

EPICS: Engineering Projects in Community Service

Team Name: Social-Guys

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Fall Semester 2014

Project Name: The Social of Greenwood

Primary contact(s): Patric McDowell, Bob Goodrum



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Chapter 1: Introduction

Problem statement and objectives

“Engineering Projects in Community Service is a unique program in which teams of undergraduates are designing, building, and deploying real systems to solve engineering-based problems for local non-profit organizations.” That statement encapsulates what EPICS is at Butler University. Our objective was to serve a need for the Social of Greenwood, and that need was a website redesign.

Motivation and rationale

No one on our team had undertaken a large website redesign project before, so we were all motivated to make an impact with the Social of Greenwood. The WordPress platform was new to all of us, so we approached the project in a calculated manner. We did not want to rush through the process or make silly mistakes.

Description of customer and developers

The Social of Greenwood, established in 1979, is an environment for seniors to be socially involved in community activities in order to create a healthy state of mind. The facility is located in Greenwood and serves Johnson as well as Marion County. Our primary points of contact with TSOG were Bob Goodrum and Patric McDowell. Bob serves as the executive director at TSOG. Patric is on the Board of Directors at TSOG, and works with CICOA Aging and In Home Solutions.

The main developer for the website is Matt Ruedlinger at Triple R Marketing. Triple R hosts and maintains the website, so we contacted Matt for any WordPress specific questions. The Social of Greenwood is in talk with Triple R about hosting the site themselves, so that might be a factor in the future.

Overall approach and process model

At the beginning of the semester, we took a high-level approach to the project. We did not want to dive into any of the specifics or the code, so we began gathering requirements. We wanted to learn about what the Social of Greenwood was all about, and what their website did for them. After gathering requirements, we created a localhost to host our own version of the website. This allowed us to make drastic theme and functional changes with our locally hosted WordPress.

Organization of this report

Chapter 2 takes a look at our initial requirements and project goals.

Chapter 3 digs deeper into our proposed website design and rationale.

Chapter 4 explains our team organization, and the contributions of each group member.

Finally, Chapter 5 looks forward to future work that can be accomplished in future phases of this project.

Chapter 2: Analyzing Requirements and Goals

There were a few changes in which our client, The Social of Greenwood, wanted to see in their online presence. Our points of contact were fairly familiar with the immediate issues and what they intended to have us address first.

Things such as:

- Updating calendar
- Interactive map
- Scrolling Images of Upcoming Events
- Embedded Video
- Links to Social Media sites
- Donations linked with a TSOG PayPal account
- Consistent layout design
- Possibility of a Mobile site

Along with our points of contact, we came up with specific goals after cross-referencing the needs of the client with a list of our own. Our intent in the meeting was to prioritize our future actions. We wanted to know what needed to be done, and categorize them into what would be most difficult or time consuming. With our points of contact, we went over a survey, created by the team leader, in order to classify what tasks would be most time consuming and most difficult. We utilized the document below in order to do so:

Prioritizing TSOG's website functionality

Please circle the number (1 through 5) corresponding with the urgency of the request.

TSOG staff cannot update the calendar in WordPress				
1 Low priority	2	3 Neutral	4	5 Extreme priority
Web visitors cannot pay for memberships and/or events				
1 Low priority	2	3 Neutral	4	5 Extreme priority
Does not have a contact management capability				
1 Low priority	2	3 Neutral	4	5 Extreme priority
Staff cannot accept payments for memberships and/or events				
1 Low priority	2	3 Neutral	4	5 Extreme priority
Cannot complete applications on the site (currently only have links to pdf files)				
1 Low priority	2	3 Neutral	4	5 Extreme priority
Not compatible with mobile devices				
1 Low priority	2	3 Neutral	4	5 Extreme priority
Website does not have an interactive map				
1 Low priority	2	3 Neutral	4	5 Extreme priority
Website is not branded well and consistent with social media pages				
1 Low priority	2	3 Neutral	4	5 Extreme priority
Layout is not inviting for visitors to stay on the website				
1 Low priority	2	3 Neutral	4	5 Extreme priority
Website does not have embedded videos to tell the story of TSOG				
1 Low priority	2	3 Neutral	4	5 Extreme priority
Scrolling images or events in the header that link to other pages on the site				
1 Low priority	2	3 Neutral	4	5 Extreme priority

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After narrowing down to our list into a prioritized list of goals, an immediate requirement was to remove and replace the main photo on the home page. We were provided with a forum in which to retrieve multiple stock photos in order to replace the current ones.

After we were setup with the forum for stock photos, permission to access TSOG's WordPress platform and php, css, and html code for the website, we were set to continue to the website design. The requirements of the project can be seen as intent to make the website user friendly and appealing to the user.

Chapter 3: Design and Rationale

Platform

The first aspect of design we focused on was choosing which platform to use when engineering The Social of Greenwood's new website. We collectively chose to utilize one of the most powerful and renowned website platforms: WordPress. When creating a website using WordPress, developers are given a variety of themes to choose from that are designed using high-level system architectures. For our design we chose the zAlive theme. zAlive provides options for modifying frequently used commodities in modern day websites such as dynamic sliders, widgets, headers/footers, and navigation. This WordPress theme has a user-friendly interface for both users on the client-side and developers or administrators on the server-side of the website.

Website Design

The new website has a mixture of built-in functionality and added functionality from our own modifications. One feature is that rather than having a static photo for their header, we added a slider capable of housing four different photos with captions. The slider can be set to change using milliseconds as a parameter for the intervals between the photos. Links have been added to the images within the slider that allow users to click on the images to be directed to the corresponding page on the website. While hovering over the site's title, a text bar will drop down with The Social of Greenwood's contact information and location.

We also implemented a customizable sidebar with useful and aesthetically pleasing qualities. Our team added a feature for the widgets that allows the visibility for specific widgets to be specified. For example, we only used the contact from widget on the Our Location page. This feature is powered by a plugin that uses a structure similar to if-statements in programming languages such as Java or C++. It functions by stating the pages that a certain widget will either appear in or not appear in respectively. We used short code snippets from Facebook and Twitter and then edited the code to use within the site's widgets. The two social media widgets currently implemented on the site are for Facebook and Twitter. The Facebook widget displays a scrolling Facebook feed with recent posts and has the ability to share or like posts. It also allows users to like The Social of Greenwood's Facebook page. Similarly, the Twitter widget shows a scrolling feed of tweets from The Social of Greenwood's Twitter account with the ability to follow them on Twitter or tweet at them from the website. We also added a widget for donations that offers a PayPal donation button that is linked directly to The Social of Greenwood's PayPal account. A contact form widget was added to the page with the interactive map incase someone is attempting to find their location and needs to ask a question. This contact form is linked to their info@thesocialofgreenwood.org email

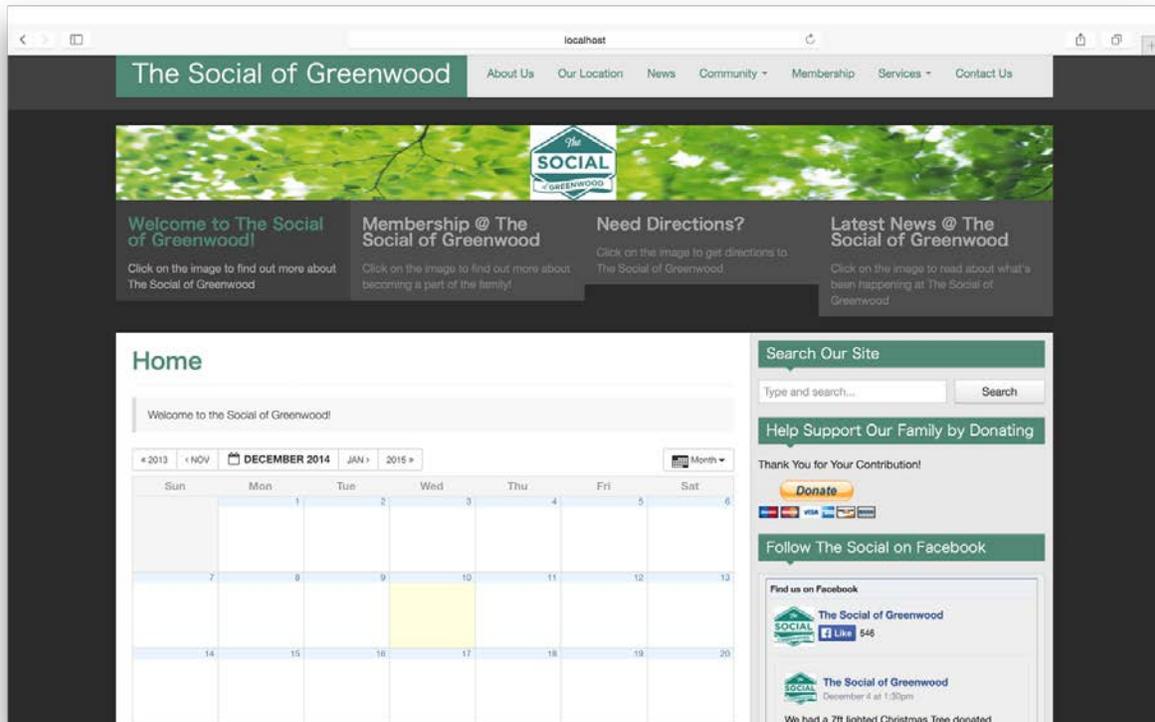
account and will quickly forward messages directly to their account. After implementing the widgets, we focused on non-widget related functions desired by our clients.

The Social of Greenwood's original site had a map, but it had limited functionality and was not appealing. We added an interactive map to their new website. This map features normal capabilities seen in modern day GPS systems such as viewing options, zooming, etc. The reason why we chose this map was due to its built-in direction navigator. Without leaving the page, members or visitors can request and see directions to or from The Social of Greenwood. The map also has a print button that makes printing out the directions as easy as possible. Their previous website did not include an interactive calendar and they were required to upload PDF files every month for their calendar. We researched and installed a plugin that allowed us to implement short code to use their highly customizable calendar. This calendar is dynamic and can be edited by the staff at The Social of Greenwood with relative ease. It includes color-coding, viewing options, the ability to add or edit events as the staff see fit, and even settings to adjust the time zone. One function we were unable to fully implement was the responsiveness of the site. Using Bootstrap we were able to modify the site to have some responsive features, but for the optimal mobile experience some modifications will be required.

For the aesthetics of their new website, we removed the peach color and decided to use a light on dark color scheme. To complement this color scheme we added the color from their logo, sea green or #4e8975. The layout of the site is simple, but attractive. The website is easy on the eyes and its simple format prevents visitors from being distracted by flashy colors or crowded objects. We decided to keep the organization of the website similar to the original site with slight modifications. For example, we removed the tab with the calendar in it from the original site and put the calendar on the homepage of the new site. This design is still being developed and the staff at The Social of Greenwood can easily change the organization if they choose to do so. We created a menu that prioritizes pages such as the location of The Social of Greenwood and the community supporting them. We also moved the donation button to the top of the sidebar as per the wishes of our client. Every website needs to be able to be navigated by even the most technically challenged individuals so we created a website with a simple and fast navigation system.

Navigation to and from pages on the site is extremely quick and easy. A header is displayed at the top of the website at all times with a sharp-looking menu with tabs for the pages on the website. At the bottom of the web page a footer with the same menu is displayed. Some pages have drop down arrows that display pages that are the children of another page. Breadcrumbs for the location of the page the user is on are shown at the top of all pages. Also, the top widget on the sidebar for all web pages is a search bar that can be used to find anything on the website. Error messages are built-in for

common issues including server unavailability and for the contact form such as an invalid email address or a field in the form being unfilled.



Code Editing

To implement the majority of the changes to the website's design we edited the HTML and CSS code files. In order to modify those files, we had to understand PHP, which is the language implemented into the framework of Wordpress and modern day server-side web sites. The majority of the coding occurred in the style.css file using CSS or cascading style sheets. Using CSS, we were able to change the design and format of the website including the colors, sizes, positions of the objects and more. The content or text was modified within the HTML portions of the website. Because we mainly worked on the frontend of the website, we did not have to interact with a database directly. The files we used, the PHP files running the website and the CSS file, were stored on our local servers that we installed. All of the modifications to the Wordpress site are stored in an XML file. Also, a copy of the local directory with all of the files corresponding to the new website we developed are saved and can be transferred to any other computer until it is ready to be hosted on a server and made live for use by The Social of Greenwood.

localhost
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Community Partners Support Levels

\$9,000 Diamond Level Sponsorship ▾

\$7,500 Annual Rhodium Sponsor ▲

Title Sponsorship of annual Senior Expo at The Gathering Place located at 1495 West Main Street, Greenwood which includes:
 Two prime location booths at the event
 Company name and logo (supplied by sponsor) above entrance
 Company name and logo on all Save the Date postcard to past attendees and vendor applications
 Company name and logo on all advertising for event including ads in Seniors Guide, Senior Life and Daily Journal.
 Sponsorship of annual Craft and Gift Fair to be held in November 2014 at Greenwood High School located at 615 West Smith Valley Road which includes:
 Name on welcome board at the entrance Logo with link on website
 Recognition on Facebook and Twitter 1 booth at event to engage attendees
 Other benefits include:
 Logo on front page of website (www.TheSocialofGreenwood.org)
 Monthly recognition of sponsorship on Facebook and Twitter
 1 8 1/2" x 10" brochure holder on resource wall
 Company name and logo on upcoming events stand in Café
 Advertisement (1/2 page) and logo on activity calendar each month in 12 newsletters
 3 educational seminars
 Large plaque on the community partners wall

\$5,000 Annual Platinum Sponsor ▾

\$4,000 Annual Gold Sponsor ▾

\$2,500 Annual Palladium Sponsor ▾

\$1,000 Annual Silver Sponsor ▾

Follow The Social on Facebook

Find us on Facebook



The Social of Greenwood
 Like 545

 **The Social of Greenwood**
 December 4 at 1:35pm

We had a 7ft lighted Christmas Tree donated today! Special thank you to senior Sarah Whisman and sophomore Mackenzie Braden from Greenwood High School for volunteering their time to put it all together!



Facebook Social of Greenwood

Follow The Social on Twitter

Tweets Follow



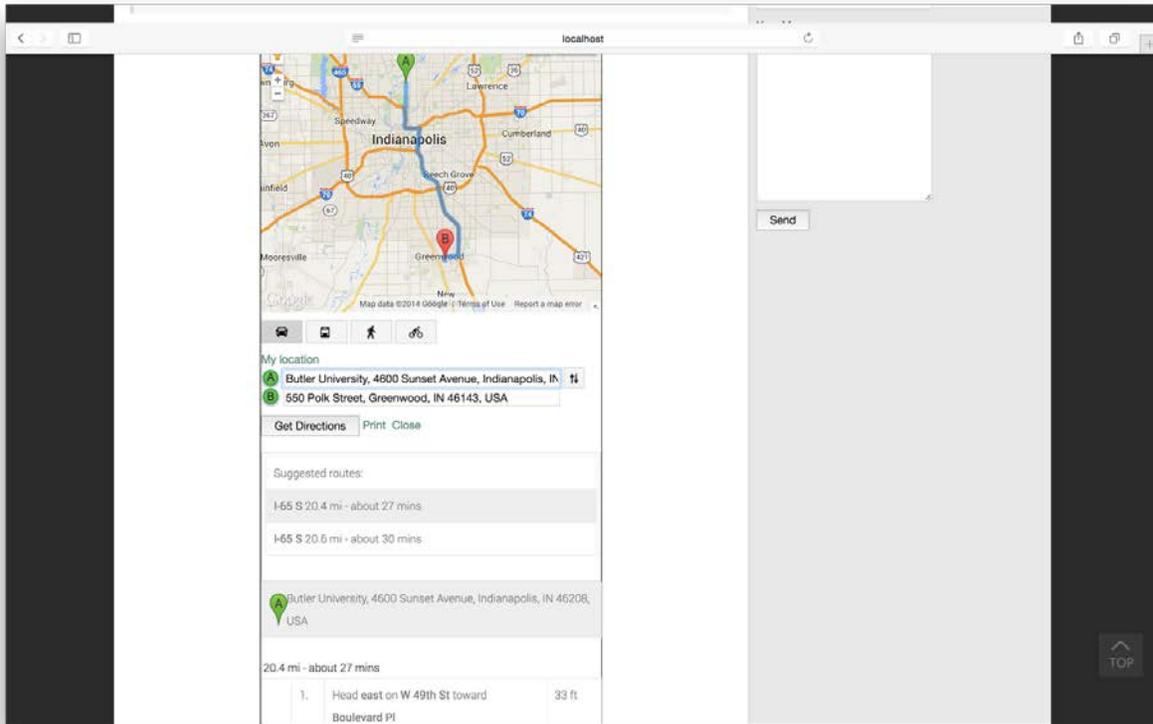
The Social @TheSocialofGW 14 Oct
 Don't miss our Annual Craft and Gift Fair on November 22nd, 9am to 3pm at Greenwood High School.



The Social @TheSocialofGW 15 Sep

TOP

Interactive Map:



Chapter 4: Project Organization and Management

Team organizational structure

Our team was structured so that each individual member had a specific role, which corresponded to each person's strengths. At the beginning of the semester, we decided as a team who would fit into each role.

Team roles

Sean Gibbens - Team leader, organized both client and team meetings, primary point of contact with client, became familiar with WordPress

Chris McDonald - WordPress master (had the most previous experience with WordPress), worked with migration of live TSOG website to our local site, played a key role in our new proposed design

Ade Oluyedun - headed our requirements engineering phase, took steps in learning the basics of WordPress

Project management process

In general, our group attempted to split the work evenly throughout the project. Our team leader met with Professor Linos every Monday, and we held team meetings every Wednesday. At team meetings, we discussed the tasks completed by each group member for the previous week. Early on we met to form initial requirements, and late in the semester meetings were focused on design specifics.

Please see our Wiki or epics.butler.edu page for weekly status reports.

How to operate our system (WordPress code)

In order to run our WordPress website locally, a few steps need to be followed:

The first step is installing the program that will act as a local server for the website to run on. The free service we used was called MAMP. MAMP runs on both Windows and OSX (mac) operating systems. On their website they have instructions on how to properly install their software.

After MAMP is installed, a few settings need to be changed. First, click on preferences and navigate to the ports tab. There should be a button available to set the web and MySQL ports to 80 and 3306, click on it. If the button is not available, then manually change the Apache port and the Nginx port to 80 and the MySQL port to 3306. This

allows access to the local host in web browsers without having to use a password to login. Then, in the same preferences window, click on the web server tab. This is where we can change the directory for the website. Make sure you have a folder somewhere that is accessible on your computer; this will be where the local server stores the files to the website. Click on the folder next to document root. Change this to location of the folder you created. The next step is to import the database we provided. Before we can do that, we need to actually run MAMP. So click on MAMP and then make sure that the Apache server and MySQL server options at the top are both checked. Then click start servers. Open a web browser of your choosing and type in localhost/MAMP. If MAMP was successfully installed, you should be taken to a site that says "Welcome, MAMP has been successfully installed." Now click on the tools tab at the top and click on the drop down option for phpMyAdmin. Click on the import tab. Once there, change the file to import to the .sql file we provided and leave the other settings and press go. The database we provided should now be stored on your computer. Now we are ready to install WordPress.

Installing WordPress

The second step involves downloading the latest available version of WordPress for your computer. Instructions for the installation can be found on the WordPress website. The database has already been set up so all that is required is for you to download and open the WordPress file. Now take the folder with the WordPress files in it, provided by us, and move it into the folder that you chose for the database directory used by MAMP in the previous paragraph. Type in localhost/wp-admin into the search bar at the top. This should take you to a WordPress page that requires a username and password. For this account, the username is TSOG and the password is SoG2014. This account has full admin rights which allows for full control over the local version of the website.

Chapter 5: Future Work

Our team was very pleased with the prototype website design we came up with this semester, but there is obviously a lot that needs to be added in terms of content. Some of the content displayed on The Social of Greenwood's live site is outdated, so an update of that information is needed. Early on, Patric also mentioned that TSOG has a few YouTube videos. This would be excellent content to add, as the videos illustrate the mission and goals of TSOG.

Most of the major pieces of functionality that our team was unable to accomplish were related to back-end database work. The Social of Greenwood has many members and volunteers, all of which could be tracked through a database.

Some back-end functions that could be beneficial:

- Payments for membership and events
- Contact management
- Volunteer application through a web form

The final piece of future work deals with the current website hosting. Our team was not able to make edits to the live TSOG site throughout the semester. The current host of the website (Triple R Marketing) does not give full WordPress access to TSOG staff, which put us in a tough position. We were in talk with Patric about getting the website to be hosted elsewhere, which would allow future teams to make a significant impact on the website.