Final Project Report

Sharon O'Boyle

George Mason University

ENGH 375, Section 001

May 12, 2014

ENGH 375, *Web Authoring*, is a course that teaches the fundamentals of good website design. The class textbooks, *The Elements of User Experience* by Jesse James Garrett and *HTML & CSS, Design and Build Websites* by Jon Duckett, and numerous supplemental resources describe the steps and process to be followed in order to create good website designs. The final project for this course is a website that was designed and implemented according to these principles and practices. This report describes the process that I used to design and develop my website and provides some reflection on what I learned during the process.

Garrett stresses that web design must focus not only on the product objectives, but just as importantly on user experience. He describes five levels of development and says that user experience must be considered at each level. The five levels (he calls them planes) are:

1. The Strategy Plane
2. The Scope Plane
3. The Structure Plane
4. The Skeleton Plane
5. The Surface Plane

The Strategy Plane is the most abstract level and is where the design process starts. Each level becomes less abstract until we hit the final, most concrete, Surface Plane where we actually place the content on the pages.

The Strategy Plane

In the Strategy Plane I defined both the Product Objectives (goals of the developer and/or organization – in this case the objectives were my own) and the User Needs (goals that come from outside). I decided that my website would be a site that describes the courses that I have taken and to showcase the classwork that I have done since re-enrolling in college in Spring 2013.

Product Objectives

My product objectives were:

(1) An operational website

(2) A webpage for each course

The site would present a clear description of my courses and convey an accurate representation of my experience and achievements in each course.

User Needs

I identified three potential audiences for my website:

(1) My friends and family who are interested in what I am doing in my classes could visit the site to help them understand how I am spending so much time.

(2) Potential graduate schools or prospective employers could use the website as an additional assessment tool.

(3) George Mason students who are considering taking any of these classes could refer to the site to get my impressions and to get an idea of what is involved in the class.

The three potential audiences are very different and each audience has different needs.

(1) My friends and family need a very simple overall navigation and a focus on my perspective on the courses rather than the course content.

(2) Potential graduate schools or employers need to be able to identify courses relevant to their program/position and easily navigate to those courses.

(3) George Mason students need innovative content different from what is already available about the courses.

Brand Identity and Success Metrics

In this phase I also considered Brand Identity and Success Metrics. For the Brand Identity, I decided that the website should convey an intellectual, dignified, mature brand identity. For Success Metrics I decided that success would be achieved by the creation of an operational website with a page for each course by the project deadline of May 12, 2014.

The Scope Plane

In the Scope Plane I defined what features would be included in the design, and just as importantly what features would not be included in the design. So here I considered the strategy and then created specific requirements based on the strategy. Defining the scope is a very important part of the process so the site will deliver what it is intended to deliver and also to prevent “scope creep” in which additional requirements keep creeping in while the site is being developed. For this project it was

necessary to define a reasonable scope considering the short amount of time available and my beginning skills as a web developer. This plane is concerned with Functional Specifications and Content Requirements.

Functional Requirements

The Functional Requirements are the actual features that the website will provide. Functional Requirements should be positive, specific and unambiguous. Initially I had considered quite an ambitious scope of features for the project. For example, I thought it would be fun to have a feature on the Classical Music page where users could vote for their favorite classical composer. I also thought about a feature on the Statistics page where users could enter parameters and then see the resulting distribution be drawn on the screen. However, interactive features like this were beyond the scope of this project. So in the end the functional requirements were quite simple and straightforward:

(1) The site will be public and available to anyone

(2) The site will have one main page for each course. Links to sub-pages may be included if appropriate.

(3) Different navigation options will be provided for the different audiences.

(4) The site will allow for expansion as additional courses are completed.

Content Requirements

The Content Requirements refer to the information that will be presented in the website. Content Requirements define the text, images, audio and video that will appear on the site. Once all the requirements are identified, they need to be prioritized and then evaluated to determine which requirements will be feasible to include in the initial design. Just as I had to limit the functionality, I found I also needed to limit the content due to limitations in time and skill. For example, initially I had considered embedding audio and video, but this was not feasible.

I decided that four types of content would be included in my initial design:

(1) Basic information about the course

(2) A description of my experience with the course

(3) Links to examples of my work in the course

(4) A quotation and an image that convey my impression of the course

The Structure Plane

The third plane is the Structure Plane. This phase (where the factors become more concrete) defines the structure of the overall site, i.e. how all the individual pieces fit together. This is also known as the

process of defining a “conceptual structure” for the site. The two main aspects of this plane are Interaction Design and Information Architecture.

Interaction Design deals with how the user will interact with the website. Here I considered conventions that are in use so that my site might incorporate these conventions and thereby make using my site easier for the user. So for example, I incorporated a navigation style that is quite commonly used in other websites.

Information Architecture refers to organizing the information in a way that users can best understand it. I had already defined that there would be a page for each class. In this phase, I decided that I would use a similar structure on each page so that the layout would be consistent and the user would know what to expect on each page and where to find each of the information components.

I struggled somewhat with the ideas presented about how to accomplish this phase. It seems like there is a conflict between wanting to be innovative/unique and wanting the user to have a comfortable and familiar experience. The designer must work towards finding the ideal balance between the two.

The Skeleton Plane

The Skeleton Plan deals with the actual arrangement of the various pieces of the content on the page. This would include text, images, buttons, links, etc. Here I tried to place all these elements in a way that would optimize the user experience. There are three components in this plane: Information Design, Interface Design and Navigation Design. Interface Design provides users with the ability to do things; Navigation Design provides users with the ability to go places; Information Design provides information to users. These three elements are closely related.

Information Design refers to presenting the information in the way that the user can best understand it. I decided that I would create four boxes on each page, one for each of the four types of information. Scrolling would be used, as necessary, to allow all the desired information to be available within the box.

Interface Design means incorporating features like buttons in a way that users can easily interact with the site. Since my site is quite simple I really did not need to do much design here. I just kept in mind that my site should have a familiar look similar to other common sites.

Navigation Design is the method we provide for the user to move through the site, successfully reaching the desired sections. I decided to have three types of navigation:

(1) A top navigation bar that would be arranged alphabetically. This option would be suitable for students interested in reaching my page about a particular course.

(2) A navigation pane on the left that would include two navigation options:

> (a) Navigation by course type: Technical or Enrichment. This option would be suitable for persons from potential graduate programs or employment positions.

(b) Navigation by semester. This option would be suitable for my friends and family members.

The Surface Plane

The “Surface” is the actual webpage where our functions, features and content appear. In designing the Surface Plane a positive sensory experience is the desired goal. Although much effort has been invested in the previous four planes, it is in the Surface Plane that the user will experience the effort of all five planes. Some of the elements to be considered here are contrast and uniformity. HTML and CSS are used to actually create the webpages. Duckett provides detailed instruction on both HTML and CSS coding. HTML should be used for the content. CSS should be used for the stylization.

During this phase I decided the size and type fonts that should be used. I used a sans serif font because I learned it was easier to read on a web page. I also researched the use of color and decided on a limited set of colors (primarily shades of blue, green and gold) that would be used throughout the website. I experimented with both fixed layout and liquid layout designs. I decided to proceed with a fixed layout approach and in the end I elected to use a width of 960 pixels. I also found or created images to display on the pages.

For the actual information content, I reviewed the syllabi and my assignments for each of the five courses. I prepared summaries of my experience for each course and then decided what projects and assignments I would like to include on the site. I then created .pdf versions of these works.

I used the Duckett text as my primary reference for proper HTML and CSS coding. Many web resources were also consulted for help on specific features or issues.

Reflection on What I Learned Through This Project

Before taking this course the only experience I had with web development was in IT 103 where we developed a very simple website using HTML. The HTML was basically copied from an example and then slightly modified. No CSS was used. So just about everything in this course was very new to me. There is a link to my first website on my IT 103 course page. Comparing the pages from my IT 103 site to those of my ENGH 375 site shows that I have learned many things in this class. Some of the things I learned are specifically about designing and developing a website. But there are also other things that I learned that will help me understand, navigate and appreciate websites as a user.

I learned that designing and developing a website is a very complex process. Much time and effort must be put into all Five Planes before the first html tag in typed. I have developed computer software in the past, and much of the process of website design is similar to the software development lifecycle. I think the Strategy and Scope planes are very important. Because they are the most abstract, I think the biggest problems might arise if these two phases are not handled correctly. The scope of the website

must be clearly defined and understood by all stakeholders so that the product will accomplish its goals. I also came to realize that, even though the web is an always evolving product, there is an advantage to keeping some things the same. The pros and cons of innovation vs familiarity must be weighed and an acceptable balance must be achieved.

Even if I never have any future activity in designing websites, the information that I learned in this class will be helpful in my daily role as a website user. In the past, whenever I visited a site that did not display correctly, the reasons were always an absolute mystery to me. Now I have a much better understanding of what is causing some of the problems. For example, I now know why boxes might be side by side on one browser, but appear stacked on another. I also can easily recognize a site that is lacking its CSS file for some reason (i.e. no formatting/style on the page). I have also become somewhat of an amateur critic when I visit websites: Is this site easy to navigate? Is the layout clean? etc.

This was a very challenging course for me, and because the content was so new to me, it was a bit out of my comfort zone. But I really enjoyed the course and I am very happy with my final project.