Carnegie Mellon University Information Systems

INFORMATION SYSTEMS MILIEUX (67-250)

Web Development Project

OBJECTIVE

The objective of this project is to build your front-end web design and development skills. To accomplish this goal, you will create a real-world website for Blue Monkey Tea Pittsburgh.

BACKGROUND

Opened in October 2002, Blue Monkey Tea is a specialty tea store located in Squirrel Hill neighborhood of Pittsburgh, Pennsylvania. The tea shop features over 400 varieties of teas, a huge assortment of teapots and tea gadgets, and international sweets. In addition, they also offer tea classes and tea tastings every month.

As a freelance consultant, you have been hired by Margaret Harris, owner and founder of Blue Monkey Tea, to design and build a new version of their website. Their current website is at: https://www.pittsburghcuppa.com/. The purpose of the website is to showcase Blue Monkey Tea and promote their various products and offerings. The new website should provide information about the tea shop and the objective of the redesign is to create a simplified but enhanced experience for visitors to navigate the website and learn about the products.

Blue Monkey Tea has provided you with a detailed overview of their expectations and requirements (see Appendix A), as well as some initial content for the website (see the supporting files). You have permission to develop and organize additional content as necessary and meaningfully. You may also use lorem ipsum (https://www.lipsum.com/) placeholder text for page text but not for navigation or headings (these must have actual/real labels).

Many images and descriptions and most narrative are courtesy of Blue Monkey Tea (see the supporting files). Blue Monkey Tea has some photography available on their website, but you are also welcome to use images posted to Facebook^[1] and Instagram^[2] or license-free stock images.^[3] These and any additional materials you gather should be cited in your website (as a footer or a standalone citations page). You may also create your own images, logos, text, etc. as needed.

You will work on this assignment individually and develop features that demonstrate your own creative abilities and contributions.

- [1] https://www.facebook.com/TeaPittsburgh/
- [2] https://www.instagram.com/bluemonkeyteacarnegie/?hl=en
- [3] https://search.creativecommons.org/

SUBMISSIONS

Teaching assistants and faculty will be available to assist with the project. Keep in mind that significant time may be required outside of the classroom to complete the project.

Submit your website to Canvas by 11:59 PM on Monday, March 30, 2020 Friday, April 3, 2020.

Instructions:

- 1. Please submit all of your work (except any videos) in one zipped folder, appropriately named as webdevproject-lastname.zip (e.g., webdevproject-quesenberry.zip). This folder should contain all of your web development code (HTML files in the root folder named webdevproject-lastname, CSS files in a folder named css, JavaScript files in a folder named js, images and media in a folder named images, and documentation (see Appendix A) in a folder named documentation). All HTML, CSS and JavaScript files should be organized, clear and commented.
- 2. Test your website after submission by downloading to a different machine and opening with Chrome browser. This will be particularly helpful if you maintain multiple versions of the website during development and upload the wrong version.
- 3. A penalty of five percent will be applied if the html files use absolute addresses (excluding the external links) (e.g., unzipping the project to another computer folder MUST yield a functional website in the browser).
- 4. Late submissions (with a <mark>5%</mark> daily penalty) will be allowed for a maximum of three days until 11:59 PM on Wednesday, April 1, 2020 Monday, April 6, 2020.

GRADING CRITERIA

The web development project is worth 10% of your final course grade. You will be evaluated on the following criteria:

- **Content** The website includes all content requested by the client, required HTML elements, directory organization, and naming conventions (15%).
- **Contact Form, Map and Graph** The website includes a contact form (with required fields and validation), an embedded map, and interactive graph with wait times (20%).
- **Graphics** The website includes an interactive image display (e.g., lightbox or gallery). All relevant images are included / display properly (10%).
- Layout, Navigation, and Design The website uses a grid layout. The website also uses a clear / consistent navigation, and provides an improved design (15%).
- Mobile Responsiveness One page in the website is responsive for mobile (5%).
- Web Accessibility The website adheres to all the accessibility requirements (5%).
- **User Testing** The project includes the required user testing materials: protocols, interview transcript & audio recordings, notes, results of your analysis & at least 3 instances of changes made (10%).
- **User Centered Design Documentation** The project includes required documentation: task breakdown, user stories, design guide, and wireframes (low and high fidelity) and user testing materials (20%).
- Research Oriented Development The code is readable, organized and commented Outside resources and libraries are cited in the code as comments (5%).
- **Note:** Google Chrome is the official browser of our class (e.g., your website will be graded in Google Chrome).

APPENDIX A - CLIENT CORRESPONDENCE



March 6, 2020

To Whom It May Concern:

My name is Margaret Harris and I am the founder and owner of Blue Monkey Tea. I am so excited that you will be working on my website. I have had this website since 2009 and it was built on Yahoo! platform for small businesses. The internet has changed a lot since 2009 and I am so excited for you to help me built a more modern website.

Please focus your efforts on improving our menu navigation, providing an informational and engaging guide for our visitors, and improving the overall look and feel of the site. It has gotten quite cluttered!

As discussed in our meeting earlier this week, below are the critical components we need.

Engaging and Clean Design

The website must remain consistent with the Blue Monkey Tea brand but can depart in ways which will refresh our look to modern web design standards. Logo usage and writing styles must adhere to your design guide. You may alter design layouts, typography and color palettes. You must develop the website from scratch – do not use existing HTML or CSS templates or frameworks. You can use JavaScript libraries (e.g., jQuery and HighCharts).

The following are the required elements of your design. The layout must follow a grid structure that you create (2 or 3 columns are suggested). We also require consistent, well-placed and informative navigation – something that allows visitors to easily navigate the site to learn Blue Monkey Tea. Your design must be understandable and readable with clear headings, where appropriate, and sufficient "white space."

The home page must be named index.html and located in the root folder of your project. The new website must consist of at least three individually linked pages conforming to an organized information architecture. The website should, at a minimum, use the following HTML tags: page title, lists (both ordered and unordered), headings and horizontal lines, which are appropriately styled.

All layout and design must be controlled with external CSS style rules (HTML table layouts are prohibited). Any formatting (colors, backgrounds, fonts, text control, borders, etc.) must be done with external CSS style rules (HTML styling or internal/inline style rules are prohibited). The tag should NOT be used. You may create multiple stylesheets for your website, although your primary stylesheet must be named styles.css. Your stylesheets must be located in a subdirectory folder named css.

Store Information

Our current website has A LOT of content about the Blue Monkey Tea and we want you to combine pages where relevant and add additional content as needed (see the supporting files of what we believe is the most critical content). Feel free to expand as needed. We hope you can organize the key information for new visitors, so that they can quickly navigate the material.

The following are the required elements. Improve the readability of the content and include interactions such as tabs or accordions for easy reading. We also think rich images and videos of our store will attract new visitors. We would like to see images incorporated in the website in some interactive way such as lightbox galleries or slideshows. All images must be located in a subdirectory folder named images. The website must include information about our looseleaf teas and gourmet coffee (including text content and media such as icons, images, videos, etc.). We do have a clear idea of how this should be presented and we are open to suggestions.

We have also found that visitors have difficulty finding our hours of operation and other relevant information. The website must include the following contact information: address (with city, state and zip code), phone number, email address (clickable to send an email to mailto: 100teacups@gmail.com), website, and photo of the store (appropriately sized for the page). This information must be included in a table formatted appropriately. Our hours of operation must be included. We want to use Google Maps so visitors can see a map of our location on the website.

Earlier, we had shops in two locations — one in Pittsburgh (Squirrel Hill) and one in Carnegie (South Hills). However, we have since closed the Carnegie location. Please help us convey that information to customers in a non-obtrusive manner on the website.

We hope that including statistical information on our busiest hours might inform new visitors of our most popular / crowded times. We have tracked visitors by hour for our weekday and weekend hours of operation, and would like to include interactive graphs on the website to help visitors decide the best time to come. Details on working with Highcharts effects for graphing can be found at: http://www.highcharts.com/

External Links:

We think it would be useful to include helpful links to relevant information, such as online articles about our store or our social media pages [1][2]. The website must include at least three links to external websites (you can select the websites). One link must be a graphic/image, but the rest can be text or graphics/images. These links must open in new tabs/windows.

Mailing List:

We also want to provide a contact form where visitors can submit their contact information to join our mailing list. The following are the fields to be included in the contact form.

- a. Name (required field)
- b. Zip code (optional field but if filled in by the user must be a five-digit code)
- c. Email address (required field and conforming to an email address format)
- d. Check box to indicate if they would like to subscribe to Blue Monkey Tea's coupon weekly flyer (optional).
- e. All fields should be set to appropriate minimum and maximum sizes.
- f. Submission button.

Since we conduct most of our correspondence via email, the form can be submitted to us via email to mailto: 100teacups@gmail.com.

Mobile Responsiveness:

With the increasing number of smartphone users, we would like to develop our website to be responsive for multiple devices. Please develop one page (your choice) in your website so that it is viewable/easy to navigate on a standard smartphone (use media queries).

Web Accessibility:

To accommodate the diverse needs of all users of the website, it is necessary to implement web accessibility features (refer to https://www.w3schools.com/html/html accessibility.asp for guidance). The following are mandatory checks for all pages on your site:

- 1. Tags: Ensure each page has an appropriate and meaningful <title> attribute and the language of the page is clearly indicated. Ensure all headings are marked up with an appropriate heading tag h1-h6 and are meaningful. Ensure the use of link title attributes.
- 2. Validation: Navigate to https://validator.w3.org/. Click on "Validate by Direct Input" and check your code for each page: index.html, page2.html, page3.html. Make any necessary corrections.
- 3. Images: Ensure all images have a meaningful description in the alt attribute. No images of text should be included.
- 4. Fonts: Text fonts must be accessible (e.g Arial, Century Gothic Regular, Helvetica, Verdana, etc.). Use of serif fonts such as Times New Roman is acceptable for short headings, especially if included for aesthetics. Use only 2-3 different fonts on the website.
- 5. Interactions: Do not include flashing elements (no content flashes more than 3 times).
- 6. All elements on the page should be keyboard accessible. Check if all elements on a page can be tabbed through in a meaningful sequence. (Click on the URL box and then press the Tab key until you reach the end of the page)
- 7. Language: We expect some original content in the site (e.g. headings and labels), not all lorem ipsum. Use clear language that is easy to understand. For example:
 - a. Keep sentences as short as possible.
 - b. Avoid dashes. Instead of writing 1-3, write 1 to 3.
 - c. Avoid abbreviations. Instead of writing Feb, write February.
 - d. Avoid slang words.

User Testing:

In order to gauge the effectiveness of your work, we would like to test our website to see if our users can navigate effectively and efficiently through the pages. To do so, please prepare written protocol for how you will be interviewing users and questions to ask your interviewees. Then, interview ONE user (or perceived user) to navigate through FIVE of your user stories. The interview should last between 3-5 minutes. Have someone record the interview (audio only), while you ask the user talk out loud (say what he/she is thinking) as he/she navigates through the website. Take notes on the process, marking times when the user is uncertain or hesitant. Please submit URL links to the interview audio clip (post the audio file online such as Google Drive or YouTube - do not submit the video with your project as the file size is too large), notes for the interview, and a brief paragraph explaining what your results were and what you changed in your design (at least three changes) to reflect your user testing results, and what you would change if you had more time.

User Centered Design Documentation

We also plan to hire a fulltime web developer to support the website once deployed. Therefore, it is imperative that you provide your documentation:

- 1. The task breakdown for the project (including all tasks, due dates (planned and actual)). You may use our template (in the supporting files) or create your own.
- 2. A list of at least 10 7 user stories organized by priority. You may use our template (in the supporting files) or create your own.
- 3. A design guide that defines your approach (color palette, font choice, etc.). The design guide should also include a half-page write-up of how your design is intended for visitors navigating the site for the first time. Also include a half-page write-up that explains the information architecture approach, and provides a site map.
- 4. Low-fidelity wireframes (include a photo of a hand-drawn wireframe for each page in your website) for desktop views only.
- 5. High-fidelity wireframes that were created using a wireframing (see Appendix B for wireframe tool suggestions) tool for each page in your website for desktop views AND mobile views.
- 6. User testing materials including protocols, notes, links to videos, analysis and recommendations (as described above).

Please do not hesitate to contact me with questions or concerns. I look forward to receiving your final deliverable.

Sincerely,

Margaret Harrís Blue Monkey Tea Pittsburgh

APPENDIX B – POPULAR WIREFRAMING TOOLS

Adobe XD: https://www.adobe.com/products/xd.html

Balsamiq: https://balsamiq.com/
Figma: https://www.figma.com/
Sketch: https://www.sketch.com/

APPENDIX C - SCREENSHOTS OF CURRENT WEBSITE HOME PAGE







