lab | About. *J-Lab* . Retrieved December 21, 2009, from <<http://www.j-lab.org/about/>>.
10. J-Learning -- Plan It -- Newspaper in a Box. *J-Learning: your how-to site for community journalism*. Retrieved December 21, 2009, from <http://www.j-learning.org/plan_it/category/Newspaper%20in%20a%20Box/>.

11. Kintlzer, J. (2009, May 26). Newspapers missing the benefits of social media. *PitchEngine*. Retrieved December 13, 2009, from <<http://mediapitch.ning.com/profiles/blogs/1625905:BlogPost:1246>>.
12. Knight, K. (2009, November 25). Existing Visual » To Grid or Not to Grid: Advantages and Disadvantages. *Existing Visual*. Retrieved December 23, 2009, from <<http://www.existingvisual.com/2009/11/25/to-grid-or-not-to-grid-advantages-and-disadvantages/>>.
13. Mermigas, A. (2009, December 12). Social media is the new mass media. *MediaPost*. Retrieved December 13, 2009, from <http://www.mediapost.com/publications/?fa=Articles.showArticle&art_aid=119013>.
14. Mullenweg, M. (2009, July 2). WordPress Blog » Themes are GPL, too. *WordPress Blog Tool and Publishing Platform*. Retrieved December 20, 2009, from <<http://wordpress.org/development/2009/07/themes-are-gpl-too/>>.
15. Moss, T. (2004). Ten quick tests to check your website for accessibility. Webcredible. Retrieved 3 November, 2009 from <<http://www.webcredible.co.uk/user-friendly-resources/web-accessibility/testing-web-accessibility.shtml>>.
16. Moss, T. (2007). The future of web accessibility. Webcredible. Retrieved 3 November, 2009 from <<http://www.webcredible.co.uk/user-friendly-resources/web-accessibility/future.shtml>>.
17. Nedregard, S. (2002, February 27). Frequently Asked Questions (FAQ) - The Web Standards Project. *The Web Standards Project*. Retrieved December 23, 2009, from <<http://www.webstandards.org/learn/faq/#p3>>.
18. Newspapers face a challenging calculus. (2009, February 26). *Pew Research Center Publications*. Retrieved December 13, 2009, from <pewresearch.org/pubs/1133/decline-print-newspapers-increased-online-news>.
19. Newswire Today. (2009, May 5). Web 2.0 Hacking Incidents on the Rise in Q1 2009. *Newswire Today*. Retrieved December 19, 2009, from <www.newswiretoday.com/news/50462/>.
20. Preece, J.; Rogers, Y. & Sharp, H. (2007). *Interaction design – beyond human-computer interaction*. Second edition. USA: John Wiley & Sons, Inc., p. 85.
21. Schonfeld, E. (2009, March 29). The wounded U.S. newspaper industry lost \$7.5 billion in advertising revenues last year . *TechCrunch* . Retrieved December 13, 2009, from <<http://www.techcrunch.com/2009/03/29/the-wounded-us-newspaper-industry-lost-75-billion-in-advertising-revenues-last-year/>>.

22. Stiffler-Dean, T. (2009, March 9). WordPress vs. Joomla vs. Drupal. *Good Web Practices*. Retrieved 10 December from <<http://www.goodwebpractices.com/other/wordpress-vs-joomla-vs-drupal.html>>.
23. Webconfs. 15 Minute SEO List - Learn how to SEO. *SEO Tools - Search Engine Optimization Tools*. Retrieved December 23, 2009, from <<http://www.webconfs.com/15-minute-seo.php>>.
24. WordPress - Wikipedia, the free encyclopedia. *Wikipedia, the free encyclopedia*. Retrieved December 20, 2009, from <<http://en.wikipedia.org/wiki/WordPress>>.
25. WordPress - About » GPL. *WordPress - Blog Tool and Publishing Platform*. Retrieved December 20, 2009, from <<http://wordpress.org/about/gpl/>>.
26. WordPress. WordPress - About » Requirements. *WordPress - Blog Tool and Publishing Platform*. Retrieved December 20, 2009, from <<http://wordpress.org/about/requirements/>>.
27. WordPress - About. *WordPress - Blog Tool and Publishing Platform*. Retrieved December 20, 2009, <from <http://wordpress.org/about/>>.

Tutorials and Resources Used

1. <http://jeffgran.com/180/blog/wordpress-tabbed-sidebar-widgets-with-jquery>
2. <http://www.feedburner.com>
3. <http://18elements.com/tools/news-ticker-for-wordpress>
4. <http://wphacks.com/how-to-separate-wordpress-comments-and-trackbacks/>
5. <http://codex.wordpress.org/>
6. http://codex.wordpress.org/The_Loop
7. http://codex.wordpress.org/Author_Templates
8. http://codex.wordpress.org/Template_Tags
9. <http://wordpress.org/support/topic/256875>
10. <http://c.hadcoleman.com/2008/06/adding-timthumb-to-your-wordpress-theme/>
11. <http://wordpress.org/support/topic/268100>
12. <http://www.wprecipes.com/how-to-display-posts-in-columns>
13. <http://wordpress.org/extend/plugins/nextgen-gallery/>
14. <http://www.flickr.com>
15. <http://www.nathanrice.net/blog/ultimate-guide-to-wordpress-seo-optimized-heading-tags/>
16. <http://semperfiwebdesign.com/portfolio/wordpress/wordpress-plugins/all-in-one-seo-pack/>
17. <http://www.dynamicdrive.com/dynamicindex4/stepcarousel.htm>
18. <http://forthelose.org/how-to-create-a-theme-options-page-for-your-wordpress-theme> and <http://wpshout.com/create-an-awesome-wordpress-theme-options-page-part-1/>
19. <http://www.wordpress.org/extend>
20. <http://www.1kbgrid.com>

Images Used

File-Type icons used in Figures 9 and 25 come from:

1. MMC File Types Collection Vol. 1 by Michael Muller C., November 2006 <<http://interfacelift.com/icons-win/details.php?id=1928>>. The icons were available under a creative commons license at the time of this writing.
2. *The use-case model depicted in Figure 26 was drawn in Creately.* <<http://www.creately.com>>. All icons in the model originated within the Creately application.
3. *Folder icon used in Figure 9 is a screenshot that I took of a MacOS X system folder.* The folder icon is Copyright Apple Inc. <<http://www.apple.com>>.

Screenshots

The designs depicted in the screenshots in this paper (of website templates and of the WordPress installation and Dashboard UIs) were current at the time of this writing but may have since been redesigned.

Software Used

1. MacOS 10.6.1 <<http://www.apple.com/macosx>>
2. Adobe Photoshop CS3 <<http://www.adobe.com>>
3. Dreamweaver CS3 <<http://www.adobe.com>>
4. Adobe Illustrator CS3 <<http://www.adobe.com>>
5. CyberDuck 3.3b4 <<http://cyberduck.ch/>>
6. Bare Bones Software TextWrangler 2.3 <<http://www.barebones.com/products/TextWrangler/>>
7. MAMP 1.6 <<http://www.mamp.info>>
8. BibMe <<http://www.bibme.org>>

Appendix

(X)HTML and CSS and Resources

The following websites provide useful starting points for those who are interested in learning (X)HTML and CSS.

- W3C Schools Online Web Tutorials: <http://www.w3schools.com> (also contains PHP, MySQL and JavaScript tutorials).
- <http://www.htmlcodetutorial.com/>
- <http://www.yourhtmlsource.com/>
- <http://www.davesite.com/webstation/html/>

Setting up a Domain

The following website provides useful starting points for those who are interested in setting up a domain and web hosting.

- <http://www.davesite.com/webstation/html/domain.shtml>

Recommended FTP Clients

- Cyberduck: <http://www.cyberduck.ch> (MacOS)
- WinSCP: <http://winscp.net/eng/index.php> (Windows)
- FireFTP: <http://fireftp.mozdev.org/> (A plugin for the Firefox web browser on MacOS or Windows)

Source Code (Snapshots)

Listed here (in compressed form) are examples of the Citizen Press source code. The full source code may be downloaded from:
<http://www.pixelplanemedia.com/citizenpress>.

XHTML Static Prototype and Base Structure. Front Page with Dummy Data

```

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"><html
xmlns="http://www.w3.org/1999/xhtml"><head> <meta name="generator" content="HTML Tidy for Linux/x86 (vers 11 February
2007), see www.w3.org" /> <meta http-equiv="Content-Type" content="text/html; charset=us-ascii" /> <title>Citizen Press</title>
<script type="text/javascript" src="library/js/jquery-1.3.2.js"></script> <script type="text/javascript"
src="library/js/stepcarousel.js"></script> <script type="text/javascript" src="library/js/stepcarousel_config.js"></script> <script
type="text/javascript" src="library/js/ui.core.js"></script> <script type="text/javascript" src="library/js/ui.tabs.js"></script> <script
type="text/javascript"><![CDATA[ jQuery.noConflict(); jQuery(document).ready(function() { // Tabs jQuery("#tabs").tabs(); }); //]]>
</script> <link rel="stylesheet" type="text/css" href="styles.css" /><!--[if IE]> <link rel="stylesheet" type="text/css" href="ie5.css"
/><![endif]></head><body> <!--START MAIN WRAPPER DIV--> <div id="wrapper"> <!--START AUXILIARY MENU
CONTAINER--> <div class="row" id="auxiliaryMenuContainer"> <div class="column_grid_6" id="auxiliaryMenuOne"> <ul>
<li><a href="#" class="mobilelink">Mobile Edition</a></li> <li><a href="#" class="subscribelink">Subscribe to Web
Feed</a></li> </ul><br class="ClearFloat" /> </div> <div class="column_grid_6" id="auxiliaryMenuTwo"> <ul> <li><a
href="#">Classifieds</a></li> <li><a href="#">Advertise With Us</a></li> </ul> </div><!--END AUXILIARY MENU
CONTAINER--> <!--START MASTHEAD--> <div class="row" id="mastheadContainer"> <!--logo--> <div class="column_grid_5"
id="logo"> <p id="siteLogo">The Carrboro Citizen</p> <h1 id="siteTagline">Just Another WordPress Blog</h1> </div><!--
Masthead Ads--> <div class="column_grid_7" id="mastheadAds"> <a href="#"></a>
</div> </div><!--END MASTHEAD--> <!--START MAIN MENU--> <div id="mainMenuContainer"> <ul> <li id="selected"><a
href="#">Home</a></li> <li><a href="#">News</a></li> <li><a href="#">Opinion</a></li> <li><a href="#">Community</a></li>
<li><a href="#">Schools</a></li> <li><a href="#">Sports</a></li> <li><a href="#">Features</a></li> <li><a
href="#">Archives</a></li> </ul><br class="clearFloat" /></div><!--END MAIN MENU CONTAINER--> <!--START NEWS
TICKER, BREADCRUMB --> <div class="row" id="tickerBreadContainer"> <!--News Ticker--> <div class="column_grid_8"
id="newsTicker"> <p><strong>Latest Headlines &laquo; &raquo;</strong> <a href="#">Obama discusses Olympics in
Copenhagen</a></p> </div> <!--END NEWS TICKER, BREADCRUMB --> <!--START TIER ONE--> <div class="row"
id="tierOne"> <!--Top Story--> <div class="column_grid_5" id="topStory"> <div class="topStoryEntry"> <a href="#"></a> <h2 class="extraLargeHeadline"><a href="#">Step up
to 'Bunnyville' and buy our stuff from us</a></h2> <p>The Orange County Department of Social Services will be taking applications
for the Low Income Home Energy Assistance Program from Nov. 2-13. <a href="#">Full Story &raquo;</a></p><span
class="postMeta">10.10.09 / Posted in <a href="#">Top Stories</a>, <a href="#">Schools</a> / <a href="#">10
Comments</a></span> </div><!--top story entry--> <div id="newsSectionOne"> <h4 class="moreStories"><a href="#">More Top
Stories &raquo;</a></h4> <ul class="disc"> <li> <h2 class="mediumHeadline"><a href="#">Council meets to discuss water run-
off</a></h2> <p class="postExcerpt">Proin augue Donec non nascetur congue dolor dignissim Aenean Duis consetctetur. Justo
Vestibulum por... <span class="postMeta">11.02.10 / <a href="#">0 Comments</a></span></p></li> <li> <h2
class="mediumHeadline"><a href="#">Obama family makes visit to the Paris of the South</a></h2> <p class="postExcerpt">Orci
rutrum lacus feugiat egestas venenatis Sed dolor condimentum montes ornare. Sapien magna libero... <span class="
postMeta">11.23.09 / <a href="#">3 Comments</a></span></p></li> </ul> </div><!--news Section One--> </div><!--end Top
Story--> <!--News Section Two--> <div class="column_grid_4" id="newsSectionTwo"> <h3 class="categoryTitle"><a
href="#">Community &raquo;</a></h3><!--entry--> <div class="entry"> <h2 class="largeHeadline"><a href="#" title="Link
Title">Weaving sale to benefit Guatemala</a></h2><a href="#"></a> <p class="postExcerpt">The 23rd annual Mayan Weaving Sale, supporting aid to Guatemala, will be
held this Saturday from 9 a.m. to 1 p.m. at the Church of Reconciliation at 110 North Elliott Road in Chapel Hill. <span class="
postMeta">10-Nov-09 / <a href="#">3 Comments</a></span></p><br class="clearFloat" /> </div><!--entry--> <div
class="entry"> <h2 class="largeHeadline"><a href="#" title="Link Title">Energy assistance program taking applications</a></h2><a
href="#"></a> <p class="postExcerpt">The
Orange County Department of Social Services will be taking applications for the Low Income Home Energy Assistance Program from
Nov. 2-13 at its Chapel Hill and Hillsborough locations, 2501 Homestead Road in Chapel Hill and 300 West Tryon Street in
Hillsborough. <span class="postMeta">10-Nov-09 / <a href="#">3 Comments</a></span></p><br class="clearFloat" /> </div><!--
entry--> <!--entry--> <div class="entry"> <h2 class="largeHeadline"><a href="#" title="Link Title">Big Sensors, Shrinking
Cameras</a></h2><a href="#"></a> <p
class="postExcerpt">David Pogue reviews two new cameras from Canon and Panasonic that take giant technological steps. <span
class="postMeta">10-Nov-09 / <a href="#">3 Comments</a></span></p><br class="clearFloat" /> </div><!--entry--> </div><!--
Section Two column--> <!--Column--> <div class="column_grid_3"> <!--Search--> <div id="search"> <form method="get"
class="search_form" action="#"> <fieldset> <input class="text_input" value="Search this site..." name="s" id="s" onfocus="if
(this.value == 'Search this site...') {this.value = ' ';}" onblur="if (this.value == ' ') {this.value = 'Search this site...';}" type="text" />
<input type="button" class="submit_button" value="Search" /> </fieldset> </form> </div><!--search--> </div><!--column--> <!--
Sidebar 1--> <div class="column_grid_3 sidebar_shaded" id="sidebar_1"> <!--single widget--> <ul class="sidebar"> <li
class="widget_text_widget"> <h3>Standard Text Widget</h3> <p>This is a standard text widget. Put anything you want here.</p>
<p>This is a standard text widget. Put anything you want here.</p></li> </ul><!--single widget--> <!--single widget--> <ul
class="sidebar"> <li class="ad_widget"><a href="#"></a></li> </ul><!--single
widget--> </div><!--sidebar 1--> </div><!--END TIER ONE--> <!--CAROUSEL--> <div class="row"> <h3
class="carouselTitle">Media Gallery</h3> <div id="carousel" class="stepcarousel column_grid_12"> <div class="belt"> <div
class="panel"> <a href="#"></a> <p><a href="#">Somewhere over the rainbow where
birds fly</a></p> </div> <div class="panel"> <a href="#"></a> <p><a href="#">Let's work
on making things shiny</a></p> </div> <div class="panel"> <a href="#"></a> <p><a
href="#">Wonderful weather coming along</a></p> </div> <div class="panel"> <a href="#"></a> <p><a href="#">Another title headline here</a></p> </div> <div class="panel"> <a href="#"></a> <p><a href="#">Sunsets galore on the lake</a></p> </div> <div class="panel"> <a href="#"></a> <p><a href="#">This headline is a little bit longer adjust height.</a></p></div> <div class="panel"> <a href="#"></a> <p><a href="#">What is the name of the game?</a></p></div> <div class="panel"> <a href="#"></a> <p><a href="#">Travel photos went fun and had fun</a></p></div> <div class="panel"> <a href="#"></a> <p><a href="#">Festival celebrates lots of things</a></p></div> <div class="panel"> <a href="#"></a> <p><a href="#">One down, ten to go</a></p></div> <div class="panel"> <a href="#"></a> <p><a href="#">This space can be used for anything, really</a></p></div> <div class="panel"> <a href="#"></a> <p><a href="#">The sky is really the limit don't you think</a></p></div><!--belt--> </div><!--END CAROUSEL--> </div><!--row--> <!--TIER TWO--> <div class="row" id="tierTwo"> <!--sidebar two--> <div class="column\_grid\_2 sidebar\_shaded" id="sidebar\_2"> <!--single widget--> <ul class="sidebar"> <li class="widget text\_widget"> <h3>Standard Text Widget</h3> <p>This is a standard text widget. Put anything you want here.</p></li> </ul><!--single widget--> <!--single widget--> <ul class="sidebar"> <li class="widget meta\_widget"> <h3>Housing & Commerce</h3> <ul> <li><a href="#">Meta</a></li> <li><a href="#">Login</a></li> <li><a href="#">RSS</a></li> </ul></li> </ul><!--single widget--> <!--single widget--> <ul class="sidebar ads"> <li class="widget ad\_widget"><a href="#"></a></li> </ul><!--single widget--> </div><!--sidebar two--> <!--news sections--> <div class="column\_grid\_6" id="newsSectionThree"> <!--entry--> <h3 class="categoryTitle"><a href="#">News &raquo;</a></h3><!--entry--> <div class="entry"> <h2 class="largeHeadline"><a href="#" title="Link Title">Senectus Aliquam orci In sed</a></h2><a href="#"></a> <p class="postExcerpt">Lou Dobbs, the CNN anchor whose views on immigration made him a lightning rod, is leaving the network. <span class="postMeta">10-Nov-09 /<a href="#">3 Comments</a></span></p><br class="clearFloat" /> </div><!--entry--><!--entry--> <div class="entry"> <h2 class="largeHeadline"><a href="#" title="Link Title">Britain faces heaviest storms of the year</a></h2> <p class="postExcerpt">The biggest storm of the year was due to strike parts of Britain this weekend, with scores of flood alerts and experts warning that winds strong enough to uproot trees would arrive today. <span class="postMeta">10-Nov-09 /<a href="#">3 Comments</a></span></p></div><!--entry--><!--entry--> <div class="entry"> <h2 class="largeHeadline"><a href="#" title="Link Title">US town becomes a Twilight zone</a></h2><a href="#"></a> <p class="postExcerpt">Tourists flock to small US town, the setting of vampire novels that have become a teen read sensation <span class="postMeta">10-Nov-09 /<a href="#">3 Comments</a></span></p><br class="clearFloat" /> </div><!--entry--> <h4 class="moreStories"><a href="#">More News &raquo;</a></h4> <ul class="disc"> <li> <h2 class="smallHeadline"><a href="#">Council meets to discuss water run-off</a></h2> </li> <li> <h2 class="smallHeadline"><a href="#">Obama family makes visit to the Paris of the South</a></h2> </li> </ul></div><!--news section three--> <!--tabbed sidebar--> <div class="column\_grid\_4" id="tabbed\_sidebar"> <!-- Tabs --> <!-- Tabs --> <div id="tabs" class="tab\_widgets"> <ul class="tabnav"> <li><a href="#">widget-1</a></li> <li><a href="#">widget-2</a></li> <li><a href="#">widget-3</a></li> </ul> <div id="widget-1" class="tabdiv"> <ul> <li><a href="#">Welsh Zombie Sheep Invasion</a></li> <li><a href="#">Sheep Rising From The Dead</a></li> <li><a href="#">Blogosphere Daily Released!</a></li> <li><a href="#">Aliens Infiltrate Army Base In UK Town</a></li> </ul> </div> <div id="widget-2" class="tabdiv"> <ol> <li><a href="#">Sdsfsdfsd</a></li> <li><a href="#">Blogosphere Daily!</a></li> <li><a href="#">Apple iPhone 3G Released</a></li> <li><a href="#">Welsh Invasion</a></li> </ol> </div> <div id="widget-3" class="tabdiv"> <p>Nam dui erat, auctor a, dignissim quis, sollicitudin eu, felis. Pellentesque nisi urna, interdum eget, sagittis et, consequat vestibulum, lacus. Mauris portitor ullamcorper augue.</p></div> </div><!--end tabbed sidebar--> <!--wide sidebar--> <div class="column\_grid\_4 sidebar\_plain" id="sidebar\_3"> <!--single widget--> <ul class="sidebar ads"> <li class="ad\_widget"><a href="#"></a></li> </ul><!--single widget--> <!--single widget--> <ul class="sidebar"> <li class="widget text\_widget"> <h3>Standard Text Widget</h3> <p>This is a standard text widget. Put anything you want here.</p></li> </ul><!--single widget--> <!--wide sidebar--> </div><!--tier two--> <!--TIER THREE--> <div class="row" id="tierThree"> <div class="column\_grid\_8"> <!--News Section Four--> <div id="newsSectionFour"> <h3 class="categoryTitle"><a href="#">Opinion &raquo;</a></h3> <!--INNER ROW AND COLUMN--> <div class="row"> <div class="column\_grid\_4"> <!--entry--> <div class="entry"> <h2 class="largeHeadline"><a href="#" title="Link Title">Senectus Aliquam orci In sed</a></h2><a href="#"></a> <p class="postExcerpt">Lou Dobbs, the CNN anchor whose views on immigration made him a lightning rod, is leaving the network. <span class="postMeta">10-Nov-09 /<a href="#">3 Comments</a></span></p><br class="clearFloat" /> </div><!--entry--><!--entry--> <div class="entry"> <h2 class="largeHeadline"><a href="#" title="Link Title">Britain faces heaviest storms of the year</a></h2> <p class="postExcerpt">The biggest storm of the year was due to strike parts of Britain this weekend, with scores of flood alerts and experts warning that winds strong enough to uproot trees would arrive today. <span class="postMeta">10-Nov-09 /<a href="#">3 Comments</a></span></p></div><!--entry--> </div><!--END INNER COLUMN--> <!--INNER COLUMN--> <div class="column\_grid\_4"> <!--entry--> <div class="entry"> <h2 class="largeHeadline"><a href="#" title="Link Title">US town becomes a Twilight zone</a></h2><a href="#"></a> <p class="postExcerpt">Tourists flock to small US town, the setting of vampire novels that have become a teen read sensation <span class="postMeta">10-Nov-09 /<a href="#">3 Comments</a></span></p><br class="clearFloat" /> </div><!--entry--> <h4 class="moreStories"><a href="#">More News &raquo;</a></h4> <ul class="disc"> <li> <h2 class="smallHeadline"><a href="#">Council meets to discuss water run-off</a></h2> </li> <li> <h2 class="smallHeadline"><a href="#">Obama family makes visit to the Paris of the South</a></h2> </li> </ul></div> </div><!--END INNER ROW AND COLUMN--> </div><!--news section four--> <!--News Section Five--> <div id="newsSectionFive"> <h3 class="categoryTitle"><a href="#">Schools &raquo;</a></h3> <!--INNER ROW AND COLUMN--> <div class="row"> <div class="column\_grid\_4"> <!--entry--> <div class="entry"> <h2 class="largeHeadline"><a href="#" title="Link Title">Senectus Aliquam orci In sed</a></h2><a href="#"></a> <p class="postExcerpt">Lou Dobbs, the CNN anchor whose views on immigration made him a lightning rod, is leaving the network. <span class="postMeta">10-Nov-09 /<a href="#">3 Comments</a></span></p><br class="clearFloat" /> </div><!--entry--><!--entry--> <div class="entry"> <h2 class="largeHeadline"><a href="#" title="Link Title">Britain faces heaviest storms of the year</a></h2> <p class="postExcerpt">The biggest storm of the year was due to strike parts of Britain this weekend, with scores of flood alerts and experts warning that winds strong enough to uproot trees would arrive today. <span class="postMeta">10-Nov-09 /<a href="#">3 Comments</a></span></p></div><!--entry--> </div><!--END INNER COLUMN--> <!--INNER COLUMN--> <div class="column



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grid_4"> <!--entry--> <div class="entry"> <h2 class="largeHeadline">US town becomes a Twilight
zone</h2> <p
class="postExcerpt">Tourists flock to small US town, the setting of vampire novels that have become a teen read sensation 10-Nov-09 /3 Comments</p><br class="clearFloat" /> </div><!--entry--> <h4
class="moreStories">More News »</h4> <ul class="disc"> <h2 class="smallHeadline">Council meets to discuss water run-off</h2> <h2 class="smallHeadline">Obama family makes
visit to the Paris of the South</h2> </div> </div><!--END INNER ROW AND COLUMN--> </div><!--news section
five--> <!--News Section Six--> <div id="newsSectionSix"> <h3 class="categoryTitle">Sports »</h3> <!--
INNER ROW AND COLUMN--> <div class="row"> <div class="column grid_4"> <!--entry--> <div class="entry"> <h2
class="largeHeadline">Senectus Aliquam orci In sed</h2> <p class="postExcerpt">Lou Dobbs, the CNN anchor whose views on
immigration made him a lightning rod, is leaving the network. 10-Nov-09 /3
Comments</p><br class="clearFloat" /> </div><!--entry--><!--entry--> <div class="entry"> <h2
class="largeHeadline">Britain faces heaviest storms of the year</h2> <p
class="postExcerpt">The biggest storm of the year was due to strike parts of Britain this weekend, with scores of flood alerts and
experts warning that winds strong enough to uproot trees would arrive today. 10-Nov-09 /3
Comments</p> </div><!--entry--> </div><!--END INNER COLUMN--> <!--INNER COLUMN--> <div class="column
grid_4"> <!--entry--> <div class="entry"> <h2 class="largeHeadline">US town becomes a Twilight
zone</h2> <p
class="postExcerpt">Tourists flock to small US town, the setting of vampire novels that have become a teen read sensation 10-Nov-09 /3 Comments</p><br class="clearFloat" /> </div><!--entry--> <h4
class="moreStories">More News »</h4> <ul class="disc"> <h2 class="smallHeadline">Council meets to discuss water run-off</h2> <h2 class="smallHeadline">Obama family makes
visit to the Paris of the South</h2> </div> </div><!--END INNER ROW AND COLUMN--> </div><!--news section
six--> </div><!--column--> <!--wide sidebar--> <div class="column grid_4" id="sidebar_4"> <!--sidebar_plain--> <div
class="sidebar_plain"> <!--almanac widget--> <h3 class="almanac_header">Almanac »</h3> <ul
class="sidebar_almanac"> <li class="almanac_widget"> <h3 class="almanac_headline">Furby babies come to learn
Human speak on Earth.</h3> <p> Choose one or more categories from your paper and set it to display here. Perfect for a small recurring section. You
can turn this and if you do that then this space will just become part of the widget sidebar.</p> <h4 class="almanac_more_stories">More Almanac Stories »</h4> <!--almanac widget--> <!--single widget--> <ul class="sidebar"> <li
class="widget meta_widget"> <h3>Meta</h3> Meta Login RSS <!--single widget--> <!--single widget--> <ul class="sidebar"> <li class="widget
text_widget"> <h3>Standard Text Widget</h3> <p>This is a standard text widget. Put anything you want here.</p> <p>This is a
standard text widget. Put anything you want here.</p> </div><!--sidebar_plain--> <!--single widget--> <!--DOUBLE
SIDEBAR ROW--> <div class="row"> <div class="column grid_2" id="sidebar_5"> <!--sidebar_double--> <div
class="sidebar_double"> <!--single widget--> <ul class="sidebar"> <li class="widget text_widget"> <h3>Standard Text Widget</h3>
<p>This is a standard text widget. Put anything you want here.</p> <p>This is a standard text widget. Put anything you want
here.</p> <!--single widget--> <!--single widget--> <ul class="sidebar"> <li class="widget text_widget"> <h3>Standard
Text Widget</h3> <p>This is a standard text widget. Put anything you want here.</p> <p>This is a standard text widget. Put anything
you want here.</p> <!--single widget--> </div><!--sidebar_double--> </div><!--sidebar 5--> <div class="column grid_2"
id="sidebar_6"> <!--sidebar_double--> <div class="sidebar_double"> <!--single widget--> <ul class="sidebar"> <li class="widget
meta_widget"> <h3>Housing & Commerce</h3> Meta Login RSS <!--single widget--> <!--single widget--> <ul class="sidebar"> <li class="widget
text_widget"> <h3>Big City</h3> <p>sdfsdfsdfsdf</p> <!--single widget--> <!--single widget--> <ul class="sidebar ads">
<li class="ad_widget"> <p class="advertisement_label">Advertisement</p> <!--single widget--> </div><!--single widget--> </div><!--sidebar 6--> </div><!--END DOUBLE
SIDEBAR ROW--> </div><!--wide sidebar--> </div><!--tier three--> <!--BLOG NETWORK--> <div class="row"
id="BlogNetworkHeader"> <div class="column grid_12"> <h3 class="blog_network_title">Citizen Blog Network</h3> <div
class="blog_network_body"> <!--blog--> <ul class="blog"> <h3 class="small_uppercase_title">Mill
»</h3> This is a super long post title just testing to see This is a super
novel short post Super man said that this post title is too long that he cannot scale it in time before the force
comes through <!--blog--> <ul class="blog"> <h3 class="small_uppercase_title">Housing & Commerce »</h3> He says the highway is dusty Serving a Father by Bringing Koreans Home Room for Debate: Books to Live By
 <!--blog--> <ul class="blog"> <h3 class="small_uppercase_title">Flora »</h3> He says the highway is dusty Serving a Father by Bringing Koreans Home Room for Debate: Books to Live By <!--blog--> <ul class="blog"> <h3
class="small_uppercase_title">Sports »</h3> He says the highway is dusty
Serving a Father by Bringing Koreans Home Room for Debate: Books to Live
By <!--blog--> <ul class="blog"> <h3 class="small_uppercase_title">Politics
»</h3> He says the highway is dusty Serving a Father by Bringing
Koreans Home Room for Debate: Books to Live By <!--blog--> <ul
class="blog"> <h3 class="small_uppercase_title">Big City »</h3> He says the
highway is dusty Serving a Father by Bringing Koreans Home Room for
Debate: Books to Live By <br class="clearFloat" /> </div><!--blogNetworkBody--> </div><!--column-->
</div><!--BLOG NETWORK CONTAINER--> <!--SECTION INDEX CONTAINER--> <div class="row"
id="sectionIndexContainer"> <div class="column grid_5" id="indices"> <!--category--> <h3
class="small_uppercase_title">News »</h3> <ul class="index_listings"> Obituaries University <!--category--> <h3
class="small_uppercase_title">News »</h3> <ul class="index_listings"> Obituaries University <!--category--> <h3

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class="small_uppercase_title">Community »</h3> <ul class="index_listings"> Music Arts Events <!--category-->
<h3 class="small_uppercase_title">Schools »</h3> <ul class="index_listings"> High
Schools Colleges <br class="clearFloat" /> <!--category--> <h3
class="small_uppercase_title">Opinion »</h3> <ul class="index_listings"> Editorials Flora Recently <!--category-->
 <h3 class="small_uppercase_title">Sports »</h3> <ul class="index_listings"> High Schools Colleges <!--category--> <h3
class="small_uppercase_title">Features »</h3> <ul class="index_listings"> High
Schools Colleges <br class="clearFloat" /> </div><!--indices--> <div
class="column_grid_2" id="infoColumn"> <!--category--> <h3 class="small_uppercase_title">Contact Us</h3> <ul
class="index_listings"> Advertising Classifieds General
Inquiries <!--category--> <h3 class="small_uppercase_title">Tools</h3> <ul
class="index_listings"> Subscribe to Web Feed Mobile Edition
 </div><!--infoColumn--> <div class="column_grid_2" id="infoColumn2"> <!--category--> <h3
class="small_uppercase_title">Search & Archives</h3> <ul class="index_listings"> Search Our Site
Browse Archives <!--category--> <h3 class="small_uppercase_title">Learn
More</h3> <ul class="index_listings"> About Us Our Front Pages Some other odd link </div><!--infoColumn2--> <div class="column_grid_3"
id="networkingColumn"> <!--category--> <h3 class="small_uppercase_title">Network With Us</h3>sdfdsfdf
</div><!--networkingColumn--> </div><!--SECTION INDEX CONTAINER--><!--START FOOTER--> <div id="footer"> <div
id="footerMenu"> <li id="footerselected">Home News Opinion Community Schools Sports Features Archives <br class="clearFloat" />
</div> <div id="backtoTop"> Back to Top </div><br class="clearFloat" /> </div><!--END
FOOTER--> </div><!--END MAIN WRAPPER DIV--></body></html>

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## The main stylesheet of the Citizen Press theme – styles.css

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/* Theme Name: Citizen Press Theme URI: http://www.pixelpianemedia.com/citizenpress Description: 2009 WordPress Theme
"Citizen Press" Version: 1 Author: Michelle Langston (michellelangston@gmail.com) Stylesheet organization inspired by Greg
Annandale of http://carsonified.com Contents: 1. Colors 2. Reset 3. Typography & Images 4. Links 5. Wrapper & Grid 6. Page Layout
7. Messages (error, success etc) 8. Forms 9. Clearfix and Other Miscellaneous Classes */***** 1. COLORS ***** /*
To change colors, simply find these values in the stylesheet and replace them with your own. Or use the theme editor in WP Admin
panel. Update this section! - Black #000 (default text color, category title link) - White #fff (wrapper background, top story headline) -
Very light grey #f2f2f2 (main body background, carousel background) - Light grey #bcbcbc (borders) - Medium Grey #666 (h6,
tagline, category title link hover) - Medium Grey #2efeb3 (narrow sidebar background, top story slider border & bar) - Dark Grey
#676767 (wrapper top border, footer background) - Dark Blue #10458c (main link color) - Red #bb1a00 (main link hover color, "more
in this category" header) - Light Blue #eaf1fa (news category background, nav menu hover background) - Light Yellow #faf5e1
(search form, blog network title header background) */** END COLORS */***** 2. RESET ***** /*The goal of a
reset stylesheet is to reduce browser inconsistencies in things like default line heights, margins and font sizes of headings, and so on.
Via Eric Meyer: http://meyerweb.com/eric/tools/css/reset/ */ html, body, div, span, applet, object, iframe, h1, h2, h3, h4, h5, h6, p,
blockquote, pre, a, abbr, acronym, address, big, cite, code, del, dfn, em, font, img, ins, kbd, q, s, samp, small, strike, strong, sub, sup,
tt, var, b, u, i, center, dl, dt, dd, ol, ul, li, fieldset, form, label, legend, table, caption, tbody, tfoot, thead, tr, th, td { outline: 0; margin:
0; padding: 0; border: 0; font-size: 100%; vertical-align: baseline; background: transparent; } body { line-height: 1; } ol, ul { list-style:
none; } blockquote, q { quotes: none; } blockquote:before, blockquote:after, q:before, q:after { content: ""; content: none; } /*
remember to define focus styles! */ :focus { outline: 0; } /* remember to highlight inserts somehow! */ ins { text-decoration: none; }
del { text-decoration: line-through; } /* tables still need 'cellspacing="0"' in the markup */ table { border-collapse: collapse; border-
spacing: 0; } /* END RESET */***** 3. TYPOGRAPHY & IMAGES ***** /*Main body defaults */ body { font-
family: Georgia, 'Times New Roman', serif; line-height: 1.125em; /*creates a consistent line-height throughout the layout*/ text-align:
center; /* this centers the container in IE 5* browsers. The text is then set to the left aligned default in the #container selector */
background: #f2f2f2; color: #000; } /* Standard paragraph & span text */ p, span { font-size: 0.875em; } /* Post-related text & divs */
.column p { margin: 10px 1px 17px 0; } p.postExcerpt { margin: 7px 1px 10px 0; font-size: 0.814em; } span.postMeta { color: #666; }
div.entry { margin-bottom: 12px; border-bottom: 1px dotted #bcbcbc; padding-bottom: 5px; } /* Standard Headings */
h1,h2,h3,h4,h5,h6 { line-height: 1.23; font-weight: normal; } h1 { margin-bottom: 0.25em; font-size: 2em; } h2 { margin-bottom: 0.50em;
font-size: 1.65em; } h3 { margin-bottom: 0.75em; font-size: 1.250em; } h4 { margin-bottom: 1em; font-size: 1.1em; } h5 { margin-bottom:
1.25em; font-size: 1em; } h6 { margin-bottom: 1.25em; font-size: 1em; color: #666; } h1 img, h2 img, h3 img, h4 img, h5 img, h6 img
{ margin: 0; } /*Standard Lists */ ul.disc { margin: 10px 30px; font-size: inherit; list-style-type: disc; } ul.square { margin: 10px 30px;
font-size: inherit; list-style-type: square; } ol { list-style-type: decimal; } /* Site logo & tagline */ #siteLogo { margin: 0 0 1em 0; font-
size: 1.75em; line-height: 1.2; letter-spacing: 0.051em; font-weight: bold; } #siteLogo a { color: #000; } #siteLogo a:hover { color:
#bb1a00; } #siteTagline { margin: 0 0 0.5em 0; padding-left: 3px; font-size: 1.1em; line-height: 1.2; letter-spacing: 0.051em; text-
transform: lowercase; color: #666; } #siteTagline a { color: #666; } #siteTagline a:hover { color: #bb1a00; } /* News Headlines and
Titles */ h2.extraLargeHeadline { margin-bottom: 0; font-size: 1.375em; } h2.largeHeadline { margin-bottom: 0; line-height: 1.35em;
font-size: 1.1em; } h2.mediumHeadline { margin-bottom: 0; font-size: 1em; } h2.smallHeadline { margin-bottom: 0; font-size:
0.875em; } h3.categoryTitle { min-height: 18px; display: block; margin-bottom: 0.5em; border: 1px solid #bcbcbc; padding: 5px
18px; font-size: 0.938em; font-weight: bold; background: url("images/category_bg.gif") no-repeat 6px 10px #eaf1fa; } h4.moreStories
{ margin-bottom: 0; font-size: 0.875em; text-transform: uppercase; color: #bb1a00; } h4.moreStories a { color: #bb1a00; }
small_uppercase_title { margin: 0 auto; padding: 7px 0 3px 0; font-size: 0.75em; text-transform: uppercase; font-weight: bold; }
/*Auxiliary Menu and Breaking News; Breadcrumbs & Search Box area */ #auxiliaryMenuContainer p, #auxiliaryMenuContainer ul,
#breakBreadSearch p { margin: 5px 0; } /* Images */ .alignleft { float:left; margin: 10px 10px 0 0; } .alignright { float:right; margin:

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5px 0 0 10px; } .aligncenter { display:block; margin:0 auto; } /* END TYPOGRAPHY & IMAGES */ /****** 4. LINKS
******/ /*Standard Links */ a, a:visited {text-decoration: none; color: #10458c; } a:hover {text-decoration: none; color: #bb1a00;
} /*Category Title links */ h3.categoryTitle a, h3.categoryTitle a:active, h3.categoryTitle a:visited { font-weight: bold; color: #000; }
h3.categoryTitle a:hover { font-weight: bold; color: #666; } /* END LINKS */ /****** 5. WRAPPER & GRID ******/
/*WRAPPER The wrapper is the main element which will contain the entire layout. It controls the main site width, content
background color and borders. ----- */ #wrapper { width: 960px; margin: 0 auto; /* the auto margins (in conjunction with a
width) center the page */ border: 1px solid #bcbcbc; border-top: 3px solid #676767; text-align: left; /* this overrides the text-align:
center on the body element. */ background: #fff; } /*THE GRID. This is the heart and soul of the site structure. This grid is the 1kb
CSS Grid by Tyler Tate. To use it in your projects, see http://1kbgid.com/ 12 columns, 60 pixels each, with 20 pixel gutter -----
*/ .grid_1 { width:60px; } .grid_2 { width:140px; } .grid_3 { width:220px; } .grid_4 { width:300px; } .grid_5 { width:380px; }
.grid_6 { width:460px; } .grid_7 { width:540px; } .grid_8 { width:620px; } .grid_9 { width:700px; } .grid_10 { width:780px; }
.grid_11 { width:860px; } .grid_12 { width:940px; } .column { float: left; margin: 0 10px; display: inline; overflow: hidden; } .row {
width: 960px; margin: 0 auto; overflow: hidden; } .row .row { width: auto; display: inline-block; margin: 0 -10px; } /* END
WRAPPER & GRID */ /****** 6. PAGE LAYOUT ******/ /* AUXILIARY MENU ----- */
#auxiliaryMenuContainer { min-height: 30px; height:auto !important; /*for IE only, since IE doesn't support the "min-height" value.
*/ height:30px; /*for IE only, since IE doesn't support the "min-height" value. */ border-bottom: 1px solid #bcbcbc; } /*Auxiliary
Menu One (Left Column) */ #auxiliaryMenuOne {} #auxiliaryMenuOne ul { float: left; margin: 0; padding: 0; } #auxiliaryMenuOne
ul li { display: inline; } #auxiliaryMenuOne ul li a { float: left; border-right: 1px solid #bcbcbc; padding: 5px 15px 5px 10px; font-
size: 0.814em; font-weight: bold; } #auxiliaryMenuOne ul li a:visited {} #auxiliaryMenuOne ul li a:hover, #auxiliaryMenuOne ul li
.current {} /*Auxiliary Menu Two (Right Column) */ #auxiliaryMenuTwo { text-align: right; } #auxiliaryMenuTwo ul { float: right;
margin: 0; padding: 0; } #auxiliaryMenuTwo ul li { display: inline; } #auxiliaryMenuTwo ul li a { float: left; border-left: 1px solid
#bcbcbc; padding: 5px 8px 5px 10px; font-size: 0.814em; font-weight: bold; } /* MASTHEAD (Site Logo and Header Ad) -----
----- */ #mastheadContainer { min-height: 100px; height:auto !important; /*for IE only, since IE doesn't support the
"min-height" value. */ height:100px; /*for IE only, since IE doesn't support the "min-height" value. */ border-bottom: 1px solid
#bcbcbc; } /*Wraps the site logo text or image */ #logo { padding-top: 20px; } /*Masthead ads spot */ #mastheadAds { margin-top:
16px; } /* MAIN MENU ----- */ #mainMenuContainer { background: #eee; } #mainMenuContainer ul { margin: 0; padding: 0;
list-style: none; background: #eee; } #mainMenuContainer li { float: left; border-right: 1px solid #bcbcbc; border-bottom-width: 0;
margin: 0; } #mainMenuContainer a { display: block; padding: 10px 10px; font-size: 0.814em; text-align: center; text-decoration:
none; text-transform: uppercase; background: #eee; color: #000; } #mainMenuContainer a:hover { background: #eaf1fa; }
#mainMenuContainer #selected a, #mainMenuContainer .current-cat a { position: relative; top: 1px; font-weight: bold; background:
#fff; color: #000; } /* NEWS TICKER, BREADCRUMB MENU, SEARCH ----- */ #tickerBreadContainer { min-height: 35px;
height:auto !important; /*for IE only, since IE doesn't support the "min-height" value. */ height:35px; /*for IE only, since IE doesn't
support the "min-height" value. */ border-top: 1px solid #bcbcbc; border-bottom: 1px solid #bcbcbc; } /*The actual news ticker
container*/ #newsTicker {} #newsTicker p { margin: 8px 0 0; } #breakingNews { margin: 10px 0 10px 10px; background: #bb1a00;
} #breakingNews p { padding: 12px; font-size: 1.475em; font-weight: bold; color: #fff; } #breakingNews a { text-decoration:
underline; font-weight: bold; color: #fff; } #breadCrumb {} /*This appears instead of the Breaking News on all pages but the front
page */ #search { background: #faf5e1; margin-bottom: 10px; } /* NEWS SECTIONS & TIERS These control the main rows
containing news sections & sidebars. Use them to set borders, backgrounds, font overrides, etc. -----
----- */ #tierOne, #tierTwo, #tierThree { margin-top: 10px; border-bottom: 1px solid #bcbcbc; } /*top story special display */
#topStory { margin-bottom: 10px; } .topStoryentry { border-bottom: 1px dotted #bcbcbc; margin-bottom: 12px; } .topStoryentry img
{ padding: 10px; background: #efebef; } .topStoryentry p { margin: 0px; padding-top: 8px; font-size: 0.875em; } .topStoryentry
span.topStorymeta { display: block; margin: 0; padding: 5px 0 10px 0; font-size: 0.75em; line-height: 1.25em; color: #666; }
.topStoryentry h2 { padding-top: 5px; } .topStoryentry h2 a { font-weight: bold; } #newsSectionOne {} #newsSectionTwo {}
#newsSectionThree {} #newsSectionFive {} #newsSectionSix {} /* MEDIA CAROUSEL ----- */ #carousel { border-bottom:
4px solid #bcbcbc; } h3.carouselTitle { margin: 7px 10px 0 8px; padding: 5px 18px; font-size: 0.938em; font-weight: bold;
background: url("images/category_bg.gif") no-repeat 6px 10px; } .stepcarousel { height: 160px; /*Height should enough to fit largest
content's height*/ position: relative; /*leave this value alone*/ overflow: scroll; /*leave this value alone*/ margin-top: 0; margin-
bottom: 7px; border: 1px solid #bcbcbc; text-align: center; background: #f2f2f2; } .stepcarousel .belt { position: absolute; /*leave this
value alone*/ top: 0; left: 0; } .stepcarousel .panel { width: 146px; /*Width of each panel holding each content. If removed, widths
should be individually defined on each content DIV then. */ float: left; /*leave this value alone*/ overflow: hidden; /*clip content that
go outside dimensions of holding panel DIV*/ margin: 9px; /*margin around each panel*/ } .stepcarousel .panel img { border: 1px
solid #bcbcbc; padding: 3px; background: #fff; } .stepcarousel .panel p { margin: 0; font-size: 0.75em; line-height: 1.25em; font-
weight: bold; } /* SIDEBARS. ----- */ /*sidebar containers */ #sidebar_1, #sidebar_2, #sidebar_3, #sidebar_5, #sidebar_6 {}
/*shaded */ .sidebar_shaded { background: #efebef; } .sidebar_shaded .sidebar { margin: 10px; border: 1px solid #bcbcbc; list-style-
type: none; background: #fff; } .sidebar_shaded .sidebar .widget { padding: 5px; } .sidebar_shaded .sidebar .widget p, .sidebar_shaded
.sidebar .widget ul { font-size: 0.750em; } .sidebar_shaded .sidebar .widget ul { margin: 2px 2px 5px 16px; padding: 0; list-style-type:
circle; } .sidebar_shaded .sidebar .widget p { margin: 10px 0; } .sidebar_shaded .sidebar .widget h3 { padding-left: 12px; font-size:
0.750em; font-weight: bold; text-transform: uppercase; background: url("images/category_bg.gif") no-repeat 4px; } /* plain sidebars
*/ .sidebar_plain .sidebar { list-style-type: none; } .sidebar_plain .sidebar .widget { padding: 0px; } .sidebar_plain .sidebar .widget p,
.sidebar_plain .sidebar .widget ul { font-size: 0.8em; } .sidebar_plain .sidebar .widget ul { padding: 0; margin: 2px 2px 15px 16px; list-
style-type: circle; } .sidebar_plain .sidebar .widget p { margin: 15px 0; } .sidebar_plain .sidebar .widget h3 { padding: 4px; font-size:
0.938em; font-weight: bold; border-top: 1px solid #bcbcbc; border-left: 1px solid #bcbcbc; border-right: 1px solid #bcbcbc; border-
bottom: 3px solid #bcbcbc; background: #efebef; } /* double sidebars */ .sidebar_double .sidebar { list-style-type: none; }
.sidebar_double .sidebar .widget { padding: 0px; } .sidebar_double .sidebar .widget p, .sidebar_double .sidebar .widget ul { font-size:
0.8em; } .sidebar_double .sidebar .widget ul { margin: 2px 2px 15px 16px; padding: 0; list-style-type: circle; } .sidebar_double
.sidebar .widget p { margin: 15px 0; } .sidebar_double .sidebar .widget h3 { border-top: 3px solid #bcbcbc; padding: 4px 0 4px 12px;
font-size: 0.750em; font-weight: bold; text-transform: uppercase; background: url("images/category_bg.gif") no-repeat 0 8px; }
/*special widget styles - ad widgets */ .sidebar_shaded .ads, .sidebar_plain .ads, .sidebar_double .ads { list-style-type: none; border: 0;
} .sidebar_shaded .ads { background: #efebef; margin: 10px 0; } .sidebar_plain .ads { margin: 0 0 10px 0; } .sidebar_double .ads {
margin: 15px 0 10px 0; } .ad_widget {} .ad_widget img { display: block; margin-left: auto; margin-right: auto; } .ad_widget

```

```
.advertisement_label { margin: 0; padding: 0; font-size: 0.75em; text-align: center; color: #666; } /*special widget styles - almanac
widget */ .almanac_header { width: 30%; display: block; margin: 0; padding: 4px 7px; font-size: 0.938em; font-weight: bold; text-
align: left; background: #efebeb; } .almanac_header a { color: #000; } .almanac_header a:hover { color: #666; } .almanac { border:
4px solid #efebeb; margin: 0 0 10px 0; } .almanac_widget {} .almanac_headline { margin: 0 auto; padding: 7px 0 0 6px; font-size:
0.875em; font-weight: bold; } .almanac_widget p { margin: 0 auto; padding: 6px 8px; } .almanac_widget .almanac_more_stories {
margin: 0 auto; padding: 6px; font-size: 0.8em; text-align: right; text-transform: uppercase; color: #bb1a00; } .almanac_widget
.almanac_more_stories a { color: #bb1a00; } /*special widget styles - text widgets */ .text_widget {} /*special widget styles - meta
widgets */ .meta_widget {} /*Tabbed sidebar */ .tab_widgets { padding: 4px; background: #faf5e1; border: 1px solid #bcbcbc;
margin-bottom: 10px; } .tab_widgets a { color: #10458c; text-decoration: none; } .tab_widgets a:hover { color: #bb1a00; text-
decoration: underline; } .tabnav li { display: inline; list-style: none; } .tabnav li a { text-decoration: none; color: #666; font-size:
0.8em; font-weight: bold; padding: 4px 8px; outline: none; } .tabnav li a:hover { background: #fff; color: #10458c; text-decoration:
none; } .tabnav li a:active, .tabnav li.ui-tabs-selected a { background: #fff; color: #10458c; text-decoration: none; } .tabdiv { margin-
top: 3px; background: #fff; padding: 15px 9px; } .tabdiv p, .tabdiv ul, .tabdiv ol { font-size: 0.85em; } .tabdiv ul li { list-style-image:
url("images/bullet.gif"); } .tabdiv ul li, .tabdiv ol li { margin-left: 20px; } .ui-tabs-hide { display: none; } /* BLOG NETWORK -----
----- */ #BlogNetworkHeader { margin-top: 10px; border-bottom: 1px solid #bcbcbc; } h3.blog_network_title { min-height: 18px;
display: block; margin-bottom: 0.5em; border: 1px solid #bcbcbc; padding: 5px; font-size: 0.938em; font-weight: bold; background:
#faf5e1; } .blog_network_body { margin: 0px 0px 10px 0; padding: 6px; border: 1px solid #bcbcbc; background: #f2f2f2; } .blog {
float: left; width: 16%; } .blog ul { margin: 5px 5px 0 0; font-size: 0.75em; line-height: 1.2; list-style-type: none; } .blog ul li {
padding: 0 9px 7px 8px; background: url("images/bullet.gif") no-repeat 0 5px; } .blog ul a { color: #000; } .blog ul a:hover { color:
#bb1a00; } /* SECTION INDEX ----- */ #sectionIndexContainer { margin: 10px 0; background: url("images/indexbg.gif")
repeat-y; } #indices ul { float: left; width: 33%; margin-bottom: 5px; } .index_listings { font-size: 0.8em; list-style-type:
none; } .index_listings li { padding-left: 9px; line-height: 1.2em; } #infoColumn ul, #infoColumn2 ul { margin-bottom: 5px; } /*
FOOTER ----- */ #footer { width: 100%; min-height: 38px; height: auto !important; /*for IE only, since IE doesn't support the
"min-height" value. */ height: 38px; /*for IE only, since IE doesn't support the "min-height" value. */ border-top: 1px solid #bcbcbc;
background: #4a4a4a; } #footerMenu { width: 80%; float: left; } #footerMenu ul { margin: 0; padding: 0; list-style: none; }
#footerMenu li { float: left; margin: 0; } #footerMenu a { display: block; padding: 10px 10px; font-size: 0.75em; text-align: center;
text-decoration: none; text-transform: uppercase; color: #fff; } #footerMenu a:hover { color: #ccc; } #footerMenu #footerselcted a {
position: relative; font-weight: bold; color: #ccc; } #backtoTop { width: 15%; float: right; } #backtoTop ul { margin: 0; padding: 0; list-
style: none; } #backtoTop li { margin: 0; } #backtoTop a { display: block; padding: 10px 10px; font-size: 0.8em; font-weight: bold;
text-align: center; text-decoration: none; background: url("images/up_arrow.png") no-repeat 120px 13px #10458c; color: #fff; }
#backtoTop a:hover { color: #ccc; } /* END FOOTER */ /****** 7. MESSAGES *****/ /*Add them as needed here. /*
END MESSAGES */ /****** 8. FORMS *****/ .search_form { padding: 5px; } .search_form .text_input { width: 55%;
border: 1px solid #bcbcbc; padding: 3px; font-family: Georgia, "Times New Roman", Times, serif; font-size: 0.8em; background: #fff;
color: #10458c; } .search_form .submit_button { border: 1px solid #bcbcbc; padding: 2px; font-family: Georgia, "Times New
Roman", Times, serif; font-size: 0.8em; font-weight: bold; background: url("images/menu_background.jpg"); color: #10458c; } /*
END FORMS */ /****** 9. CLEARFIX AND OTHER MISC. CLASSES *****/ /*use this class after floated elements to
clear them all */ .clearFloat { clear: both; height: 0; font-size: 1px; line-height: 0px; } /* END CLEARFIX AND OTHER MISC
CLASSES */
```

## header.php, one of the PHP files that comprise the Citizen Press theme. This is the file marked number 1 in Figure 25 (Chapter 4, Section 4.3).

```
<?php /** * @package WordPress * @subpackage Citizen Press Theme */ ?> <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML
1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"> <html xmlns="http://www.w3.org/1999/xhtml" <?php
language_attributes(); ?> <head profile="http://gmpg.org/xfn/11"> <meta http-equiv="Content-Type" content="<?php
bloginfo('html_type'); ?>; charset=<?php bloginfo('charset'); ?>" /> <title><?php wp_title('«', true, 'right'); ?> <?php
bloginfo('name'); ?></title> <link rel="stylesheet" href="<?php bloginfo('stylesheet_url'); ?>" type="text/css" media="screen" />
<link rel="pingback" href="<?php bloginfo('pingback_url'); ?>" /> <?php // load jQuery library, built-in to WordPress // if (
is_singular()) wp_enqueue_script('jquery'); ?> <?php wp_head(); ?> <script type="text/javascript" src="<?php
bloginfo('template_url'); ?>/library/js/stepcarousel.js"></script> <script type="text/javascript" src="<?php bloginfo('template_url');
?>/library/js/stepcarousel_config.js"></script> <?php wp_enqueue_script('jquery-ui-core'); ?> <?php wp_enqueue_script('jquery-ui-
tabs'); ?> <script type="text/javascript"> jQuery.noConflict(); jQuery(document).ready(function() { // Tabs jQuery('#tabs').tabs(); });
</script> </head> <body> <!--START MAIN WRAPPER DIV--> <div id="wrapper"> <!--START AUXILIARY MENU
CONTAINER--> <div class="row" id="auxiliaryMenuContainer"> <div class="column grid_6" id="auxiliaryMenuOne"> <?php
wp_list_pages('include=5,2,7&title_li=&depth=1'); ?> <br class="ClearFloat"/> </div> <div class="column grid_6"
id="auxiliaryMenuTwo"> <?php wp_list_pages('include=6,36,35&title_li=&depth=1'); ?> </div> </div><!--END
AUXILIARY MENU CONTAINER--> <!--START MASTHEAD--> <div class="row" id="mastheadContainer"> <!--logo--> <div
class="column grid_5" id="logo"> <p id="siteLogo"><a href="<?php echo get_option('home'); ?>"><?php bloginfo('name'); ?></p>
<h1 id="siteTagline"><?php bloginfo('description'); ?></h1> </div> <!--Masthead Ads--> <div class="column grid_7"
id="mastheadAds"> </div> </div><!--END MASTHEAD--> <!--
START MAIN MENU--> <div id="mainMenuContainer"> <li <?php if(is_home()); ?>id="selected"<?php endif; ?>><a
href="<?php echo get_settings('home'); ?>">Home <?php wp_list_categories('include=1,3,4,5&title_li=&depth=1'); ?>
 <br class="clearFloat"/> </div><!--END MAIN MENU CONTAINER-->
```