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1. Introduction

“Since the mid-1990s, web development has become one of the fastest-growing industries in the world“. (Wikipedia)

This is the twenty-first century the age of information. The network has given birth to many more ways of human communication. Corporations can use a website to introduce the company to its customers; showcase the company's strength, and sell the company's products. A website has a wide range of applications; therefore we can take advantage of its endless job opportunities by being enrolled in the Web-Development Bachelor degree program at **Zealand Institute of Business and Technology (ZIBAT), campus Roskilde**. Based on my knowledge, WebPages are the basic element for a website. WebPages are files that have been saved on a computer that is connected to the Internet. WebPages can identify, store, and access via the URL. The basic elements for webpage are text and picture; apart from this webpage elements include media such as flash, and music. WebPages have two types, dynamic webpage and static webpage. The different between them is static pages have no back-end database, without procedures. They are non-interactive WebPages normally in an html format. Dynamic WebPages have the suffix: .aspx, .asp, .jsp, .php, and “?” mark, etc. This project will document how I used my knowledge based on what I learned at school and in real life (Internship) to build a website for a company called “The Marton Agency, Inc”. This includes: (CMS) Contents Management System (Drupal, Umbraco, and ASP.NET); Front to End design (Color, Font, Gestalt Law, etc.); Web-communication; User interface and digital aesthetics design, and advanced media technology. The website will be used by the employees at “The Marton Agency, Inc” and the users who are interesting in finding out more information about The Marton Agency, Inc. I believe this report will improve my programming and communication skills as well as valuable work experience.

2. Supervisor Contact

Generally, my supervisor and I will meet 10 hours in total on school campus.

- Name: Poul Henriksen;
- E-Mail:pohe@easj.dk

3. Problem Definition

The purpose of the problem definition is so that I will stay on the right track and save a lot of valuable time while I am addressing the problems I encountered while creating www.themartonagency.com.

My client: The Marton Agency, Inc. (Dubbed “THE MARTON AGENCY, INC”) is located in New York City, U.S.A. THE MARTON AGENCY, INC has for thirty years assisted theaters and producers all over the world in acquiring production rights to U.S. plays and musicals. In addition to directly representing the foreign-language licensing of many playwrights, THE MARTON AGENCY, INC is a full service liaison between US playwrights and their New York agents, foreign agents, producers, theaters and actors wanting to acquire foreign rights to U.S. plays and musicals. Sometimes the buyers and producers are foreign agents who acquire the rights, and then sub-license them to producers in their territories.

THE MARTON AGENCY, INC is not satisfied with their current website. They are unhappy with the theme and the dark feelings the website portrays, particularly with the entire layout of the website as well as its functions. The company’s website was not at all easy to manage and update. My client (THE MARTON AGENCY, INC) wanted to have a version of the website which has to look professional, successful, and capable of delivering any play that a foreign buyer might want; the colors should give feelings of cheerfulness for the user; furthermore the website has to be cool, simple, and elegant.

How can I design a new website for THE MARTON AGENCY, INC which will solve all the problems above and match all the requirements set forth by THE MARTON AGENCY, INC? I broke it down into smaller problems as follows:

- What does my client want for their website?
- How can I manage the Domain name for THE MARTON AGENCY, INC?
- What kind of design style should I create for THE MARTON AGENCY, INC?
- Who is my client (THE MARTON AGENCY, INC)’s audience, target group, and how can I define them?

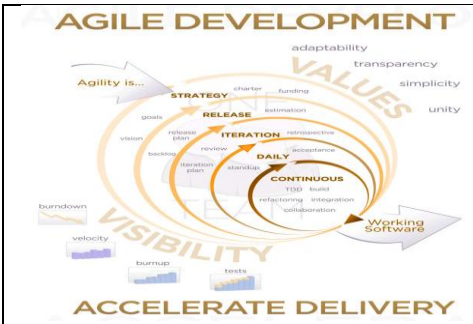
- Which design process should I use?
- Which tools, technology, (CMS) and Database should I use?
- How can I manage the web developing process (or Develop cycle)?
- When will I launch the website for THE MARTON AGENCY, INC?
- How can I track the website?
- Which markup language shall I use for THE MARTON AGENCY, INC?
- Which methods, techniques, and tools (Software and Hardware resources) shall I use for the project?

4. Methods

4.1. Purpose

“A methodology is a collection of procedures, techniques, tools and documentation aids, supported by a philosophy, which will help the system’s developers in their efforts to implement a new information system”- Avison and Fitzgerald.

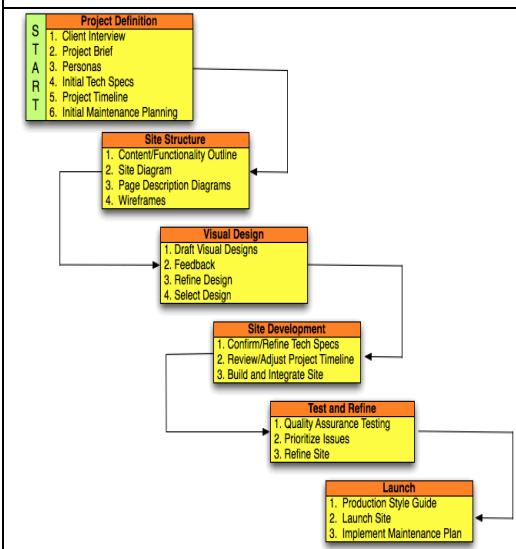
All websites start with an idea. Ideas of how could the website help a company or an organization to reach their mission/business goal. For example: how can the Company sell their products online or how the customer can find out more information about the Company/Organization online, etc. An idea is definitely not enough for creating the right project/website for a company/organization. In order to create a successful website which will meet the requirements of my client (The Marton Agency, Inc), I have to choose the right methodology(s) from many different methods for example. (Shown below): Agile methodology (XP (Extreme Programming), UP, Scrum) (F-1), Web Development Process (F-2), and Web Design Process (F-3), User Interface Design Process (F-4):



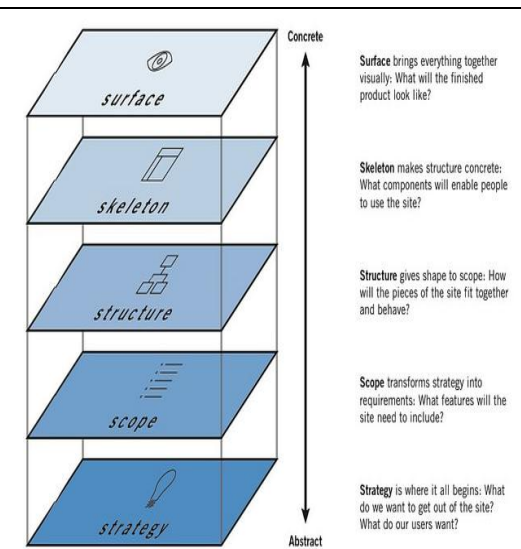
F-1: Agile methodology:
http://en.wikipedia.org/wiki/Agile_software_development



F-2: Web Development Process:
http://laerer.rhs.dk/psl/rhs/FEWP_A12.htm



F-3 : Web Design Process:
<http://www.utexas.edu/learn/designprocess/index.html>



F-4: User Interface Design Process
<http://idda6.wordpress.com/>

Agile web development methodology use business analysts, software engineers, and project managers to help highlight clearer project goals and it will help to ensure the successful conclusion of the product in each iteration. According to my knowledge, that if I were to use Agile methodology, then it is necessary to have all the people at the same location. The fact that my client (THE MARTON AGENCY, INC) and I are

in different countries during this report period could be an issue in some contexts to involve the right resources. Therefore I would not use Agile methodology.

However, throughout this report I will combine three web processes which are Web development process (F-2), Web design process (F-3), and User Interface Design (F-4) as shown on the previous page. Then I combine them into a process that will fit for my project.

The web design and development process is as follows:

- **Project definition and planning:** Is the most critical step in the web design process. This involves defining the purpose of the website, creating the client survey, audiences target group, and persona(s); developing the project plan; normally it is done by Stakeholder/Sponsor/Usability lead.
- **Site structure and Information architecture:** This process involves getting and managing the content outline, site diagram, main structure of the pages, and wireframes completed with the art director. These are dependent on each other and need to be done sequentially.
- **Visual design:** This is the preparation of the out look and feel of the website. It is determined by how I use color, graphics, font, typography, and illustration on each page. Visual design of the webpage has to be done. In this phase the art director has to make sure that the company's identity is not lost in the design process.
- **Site development:** This involves the technical/functional plan. Define which CMS (Content Management System) I will use, building and integrating the website. The technology leads and site production team mainly do this.
- **Test and Refine:** Final testing and refining before the website launches. I should identify a person who is able to serve as the quality assurance lead in order to create a plan for testing the website and refine priority before I launch the website.
- **Launch:** Now is time for us to decide which date to release the website
- **Tracking, Evaluation and Maintenance:** A website will never die but it needs to be updated regularly. The site editor becomes the custodian of the running site.

5. Project definition and planning

5.1. Purpose

This phase I have to conduct a client survey¹ interview and find the audience/target group for The Marton Agency, Inc. That means I will have to interview my clients (stakeholders). Secondly I will, based on the information/documents from the stakeholder, define the project brief and Persona. Furthermore I will develop a project technical specification and project plan for The Marton Agency. After all the steps above I need to create a plan to set up the document maintenance consideration form.

5.2. Client Interview

I created a client survey¹ for the interview with my client/stakeholder (THE MARTON AGENCY, INC). This is an important step for my project because it will help us decide, map, and set the stage for my entire project. The client survey is similar to a questionnaire form that contains questions and answers. This helps us get more specific informatics in order to determine my target group; help us analyze the client's goals, detailed feature requests, and relevant information that I possibly collect.

(See appendix page 1: Client Survey)

5.3. Target Audience

It is important to define my target audience² because how I portray/present my information has a different effect on different people. Remember the constructionist law that states, "How you say something determines what the message is". One thing that you say to a person can have a different meaning to another person. This is why I need to determine who I am communicating with through my website because I want the website to be appealing to the right people, - those I am creating the website for. Generally I can define my audience by: Geographic³, Demographic⁴, Psychographic⁵, and Level of competence.

¹ client survey¹ :<http://www.utexas.edu/learn/designprocess/define.html>

² Target Audience: http://laerer.rhs.dk/psl/rhs/FEWP_A12.htm

³ Wiki Geographic: <http://en.wikipedia.org/wiki/Geographic>

⁴ Wiki Demographics: <http://en.wikipedia.org/wiki/Demographic>

From the interview that I had with my client, the stakeholder said that:

“My agency sells the rights to American plays and musicals to producers in foreign countries, so they can translate the shows and present them there. It would be nice to think that foreign theaters might be browsing the net and find me. My site would also be useful for someone new like, a NY agent or producer thinking of working with me who wants to find out more about my company.”

According to this, I could define My audience is global; which means the website should be in English, but because the company has strong relationship with another foreign associates, so it would be very useful if the website could provide some other language like Spanish, French, etc.

Related to the demographic I defined, my audience’s age is between 25 to 65 years old. They are theaters, producers, or other foreign agents, who are artists or affiliated with artists. They have a profound background in art, relatively high level of education, and in comparison, have a higher understanding of art than most people. This means that the website should embody the look and feeling of art while still matching my clients’ requirements.

Based on the global audience target relating to psychographic, I should try to avoid the sensitive or personal opinion. Instead, I should try my best to as culturally sensitivity as possible by organizing and editing the contents.

In terms of the level of competence of the audience target, the website should be functional but easy to use and fast loading. In the event of an error, the user should be able to understand. For example: When the webpage cannot be opened in the browser, a message should display a message such as “Sorry, The page contains an error, please try again later.” Instead of a default code like “<script>var yt = yt || {};yt.preload = {};yt.preload.counter_ = 0;...”.

5.4. Project Brief

I use the information that I gathered from the client survey and the interview result with my client and developed a project brief³; which will help us not only defined the

³ Wiki Psychographic: <http://en.wikipedia.org/wiki/Psychographic>

Web Development Final Thesis**Author:** Wanling Feng Thomsen**Year:** 2013

project goal and audience profile but also give us a clear view of the audience's perception, primary message, and competitive advantage. See the project brief form below: F-5

The Marton Agency, Inc Project Brief	
Project Name:	The Marton Agency website
URL (Currently):	http://twobean.net/marton/
Project goals:	<p>Design a new version of website for Marton Agency matching the requirements.</p> <p>Create a website which contains information of Marton Agency.</p> <p>Any user can easily access the website.</p> <p>The website should be able to represent the company's strength.</p> <p>The users should be able to easily find information like how to contact the company.</p>
Target date for launch:	15 of January the website must be finished.
Audience:	<p>Theaters, producers, and foreign agency.</p> <p>Interesting in buying the license agreement of plays.</p>
Perception:	<p>Current- Boring, complicate, duplication of information.</p> <p>Desired- Simple, sleek, modern, elegant, successful, uncluttered.</p>
Message:	The Marton Agency is an international literary rights agency.
Competitive advantage:	<p>Marton Agency website is full of artistic feeling, and it presents the history of the company's president. The website is easy to access. There are also many opportunities for the employees of The Marton Agency to share content freely; for example upload a new poster or news/article.</p>


F-5: Project brief form

5.5. Persona(s)

Persona(s)⁶ is a great idea and useful tool for the web-development team. It makes it possible to empathize with my end user. This keeps you focused on the design process. On things that are realistic to my project goal, instead of an infinitive amount of possibilities. As a designer or developer, I am not the audience; I do not see things the way they do; I do not know what they know; and I do not have the same goal as them. I often use some phrases like “The user might want...” or “Users might...” to add or design the functionality to a website, but then that comes with problems. The user might be a disabled person who has poor eyesight; and the next moment the visitor might be a geek computer game-player; the result can be a jumble of feature function that does not really match any users’ needs. Another positive aspect of creating/using a persona is that they can be used a vehicle to sympathize with my audience/end-users and care about their experience, which will lead the designer or developer to key opinions that will improve the experience for users.

When I am creating a persona(s) I should keep in mind that the persona(s) is not a segment, target group, or user. Every person should be individual, which means that I have to go through each of them. It is not easy to design or develop for all of them and maintain exactly the same product/website. So related to my knowledge and experience, I have identified a primary persona shown in following form: F-6 (More personas See Appendix page 2: Personas)

Primary Persona

	<p>Description:</p> <p>Craig Geiger age 38 is a well-known producer of Broadway plays. Craig lives in New York City U.S.A. Craig is unmarried and likes to spend much of his time at home reading. Craig is highly educated in the field of play production from Juilliard school of performing arts. Craig is fluent in both English and French. While Craig is not producing plays he likes to travel to France and watch foreign plays. During his travels Craig will frequently see a play that he would like to produce in America. Craig often retains the help of The Marton Agency,</p>
---	--

⁶ Wiki Persona: <http://en.wikipedia.org/wiki/Persona>

<p>Name: Craig Geiger</p> <p>Age: 38</p> <p>Occupation: Producer</p> <p>Education: Juilliard school of performing arts</p> <p>Technical Profile:</p> <p>Preferred browser: Google Chrome.</p> <p>Internet skill level: Great (A+).</p> <p>Internet use: 15 hours a week.</p>	<p>Inc. to establish the legal play rights for producing a foreign play in the U.S.</p> <p>Top 3 User Goals on the site:</p> <p>Quick and easy access to any of the site's pages.</p> <p>The website must load quickly.</p> <p>The Navigation of the website has to be simple and intuitive.</p>
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F-6: Primary persona

5.6. Project technical specification form

I used the information gathered above in the client survey phase, which can help us along with the technical standards of my organization. It documents the specific technology to clearly reveal requirements such as which browser to use, screen resolutions, how long for the download time, and about the web standards and accessibility. Shown as: F-7:

Web Redesign Technology Specifications for The Marton Agency, Inc

Content Management System (CMS): The Marton Agency website will feature a Content Management System (CMS), which will be a set of secure web pages where an authorized Marton Agency employee who is/are the admin of the website can access the website to add/update/delete pages and page content. Normally the CMS will be chosen and configured by the technical team, this project I will be the one who chooses the CMS and I will be using Umbraco and ASP.NET for our website. More detailed description about why and how am I choose the CMS on chapter "Site development".

Hosting: Hosting will be handled by the technical team (Wanling) in coordination with the development of the website. The website domain/URL is not determined.

Screen Resolution: Optimize Web pages for 1024x768, but use a liquid layout that

stretches well for any resolution, from 800x600 to 1280x1024.

Tools: (X)HTML⁷, CSS⁸, Photoshop CS6.

Style Sheets: CSS

Browser Compatibility: Internet Explorer, Firefox, Google Chrome, Safari.

(Note: I design websites for “standards compliant” browsers. “Standards-compliant” browsers support HTML, XHTML, and CSS).

Platforms: Macintosh, PC, Smart phone, Tablet.

Page Download Size: (typical page) 30 to 80k.

F-7: Web Redesign Technology Specifications for The Marton Agency, Inc

5.7. Developing the project plan

A project plan will establish the timetable and work task for each step of my project. It is a way of keeping structure for my project. On one hand it will give an overview of the whole process that can save a valuable amount of time. In another hand it will shown me if my project is on schedule. In this report I will shown a part of my Project Plan shown below: (Further information see Appendix: Project Plan)

6. Dismantled group

The group of Wanling Feng Thomsen and Zhou Kai was dismantled by the end of November 2012. There was a problem between the group members finding time to work on the report together. Zhou Kai had a work schedule from his employer retaining him 5 of 7 days in a week. Wanling felt that 2 days a week was not enough to finish the report by Jan. 10 2013. Wanling brought this to her supervisor's attention (Poul Henriksen). Wanling inquired about dismantling the group and her supervisor agreed. The website for The Marton Agency, Inc and report is solely the work of Wanling Feng Thomsen. No credit of substantial work is given to Zhou Kai for the creation of the website or report.

⁷ XHTML (E^xtensible H^yperT^exT M^arku^p L^angu^age): Described in Chapter 9.4 in this report.

⁸ CSS Cascading Style Sheets: Described in Chapter 9.5 in this report.

7. 1st Interaction

7.1. Site structure and Information architecture

7.1.1. Purpose

Based on the information and research form that I have done above, I know who my website is targeting. Now it is time for working on the information architecture and site structure. Most websites cannot be contained within one webpage, so in this phase I will generally decide how will I organized the web content and split them into different pages and how to navigate between these different pages. On this chapter I will also draw a wireframe for my webpage; which will help me understand more about the functionality of the website for THE MARTON AGENCY, INC.

7.1.2. Content Outline

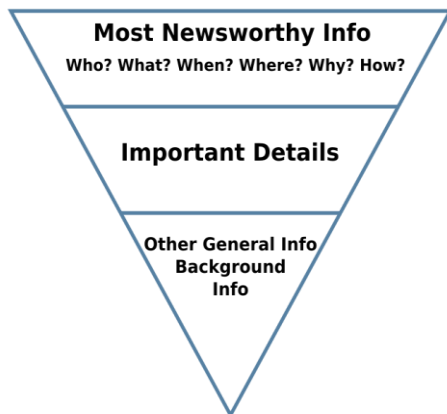
During my internship period, I learned how my intern company works on this step; they are using a method called: Card sorting⁹, which is playing different cards with a special title that relate to the project categories. Card sorting method allows us to understand some of the user information that is useful in the design of the site structure, for example: understand the useful information that truly meets the user's habits; and identify the problems of how to name the projects; comparing between the web designers and users on the cognitive differences of the site information categories as a basis for judgment framework. Due to the time issue of analyzing the Card sorting results, I could not do this on my own. Throughout this report I will not use it as my content outline analyzing method.

I decided to use a shallow hierarchal structure, because the website does not need so many pages and this corresponds with KISS (Keep It Simple and Stupid)¹⁰. It also helped me to stick to the corporate identity. I will not have links to another website mainly because my client (THE MARTON AGENCY, INC) has no plan to connect any of their services with their foreign associates via their website yet. This means on this website I have to market my client (THE MARTON AGENCY, INC) but not any other companies' business. When I designed this website, I have kept in mind the

⁹ Card shooting: <http://boxesandarrows.com/card-sorting-a-definitive-guide/>

¹⁰ KISS is an [acronym](#) for the design principle articulated by [Kelly Johnson](#), **Keep it simple, stupid.**

inverted pyramid structure of editing, presenting the important information at the top which is shown as F-8.

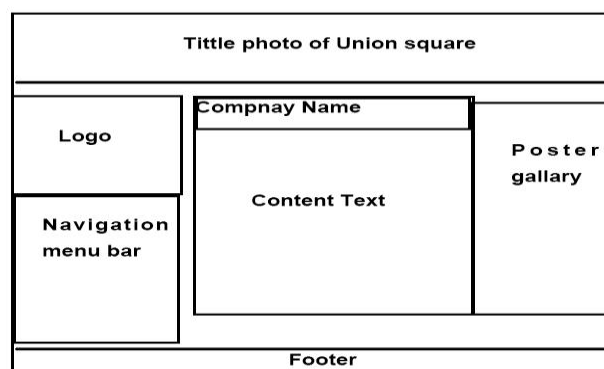


F-8: KISS (Keep It Simple, Stupid) principle Inverted triangle (<http://pondfrogplop.wordpress.com/>)

7.1.3. Main structure of WebPages

My client (THE MARTON AGENCY, INC) wishes to impress the users with their logo and let the user understand what THE MARTON AGENCY, INC is all about and what kind of business they are dealing in. In this case I want to grab the users' attention by putting the logo of THE MARTON AGENCY, INC together with a photo of Union Square, and main content text about the company as the first information the user will see, and leave the least information such as contact information in the bottom.

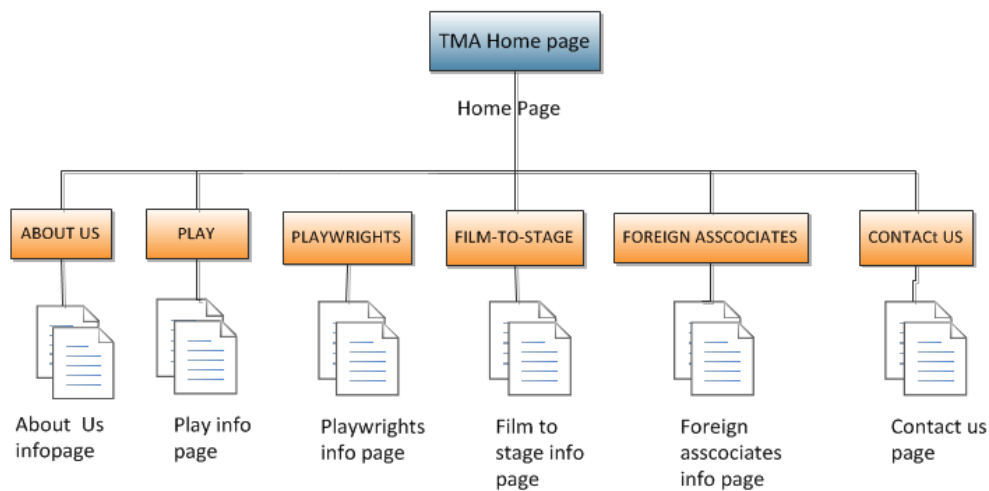
Here is an example of the Home page of THE MARTON AGENCY, INC (Shown as F-9),



F-9: Main structure for Homepage

7.1.4. Site Diagram

A site diagram is a representation an overview of the website structure. The website for THE MARTON AGENCY, INC is split and organized into 7 different pages as: Home (Main page for THE MARTON AGENCY, INC), About us, Play, Playwrights, Film to stage, Foreign associates, Contact us. Shown as F-10:



F-10: Site Diagram

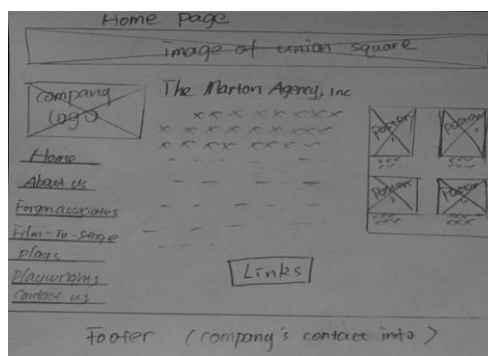
7.1.5. Wireframes

A wireframe¹¹ will give the overview of the functionality of each page on my site but not the visual design; it has nothing to do with the outlook. Wireframe is like a gray scale page layout that illustrates the key components of the screens. We create wireframes for the purpose of arranging content and navigation to best complete a certain purpose of the site. For example on my website for THE MARTON AGENCY, INC, I need a wireframe to cast light on the functionality such as where will the navigation bar be and where should I put the most information of the website to match to what my client requires. We use wireframes as a quick and simple blueprint of the websites structure and functionality. That way I have a map of the skeleton of the website before I start my visual design. Having a skeleton of the website I am going

¹¹ Wireframe: <http://www.usability.gov/templates/wireframes.pdf>

to make for THE MARTON AGENCY, INC is very helpful during the visual design process because it gives me a layout that I can use as reference when making more detailed designs. I found wireframes helpful when I noticed how quick and easy they are to make compared to how much time they save; it can be done by using a pencil and paper(s), sketches on a whiteboard, or online mockup tools such as Balsamiq Mockups¹² etc. In this case I will use pencil and papers as I think that is the fastest tool and the easiest way to make changes.

I will create a wireframe for my client (THE MARTON AGENCY, INC)'s Homepage shown as F-11:



F-12: Homepage Wire Frame

7.2. Visual Design

7.2.1. Purpose

We have done the site structure; this is the next step of the web development process. Based on the reviews of the project brief, sitemap and wireframe, I have a clear idea of the purpose of the site for my client (THE MARTON AGENCY, INC); THE MARTON AGENCY, INC has a clear requirement of the outlooks/feeling of the website. It must be cool, simple, and elegant. At the same time I have to keep in mind the audience target of THE MARTON AGENCY, INC; Here I have defined the web design elements that I will focus on:

- Colors and Using contrast
- Fonts/typesfaces and Typography (The six C's¹³)
- Graphics and Images format

¹² Balsamiq Mockups: <http://www.balsamiq.com/products/mockups>

¹³ The six C's will be described on Chapter 7.2.5

- Page composition (Gestalt laws¹⁴)
- Sensory Branding¹⁵

It is important to consider all this when creating a website because as mentioned above in the constructionist law that the message the users will receive from the website depends highly on the impression they get from the look and feel of the website. A website represents the company, product, or service; the quality of the design for THE MARTON AGENCY, INC directly affects the marketing potential of the website and the image of the company (THE MARTON AGENCY, INC). To make sure the website matches the requirements and all these factors I need to keep in mind the simple and stupid (KISS). With the matching design I need to also make sure the functionality of the website.

7.2.2. Colors

When a user visits the website, color is the first thing that will get his/her attention. Color affects human's feeling, perceptions, and interrelations in different psychological and physiological levels. The principles of color are different around the world; in another way to describe, different colors invoke different feelings in different people from different cultures. For example: Red color means good luck and happiness in China but it could mean danger and unlucky in another country.

My client (THE MARTON AGENCY, INC) used black and white for the logo, and they wanted to have gray go right to edge of the screen; I considered the target audience by demographic and psychographic as we described above (Target Audience). Therefore I decided to use dark brown, brown, white and blue for the website shown as below:



I used brown as the basic color; brown is a natural color; we always see brown in luxurious store; brown can emphasize the style of classical elegance of THE MARTON AGENCY, INC.

¹⁴ Gestalt laws will be described on Chapter 7.2.7

¹⁵ Sensory Branding will be described Chapter 7.2.8

I used white as the domain color, because white will give less surprise to the user, also white color projects purity, cleanliness, and neutrality. Here white color also is part of THE MARTON AGENCY, INC's logo color.

I use blue as highlight color, because Blue is peaceful and calming color representing trust and dependability; Blue is the symbol of eternity.

I chose to use the complementary color scheme, which is the diameter at both ends of the color wheel. High complementary color juxtaposition can make the other colors more vivid. In this case brown and dark brown are warm color and blue is the coldest color. Familiarity is also another reason for this. Cool and warm color together will create a wonderful and vivid feeling of the website. This will make THE MARTON AGENCY, INC's website look cool but not colorful. However, though not considered important in the eyes of a programmer might be one of the important aspects in a website. Therefore, on THE MARTON AGENCY, INC's website I decided to use white and dark brown color to pastel the strong contrast between the cold and warm colors so that it will minimalist the surprise to the user.

Here is the color wheel of the complementary color scheme¹⁶ (Blue and Brown) shown as F-13:



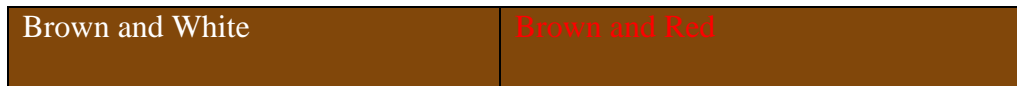
F-13: Color Scheme

7.2.3. Fonts/typefaces

How we write the content on the pages of the website is very important mainly because the user could change their opinion about the company, product, or service based on the impression of the content.

¹⁶ Color scheme: http://en.wikipedia.org/wiki/Color_scheme

Due to the fact that THE MARTON AGENCY, INC has no special requirements of how they will prefer the font or typeface on the website. Instead, they wish the font could be something readable but cool. Using white color for the content text and the Navigation bar is because white can be used with any other color. Compared to the brown background white color font will be more readable with less contrast, For example, using red on a brown background will be unreadable and annoying the user shown as below:



Keeping in mind the interview with my client (THE MARTON AGENCY, INC), the president of the company said:”*generally speaking, it has to match with the type of our company, we require a higher feeling of art, and feature the foreign posters. Besides that I will expect the website still looks elegant but modern at the same time*”.

I will use the Lucida Calligraphy¹⁷ as typeface is because when I took a closer look at the documents of THE MARTON AGENCY, INC, it is a company that assists with theaters and producers all over the world. If I will use plain Time New Roman¹⁸ throughout this website, it would create a boring atmosphere. Lucia Calligraphy is clearly readable but not as boring. In another hand, Lucia Calligraphy gives a feeling of elegance. On the Navigation and links I chose to use Algerian as typeface, which was created during the late nineteenth-century, the time area when THE MARTON AGENCY, INC was created. Algerian typeface¹⁹ is not a new font style, but it represents a feeling of modern, uncluttered, and beautiful.

7.2.4. Graphics and Images format

To think that the user in our target audience group could be a producer or theater, he/she will not want to spend so much time loading our website. The user will not think in a way as a programmer. For example the website can have a certain amount of images and we have hundreds of posters of the plays that THE MARTON

¹⁷Lucida Calligraphy: <http://en.wikipedia.org/wiki/Lucida>

¹⁸Times New Roman: http://en.wikipedia.org/wiki/Times_New_Roman

¹⁹Algerian typeface: [http://en.wikipedia.org/wiki/Algerian_\(virtual_typeface\)](http://en.wikipedia.org/wiki/Algerian_(virtual_typeface))

AGENCY, INC would required to have on the WebPages. That will cause the time to load a page to increase dramatically. Which will be very annoying if out WebPages takes a long time to load and this is not the feeling that we want to give to our user. Because of this, I therefore have three options to store the images:

- I can store the images uncompressed
- I can compress the images with loss of quality.
- I can compress the images without loss of quality

The first option to store the images uncompressed is definitely out of the question because as I mentioned above we do not want to sacrifice loading time of the pages. I can choose to compress the image but we cannot afford the loss of image quality. Since the poster gallery is an important part of the information that would give the user a feeling of trust that the company THE MARTON AGENCY, INC is a successful company. Therefore the low quality of the images of the posters could sacrifice customer interest in the website.

I will consider the use of use GIF²⁰ to compress the logo, we don't want to lose the identity of THE MARTON AGENCY, INC throughout the design, according to what the interview and information analyzed with THE MARTON AGENCY, INC, the logo of the company is with black and white color but low resolution with a complicated drawing. GIF supports transparency which allows me to place the GIF over any color background, and it would not show any border or background in the image. In this case GIF is more suitable for my website, it is better for sharp line edge images such as the company's logo.

According to the fact that we have a huge amount of the images (Posters) that we have to put on the webpage, converting the images to JPEG²¹ format is a suitable option, but due to the fact that it is nearly impossible to reconvert the JPEG images, means I have to remember to keep the original images as a backup. Using JPEG format is a good choice for converting the images of the posters for THE MARTON AGENCY, INC, because it will not lose any quality and it works well with previews. However, we still have to consider either using progressive JPEG or baseline JPEG. There is a disadvantage of using baseline JPEG is that, when the images starts

²⁰ Graphics Interchange Format(GIF): http://en.wikipedia.org/wiki/Graphics_Interchange_Format

²¹ JPEG: <http://en.wikipedia.org/wiki/JPEG>

download on the webpage, it appears in fractions or bits, the full image would not appear until the download is complete. This is not a good design choice for the posters on THE MARTON AGENCY, INC's webpage, as the users will get impatient, with progressive JPEG the full image appears at the start of download making it a better option compared to the baseline JPEG.

7.2.5. Content Text (The six C's²²)

I considering of globalization electronic communication become in a way of the most easier and popular way of community; such as Web communication, that the user can assist to the company through a simple click on the website. Color is something that will get the user's first attention, but how do we communicate and enchant our user? We come to an important part, content text. People judge on a person or company by the quality of writing. The six C's will help us to have a effective business writing, these are Clear, Correct, Courteous, Centered on the reader, Concise, and Culturally appropriate. For example: the content text on the home page of TMA, I would have to write it clear enough for the user to easy understand, and it is free of mistakes in its language, content, and formatting; which has maximum information about the TMA but using a minimum number of words. As the Culturally appropriate and the target audience of TMA are globalization, so the text on the website have to respect the readers' cultural background, which means I would not write any personal opinions onto the website. Writing the content following the six C's, will help us to delivering information exactly what the user want at a level of he/she can understand it, give the user just right amount of information that they needed.

7.2.6. Page composition (Gestalt laws²³)

Gestalt Laws is a part of Cognition Psychology explaining how we perceive objects and things in the surrounding world. This plays an important role in the world of web development especially when discussing page composition. The way a site is organized can drastically change the user's perception of the content. If navigation and content is cluttered and messy chances are the user will feel confused and

²² The six C's : http://contextcomm.ca/blog/wpcontent/uploads/2010/05/Communications_Primer1.pdf

²³ Gestalt laws: http://en.wikipedia.org/wiki/Gestalt_psychology

annoyed. The main Gestalt laws that I use throughout my site are the Law of Proximity, and Similarity. This allows me to group and organize my navigation and content so that users can easily find what they are looking for while feeling comfortable in the environment. I achieved this by creating a web structure that is the same on every one of my pages so that the user will be familiar with the layout no matter what page there on. My navigation uses Gestalts law of similarity and proximity so that the user knows these are navigation buttons that will bring them to different content throughout the site.

7.2.7. Sensory Branding²⁴

It is through the senses that we can recognize what we experience and that allows the brain to recall past memories and feelings. An in depth understanding of sensory marketing can serve as a big advantage when dealing with a target group. Sensory marketing uses the five senses of the brain touch, smell, taste, sight, and hearing. In my website I mainly use the sense of sight to communicate with the audience. When the user first sees my color choice they are offered a cool, elegant feeling. Combined with pictures and font preferences suggest an easy reading experience for the viewer.

7.2.8. Visual Design of individual webpage

After structuring design elements it is time to show them all together in a visual design of the webpage. Within this report I will shown the Home page of THE MARTON AGENCY, INC (Shown as: F-14).

²⁴ Sensory Branding:

http://books.google.dk/books?id=YIMisx_1OQMC&printsec=frontcover&dq=sensory+branding+2009+Bertil&hl=en&sa=X&ei=CnrtULr4A6q40QWYroDoCg&sqi=2&ved=0CDMQ6AEwAA#v=onepage&q=sensory%20branding%202009%20Bertil&f=false



F-14: First Visual Design of “Home” page

The homepage will be the first webpage the users see when they log on as well as being the first impression of the website. As you can see on the Homepage, I have chosen a picture of Union Square as THE MARTON AGENCY, INC required. It should be rotating between three to four different pictures of Union Square, to shown the user different views of Union Square and in order to interest the user while they are visiting the website. All the other sub-pages will use the same design of the background, header, and footer. I do not want to confuse the user by complicating the website with different designs on each of the pages.

7.3. Conclusion of 1st Interaction

After all of the processes above, now is time to getting feedback from THE MARTON AGENCY, INC. During the meeting, THE MARTON AGENCY, INC told me that they are happy with the picture of Union Square as the Header; at the same time they are satisfied with the architecture of the site as well as the content text. However, even though I personally think that the design meets all the requirements and I have followed the deign process that I have learned and used in school or reality during my internship period. The project stakeholder of The Marton Agency, Inc.

thought that the site did not meet one fundamental aspect of giving the feeling of elegant. Especially due to the background picture that they thought looked messy. As well as the font that did not match with their business cards (This was not made clear in the original requirements).

8. 2nd Interaction

8.1. Purpose

Since THE MARTON AGENCY, INC has made a substantial change in the concept of the website; I needed to start a new design by following the process as above. Nevertheless, the information and general requirements of the site are mostly the same as the completed processes above, for example the audience target, site structure, and visual design elements, etc. Therefore, I will combine them with the new requirements of the site. In order to meet the request, I will do some research of Bauhaus Style before I get into the second design process.

8.2. Bauhaus Art

“Bauhaus²⁵ was a school in Germany that combined crafts and the fine arts, and was famous for the approach to design that it publicized and taught.”

–Wikipedia (<http://en.wikipedia.org/wiki/Bauhaus>)

From the result of the meeting with THE MARTON AGENCY, INC wanted to have a complicatedly new design concept of the entire site with new requirements. First, THE MARTON AGENCY, INC wanted to use a Bauhaus style to design their website, because they want to represent the feeling of elegant, simple, cool, and modern by using Bauhaus design style. I had no prior knowledge of Bauhaus so I needed to do some research on the subject. From what I read I learned that Bauhaus was a design school in Berlin that mainly designed furniture. After further reading my conclusion is that Bauhaus is a design theory that combines lines and polygons to make something look simple and modern. Bauhaus even has their own type face (Bauhaus typeface²⁶). Since I do not have a strong knowledge of Bauhaus design style I had a conversation with the project stakeholder at The Marton Agency, Inc. in order to brain storm some ideas of how exactly should I intergraded Bauhaus into the web design. We came to

²⁵ Bauhaus Design: <http://www.restorations.net/bauhaus/bauhaus.htm>

²⁶ Bauhaus Typeface: [http://en.wikipedia.org/wiki/Bauhaus_\(typeface\)](http://en.wikipedia.org/wiki/Bauhaus_(typeface))

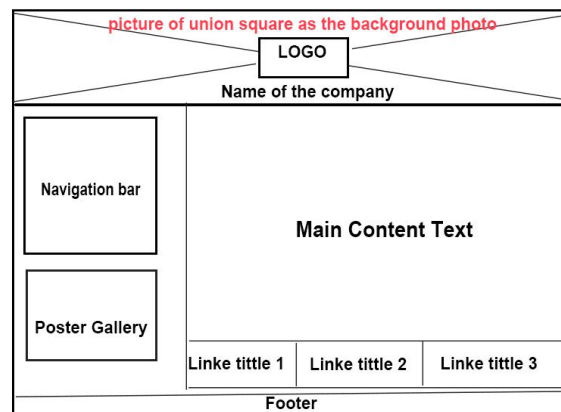
the conclusion that I should mostly use lines and squares to give the site a modern look.

8.3. Site structure and Information architecture

8.3.1. Main structure of WebPages

From the theory that I described above Bauhaus style mainly uses lines and polygons for their design. Here I will more concretely describe how can I change the structure of the WebPages in order to make it functional but still match a Bauhaus design.

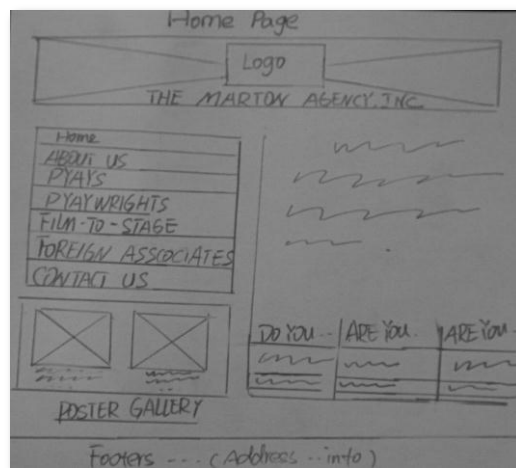
Here is an example for the Home page of THE MARTON AGENCY, INC (Shown as F-15).



F-15: Main structure of the “Home” Page

8.3.2. Wireframes

I will create a wireframe for my client (THE MARTON AGENCY, INC)’s Homepage and all sub-unique pages such as: About us Page, Plays Page and so on. Here I will show the Homepage as F-16: (All sub-unique pages see Appendix: Wireframe for sub-unique pages).



F-16: Second Wire Frame of “Home” Page

8.3.3. Scenarios & Storyboards

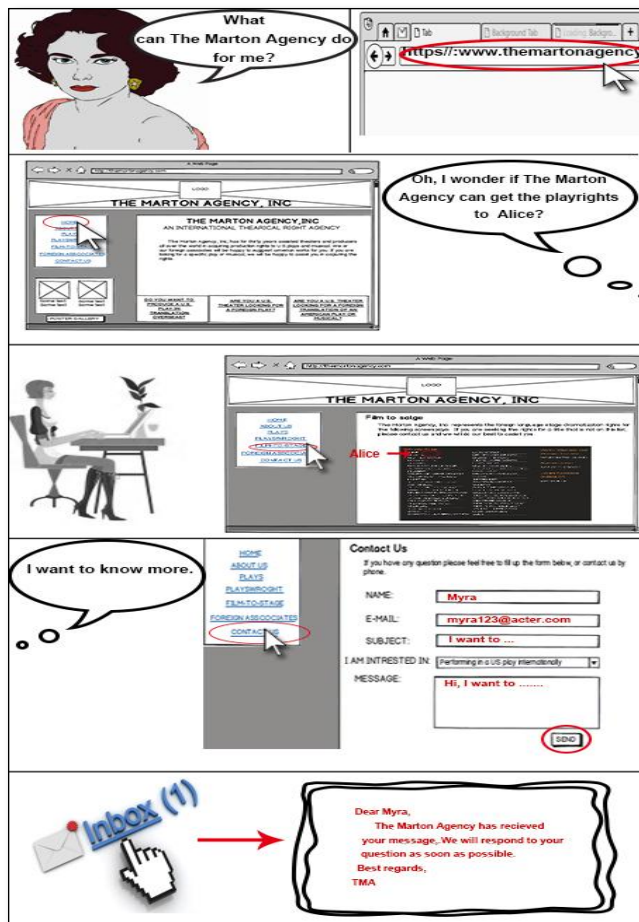
A scenario²⁷ is a short story of a likely situation that a user could encounter while using the site. This can be helpful when testing the structure of the website. Scenarios must match the basic elements of the site to offer an accurate experience of the user. My Scenario is of my persona Craig searching for a legal representative for the play he wants to perform.

Craig is a play director for a school in the performing arts and has the duty to pick the next school play. Craig has been given the opportunity to pick the next play that the school will perform. Alice by Woody Allen is his favorite. However Craig does not have the knowledge or know-how to handle the legal licensing before he can perform Alice. Craig looks online to find a legal representative to handle the licensing and play rights when he comes across The Marton Agency.com. Craig clicks on the home page and is intrigued by what he sees but wants to learn more. He continues reading the “Plays” page of the site. Craig is impressed to see that the Agency has handled licenses with numerous plays including Woody Allen’s’ Alice in the past, and decides to contact the agency by email using their web form.

A storyboard²⁸ is a more visual representation of a possible scenario. When my persona Craig tries to find a legal representative for the play he wants to perform. My storyboard displays the interaction between Craig and the website’s interface, shown as F-17.

²⁷ Scenario: <http://en.wikipedia.org/wiki/Scenario>

²⁸ Story board: <http://accad.osu.edu/womenandtech/Storyboard%20Resource/>



F-17: Storyboard

8.4. Visual Design

8.4.1. Purpose

The purpose of the second visual design is necessary due to the change of the new requirements provided by THE MARTON AGENCY, INC within the area of font and design theme. I will continue using the content text and graphics etc., from the first visual design process. Then I will be able to combine the two together with the old composition of the content.

8.4.2. Colors

As stated above, color is the first aspect the user notices when visiting a website. In the new Bauhaus style I could not continue to use a brown background color. Bauhaus is commonly associated with simple contrast of two to three colors.

Basic

I chose black as my base colors because this will give the users a formal feeling and will make it easier for me to manage with other colors. Also when I use black as the base color it will provide me with high contrast to the white company logo.

Highlight

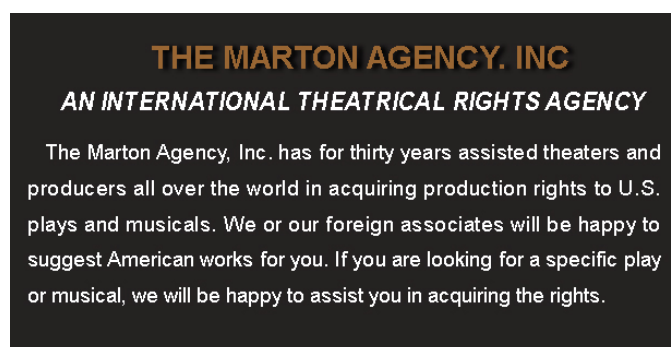
The highlight color I chose is light brown for its connection with nature giving the site an elegant feeling.

Domain

I chose light red for the domain color. Red and black is a strong classic contrast but I felt it was too strong a contrast for this site, which is why I chose a lighter shade of red for a more smooth transition without losing too much shock value.

8.4.3. Fonts/typefaces

According to my agreement with THE MARTON AGENCY, INC the site font should match with the CEO's business card. Also by choosing Arial²⁹ as the typeface will make the text easier to read and will continue to keep the site looking simple by not adding too much flashy content, especially when there is already pictures posters and header. Shown as F-18:



F-18: Content Font

²⁹ Arial: <http://en.wikipedia.org/wiki/Arial>

8.4.4. Visual Design of individual webpage

After the structure of the Homepage and sub-unique pages had been changed with new color and font. Here I showed the second visual design of the Homepage Shown as F-19. (All sub-unique WebPages see Appendix: 2nd Visual Design of sub-pages):



F-19: Second Visual Design of “Home” page

On this homepage I still kept the picture of Union Square as THE MARTON AGENCY, INC requested. I moved the poster under the navigation because it is the second most important information that THE MARTON AGENCY, INC wanted to present to their users. I made the titles of the content correspond to the color of the navigation for their similarity value. Contrary I made the text opposite colors so the user will automatically know the difference. I put a shadow over the picture of Union Square because I don't want to lose the identity of the company. Otherwise I risk the possibility of having the site look messy.

8.4.5. Conclusion of 2nd interaction

Looking back I can conclude that I definitively learned something new during the 2nd interaction. I had never heard of Bauhaus design before but now I can confidently say I am much more comfortable using this theme of web design. The feedback I received from THE MARTON AGENCY, INC about the final design of the website was that they are very satisfied with the color choice, and architecture. THE MARTON AGENCY, INC feels the site is a perfect match for their business and feeling of cool, simple, and elegant.

9. Site development

9.1. Purpose

After the last stage of design, I determined the effects of the functions and layout for the website. Thus on in the coding phase I will spend time building the website through using the right CMS (Content Management System) suitable for this project. First, I will explain a general description of the two CMS that I have learned. These are Drupal³⁰ and Umbraco³¹. Secondly, I will compare the basic information between the CMS concerning this project and how I will create the website with code and prototypes.

9.2. Over view of Drupal, Umbraco and ASP.NET

So far there is no way to determine which CMS (Content Management System) is best for every situation. There are open source and non-open source, PHP³², Java³³ or the .NET³⁴; factors which should be considered when creating a website. However, in any selection process of CMS, it is important to consider which CMS is suitable for this particular project.

In this section of the report I will determine which CMS is right for The Marton Agency, Inc. This will compare different CMS which are Drupal and Umbraco.

³⁰ Drupal: <http://drupal.org/about>

³¹ Umbraco: <http://umbraco.com/about-us.aspx>

³² PHP: <http://php.net/>

³³ JAVA: <http://www.java.net/>

³⁴ .NET: <http://msdn.microsoft.com/en-us/vstudio/aa496123.aspx>

Drupal is written in PHP language (open Source server-side scripting language) which together constitutes the content management system (CMS). The basic concepts of Drupal are including nodes, content type, module, theme, and classification. It is good for a beginner who does not have a strong programming back ground.

Umbraco is an open source CMS (content management system) platform, based on the ASP.NET framework. Umbraco designers can create valid XHTML markup templates while developers can create any module based on .NET. Umbraco is usually written in C#³⁵ and stored in databases such as Microsoft SQL³⁶. Umbraco comes standard with a data abstraction layer allowing the platform to be combatable with various databases such as MySQL³⁷, SQL server³⁸, and VistaDB³⁹.

An Umbraco website can be created using Microsoft Webmatrix⁴⁰. There are many valuable features available when making a website using Umbraco; for instance the back office with roles for editors, admins, and developers. The user management feature for creating your own users and roles. Umbraco uses a tree structure for organizing the content of the site. There includes a document type system that allows you to define custom document types and numerous data types like Textstring, Multiple text box, Numeric⁴¹, related links ect. A template system and a macro system that allows you to call pieces of code (either XSLT⁴² or .NET web user controls⁴³ from a template. There is even an event model that will add functionality to a node when activated. With a basic understanding of Umbraco, we know that it uses .net and Microsoft operating system. Therefore, I think it is nesscery to describe the basic overview of ASP.NET based on my personal knowledge.

“ASP.NET is a Web application framework developed and marketed by Microsoft to allow programmers to build dynamic web sites, web applications and web services.”

-Wikipedia

³⁵ C# (programming language):<http://msdn.microsoft.com/library/orm-9780596521066-01-03.aspx>

³⁶ Microsoft SQL: <http://www.microsoft.com/sqlserver/en/us/learning-center/sql-server-library.aspx>

³⁷ My SQL: <http://www.mysql.com/training/>

³⁸ SQL Server: <http://www.microsoft.com/sqlserver/en/us/solutions-technologies.aspx>

³⁹ VistaDB :<http://www.vistadb.net/vistadb/default.aspx>

⁴⁰ Microsoft Webmatrix :<http://www.microsoft.com/web/category/learn>

⁴¹ Numeric A numeric character reference (NCR) :

http://en.wikipedia.org/wiki/Numeric_character_reference

⁴²XSLT (Extensible Stylesheet Language Transformations) :<http://www.w3schools.com/xsl/>

⁴³ ASP.NET Web user control [http://msdn.microsoft.com/en-us/library/fb3w5b53\(v=vs.100\).aspx](http://msdn.microsoft.com/en-us/library/fb3w5b53(v=vs.100).aspx)

ASP.NET is a Microsoft server-side Web technology. ASP.NET takes an object-oriented programming approach to Web page execution. Every element in an ASP.NET page is treated as an object and run on the server. An ASP.NET page gets compiled into an intermediate language by a .NET Common Language Runtime-compliant compiler. Then a JIT compiler turns the intermediate code to native machine code, and that machine code is eventually run on the processor, because the code is run straight from the processor, pages load much faster than classic ASP pages, where embedded VBScript⁴⁴ or JScript⁴⁵ had to be continuously interpreted and cached.

9.3. Comparing between Drupal and Umbraco

The comparison between Drupal and Umbraco; to start Drupal uses PHP and runs on a Linux operating system while Umbraco uses .net and Microsoft operating system. Drupal makes for a quick and easy CMS which can save time and money while Umbraco offers a skeleton that is easily interchangeable to meet the needs of a constantly changing nature. Drupal is a very good program for beginners because a lot of the features are already made for you; many premade themes are available for download and are updated daily. However the downfall of a program that is too simple is it leaves very little left to add your own personal touch. Umbraco requires a deeper understanding of ASP.NET to use to its full potential. With the proper knowledge there are unlimited possibilities for customization. These personal effects however are created entirely by you so it's very easy to make a critical mistake that can cause errors if you are not familiar with ASP.NET. Another very useful feature Umbraco has is the backend admin panel which Drupal's panel falls short.

The Umbraco platform is one that has much more of an intuitive feel compared to Drupal. In Umbraco data is organized in a tree that represents the websites structure. In Drupal all of the content is shown in a single list. This can be problematic when trying to locate parent or child nodes. When considering the time spent creating the actual website a lot of time can be wasted using Drupal. A lot of time is used getting the website styled and module installed. Even then initial Drupal installations only

⁴⁴ VBScript (Visual Basic Scripting Edition) is an Active Scripting language:

<http://www.w3schools.com/vbscript/default.asp>

⁴⁵ JScrip: <http://en.wikipedia.org/wiki/JScript>

provide limited functionality. This makes it easy to get lost when dealing with permissions especially when several modules are required. Also, Umbraco returns clean xml, with data only. In Drupal you get multi dimensional PHP arrays. There is no multi-content picker feature in Drupal. In Umbraco the user can select and reuse the content an unlimited number of times in different places throughout the website. Both CMS systems can be extended in terms of functionality. However since Umbraco is a .NET solution, there is good support of .NET user-controls. Both CMS systems are large web platforms. .Net solutions perform better when it comes to high volume of traffic/extensive use. Drupal does not have real back end admin panel so everything is intergraded into the main page, while Umbraco does not limit their design in any way.

All in all both of these programs have their own purpose in the world of CMS. There is no correct way to say which one is better between Drupal and Umbraco, both depend on personal preference and what kind of business you would like to do. Since the website that I have to create for The Marton Agency, Inc has required a special theme as I showed on the visual design and personal skill; throughout this website I will use Umbraco.

9.4. XHTML and CSS

Extensible HyperText Markup Language (xhtml)⁴⁶ is part of the XML⁴⁷ markup language family. This is the human language web pages are written in; in order to communicate with the server. CSS (cascading style sheet) is a style sheet language that is used to describe presentation semantics in a markup language document. CSS separates document presentation like font, color, or layout from document content written in HTML (or similar). HTML is the skeleton of a website before CSS is implemented. CSS would be the skin - adding texture and feeling to the web site. It is paramount that both languages are integrated properly in order for the website to display content correctly.

HTML 5⁴⁸ is the newest version of the XML family but despite its powerful capabilities, HTML5, reviews shown a lot of security issues, limitations of local data

⁴⁶ (XHTML)Extensible HyperText Markup Language: <http://www.w3.org/TR/xhtml1/#xhtml>

⁴⁷ (XML) Extensible Markup Language: http://www.w3schools.com/xml/xml_what_is.asp

⁴⁸Wikipedia: **HTML5** is a markup language for structuring and presenting content for the World Wide Web and a core technology of the Internet. http://www.w3schools.com/html/html5_intro.asp

storage, and synchronization challenges. I chose not to use HTML 5 because not all web browsers support HTML5 yet. This would have been a big problem if some of TMA's clients were unable to access the site. Furthermore I found it unnecessary to code the site in HTML 5 because TMA does not have a media or flash⁴⁹ content on the site. HTML 5 will not be used by the mass majority of website for many years to come so better to wait then be at risk of compatibility and security issues.

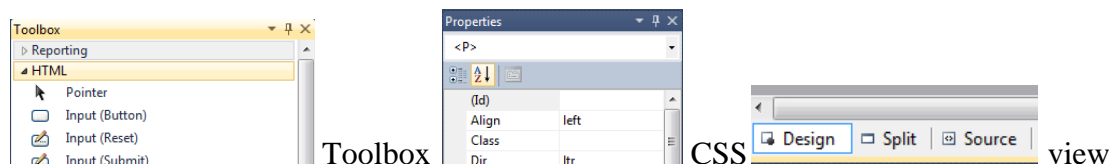
(HTML file and CSS file of the website see Appendix: HTML and CSS).

9.5.The Marton Agency, Inc Website with ASP.NET and Umbraco

As I described above Umbraco is running on ASP.NET, so I will also combine both of them in order to reach the goal of the The marton agency, inc's website. Such as implementing the HTML and CSS style sheet file from ASP.NET which I created on Microsoft Visual studio into an Umbraco Style file; and connected the user control between ASP.NET and Umbraco for the contact form on my website. Before I get into the code of how I combined Umbraco and ASP.NET. I would like to mention that I programmed the website by using Microsoft WebMatrix and Visual Studio 2010⁵⁰.

9.5.1. How to create HTML and CSS files on ASP.NET (Visual studio)

Microsoft Visual studio has a complete set of development tools for building ASP.NET Web applications. It has everything that we need to create a website; which is very easy to use simply with a drag and a drop function. Also it is very easy to edit the CSS style sheet by changing the properties (Shown as F-20):



F-20: Picture on the left: Toolbox; Picture in the middle: CSS Properties; Picture on the right: View the Design, sources, or both of the elements.

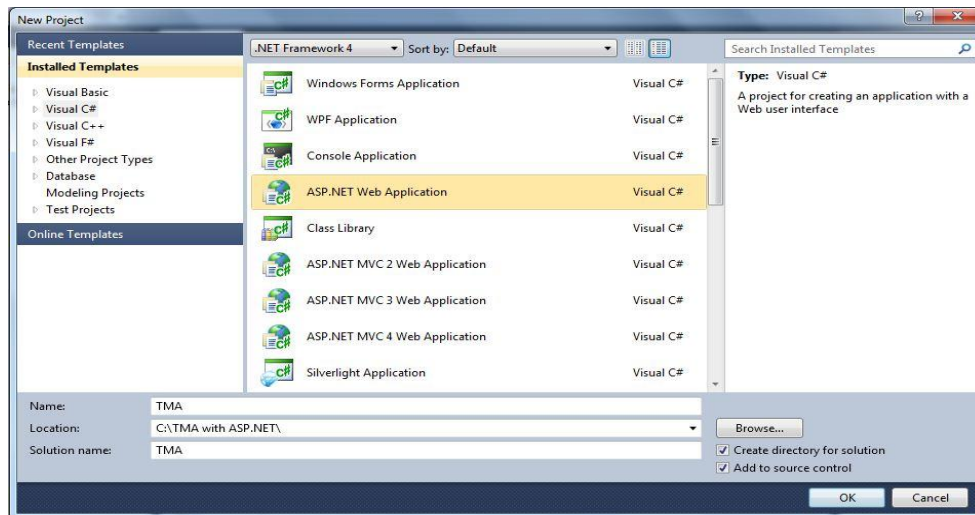
⁴⁹ Flash: [http://en.wikipedia.org/wiki/Flash_\(comics\)](http://en.wikipedia.org/wiki/Flash_(comics))

⁵⁰ Microsoft Visual Studio : [http://msdn.microsoft.com/en-us/library/vstudio/fx6bk1f4\(v=vs.100\).aspx](http://msdn.microsoft.com/en-us/library/vstudio/fx6bk1f4(v=vs.100).aspx)

In the process of building this website for The Marton Agency, Inc, I will use Visual Studio to build HTML and CSS files, and then copy the HTML file into the master page on Umbraco website which I created for my website. Then I will replace the CSS file on the Umbraco file which contains all files for the website.

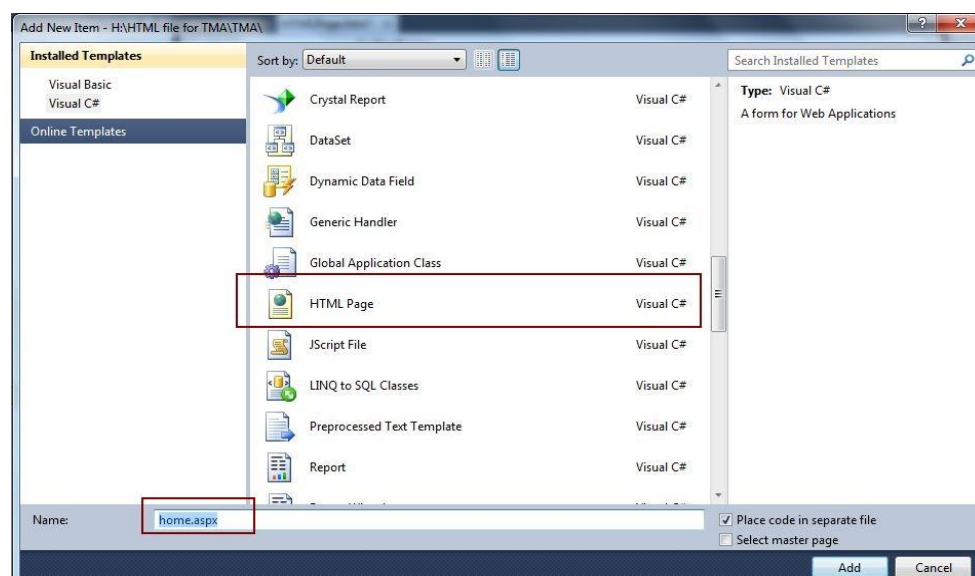
Here are the following steps for showing how I did it:

Step 1: I created a new project on Visual Studio called TMA shownn as F-21:



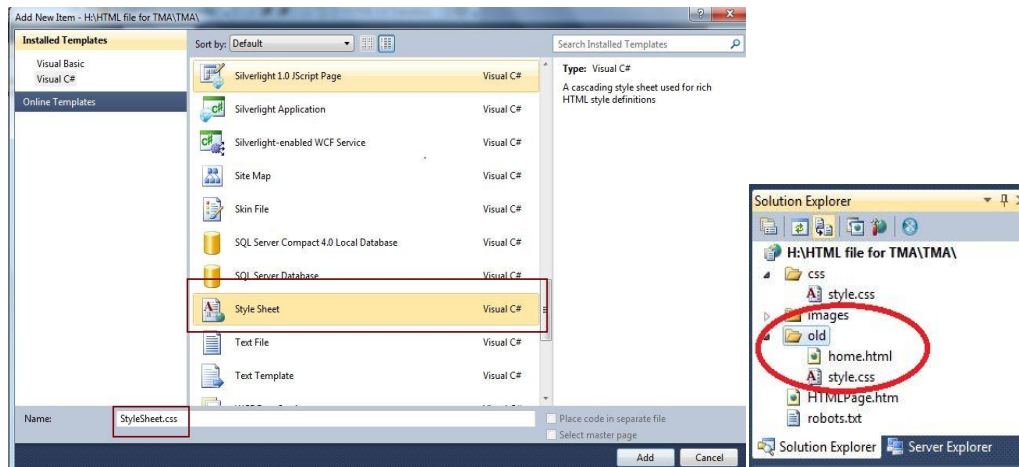
F-21: Started ASP.NET Web Application called: TMA.

Step 2: Add a new Item in to TMA which is my HTML file, called: home.htm, shown as F-22:



F-22: Added a new html page.

Step3: Add a new CSS Item called “Style.css” into the TMA (Shown as :) and store it in the same folder as the “home.html”, named: “old”. Shown as F-23:



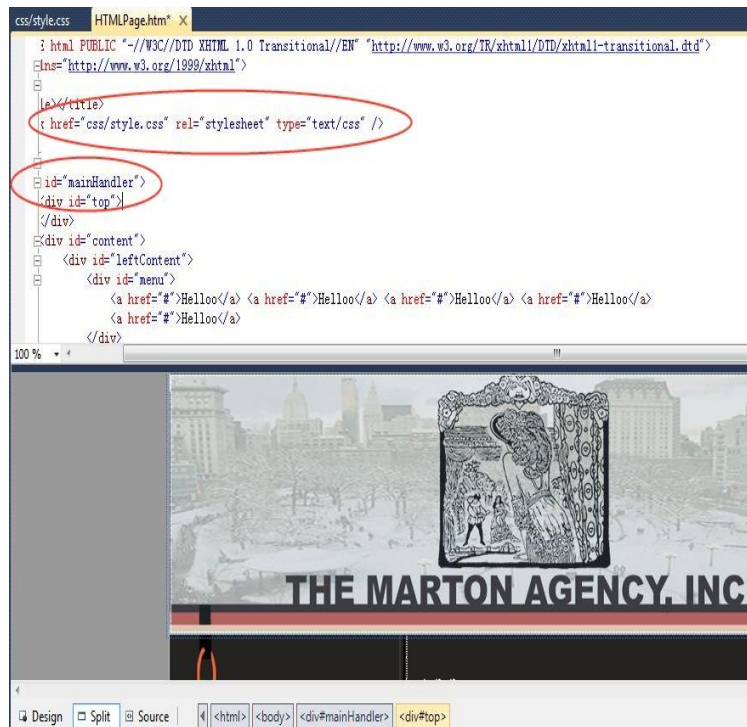
F-23: Added CSS file

Step 4: Here I will shown an example of how I styled the CSS file, and connected the CSS and HTML in my website in order to make the same design as the visual design on Photoshop (CSS file shown as F-24 and HTML file shown as F-25).

(Full version of CSS and HTML code, see Appendix: HTML and CSS).

```
css/style.css x HTMLPage.htm*
body
{
    background-color: #999999;
    font-family: Arial;
    color: White;
    font-size: 12px;
    padding: 10px;
    margin: 0px;
}
#top
{
    height: 214px;
    width: 798px;
    margin: 0px auto 0px auto;
    background-image: url(../images/header.png);
}
#content
{
    background-color: #252222;
    background-image: url(../images/contentBg.png);
    background-position: 270px 0px;
    background-repeat: repeat-y;
    width: 798px;
    margin: 0px auto 0px auto;
}
#contentBottom
```

F-24: CSS File (Example)

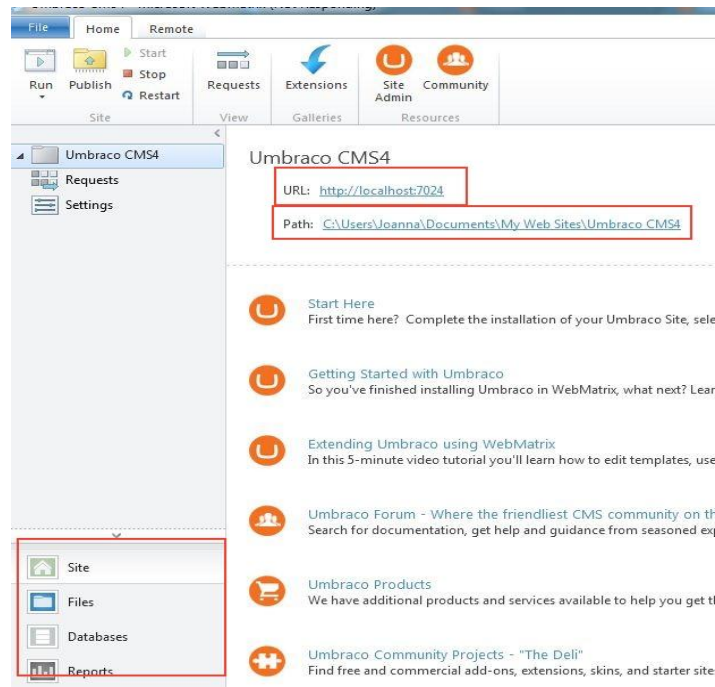


9.5.2. Start Umbraco and Explanations

In this section, I will use the Homepage for The Marton Agency, inc as an example. Throughout the description within the prototype to shown the specific steps of how did I created this website in Umbraco by using Microsoft Web Matrix. (Detail of the code of the Homepage and sub-pages see Appendix: Code for Umraco pages).

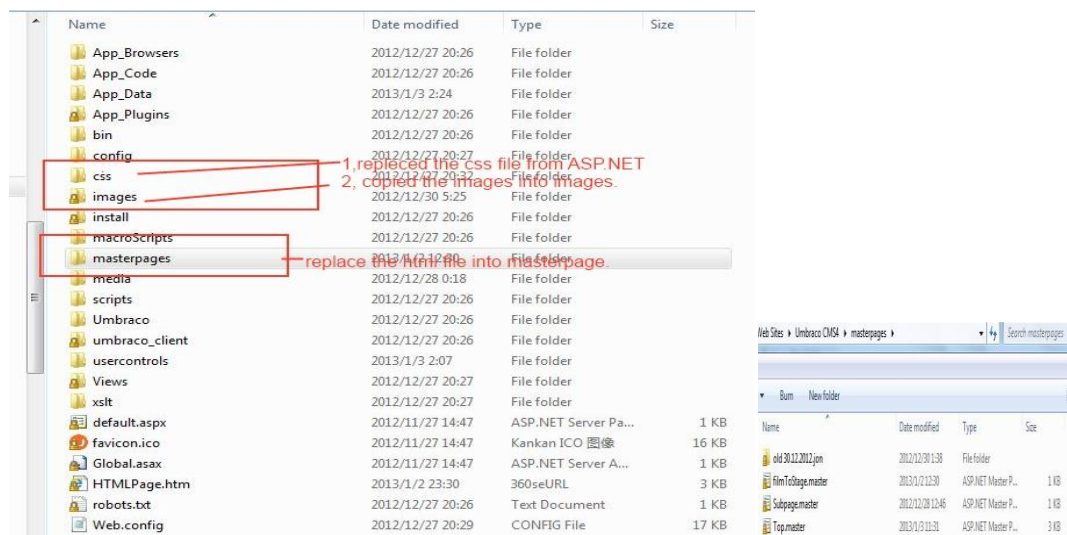
9.5.2.1. Homepage of “The Marton Agency, Inc”

Step 1: Create the Umbraco website by following a few steps which are within Umbraco. Here I will not show every single step of how to install a website. Instead I would like to shown the main enter face of my Umbraco website on Microsoft Web Matrix. Shown as F-26:

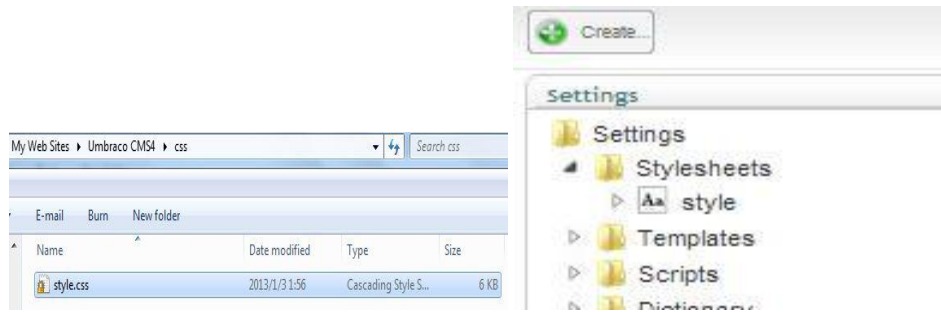


F-26: This is an over view of our site. Clicked on the link [URL:http://localhost:7024](http://localhost:7024) on the top of the middle page to go to my website. As you can see under the URL link is a path and a files list. In the bottom left hand corner there are different sections.

Step 2: Now we have an Umbraco file called: Umbraco CMS 4 , in this step I will first, shown how I implemented the CSS file into Umbraco CMS 4 and how I implemented the HTML file into the master page. (Shown as F-27 and F-28)

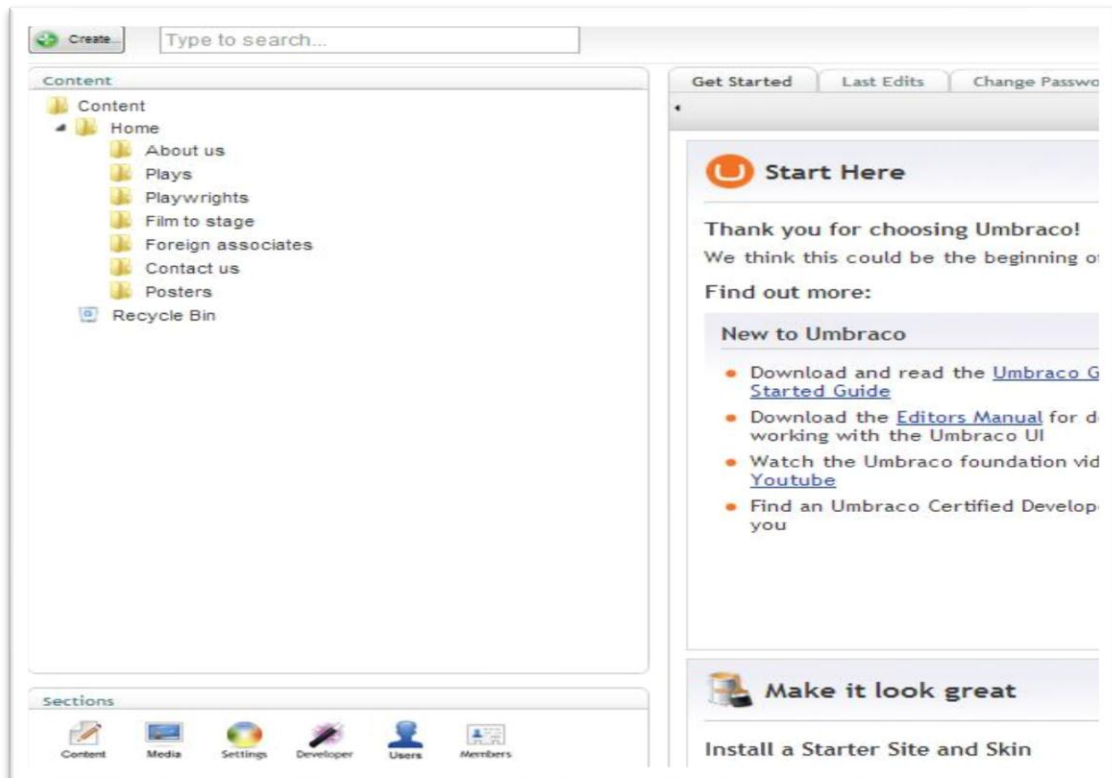


F-27: HTML files.



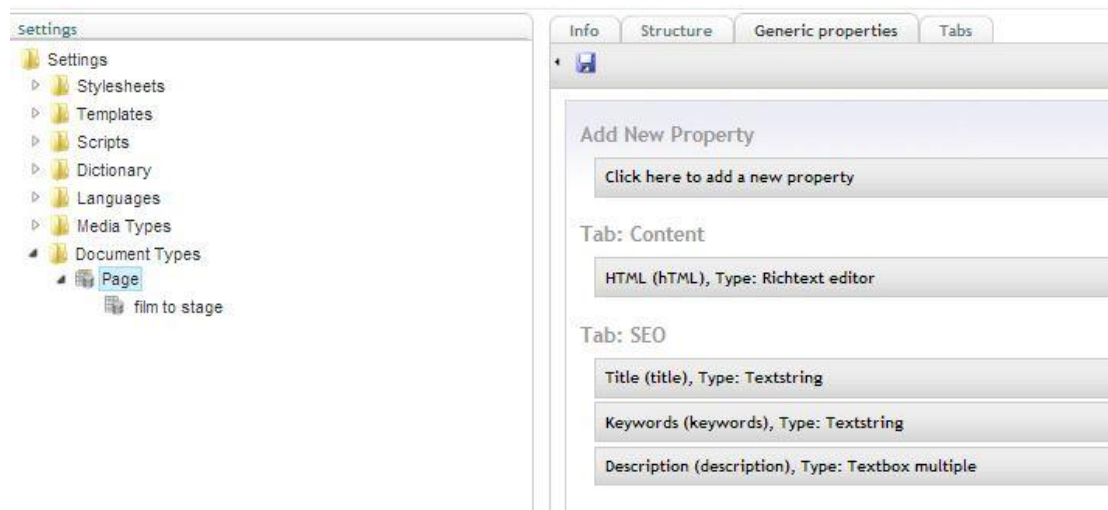
F-29: Here is the Umbraco CMS 4 folder where all the files are contained. So I have to replace the HTML, CSS, and images files inside the folder. Otherwise the website will not be able to read the HTML and CSS that I have already created.

Step 3: Here you will see the back office of Umbraco website where you can create the website with all the sections and tools that are supported by Web matrix. Shown as F-30:



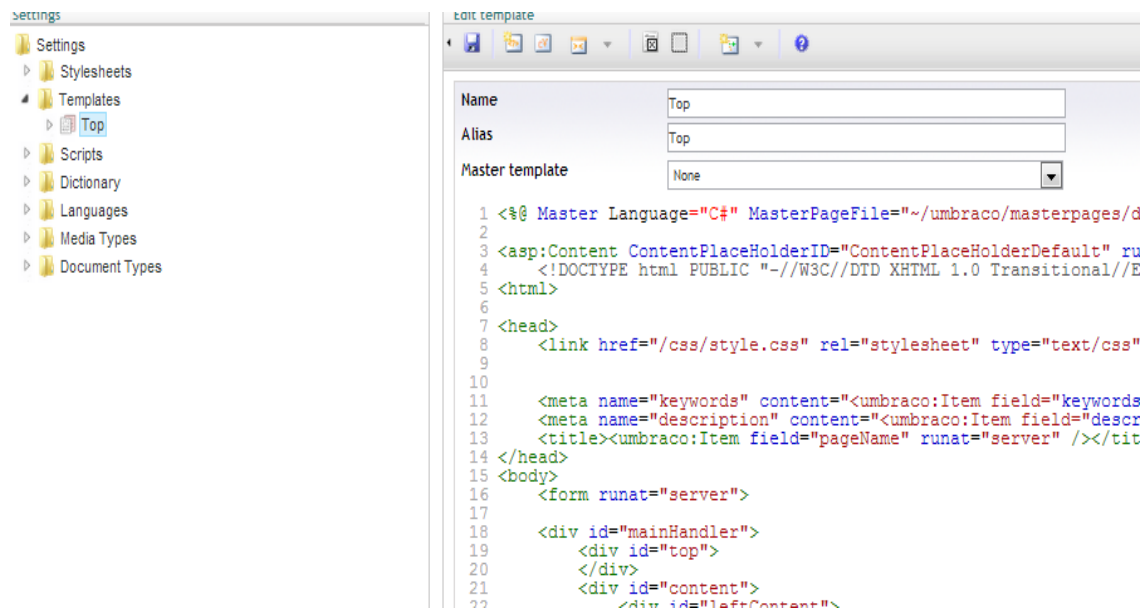
F-30: Here is the back office where I start to create the website for The Marton Agency, Inc.

Step 4: Creating the Homage for The Marton Agency, Inc begins with making a document type. This will decide the storage location of the content. (Shown as F-31)



F-31: I created a document type called “Page” as a master template. I choose “Richtext editor⁵¹” for my content type under my “content” tab.

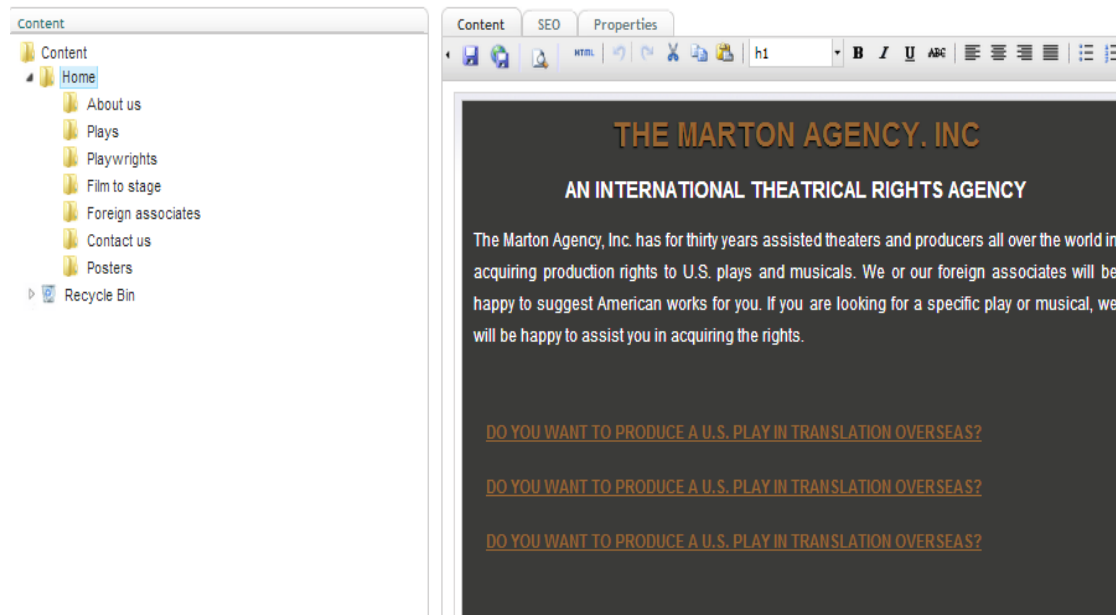
Step 5: Create the Master template called “top” for my website which I already did on Visual Studio and replace it into my Umbraco website. (Shown as F-32):



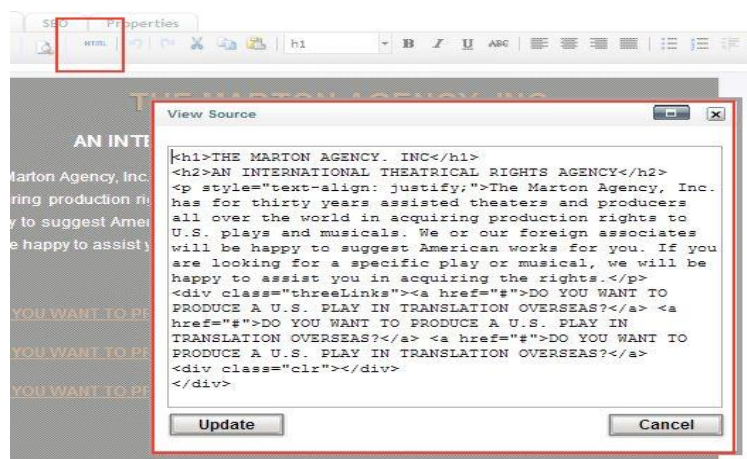
F-32: As you can see, there is a master template called “top” and it contains the HTML code and link to the style.css file.

⁵¹ Richtext editor on Umbraco: <http://our.umbraco.org/wiki/umbraco-help/content/editcontent/rich-text-editor>

Step 6: Created the content page called: Home on the “Content” section, which is representing human language on the webpage; then save and publish it. (Shown as F-33,F-34):

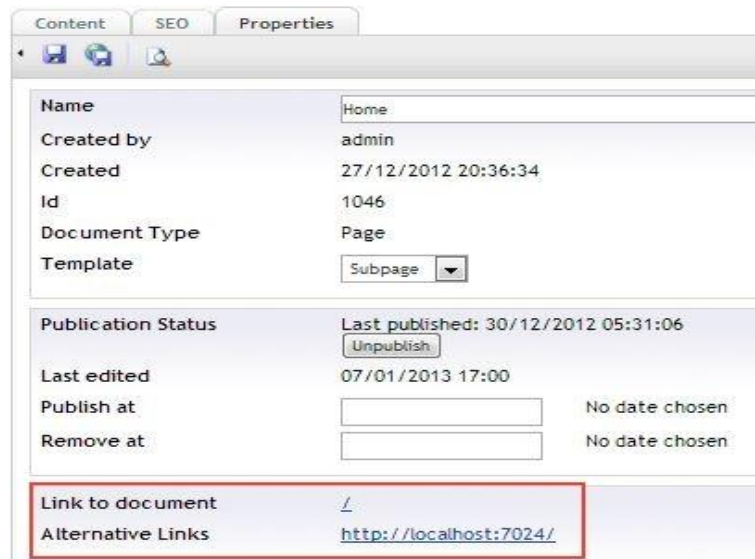


F-33: As you can see on the prototype above, in the content page “Home”. It has the document type that I defined on the “Document type” section. The page includes the two tabs which are “Content” and “SEO”. On the top near the “Save and publish” icon; there is a button called “HTML”, when you click on it, it will pop up a HTML file where you can edit the special HTML on the page Home. (Shown As F-34):

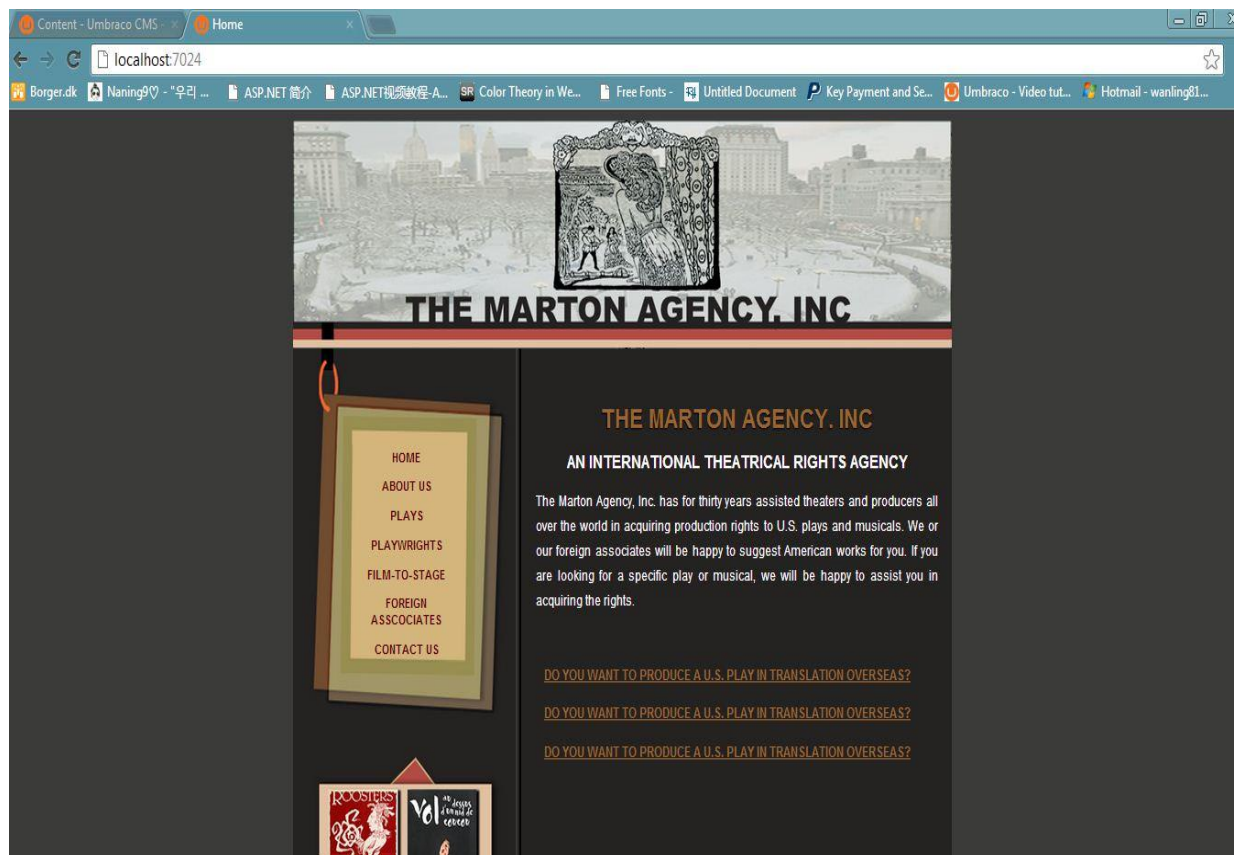


F-34: What I code in this HTML file will only be represented on the “Home” page. For example: I have wrote a <Div> for three links on my Home page, which will only be able to see on the Home page even though we share the master template with many other pages.

Step 7: Run the “Home” Page by clicking the URL link or to run the site in a browser
(Shown as F-36 and F-36)



F 35: Clicking on either link inside the red box will bring you to the web browser where you can see my Home page for The Marton Agency, Inc.



F-36: Browsing the Home page on Google Chrome.

9.5.3. .NET User control with Umbraco

Since Umbraco is an open source .NET CMS, it makes it possible to use .NET Web User Control (.ascx files) and Web Custom Control (.dll)⁵² on Umbraco. Throughout this part I will use .NET User control together with Umbraco. Which I use to create a “Contact Us” form for the Contact Page of The Marton Agency, Inc website. Steps shown as follows (Detail code see on Appendix: User Control code):

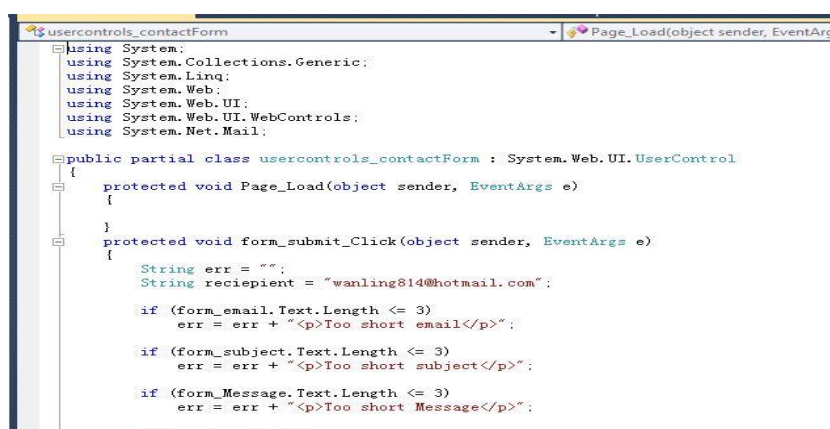
Step 1: Creating a Web User control on Microsoft Visual Studio 2010 (Shown as: F-37, F-38, F-39):



F-37: Add a new item called: “contactForm” by selected the “Web User Control”



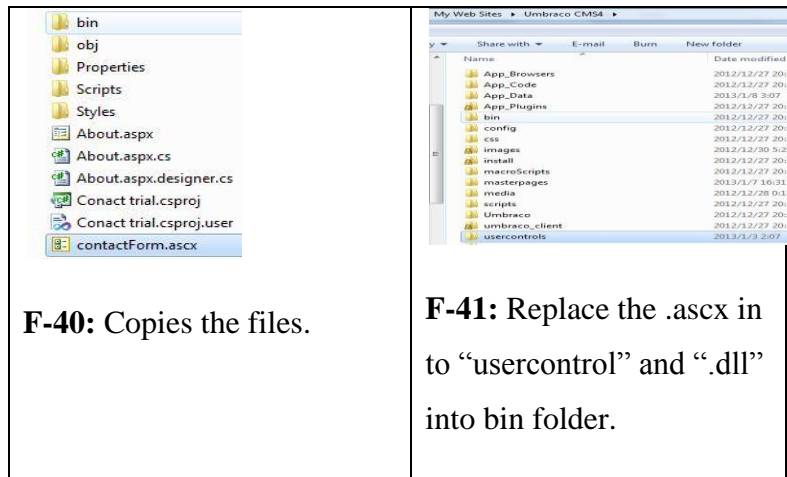
F-38: Drag and drop the elements from toolbox in to Visual Studio.



F-39: Here is the code behind the “contactForm”.

⁵² Web Custom Control: <http://msdn.microsoft.com/en-us/library/cc295536.aspx>

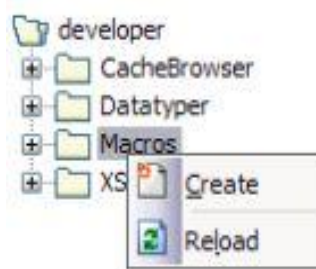
Step 2: I will copy the “contactForm.ascx” which is inside the file project and “contactForm.dll” inside the file (bin) into Umbraco CMS4 which is the file project for The Marton Agency, Inc website (Shown as: F-40, F-41).



F-40: Copies the files.

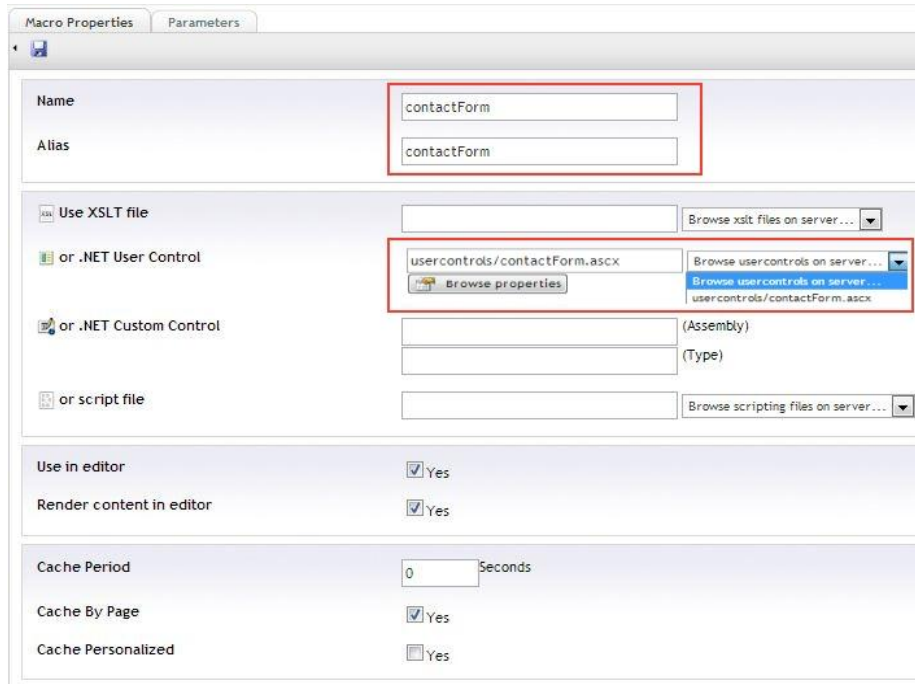
F-41: Replace the .ascx in to “usercontrol” and “.dll” into bin folder.

Step 3: Now It time to register the User control into Umbraco (website for The Marton Agency, Inc) using a Macro⁵³. In order to use the .NET User Control directly from Umbraco, I have to register them into a Macro which is done by opening up the “Developer” section and right clicking on a folder called “Macro”, and selecting “Create” (Shown as F-42); I named the Macro: “contactForm” (Shown as F-43). Then click the save button.



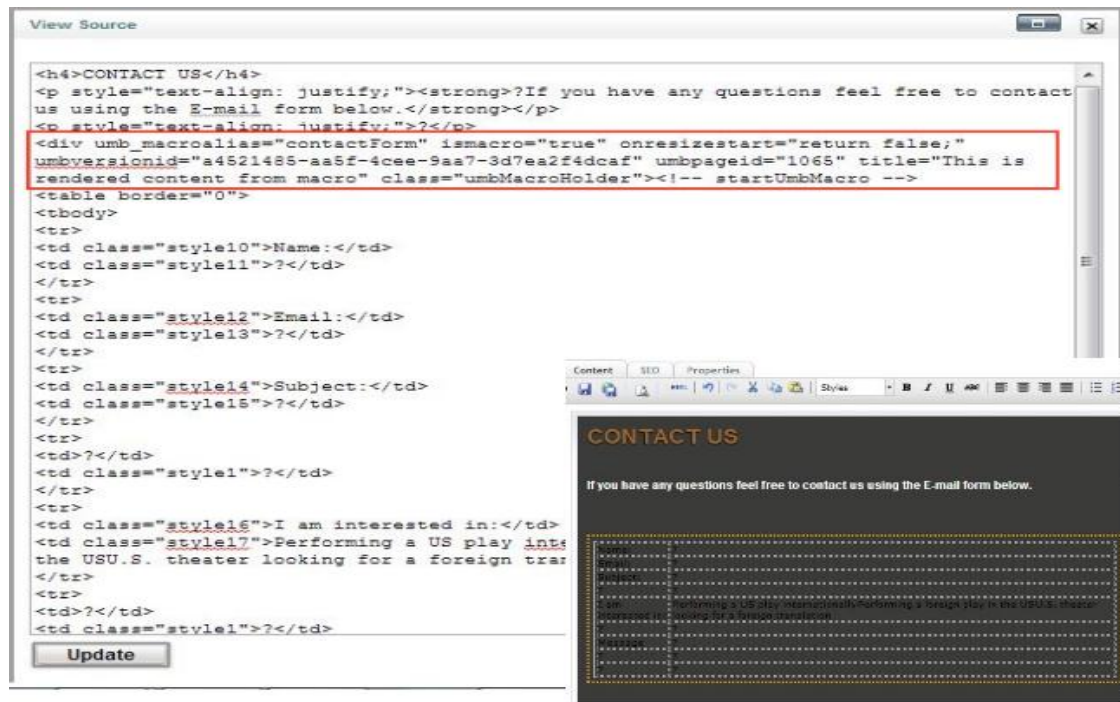
F-42: Created the Macro file.

⁵³ Umbraco Macro: <http://umbraco.com/help-and-support/video-tutorials/introduction-to-umbraco/sitebuilder-introduction/what-are-macros.aspx>

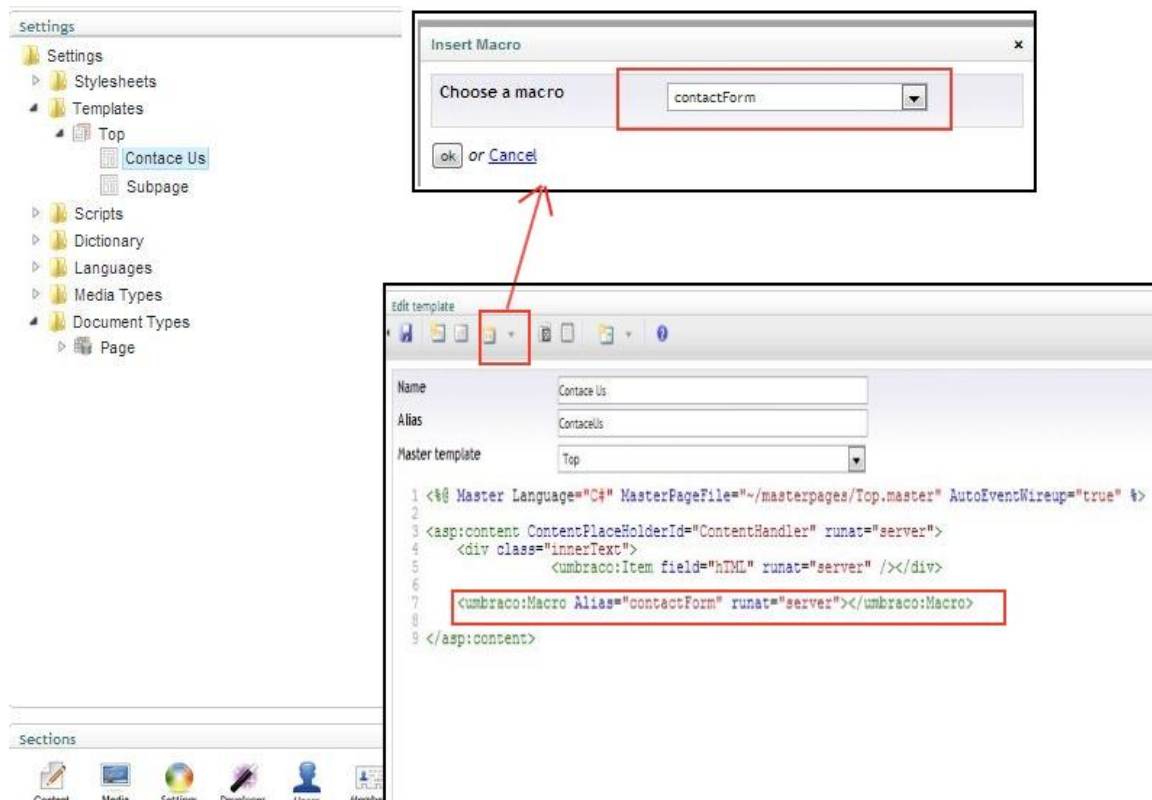



F-43: Insert the name of the Macro called “contactForm”. Since I will use the .Net User control, I will directly select the file on the right of the drop down list (within the red box).

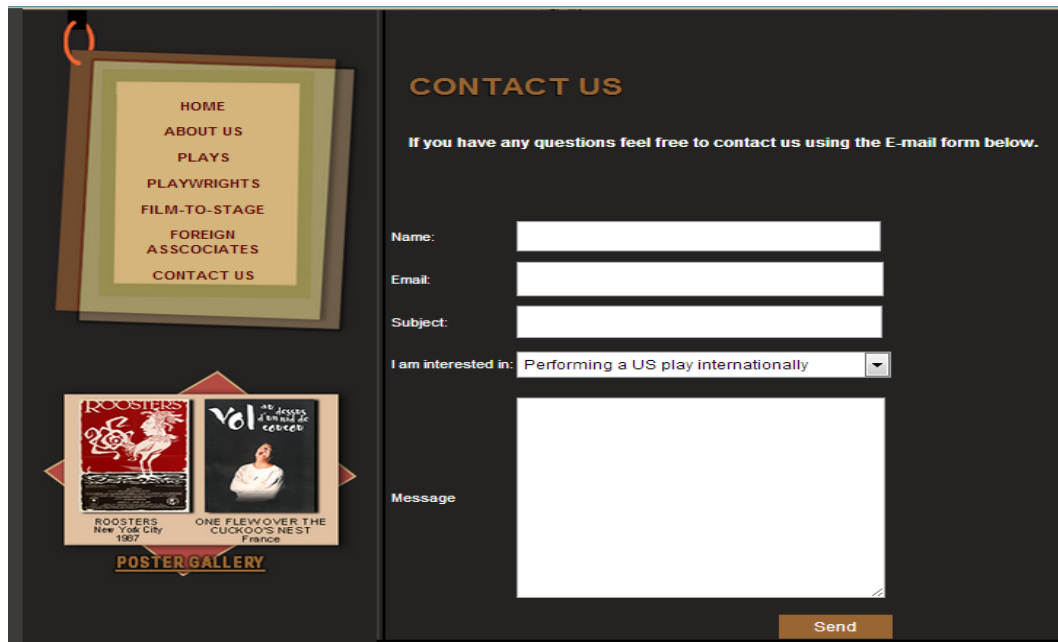
Step 4: Insert the Macro with User Control into the “Template” on The Marton Agency, Inc Umbraco folder. There are two ways to complete this step. I can directly insert the “contactForm” Macro directly into the editor which (Shown as F-44). Or I can insert it into the “Contact Us” template located in the “Settings” section on Umbraco (Shown as F-45). In The Marton Agency, Inc project I will insert it into the template. The “contactFrom” will display on the contact Page (Shown as F-46)



F-44: Directly insert the Macro into the “Contact Us” page html file.



F-45: Insert the Macro on “Contact Us” template, by clicking on the icon (). From the pop up window; select the “contactForm”. Click the save icon.



F-46: The “contactForm” shown on the Contact Us page on The Marton Agency, Inc website.

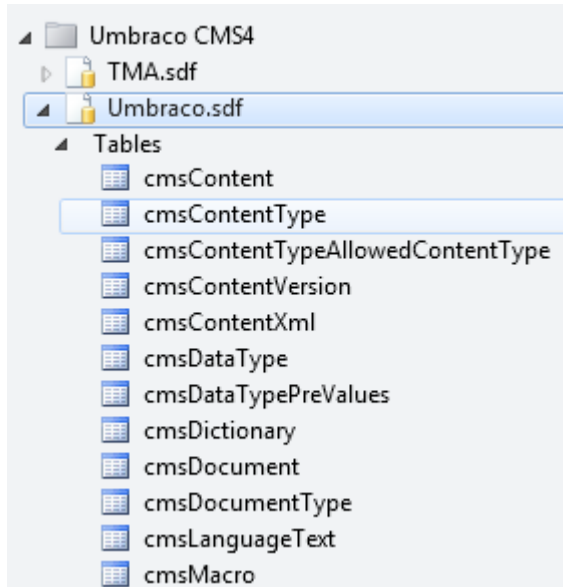
9.6.Database on Umbraco

Behind my Umbraco I have the SQL CE database, which is a lightweight relational database⁵⁴ suitable for WebPages. The SQL CE database is easily installed together with Umbraco when using WebMatrix. Unlike other databases such as MySQL and MSSQL⁵⁵, the SQL CE database does not require a dedicated server application since the database is being read from a file (For example, Umbraco.sdf). When you install Umbraco it will take care of creating all the necessary tables and relations. When using Umbraco you do not directly manipulate the database since Umbraco has a persistence data layer, and therefore you only communicate with the database indirectly when working with Umbraco nodes, C# or XSLT.

Here I shown some examples of the database created by Umbraco (Shown as F-47, F-48).

⁵⁴ Wikipedia SQL CE - http://en.wikipedia.org/wiki/SQL_Server_Compact

⁵⁵ MSSQL: <http://www.host-shopper.com/what-is-ms-sql.html>



F-47: The picture above shows some of the tables created by Umbraco during the installation.

id	level	path	sortOrder	uniqueID	text	nodeObjectType
2	-1,1043	0	0	4b8f3ced-ef96-4aae-8d8e-2ff95780f9	Centralized H1	5555da4f-a123-4
1	-1,1057	1	1	55dcb7d3-3277-4964-8e87-598992f6f	Alexander Marton In Hussar S Unifon	b796f64c-1f99-4i
1	-1,1058	1	1	7c2a5611-b7db-40b2-962d-d4104b1e	D1	b796f64c-1f99-4i
1	-1,1059	1	1	e691b163-30ad-40a4-bc4c-0d578c51	D2	b796f64c-1f99-4i
1	-1,1060	1	1	e2ebf78f-3774-4495-9d2f-9d6e608dc	D3	b796f64c-1f99-4i
2	-1,1046	1	1	10c571f6-c7d3-4581-8609-96c00d454	Plays	c66ba18e-eaf3-4
2	-1,1046	2	2	eaf60dff-65f6-4a51-9fee-a7ed11024d	Playwrights	c66ba18e-eaf3-4
2	-1,1046	3	3	f846346e-7e12-492c-b92b-d69231e9f	Film to stage	c66ba18e-eaf3-4
2	-1,1046	4	4	a90ae05-6479-4d3e-8555-3e7003391	Foreign associates	c66ba18e-eaf3-4
2	-1,1046	5	5	74bba19a-c98c-4541-b037-b7a5719f	Contact us	c66ba18e-eaf3-4
1	-1,1069	1	1	2d49bda6-9820-4ec3-b65e-b5feb4d1	Contact Us	a2cb7800-f571-4
1	-1,1070	1	1	426f155a-41d5-4c13-9a55-172eab4d5	Contact Us	6fbde604-4178-4
2	-1,1046	6	6	bc644e34-0304-4f6a-a5c7-27471cb58	Posters	c66ba18e-eaf3-4
1	-1,-20,1	1	1	15131beb-af93-4876-b9fb-94211f349	Contact us (1)	c66ba18e-eaf3-4
1	-1,-20,1	2	2	5f827308-923a-413b-804e-041e2fbab	Contact us	c66ba18e-eaf3-4

F-48: The picture above shows a specific table (umbracoNode), which contains settings for each node in Umbraco. At the bottom you can see settings for the page with name “Contact Us” (the contact page).

9.7. Conclusion of Implementation

Throughout this implementation, I have obtained a much deeper understanding of ASP.NET and Umbraco, both in theory and practice. The website is working properly and it has matched the design and function requirements set forth by The Marton Agency, Ice. However, while I was creating the photo slide for “Poster”

which is on the left hand side below the “Home” page, I realized it require knowledge JavaScript; which I have not been taught in school. Therefore I was not able to make it exactly how I had wanted. While I was creating the site I spend a lot of time reading theories. Also I realized I had no knowledge of HTML and CSS so I found it very difficult to write those files because it takes a lot of practice to gain confidence writing the two from scratch. For instance using Notepad++⁵⁶. Another problem came when I had to wait for data from the company before I could insert the data into the database table. As well as my unfamiliarity of ASP.NET and Webmatrix slowed me down tremendously. This wasted a lot of time learning through trial and error.

10. Test and Refine

The testing is a very important process in the development of a website. The test consist of both technical and target user oriented tests, and should pinpoint specific areas where there are issues to be fixed. I have selected some tests which I found very valuable for reaching the target of a quality website. Most of the tests are performed during the development process. It is always best to detect a problem early in the process because it will be easier to fix. Other tests are performed just before the release because they require the assistance of the customer or since they require the website to be accessible online.

Control of Content – Is the content accurate, understandable, and is spelling and grammar correct. This test is meant to be performed by content contributors and content editors. This test is being performed both during the actual building of the webpage, but also before the release as a final quality insurance.

Links – Are there any broken links. Broken links can lead to frustration for the user. This test is done regularly because links can die because content is moved or deleted.

Functionality – Is everything working as defined in the project definition?

Validity – You test the HTML output generated by Umbraco. This test is performed once the website is online, and the W3C⁵⁷ have a great service⁵⁸ for testing both

⁵⁶ Notepad++: <http://notepad-plus-plus.org/>

⁵⁷ World Wide Web Consortium (W3C) is a international organization defining standards for the World Wide Web.

⁵⁸ W3C HTML Validator - <http://validator.w3.org>

HTML and CSS. Valid HTML is important to insure that the webpage is displayed correctly in different browsers.

Browser, Operating System and Resolution test – It is also important to test the website in different browsers running under different Operating systems and resolutions. This test checks if the website is displayed correctly in specific browsers. This test also very important if you want to optimize for mobile screen resolutions, since they often shows WebPages in an incorrect way due to their very small screen resolutions.

Other potential valuable tests for the future – There are of course many other tests which could be valuable to do. Websites which have a lot of concurrent visitors often make load tests, where they try to simulate many 1000's of active visitors. This test can discover code which is not optimized properly, but since my website does not have this requirement, I will not be doing this very technical test.

Another potential test of the future is the test of Search Engine Optimization (SEO). When you focus on SEO you want to make sure that all your WebPages are indexed correctly into search engines like Google. If you have made your SEO properly you will you improve your chances of being found through search results. When your testing SEO you normally check if the webpage contains a wide range of important elements such as META information (Title, Keyword, and Description), plus some other elements like page titles.

```
<head>
  <link href="/css/style.css" rel="stylesheet" type="text/css" />

  <meta name="keywords" content="play, playwrights, foreign, translation" />
  <meta name="description" content="The Marton Agency, Inc. has for thirty years assisted
theaters and producers all over the world in acquiring production rights to U.S. plays and
musicals. We or our foreign associates will be happy to suggest American works for you. If you
are looking for a specific play or musical, we will be happy to assist you in acquiring the
rights." />
  <title>Home</title>
</head>
```

The code above shows header section of my FrontPage. You can see different META information (keywords, description, and title) which is inserted to improve the SEO of my webpage.

12. Conclusion

This project period was very valuable; my client The Marton Agency, Inc is satisfied with the new design of the website. Based on the results from analyzing the client survey and documentation of the interviews; I defined The Marton Agency, Inc's target audience is global, therefore the website is written in English. I combined three different design processes into one, which helped me complete the design and programming process and save a lot of valuable time. The site delivered the look of professionalism, successfulness, and capability of the company. By designing the website with Bauhaus Style it gives the feeling of cool, simple, and elegant. They are also very happy with the feeling and visual design of the site because of my choice of color combination, organization, and content text. By failing with the first visual design this ultimately improved my patience and communication skills and taught me how to properly interact with a client while maintaining an open mind.

According to the special theme for the website, I have chosen to use Umbraco CMS, Microsoft Webmatrix, ASP.NET, and Microsoft Visual Studio. Personally, A difficulty I faced while creating the website for The Marton Agency, Inc was that I did not have enough knowledge of writing HTML and CSS. For example, there should be a slideshow of the posters which is located on the "Home" page; instead, I had to settle on a single still photo which does not match the original design of the webpage. In order to finish the website there required a high programming skill. While I was creating the website; I spent a lot of time on reading the theory behind Umbraco and ASP.NET. This caused me to fall behind schedule. Generally the website works well. However a few small bugs remain. Firstly the three links at the bottom of the home page did not shown up the same as the visual design due to issues with the HTML and CSS. Secondly the play poster should be dynamic but was not able to make the right Javascript for that to happen. The website is not online yet and have not chosen a domain name, due to the fact that I have not yet acquired a server and have not received the final data from The Marton Agency, Inc. that should be implemented into the database; for example play poster images. Since the website is not online it is impossible for me to run certain necessary tests such as a load test.

Also the launch date has been postponed due to missing data from The Marton Agency, Inc. as well as technical issues on the website.

Another issue during the report was the fact that my group mate (Kai Zhou) and I had a totally different working schedule and different view how this report should be done. I had to divide the group one month before the due date for submitting the report. This was a big problem for me to manage to write the report and program the website in such a short time.

After this report I have gained a greater understanding of what I have learned in school and how to apply what I learned to real life. Also I can feel that my skills have improved regarding web design and programming. I now feel that I have the skills and confidence to design and program a fully functional website and I have identified my weak points which will prepare me for a future in the field of web development.

13. References

13.1. Books

- **Beginning Drupal.**
Author: Jacob redding 2010
Published by: Wiley Publishing, Inc.
ISBN: 978-0-470-43851-7.
- **Umbraco User's Guide**
Author: Nik Wahlberg and Paul Sterling 2011
Published by: Wiley Publishing, Inc.
ISBN: 978-0-470-56082-2.
- **Sensory Marketing**
Author: Bertil Hulten, Niklas Broweus, and Marcus Wan Dijk 2009
Published by: Pal.rave Macmillan.
ISBN: 978-0-230-57657-5.

13.2. Teacher Homepage

- Poul Henriksen:
<http://laerer.rhs.dk/poulh/CMS2012au/weekCMS2012autumn.htm>
- Per S. Laursen:
http://laerer.rhs.dk/psl/rhs/FEWP_A12.htm

13.3. Links

- www.Google.dk
- w3school:
 - <http://www.w3schools.com/xsl/>

- <http://www.w3.org/Style/Examples/011/firstcss.en.html>
 - <http://www.w3schools.com/css/default.asp>
 - <http://www.w3schools.com/css/default.asp>
 - http://www.w3schools.com/html/html_urlencode.asp
 - <http://validator.w3.org>
 - http://www.w3schools.com/xml/xml_what_is.asp
 - <http://www.w3.org/TR/xhtml1/#xhtml>
 - http://en.wikipedia.org/wiki/SQL_Server_Compact
 - <http://www.w3schools.com/vbscript/default.asp>
-
- Web style guide: <http://www.webstyleguide.com/wsg3/1-process/index.html>
 - Web Design Process: <http://www.utexas.edu/learn/designprocess/>
 - Kuler: <https://kuler.adobe.com/#themes/rating?time=30>
 - The Best Design: <http://www.thebestdesigns.com/page/15/>
 - Design Idea: <http://www.blueidea.com/tech/graph/2009/6690.asp>
 - IBM: <http://www.ibm.com/developerworks/webservices/library/cotipstkr/index.html>
 - Smashingmagazine: <http://www.smashingmagazine.com/2011/06/22/following-a-web-design-process/>
 - ASP. NET: <http://www.asp.net/>
 - Umbraco: <http://umbraco.com/>
 - Drupal: <http://drupal.org/>
 - border-radius: <http://border-radius.com/>
 - stackoverflow: <http://stackoverflow.com/questions/699847/umbraco-yay-or-nay>
 - PHP: <http://php.net/>
 - JAVA: <http://www.java.net/>
 - . NET: <http://msdn.microsoft.com/en-us/vstudio/aa496123.aspx>
 - blue-and-orange: <http://blue-and-orange.net/articles/umbraco/why-umbraco-rocks/>
 - codecloud: <http://www.codeclouds.com/web-trends/why-asp-net-is-preferred-for-building-web-applications/>
 - Tekstenuitleg: <http://en.tekstenuitleg.net/blog/umbraco-cms-review>
 - MarkupValidationService: <http://validator.w3.org/>
 - digital-web : http://www.digital-web.com/articles/seo_and_your_web_site/
 - usability : <http://www.usability.gov/templates/wireframes.pdf>
 - msdn: <http://msdn.microsoft.com/library/orm-9780596521066-01-03.aspx>
 - host-shopper : <http://www.host-shopper.com/what-is-ms-sql.html>
 - Wikipida: [http://en.wikipedia.org/wiki/Bauhaus_\(typeface\)](http://en.wikipedia.org/wiki/Bauhaus_(typeface))
 - Notepad++: <http://notepad-plus-plus.org/>
 - Web Custom Control: <http://msdn.microsoft.com/en-us/library/cc295536.aspx>
 - <http://en.wikipedia.org/wiki/JScript>
 - Story board: <http://accad.osu.edu/womenandtech/Storyboard%20Resource/>