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# Learn HTML: A refreshingly fun way to learn the foundations of HTML

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# LEARN HTML

A refreshingly fun way to learn the foundations of HTML

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## ABSTRACT

*Learn HTML* is an interactive website with the purpose of teaching foundations of HTML. The website was designed to appeal to a teenage audience, ages 15 - 19 years old. To effectively appeal to and engage the target audience, several design decisions were considered.

The nature of the website diverges away from the typical text based approach utilized in similar applications by abandoning a dependency on the heavy use of text to communicate information. *Learn HTML*, instead, features a strong use of graphic elements, visual metaphors, and a heavy focus on interactivity, all of which offer the user a visual representation of information.

Through interaction with the provided graphic elements and visual metaphors, the user is offered an enjoyable and engaging learning experience through which they are able to seamlessly gain knowledge through means of experiential learning.

*Learn HTML* consists of three main sections:

HTML Elements  The *HTML Elements* section of the website exposes the user to foundational HTML elements necessary to build a basic HTML web page. The user is provided with interactive visual representations of important HTML elements, which provide information relevant to each HTML element.

How It Works  The *How Does It Work* section of the website offers the user a look at how HTML elements are used to construct an HTML web page. In this section, the user is provided with an interactive side-by-side comparison of a basic HTML web page and the HTML markup used to construct it.

HTML Quiz  The *HTML Quiz* section of the website allows the user to test the knowledge that they have gained through their exploration of the previous two sections. In this section, the user must build a basic HTML document correctly utilizing all of the HTML elements covered in the previous two sections.

## PROBLEM STATEMENT

It is no secret that the world of today is becoming increasingly dependent on and enveloped in technology, specifically the World Wide Web. As of December of 2012, the number of active websites on the World Wide Web was over 630 million, far exceeding the roughly 46 million in December of 2000 (Pingdom). As the World Wide Web rapidly grows in size, so too does the demand for individuals to design, create, and maintain its contents. As a result, many future career opportunities in these fields exist for the young people of today.

Perhaps as a direct result of the rapid growth of the World Wide Web, education in design and design related fields is also on the rise. Education in these fields, however, is no longer limited to higher education and is becoming more common in high school curricula – this became evident after reviewing numerous high school curricula including that of the high school that I previously attended. Taking this into account, it is apparent that designing, creating, and maintaining websites is becoming increasingly relevant and familiar to young individuals. When surveying the available electronic resources commonly used as HTML learning or reference tools, however, it has become apparent that there is a major issue present; these resources fail to successfully address a young audience.

*Learn HTML* is meant to be a solution to this problem. The overall design of the website aims to appeal to and engage a young, teenage audience. Through the integration of a clean and intuitive interface, graphic elements and visual metaphors, and a strong focus on interactivity, *Learn HTML* is meant to offer a refreshing and engaging way to learn foundations of HTML.

Objectives

- Diverge away from the text based approach utilized in similar applications
- Design and create a unique, engaging, and intuitive interface targeted toward a young audience (teenagers ranging in age from 15 - 19)
- Utilize a combination of graphic elements and interactivity as a means to communicate information and promote experiential learning
- Reduce the amount of information to be communicated, focusing only on the most important foundations of HTML
- Provide the user with the necessary skills to create a basic HTML web page

## REVIEW OF LITERATURE

Before beginning to conduct my research, I first assessed the scope of my proposed project in the hope of determining the most sensible approach to take once I began the research process. Based on the nature of my proposed project, I determined that it was imperative to focus on several different aspects while researching, all of which would be used toward the development of a successful solution to my initial problem statement.

A significant portion of the scope of my proposed project was to address specific issues present in existing electronic resources commonly used as HTML learning or reference tools. In order to successfully address these issues, I found it necessary to further explore and analyze the structure, content, method of delivery, and overall design utilized in these existing electronic resources, specifically sections of these resources focused specifically on teaching foundations of HTML. In doing so, I concentrated my focus on websites with the following two purposes:

- Teaching HTML to a general audience
- Teaching HTML specifically to a young audience, including children and teenagers

In order to effectively design and create a website that would be successful in both engaging a teenage audience and providing the user with the necessary skills to create a basic HTML web page, I found that it was imperative to utilize several additional resources. These additional resources consisted of supplementary websites and books, all of which were used as a means to assist me in addressing other issues relevant to my proposed project such as:

- Designing for a teenage audience
- Engaging teenagers through means of interactivity
- Implementing standard usability practices
- Selecting essential foundations of HTML
- Teaching/communicating foundations of HTML

**Websites - General Audience** (For additional sources, see page 58)

| | |
|---|---|
| Title | *HTML Dog* - http://www.htmldog.com |

Summary

*HTML Dog* is an informational and educational website that offers an abundance of resources, all of which relate to the World Wide Web. The resources available on *HTML Dog* primarily consist of tutorials and reference tools focused on teaching markup and programming languages such as HTML, CSS, and JavaScript.

Although *HTML Dog* offers numerous services and resources, I focused primarily on the *HTML* reference section as it was the most relevant to my proposed project.

Design Analysis

The *HTML* reference section is structured and organized in such a way that the user is able to easily navigate to specific HTML elements. Each of the provided HTML elements has been grouped into a specific category based on their function. These categories include structure, meta information, text, links, etc. The corresponding web pages for each of the available HTML elements provide:

- A brief description of the corresponding HTML element, what it is used for, and where it belongs within an HTML document
- Both required and optional attributes to be used with the HTML element
- An example of how the HTML element appears in HTML markup

Although the structure and organization of the *HTML* reference section is well designed, it seems to lack certain features such as examples of how the HTML markup appears in a browser window. Based on the text based approach utilized in the *HTML* reference section along with the amount of information that is provided, it appears as though *HTML Dog* is directed toward addressing a general audience – the methods implemented do not seem to address a specific demographic or skill level.

Impact On Thesis

My exploration of *HTML Dog* was used primarily as a means to analyze the structure, organization, and method of delivery utilized in an existing electronic HTML resource/ reference tool. Analyzing such characteristics not only assisted me in structuring and organizing my thesis, but it also assisted me in diverging away from a text based method of delivering information. Through my exploration of *HTML Dog*, I was also able to determine which HTML elements and concepts are of significant importance and would be useful to include/cover in my thesis.

**REVIEW OF LITERATURE**

**Websites - Young Audience** (For additional sources, see page 60)

Title                  *Lissa Explains It All* - http://www.lissaexplains.com

Summary                *Lissa Explains It All* is an informational and educational website that offers an
                       abundance of services and resources, all of which relate to the World Wide Web.
                       The primary objective of the website is to offer "HTML help" to kids and beginners.

                       Although *Lissa Explains It All* offers numerous services and resources, I focused
                       primarily on the *HTML* section as it was the most relevant to my proposed project.

Design Analysis        The *HTML* section utilizes "sections" as a method of separating information, with
                       each section consisting of several topics. The structure that is implemented provides
                       the user with an extremely in-depth and involved assortment of information. The
                       primary objective of the *HTML* section is to not only educate the user on HTML, but
                       to teach the user how to construct an HTML web page.

                       The initial section immediately begins to cover a multitude of topics such as setting
                       up a web page and adding a background image to a web page. The following
                       sections quickly transition to covering more advanced topics such as changing the
                       color of text, creating links, creating buttons, and creating forms.

                       The overall structure, organization, and design of *Lissa Explains It All* is poor at best.
                       The introduction of information begins at a level that is far too advanced for the target
                       demographic – it immediately becomes intimidating and overwhelming. The flow
                       of information is also difficult to follow. The lack of hierarchy and design within the
                       provided information creates confusion while attempting to read through it. Overall,
                       the visual design (choice of color and graphics) of *Lissa Explains It All* somewhat
                       addresses a young audience, however, the website as a whole fails to do so.

Impact On Thesis       My exploration of *Lissa Explains It All* was used primarily as a means to analyze the
                       structure, organization, and method of delivery utilized in an existing electronic HTML
                       resource/reference tool targeted specifically toward a young audience. Analyzing
                       such characteristics assisted me in determining possible methods to implement, or
                       not to implement, when designing my project. I also focused heavily on analyzing the
                       language used to communicate the provided information to a young audience.

**REVIEW OF LITERATURE**

**Books/Articles** (For additional sources, see page 56)

Title

*Don't Make Me Think: A Common Sense Approach to Web Usability* by Steve Krug

Summary

*Don't Make Me Think* is an informational and educational book focused on teaching accepted web usability standards. Throughout the book, the reader is educated on how users interact with different aspects of a website and how specific concepts and web practices can be utilized to design and create user friendly websites.

The initial section of *Don't Make Me Think* is used as a means to provide a brief overview of the overall mission of the book, as well as secondary information such as the language used throughout the book. The following few chapters serve as an introduction to how users interact with different aspects of a website such as buttons, search bars, and the website's overall layout. The later chapters employ a more complex focus, covering topics such as how users interact with content (text) and concepts related to how users navigate through the different pages of a website. *Don't Make Me Think* also employs a strong focus and emphasis on implementing user testing while designing and creating a website/web page.

Throughout the entire book, the reader is not only provided with information about accepted web usability standards, but they are also provided with examples and explanations of how this knowledge can be utilized to design and create user friendly websites. *Don't Make Me Think* uses a multitude of graphics, charts, comical yet informative drawings, and images to assist in effectively communicating the provided information to the reader.

Impact On Thesis

My exploration of *Don't Make Me Think* was used primarily as a means to assist me in designing and creating a user friendly website. With a target audience consisting of teenagers, it was of particular importance to design and create a clean, intuitive, and user friendly interface/website. Through my reading of *Don't Make Me Think,* I was able to gain a familiarity with important concepts such as how users interact with different aspects of a website and learn how to utilize this knowledge to design and create a website that is effective in engaging my target audience.

## REVIEW OF LITERATURE

### Books/Articles

| | |
|---|---|
| Title | *Head First HTML with CSS & XHTML* by Elisabeth Freeman and Eric Freeman |
| Summary | *Head First HTML with CSS & XHTML* is an informational and educational book focused on teaching HTML, CSS, and XHTML. The book utilizes a playful approach to teaching through the use of quirky content, images, language, and typefaces. |
| | Although *Head First HTML with CSS & XHTML* offers an abundance of information covering numerous topics, I focused primarily on the first main section of the book as it was the most relevant to my proposed project (the first section focuses on HTML). |
| | The initial pages of *Head First HTML with CSS & XHTML* are used as a means to provide a brief overview of the overall mission of the book, as well as secondary information such as the authors, the topics to be covered, and the language used throughout the book. Once the reader arrives at the first main section, they are introduced to basic information including a brief history of HTML and a brief explanation of how the web works. |
| | The majority of the first main section follows a tutorial structure, providing the reader with step-by-step instructions on how to begin writing and creating a basic HTML web page. The tutorial also consists of additional features such as examples, explanations, and areas reserved for answering likely questions pertaining to topics that were recently covered. Visual metaphors are also used heavily throughout the tutorial, which provide effective assistance in communicating the provided information. |
| Impact On Thesis | My exploration of *Head First HTML with CSS & XHTML* was used primarily as a means to analyze effective uses of visual metaphors to communicate information. As stated in my original proposal, my thesis required a strong use of graphic elements, visual metaphors, and a heavy focus on interactivity, all of which would be used to visually represent information. Through my reading of *Head First HTML with CSS & XHTML,* I was able to analyze the use of several different visual metaphors and determine how well they communicated the related information/concepts. My analyses provided me with important information and inspiration which was used toward developing effective visual metaphors that could be combined with interactivity. |

**Books/Articles**

Title

*Teenage Usability: Designing Teen-Targeted Websites* by Nielsen Norman Group

Summary

*Teenage Usability* is an informational online article focused on providing a collection of research relating to sevaral different aspects of teenage usability. The research offered in the article was derived utilizing a collection of methodologies including:

- Usability testing
- Field studies
- Interviews
- Focus groups

*Teenage Usability* provides an abundance of useful information, all of which focuses on presenting the reader with insight on how and why teenagers use websites. The provided information/research serves to educate the reader on important considerations to take when designing websites for a teenage audience. The article consists of several specialized topics such as:

- Properly preparing content/language
- Age group differences relating to scrolling, patience, etc.
- Appropriate uses of interactivity

Impact On Thesis

My exploration of *Teenage Usability* was used primarily as a means to assist me in developing an understanding of how and why teenagers use websites. This article was of particular importance not only because my target audience consists of teenagers, but also because the information provided in the article focuses secifically on topics that are significant to my thesis. Through my reading of *Teenage Usability,* I was able to gain a familiarity and understanding of important aspects relating to teenage usability such as the proper implimentation of interactivity and effective content design. The information provided in the article also assisted me in creating a user friendly interface. Overall, the article is an all around usefull resource and provided me with assistance in designing and creating a website that is effective in engaging my target audience.

**PROCESS**

After conducting my initial research, I had acquired an abundance of knowledge and familiarity relevant to the issues that I would be addressing through and within my thesis. Through my research, I gained a familiarity with the structures, designs, content, and methods of delivery utilized in existing electronic resources commonly used as HTML learning or reference tools. The knowledge that I had gained through my exploration of the selected electronic resources as well as the selected books and articles also provided me with the ability to select a very refined collection of HTML elements and concepts that would be included/covered in my thesis. At this point in the design process, I was now well prepared to take this accumulation of knowledge and begin to focus on addressing the issues and goals that I had originally stated in my problem statement.

**Thesis Parameters**

Concept

Design and create an educational website targeted toward teenagers (15 - 19 years old) with the purpose of teaching selected basic foundations of HTML. The representation and delivery of the information should rely heavily on the use of graphic elements, visual metaphors, and interaction as a means to promote experiential learning. The finished thesis should offer a refreshing and engaging way to learn foundations of HTML while providing the user with the knowledge and skills necessary to construct a basic HTML web page.

Objectives

- Diverge away from the text based approach utilized in similar applications
- Design and create a unique, engaging, and intuitive interface targeted toward a young audience (teenagers ranging in age from 15 - 19)
- Utilize a combination of graphic elements and interactivity as a means to communicate information and promote experiential learning
- Reduce the amount of information to be communicated, focusing only on the most important foundations of HTML
- Provide the user with the necessary skills to create a basic HTML web page

Technical Specs

| | |
|---|---|
| Software | Adobe Dreamweaver, Illustrator, and Photoshop |
| Markup/Scripts | HTML5, CSS, and jQuery |
| Dissemination | Available via the World Wide Web |

Target Audience

| | |
|---|---|
| Age | Teenagers ages 15 - 19 years old |
| Gender | Male or female |

**Structure**

In order to design and create effective educational media, it is imperative that the media itself employs a specific structure. In order to effectively educate an individual on any given assortment of material, the educational media must utilize three main focuses, which I have adapted and categorized as follows:
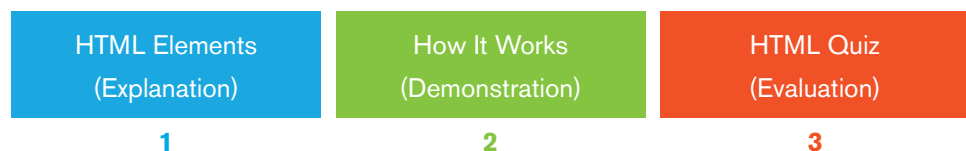
1. Explanation
2. Demonstration
3. Evaluation

These three focuses are derived from common methods of education including lecture, demonstration, and assessment. The educational media's successful implementation and combination of these three methods is crucial to an individual's ability to comprehend and retain the material (Kelly, McCain, and Jukes).

While considering initial design decisions, I concentrated on developing a structure that would both allow for a sensible organization of the provided material as well as have the ability to successfully educate the user on the material. After examining the information and concepts that I had determined were necessary to include in my thesis, I decided that the most appropriate approach was to organize the material into several specialized sections, which include:

- HTML Elements
- How It Works
- HTML Quiz

Organizing the material into these three sections creates the ability to progressively introduce the user to information and concepts, which is crucial to the learning process. Employing this structure also allows for the implementation and distribution of the previously mentioned methods of education, which is outlined below:

| HTML Elements (Explanation) | How It Works (Demonstration) | HTML Quiz (Evaluation) |
|:---:|:---:|:---:|
| 1 | 2 | 3 |

**PROCESS**

### Structure

HTML Elements
(Explanation)

The *HTML Elements* section of the website serves to introduce the user to the information and concepts that I determined were the most necessary to include. In this section, the user is exposed to an assortment of important foundational HTML elements. Each of the HTML elements is accompanied by explanations of important components such as the HTML element's:

- Function/purpose
- Appropriate contents
- Anatomy (parts)

To further structure the *HTML Elements* section, the included HTML elements have been categorized into specific groups based on their function/purpose (Fig 1.1). Organizing the HTML elements in such a way allows the user to select and focus on manageable groups of HTML elements that share common characteristics (such as those used for formatting text, creating lists, etc.). The organization of the groups themselves is also significant. The groups are organized as a means to progressively introduce the user to relevant information and concepts, i.e., the initial groups provide basic information while the information present in the later groups becomes slightly more complex/specific.

**Fig 1.1**

In the *HTML Elements* section of the website, the user is provided with explanations of importnat components of different HTML elements. Depicted here is an explanation of the function of a heading one element, which is located within the *Text* group.
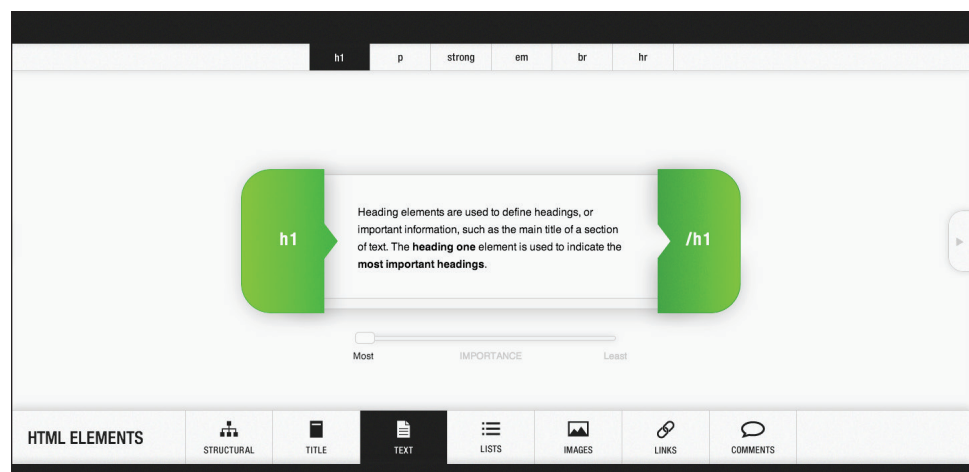
**PROCESS**

**Structure**

How It Works
(Demonstration)

The *How It Works* section of the website serves to expose the user to the application and implementation of the information and concepts covered in the *HTML Elements* section. In this section, the user is presented with a side-by-side comparison of a basic HTML web page and the corresponding HTML markup used to construct it. The provided HTML web page and markup is used as a means to provide an example of the actual application of the material, demonstrating the proper use of all of the HTML elements and concepts first covered in the *HTML Elements* section. The user is able to interact with and explore this demonstration, which promotes a further understanding and comprehension of the material.

The overall structure of the provided HTML markup is also significant. The order in which the HTML elements appear in the demonstration mirrors the order in which they appear/are covered in the *HTML Elements* section (with the exception of the structural elements, i.e., the html, head, and body elements). This assists in further linking the material provided in the *How It Works* section to that covered in the *HTML Elements* section.

**Fig 1.2**

In the *How It Works* section of the website, the user is provided with an interactive demonstration of the application of the previously covered material. Depicted here, the focus is currently on the HTML markup and resulting output of a heading one element.
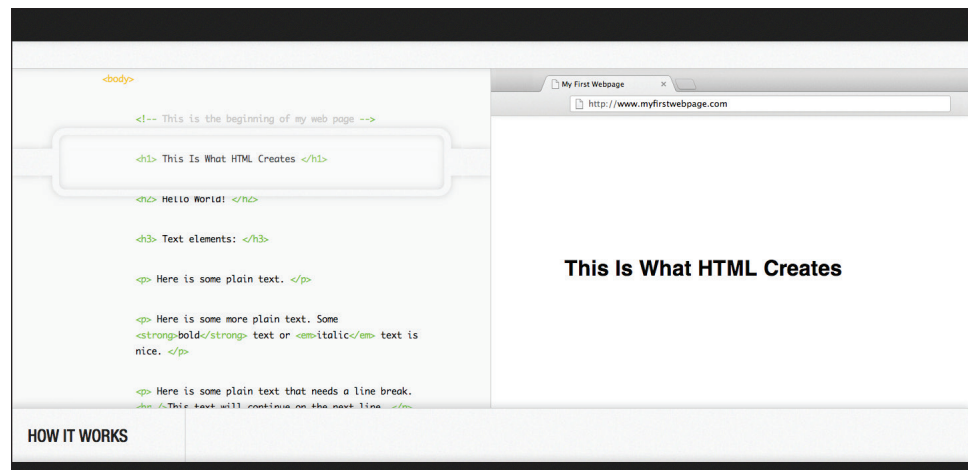
**PROCESS**

## Structure

HTML Quiz
(Evaluation)

The *HTML Quiz* section of the website serves as means to assess the user's ability to comprehend the material both covered and demonstrated in the previous two sections. In this section, the user must exhibit the ability to build a basic HTML web page, correctly utilizing their newly acquired knowledge of important HTML elements, attributes, and concepts. While taking the quiz, the user is presented with one HTML element at a time, in which they are required to fill in the correct opening and closing HTML tags based on the content between the two. Implementing this type of interaction not only increases the user's familiarity of writing HTML markup, but it promotes a further understanding and comprehension of the material.

The overall structure of the quiz is also significant. The order in which the HTML elements appear within the quiz mirrors the order in which they appear/are covered in the *HTML Elements* section (with the exception of the structural elements, i.e., the html, head, and body elements). The similarity is even stronger in relation to the *How It Works* section. The order in which the HTML elements appear within the quiz is identical to the order in which they appear within the demonstration. This consistency of structures further assists in creating strong associations between the material covered in all three sections of the website.

**Fig 1.3**

In the *HTML Quiz* section of the website, the user is provided with an interactive quiz by which they must attempt to build a basic HTML web page, correctly utilizing their newly acquired knowledge.
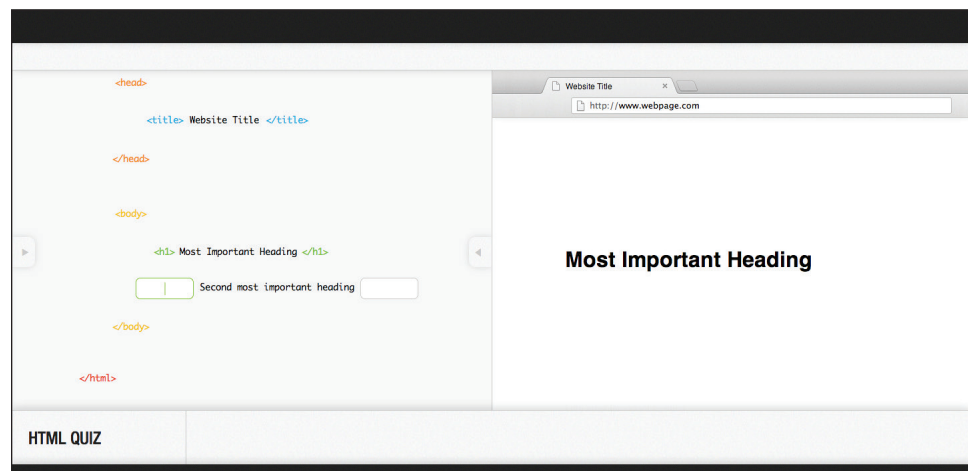
**PROCESS**

## Structure

**Fig 1.4**

Provided is a visual overview of the website's structure. The entire website consists of three main sections, with the *HTML Elements* section consisting of seven small specialized groups.
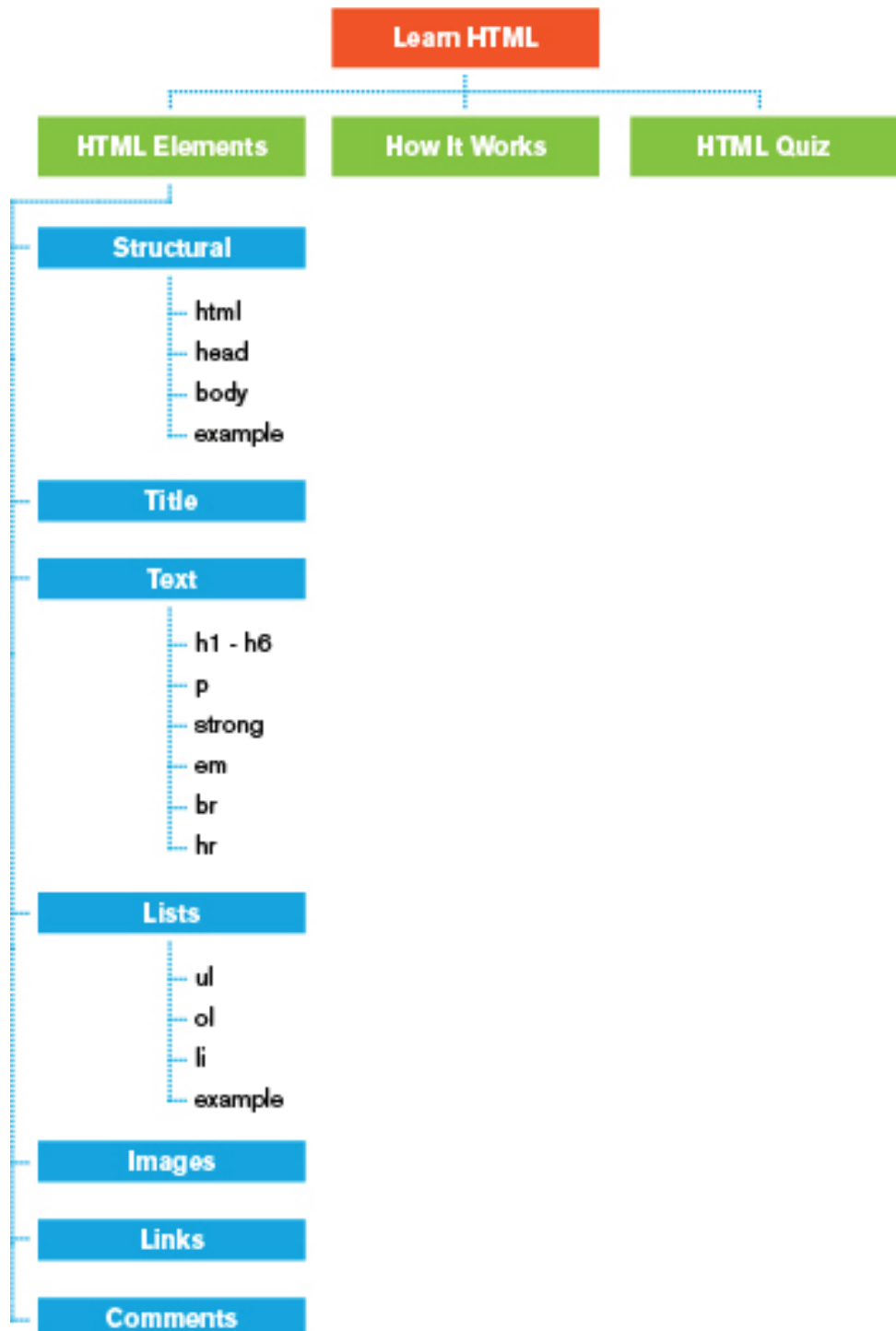
## PROCESS

### User Interface

While beginning to design the user interface, my main objective was to develop a solution that was able to accommodate my gathered material/information and maintain a clean, concise, and intuitive design. Perhaps one of the largest influences on many of my design decisions was an article that I discovered during the research process. Through my reading of *Teenage Usability: Designing Teen-Targeted Websites* by Nielsen Norman Group, I was exposed to an abundance of information, all of which relates to several different aspects of teenage usability.

In the article, there is a reoccurring focus on the importance of considering how and why teenagers use websites. Each of the topics covered within the article point to the notion that it is imperative that the overall design, structure, and functionality of a successful website/interface is clean and intuitive (Nielsen, Norman, and Tognazzini).

Below is a breakdown of the different components that construct the user interface.

**Fig 2.1**

Depicted here is an example of the most commonly occurring layout of the user interface.
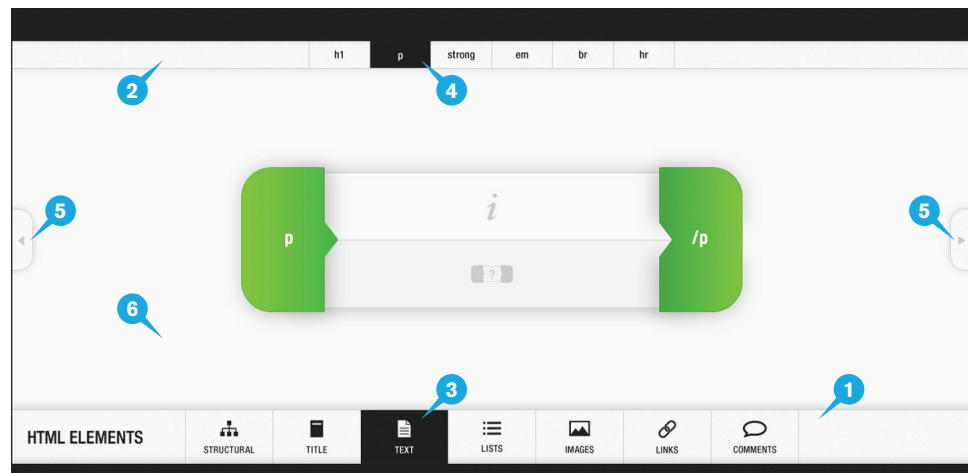


1. The **main navigation** serves as a means for the user to navigate either within a main section of the website or to one of the other main sections. To assist in maintaining the user's focus on the main content area, the main navigation resides fixed at the bottom of the screen. Each of the buttons contained within the main navigation (with the exception of the button to the far left of the screen, which is used to navigate through the main sections of the website) provide the user with the name of a group of HTML elements, which is accompanied by an icon. The use of

### User Interface

icons serves to offer an additional, visual description of each group of HTML elements, promoting a quick recognition of the type of HTML elements contained within each of the groups.

2. The **secondary navigation** serves as a means for the user to navigate within the currently selected group of HTML elements. To assist in maintaining the user's focus on the main content area, the secondary navigation resides fixed at the top of the screen. Each of the buttons contained within the secondary navigation provide the user with the name of a specific HTML element. Because the secondary navigation contains more focused/specific information than the main navigation, the secondary navigation is smaller in size/importance.

3. To assist in enhancing the usability of the user interface, the **currently selected group of HTML elements** within the main navigation is distinguishable from the rest, i.e., the button for the current group appears black while all others appear grey. This serves as a means to provide the user with quick and comprehendible feedback as to which group of HTML elements they are currently viewing.

4. To assist in enhancing the usability of the user interface, the **currently selected HTML element** within the secondary navigation is distinguishable from the rest, i.e., the button for the current HTML element appears black while all others appear grey. This serves as a means to provide the user with quick and comprehendible feedback as to which HTML element they are currently viewing.

5. The **additional navigation** serves to enhance the usability of the user interface. The implementation of an additional means of navigation provides the user with the option to select the most convenient way to navigate through the HTML elements contained within a specific group. To assist in maintaining usability, the additional navigation is only visible when needed.

6. The area of the screen not utilized by the main and secondary navigation creates the **main content area**. The concise design and placement of the main and secondary navigation allows for the majority of the screen to remain open and free of clutter. Reserving the center of the screen specifically for content assists in directing and maintaining the user's focus on the most significant and important information.

## User Interface

**Fig 2.2**

Depicted here is an example of the different icons utilized in the main navigation.

**PROCESS**

**Visual Metaphors and Interactivity**

While beginning to review the material that was to be included in the website, it became apparent that a significant portion of the website would require a focus on educating the user on the selected HTML elements. Utilizing my gathered research, I determined that it was necessary to employ a focus on educating the user on specific aspects relevant to each HTML element, including each HTML element's:

- Anatomy
- Function/purpose
- Appropriate contents
- HTML markup
- Attributes (where necessary)

With this information prepared, it was my main objective to develop a way in which it could be delivered to the user in an engaging manner. In developing this solution, it was imperative that I remained focused on diverging away from the standard text based method of delivery utilized in other electronic HTML learning/reference tools. With my target audience in mind, I made the decision to develop visual metaphors, in which I could use as a means to deliver the necessary information in a visual and engaging way. In utilizing a visual/graphic method of delivery, I was afforded the ability to combine the delivery of the information with a heavy focus on interactivity, which further supports the overall dynamism of the way in which the user receives the necessary information. Implementing a combination of graphics and interactivity not only creates a more enjoyable learning experience, but it promotes experiential learning, through which the user is able to more easily comprehend the provided information and concepts.

The visual metaphors that were developed primarily appear in the *HTML Elements* section of the website. Each visual metaphor utilizes a common graphic appearance and interactivity, although slight variations do exist. These variations serve to accommodate the different concepts being communicated and include:

- Horizontal HTML elements
- Vertical HTML elements
- HTML elements that require the use of attributes
- A combination of horizontal and vertical HTML elements

**Visual Metaphors and Interactivity**

HTML Elements
(General)

Below is a breakdown of a general visual metaphor for an HTML element, which provides an overview of the different components and how they relate to the actual HTML markup of an HTML element (a paragraph element is used for demonstration purposes and does not hold a particular signifance).

**Fig 3.1**

Depicted here is an example of how the components of a visual metaphor relate to those of an actual HTML element.

<p>This will display as a very short paragraph of text.</p>
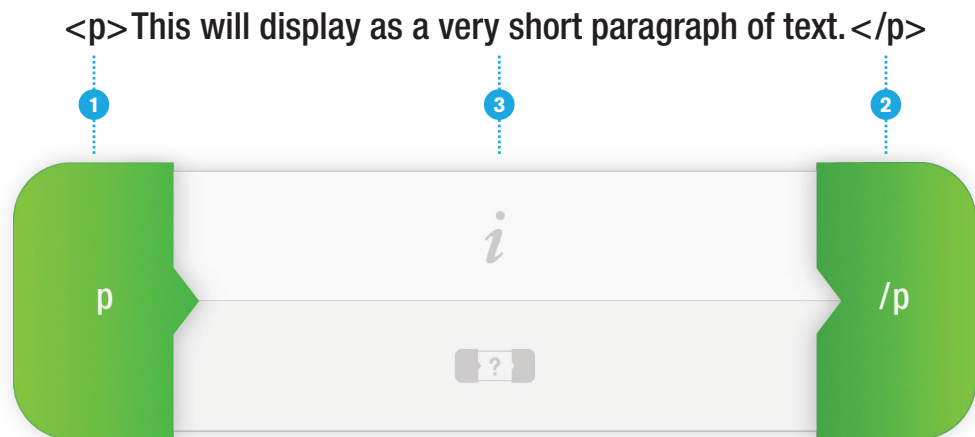
1. The **opening tag** signifies the beginning of an HTML element. In the visual metaphor, the opening tag maintains its place relative to the where it would appear in an actual HTML element (at the far left of an HTML element).

2. The **closing tag** signifies the end of an HTML element. In the visual metaphor, the closing tag maintains its place relative to the where it would appear in an actual HTML element (at the far right of an HTML element).

3. The **contents** of an HTML element belong between the opening and closing tags. In the visual metaphor, the center section (contents) consists of two halves, each of which serves to provide the user with information relevant to the HTML element (see Fig 3.2 for details). Placing this information between the opening and closing tags assists in reinstating the notion that this is where the contents of an HTML element belong. It is also important to note that, like the buttons in the user interface's main navigation, the two halves employ the use of icons. The icons assist in reducing the use of text as well as maintaining the clean, minimal design of the visual metaphor.

**PROCESS**

### Visual Metaphors and Interactivity

Below is a breakdown of the functionality/interactivity of the center section (contents).

**Fig 3.2**

Depicted here is an example of the information and contents sections in their active state.



The paragraph element is used to define paragraphs of text. The content between the opening and closing paragraph tags will be grouped into a single paragraph. By default, a browser displays each paragraph on a new line with some space between them.

The paragraph element should contain only text. One or more words can be placed between the opening and closing paragraph tags.
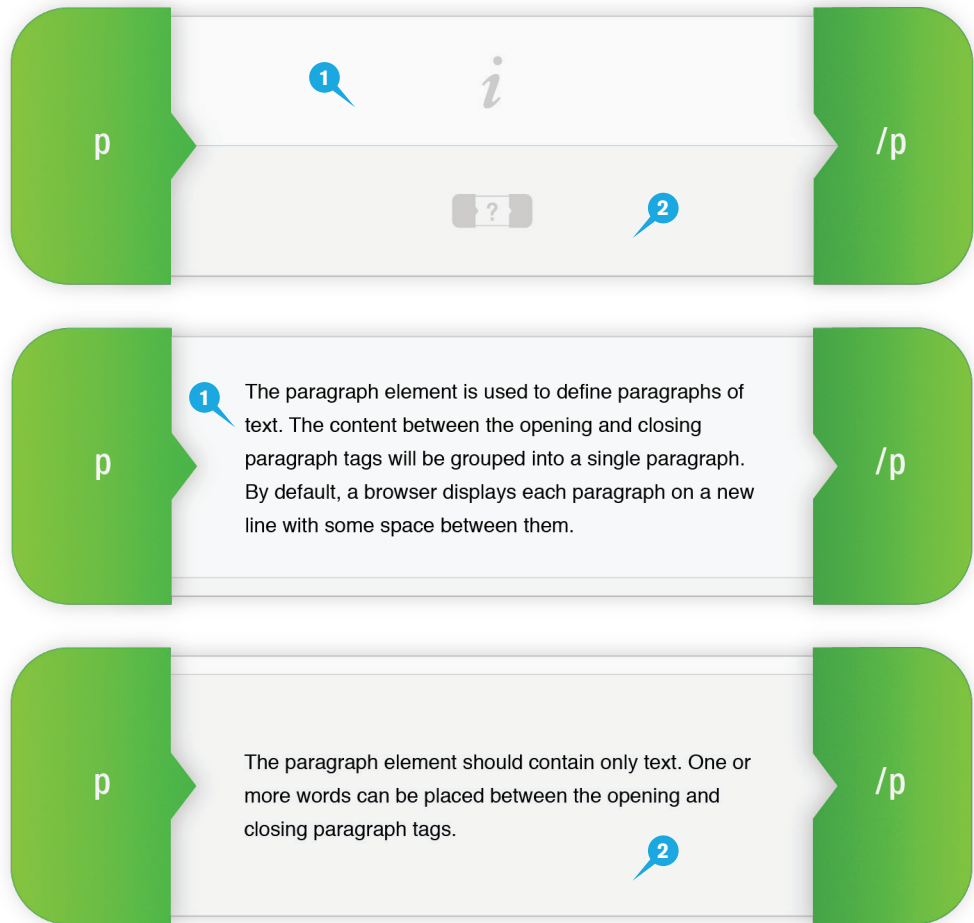
When the user clicks on either the top or the bottom half, the corresponding information relevant to the HTML element is revealed.

1. The **information** section provides the user with an explanation of the HTML element's function/purpose.

2. The **contents** section provides the user with an explanation of the appropriate contents to be placed between the HTML element's opening and closing tags.

### Visual Metaphors and Interactivity

Below is a breakdown of the functionality/interactivity of the visual metaphor as a whole. Implementing the following functionality/interactivity is used as a means to not only provide additional information relevant to the HTML element (see Fig 3.4 for details), but also to re-instantiate the anatomy of an actual HTML element.

**Fig 3.3**

Depicted here is an example of the two possible states (open and closed) of a visual metaphor.
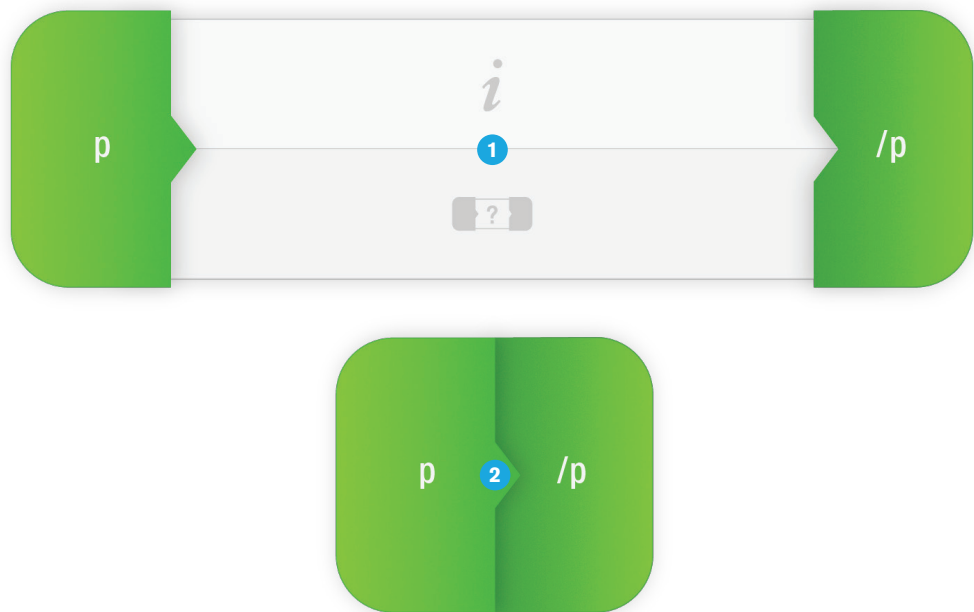
When the user clicks on either the opening tag or the closing tag, the HTML element transitions between two states.

1. The **open state** is the initial state of the visual metaphor. While the visual metaphor is in this state, the user is able to interact with the center section (contents) to reveal the provided information. The user is also able to hover over the opening and closing tags to reveal additional information (see Fig 3.4 for details).

2. While the visual metaphor is in the **closed state**, the user is only able to interact with the opening and closing tags. Hovering over either tag reveals additional information (see Fig 3.4 for details) different from that which is revealed when the visual metaphor is in the open state.

**PROCESS**

### Visual Metaphors and Interactivity

Below is a breakdown of the functionality/interactivity of the opening and closing tags while the visual metaphor is in both the open and closed states. Implementing the following functionality/interactivity is used as a means to not only provide the user with examples of actual HTML markup, but also to re-instantiate the differences between the different components of an HTML element.

**Fig 3.4**

Depicted here is an example of the additional information that is provided in both the open and the closed state of a visual metaphor.
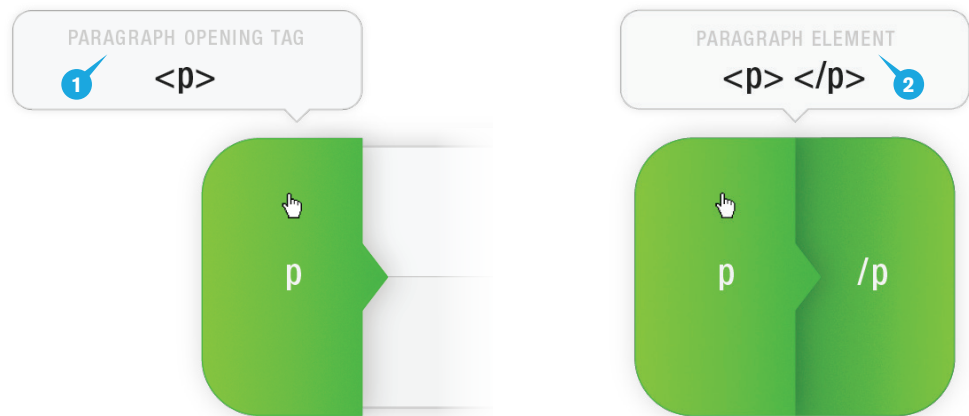


When the user hovers over either the opening tag or the closing tag, additional information relevant to the HTML element is revealed.

1. When the user hovers over either the opening tag or the closing tag while the visual metaphor is in the open state, the additional information provides the user with the **name of the tag** accompanied by the appropriate **HTML markup of the tag**.

2. When the user hovers over either the opening tag or the closing tag while the visual metaphor is in the closed state, the additional information provides the user with the **name of the HTML element** accompanied by the appropriate **HTML markup of the HTML element.**

**PROCESS**

**Visual Metaphors and Interactivity**

HTML Elements
(With attributes)

As previously stated (on page 26), slight variations exist between the visual metaphors that are used to represent HTML elements. These variations are necessary to accommodate the different concepts being communicated. One such concept is the use of attributes with HTML elements. As two of the HTML elements included in the website require the use of attributes to function properly, it was imperative that additional features were developed to effectively communicate this.

As attributes are most commonly placed inside of the opening tag of an HTML element, I developed a simple feature, which was added to the opening tag of the existing visual metaphors where necessary (W3Schools). This addition assists in visually communicating the correct use and placement of attributes as well as educating the user on the specific function/purpose of each of the included attributes.

Below is a breakdown of the functionality/interactivity of the opening tag in a visual metaphor that includes the attribute feature.

**Fig 3.5**

Depicted here is an example the opening tag of a visual metaphor that requires the use of attributes.



When the user hovers over the opening tag, attributes relevant to the HTML element are revealed.

1. The visual appearance of the opening tag slightly differs from that of the visual metaphors that do not include the attributes feature. This difference in appearance serves to provide the user with feedback, i.e., that an additional feature is present.

2. The attributes container becomes visible once the user hovers over the opening tag. Provided is a **list of attributes** relevant to the HTML element. The user has the ability to select any of the provided attributes to learn about their function/purpose.

### Visual Metaphors and Interactivity

Below is a breakdown of the functionality/interactivity of the list of attributes and how it relates to the information that is provided within the contents section (the bottom half of the center section, which provides the user with an explanation of the appropriate contents to be placed between the HTML element's opening and closing tags). The addition of this functionality/interactivity is necessary due to the inclusion of attributes.

**Fig 3.6**

Depicted here is an example of the two possible states (default and updated) of the contents section of a visual metaphor that requires the use of attributes.



img

The image element is an empty element, which means that the opening tag and closing tag are combined in one tag. The image element should contain only attributes, which are placed inside of the tag and provide information about the element.

1

/

src
**alt**
width
height
title

The alternate text attribute is used to specify the text to display if the browser can not load the image properly. This attribute is required.

2

/

1. The **default state** is the initial state of the contents section. While in the default state, the user is provided with a general explanation of the appropriate contents to be placed between the HTML element's opening and closing tags.

2. Once the user selects (clicks) one of the attributes, the contents section transitions to the **updated state**. While in the updated state, the user is provided with an explanation of the selected attribute's function/purpose.

\* It is important to note that other than the mentioned differences, visual metaphors that include the attribute feature possess the exact same functionality/interactivity as all of the other visual metaphors.

**Visual Metaphors and Interactivity**

HTML Elements
(Vertical orientation)

As previously stated (on page 26), slight variations exist between the visual metaphors that are used to represent HTML elements. These variations are necessary to accommodate the different concepts being communicated. One such concept is the existance of different orientations of HTML elements.

Although most HTML elements utilize a horizontal orientation in HTML markup (as seen represented by the visual metaphors in Fig 3.1 - 3.6), there are several HTML elements that utilize a vertical orientation. As five of the HTML elements included in the website utilize a vertical orientation, it was imperative that a new visual metaphor be developed to accomodate this additional orientation. In developing a solution to this issue, it was also imperative that the new visual metaphor possesed both the same visual appearance and functionality/interactivity as the horizontal visual metaphor.

Below is an example of the visual metaphor that was developed for HTML elements that utilize a vertical orientation (an unordered list element is used for demonstration purposes and does not hold a particular signifance).

**Fig 3.7**
Depicted here is an example of a visual metaphor for an HTML element that utilizes a vertical orientation.
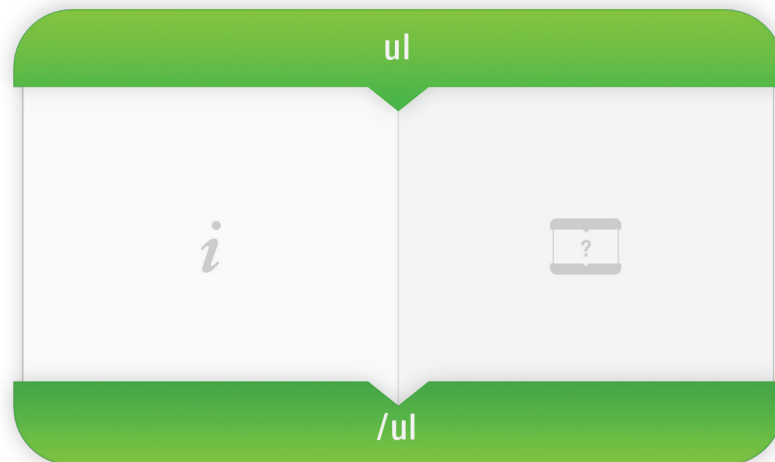


\* The visual metaphors that appear in the vertical orientation possess the exact same components and functionality/interactivity as all of the other visual metaphors.

\* It also is important to note that none of the visual metaphors that appear in the vertical orientation utilize any additional features, i.e., the attribute feature.

**PROCESS**

**Visual Metaphors and Interactivity**

Interactive Examples

Several areas of the website required the implementation of a specialized approach in order to successfully engage the user and effectively communicate important information and concepts. One such concept relates to both the combination and proper use of specific HTML elements such as:

- HTML
- Head
- Body
- Lists

In attempting to communicate the necessary material, I developed a solution consisting of what I refer to as *interactive examples*. The interactive examples are used as a means to introduce the user to concepts including nesting HTML elements and the appropriate structure that specific nested HTML elements should utilize. Through the interaction with the different components of the interactive examples, the user is provided with the ability to explore a visual representation of the these concepts, which assists in elaborating how the included HTML elements are used. To further assist in the effective delivery of the information/concepts, the interactive examples utilize the same visual metaphors that are used to educate the user on the included HTML element's function/purpose and appropriate contents.

**Fig 3.8**

Depicted here is an example of an interactive example consisting of nested HTML elements.
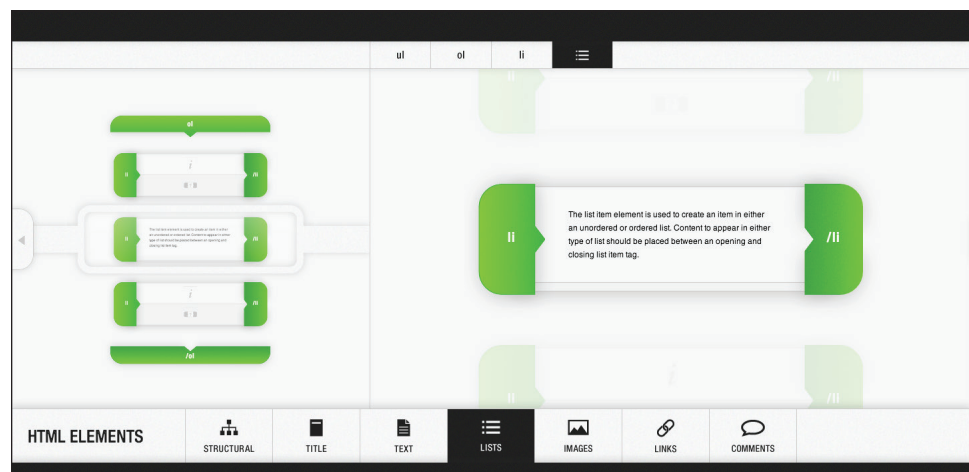
**PROCESS**

### Visual Metaphors and Interactivity

Below is a breakdown of the functionality/interactivity of an interactive example.

1. The left side of the screen consists of a **scaled down version** of a group of nested HTML elements, which provides the user with a full view of the entire group.

2. The right side of the screen consists of a **full scale version** of the group of nested HTML elements, which provides the user with a focused view of the currently selected area.

3. The user has the ability to click and drag the **magnifier** vertically, selecting which area of the group of nested HTML elements they would like to focus on. As the user drags the magnifier, the HTML elements on the ride side of the screen scroll respectively.

4. The **currently selected HTML element** is the HTML element that appears underneath the magnifier's viewport. Whichever HTML element the user chooses to focus on will appear at full opacity in the center of the screen on the right side.

5. **HTML elements that are not currently in focus** will appear at a lighter opacity on the right side of the screen. This serves to remove these HTML elements from focus, assisting in reducing the amount of information present on the screen.

## PROCESS

### Visual Metaphors and Interactivity

\* It is important to note that the visual metaphors utilized in the interactive examples possess the exact same components and functionality/interactivity as all of the other visual metaphors.

\* It also is important to note that the functionality/interactivity of the visual metaphors on either side of the screen is mirrored on the opposite side of the screen. This serves to further emphasize that the two groups of nested HTML elements (the one on the left side of the screen and the one on the right side of the screen) are in fact the same group.

**Fig 3.10**

Depicted here is an additional example of the possible interactivity/functionality of an interactive example.



**Fig 3.11**

Depicted here is an example of an additional area of the website that utilizes an interactive example.
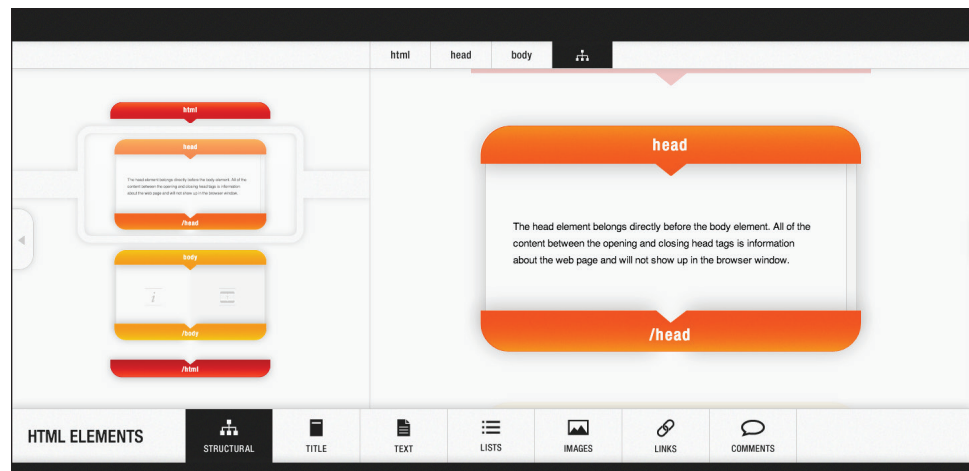
**PROCESS**

**Visual Metaphors and Interactivity**

How It Works

Below is a breakdown of the functionality/interactivity of the *How It Works* section of the website.

**Fig 3.12**

Depicted here is an example of the *How It Works* section of the website.
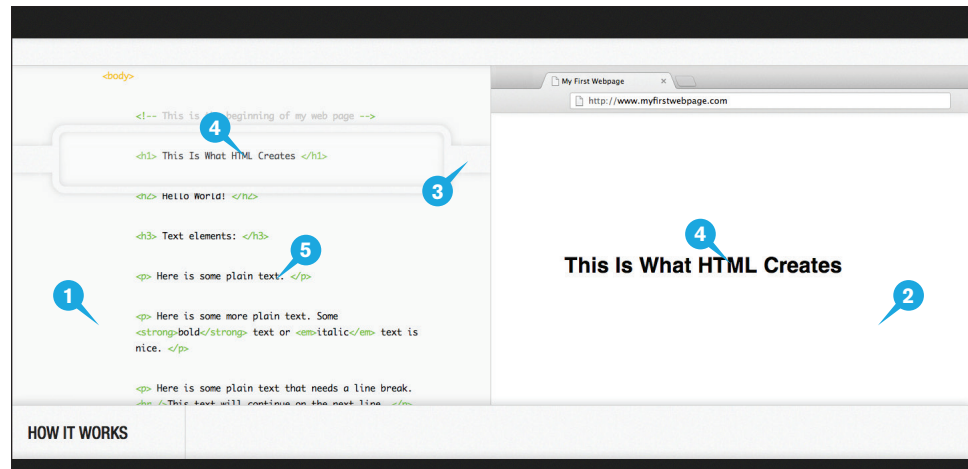


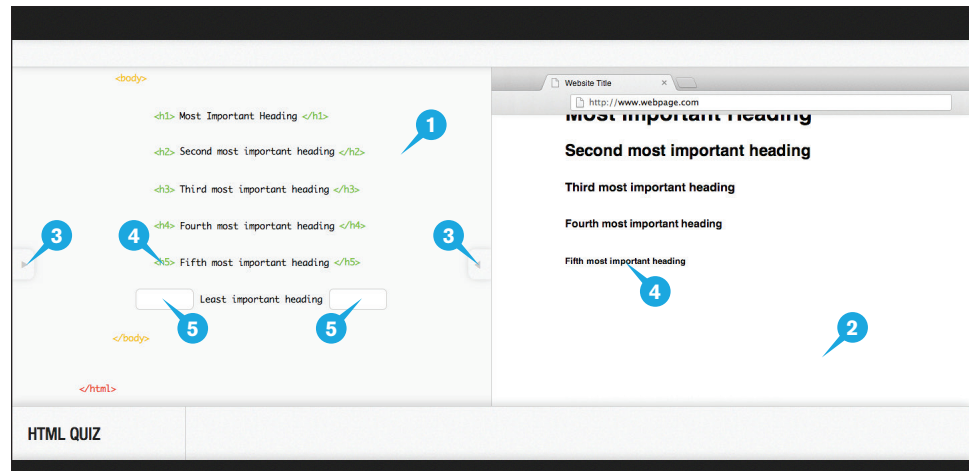1. The left side of the screen serves to hold **example HTML markup**, which combines to create a simple HTML document.

2. The right side of the screen serves to hold the **output** (result) of the example HTML markup. Accordingly, the visual appearance of the right side of the screen is meant to resemble that of a browser window.

3. The user has the ability to click and drag the **magnifier** vertically, selecting which area of the HTML markup they would like to focus on. As the user drags the magnifier, the output on the ride side of the screen scrolls respectively.

4. The **currently selected HTML element** is the HTML element that appears underneath the magnifier's viewport. Whichever HTML element the user chooses to focus on will appear at full opacity in the center of the screen on the right side.

5. The output of HTML elements that are not currently in focus will not appear on the right side of the screen. This serves to remove these HTML elements from focus, assisting in reducing the amount of information present on the screen.
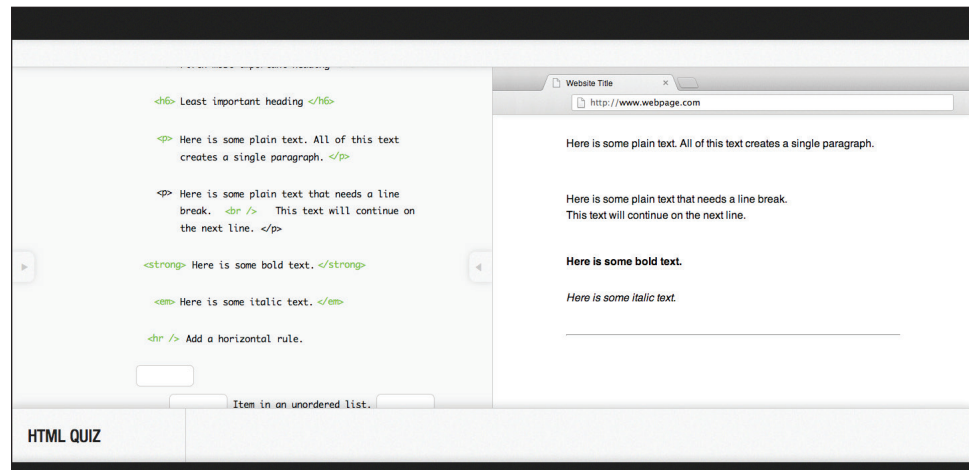
**PROCESS**

### Visual Metaphors and Interactivity

\* It is important to note that the overall structure/layout as well as the functionality/
interactivity of the *How It Works* section of the website is very similar to that of
the interactive examples. Implementing familiar elements such as structure and
interactivity across multiple areas of the website assists in maintaining a sense of
consistency between the different areas. This consistency allows the user to more
easily interact with and comprehend the provided material.

**Fig 3.13**

Depicted here is an additional
example of the *How It Works*
section of the website.
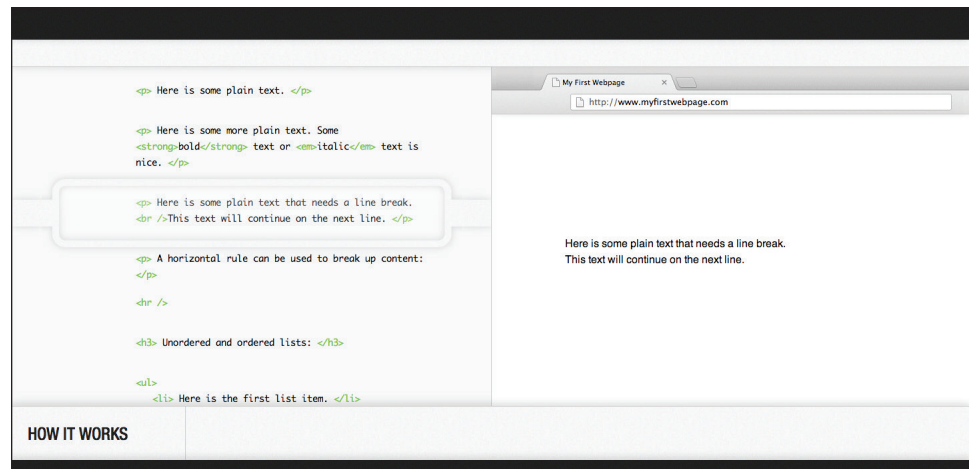


**Fig 3.14**

Depicted here is an additional
example of the *How It Works*
section of the website.
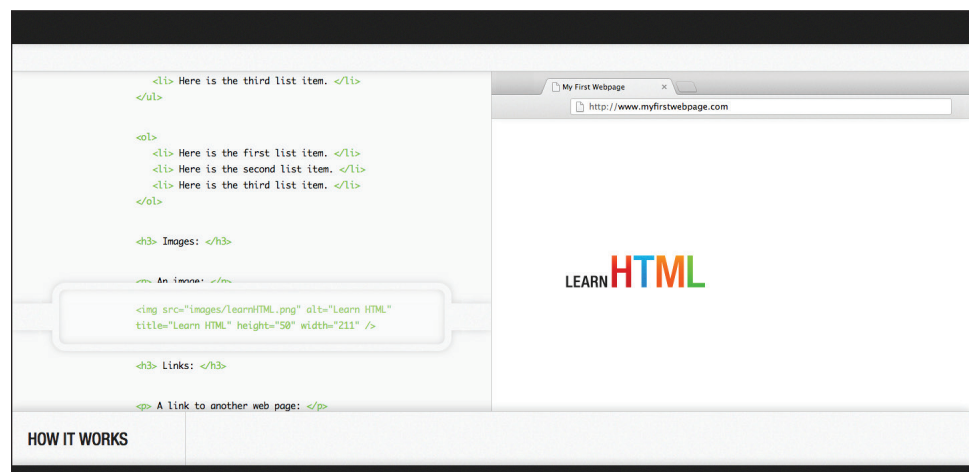
**Visual Metaphors and Interactivity**

HTML Quiz

Below is a breakdown of the functionality/interactivity of the *HTML Quiz* section of the website.

**Fig 3.15**
Depicted here is an example of the *HTML Quiz* section of the website.



1. The left side of the screen serves to hold the **quiz questions** (the HTML markup), which combine to create a simple HTML document.

2. The right side of the screen serves to hold the **output** (result) of the HTML markup. Accordingly, the visual appearance of the right side of the screen is meant to resemble that of a browser window.

3. The user has the ability to click and drag either of the **focus arrows** vertically, selecting which area of the quiz they would like to focus on. As the user drags the focus arrows, the output on the ride side of the screen scrolls respectively.

4. The **currently selected question** is the quiz question that appears in between the two focus arrows. Whichever question the user chooses to focus on will appear in the center of the screen on the right side.

5. The **answer inputs** serve to provide the user with areas where they can enter an answer for each quiz question and are only enabled for the currently active question. The user is able to submit their answer using the *Enter* key on the keyboard.

**PROCESS**

**Visual Metaphors and Interactivity**

\* It is important to note that the overall structure/layout as well as the functionality/ interactivity of the *HTML Quiz* section of the website is very similar to that of both the interactive examples and the *How It Works* section. Implementing familiar elements such as structure and interactivity across multiple areas of the website assists in maintaining a sense of consistency between the different areas. This consistency allows the user to more easily interact with and comprehend the provided material.

\* It is also important to note that upon submitting an answer, the user is provided with feedback as to whether or not the submitted answer is correct. The opening and closing tags display in their appropriate color when a correct answer is submitted and display in black when an incorrect answer is submitted.

**Fig 3.16**

Depicted here is an additional example of the *HTML Quiz* section of the website.

**PROCESS**

**Color Choices**

Considering decisions such as selecting appropriate colors to apply to the different components of the website was one of the final steps in my design process. Through the addition of color, I not only hoped to enhance the aesthetic quality of the website, but I also wanted color to assist in educating the user on the provided material.

While initially considering which colors to utilize throughout the website, I primarily focused on exploring and analyzing several websites targeted toward a teenage audience. In doing so, I was provided with the ability to gather insight as to which types of colors are effective in engaging and appealing to teenagers. Through my research, I found that the majority of these websites implement a combination of bright colors and neutrals, such as white or grey. Utilizing this knowledge, as well as that gained while conducting additional research, I was able to begin experimenting with possible color choices.

As previously mentioned, the use of color would not only act as a means to enhance the aesthetic quality of the website, but it would also be used heavily as a means to assist in educating the user on the provided material. To assist in satisfying these objectives, it was imperative that the final color palette:

- Engages and appeals to the target audience
- Works cohesively together
- Does not distract from the provided information

Independently directing my focus toward groups of components such as the user interface and the HTML elements (visual metaphors and the HTML markup) further assisted me in developing a color palette that is successful in satisfying all of the objectives listed above.

**Color Choices**

User Interface

As previously mentioned, I independently directed my focus toward groups of components of the website while experimenting with possible colors. One such group of components is the user interface. While experimenting with different colors, I decided that the user interface would utilize a neutral color palette, which provided me with the ability to reserve the use bright colors specifically for the HTML elements. Implementing this approach assists in directing the user's focus away from the user interface and maintaining it on the most significant and important information.

**Fig 4.1**

Depicted here is an example of the user interface. The focus is on the colors that were applied to the different components.
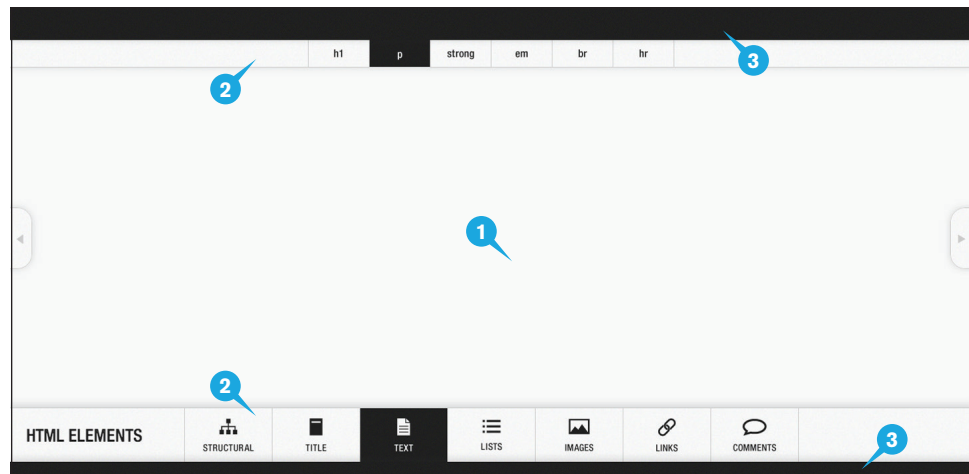


1. The main content areas utilizes an **off-white color**. This serves to provide a neutral area in which the most significant and important information can be housed.

2. The main and secondary navigation bars utilize an **off-white color**, which is slightly darker than that utilized in the main content area. The currently selected navigation buttons also utilize this same off-white color (for the text and icon).

3. The top and bottom bars utilize a **shade of black**. This serves to contrast with the off-whites utilized in other components of the user interface. The text and icons which appear within the main and secondary navigation buttons also utilize this same shade of black.

**PROCESS**

**Color Choices**

HTML Elements

While the user interface utilizes a neutral color palette, the HTML elements (visual metaphors and HTML markup) utilize a color palette consisting of bright colors. The application of bright colors is used not only as a means to appeal to and engage the target audience, but it is also used as means to create a high level of contrast against the neutral colors present in the user interface. The colors applied to the HTML elements also serve several functional purposes, which include to:

- Further categorize the different types of HTML elements
- Create connections between the visual metaphors and HTML markup
- Assist the user in transitioning between the different sections of the website

As the HTML elements covered throughout the website are represented as both visual metaphors and HTML markup, it was imperative that I developed a method that would assist in creating a connection between the two. The color applied to the opening and closing tags of a specific HTML element are consistent in all three main sections of the website – the color of the opening and closing tags is the same whether the HTML element appears as a visual metaphor or as HTML markup. For example, the color orange was applied to the opening and closing tags of the head element in the *HTML Elements* section, *How It Works* section, and the *HTML Quiz* section of the website. Implementing this consistency assists in establishing a connection between the visual metaphor and HTML markup for each of the HTML elements. This consistency also assists the user in transitioning between the two.

**Fig 4.2**

Depicted here is an example of the *HTML Elements* section of the website. The focus is on the color that was applied to the opening and the closing tags of the visual metaphor.

## Color Choices

**Fig 4.3**

Depicted here is an example of the *How It Works* section of the website. The focus is on the color applied to the opening and closing tags of the head element.
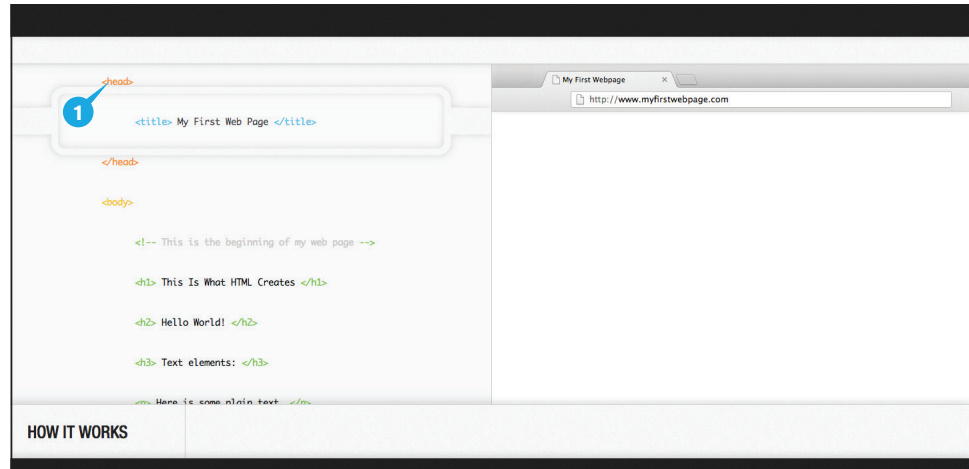


**Fig 4.4**

Depicted here is an example of the *HTML Quiz* section of the website. The focus is on the color applied to the opening and closing tags of the head element.
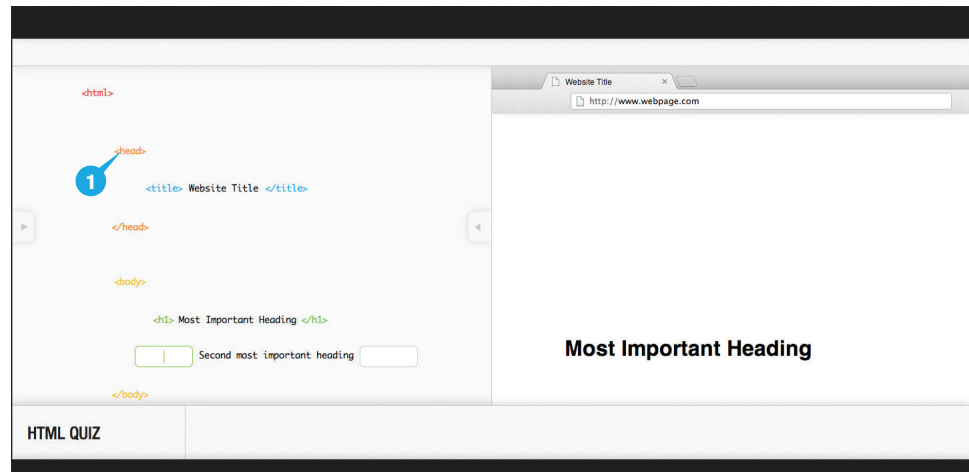


1. The colors utilized by the opening and closing tags of each of the visual metaphors is consistent with the colors utilized by the opening and closing tags of the corresponding HTML elements as they appears as HTML markup.

**PROCESS**

### Color Choices

As previously discussed (on page 19), the HTML elements covered throughout the website are categorized into several specialized groups. With the target audience in mind, I determined that it was necessary to develop additional methods of categorizing the different types of HTML elements, which include HTML elements used for:

- Creating the structure of an HTML document
- Creating metadata and content (document title, text, images, links, etc.)
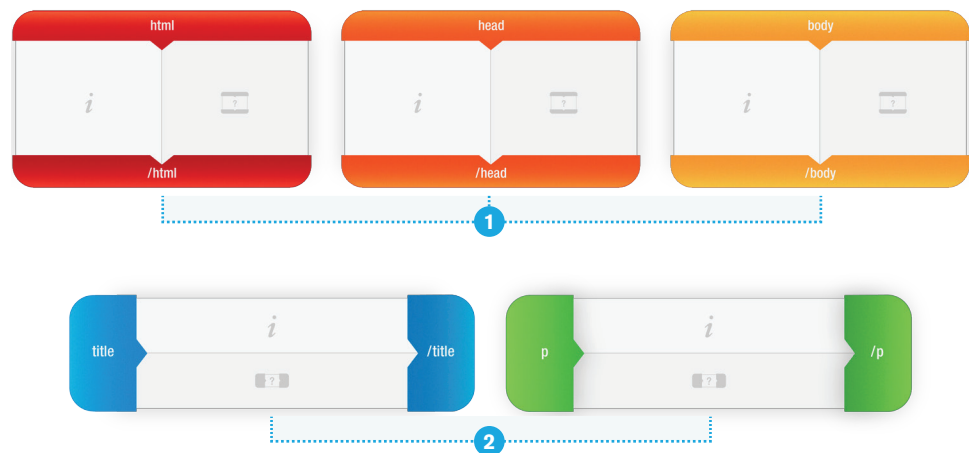
1. The HTML elements used for creating the structure of an HTML document utilize a **warm color palette**, which consists of red, orange, and yellow.

2. The HTML elements that belong inside of the head and body elements, or those used for creating metadata and content, utilize a **cool color palette**, which consists blue of green.

\* It is important to note that the opening and closing tags of the visual metaphors utilize a subtle gradient and texture, both of which assist in creating a separation between the graphics (visual metaphors) and the main content area.

\* It is also important to note that the hover states of the function/purpose and contents icons utilize the same colors that are used in the opening and closing tags of the visual metaphor in which they appear.

## Color Choices

**Fig 4.6**

Depicted here is an example of the colors utilized in the user interface. Each color is accompanied by its hexidecimal color value.

Hex Value
#333333

Hex Value
#CCCCCC

Hex Value
#F1F1F1

**Fig 4.7**

Depicted here is an example of the colors utilized in the HTML elements (visual metaphors and and HTML markup). Each color is accompanied by its hexidecimal color value.

Hex Value
#FD5F28

Hex Value
#CC0000

Hex Value
#F79300

Hex Value
#F75802

Hex Value
#F5C900

Hex Value
#F59900

Hex Value
#06B4E6

Hex Value
#0388D9

Hex Value
#82D130

Hex Value
#4CB32F

**Typography**

While determining which typefaces to utilize throughout the website, it was necessary to make several considerations. Not only is it imperative that the selected typefaces work well with and support the overall design of the website, but they also need to serve several functional purposes, which include to:

- Support the purposes of the different components of the website
- Accommodate the target audience
- Display well on screen

Helvetica Neue

The typeface Helvetica Neue Medium Condensed is utilized throughout both the user interface and the visual metaphors including areas such as the:

- Main navigation
- Secondary navigation
- Opening and closing tags
- Additional information (see Fig 3.4 for details)

This specific typeface was selected for the clean design of the letterforms, which work well with the overall design of the website. As this typeface was selected to apply specifically to text of significant importance, the medium weight of the typeface was chosen. Utilizing the medium weight assists in assigning importance to specific text without making that text too predominant. To further establish a visual hierarchy within the text that utilizes this typeface, uppercase and lowercase letterforms were delegated. The text that appears within the main navigation utilizes all capital letterforms while that in the secondary navigation utilizes all lowercase letterforms. The condensed version of the typeface was chosen to assist in maintaining the clean design of the website. Like the use of the medium weight, the use of compact letterforms also assists in reducing the predominance of certain text, specifically that which utilizes all capital letterforms.

Helvetica

The typeface Helvetica Regular is utilized throughout the entire website including areas such as the:

- Center section (contents) of the visual metaphors
- Output (result) of example HTML markup

**Typography**

This specific typeface was also chosen for the clean design of the letterforms, which work well with the overall design of the website. As this typeface was selected to apply specifically to large areas of text, several considerations were made. Given both the educational nature of the website and the target audience, it is imperative that areas of the website that consist of considerable amounts of text appear uncluttered and that the text itself is easy to read (Nielsen, Norman, and Tognazzini). To assist in enhancing both the design and readability of such text, the size of the text and the line height were both assigned substantial values.

Monaco

The typeface Monaco Regular was selected to apply specifically to the example HTML present in both the *How It Works* and *HTML Quiz* sections of the website. While working on these two sections, it became apparent that the selection of an additional typeface was necessary. The utilization of Monaco is used as a means to assist in visually separating the HTML markup present in the *How It Works* and *HTML Quiz* sections from all of the other content present on the screen. Monaco is also the most common default typeface used in text editors (software commonly used for writing HTML markup), making it an appropriate selection for this particular application.

**Fig 5.1**

Depicted here are examples of all of the typefaces used throughout the entire website. Each typeface is displayed at actual size.

# Helvetica Neue 67 Medium Condensed 26pt

## Helvetica Neue 67 Medium Condensed 18pt

### Helvetica Neue 67 Medium Condensed 16pt

Helvetica Neue 67 Medium Condensed 14pt

Helvetica Regular 16pt

Monaco Regular 14pt

## PROCESS

### Code Samples

Below are selected samples of the jQuery code used to produce the functionality/ interactivity of different components of the website.

**Fig 6.1**

Depicted here is an example of the jQuery code used to handle the hover functionality/interactivity of the center section (contents) of the visual metaphors.



**Fig 6.2**

Depicted here is an example of the jQuery code used to handle the click functionality/interactivity of the center section (contents) of the visual metaphors.



To produce the functionality/interactivity of the center section (contents) of the visual metaphors, variables and if statements are combined with the use of custom functions to check whether or not specific instances are occurring and delegate tasks accordingly. Several jQuery effects are also utilized to create animations and handle the manipulation of specific CSS properties such as background color and height.

## PROCESS

## Code Samples

```
274    //When a tag is clicked...
275    $(".tag").click(function()
276    {
277        //Store elements inside current element
278        var elementContainer = $(this).parent();
279        var insideContainer = $(this).parent().children(".insideContainer");
280        var elementHeight = $(this).parent().height();
281        var leftTag = $(this).parent().children(".leftTag");
282        var rightTag = $(this).parent().children(".rightTag");
283        var tag = $(this);
284
285        //If the current element is open...
286        if(elementContainer.width() > 250)
287        {
288            insideContainer.animate({ width: 0 }, 250).css({ overflow : "visible" });<!-- Animate the inside container to close -->
289            closeElement(elementContainer, insideContainer, leftTag, rightTag);<!-- Run function to close the entire element -->
290        }
291
292        //If the current element is closed...
293        else
294        {
295            insideContainer.animate({ width: 600 }, 250).css({ overflow : "visible" });<!-- Animate the inside container to open -->
296            openElement(elementContainer, insideContainer, leftTag, rightTag);<!-- Run function to open the entire element -->
297            resetState(elementContainer);<!-- Reset the state of the element back to its initial state (unclicked) -->
298        }
299
300        //If the current element's tag info is showing when tag is clicked...
301        if(tag.children(".tagInfoContainer").position().top < -90)
302        {
303            tag.children(".tagInfoContainer").stop(true, true).animate({ opacity : "hide" }, 50);<!-- Fade out the tag info quickly -->
304        }
305
306        //If the current element's element info is showing when tag is clicked...
307        if(tag.parent(".elementContainer").children(".elementInfoContainer").position().top < -90)
308        {
309            tag.parent(".elementContainer").children(".elementInfoContainer").stop(true, true).animate({ opacity : "hide" }, 50);
310        }
311    });
312
313    //Function to horizontally close the element
314    function closeElement(element, inside, right, left)
```

```
304    }
305
306    //If the current element's element info is showing when tag is clicked...
307    if(tag.parent(".elementContainer").children(".elementInfoContainer").position().top < -90)
308    {
309        tag.parent(".elementContainer").children(".elementInfoContainer").stop(true, true).animate({ opacity : "hide" }, 50);
310    }
311    });
312
313    //Function to horizontally close the element
314    function closeElement(element, inside, right, left)
315    {
316        //Store properties of current element
317        var currentWidth = element.width();
318        var currentLeft = element.css("marginLeft");
319        var newWidth = 250;
320        var newLeft = currentLeft - (newWidth - currentWidth) / 2;
321
322        element.animate({ width : newWidth, marginLeft : newLeft }, 250).css({ overflow : "visible" });<!--  -->
323    };
324
325    //Function to horizontally open the element
326    function openElement(element, inside, right, left)
327    {
328        //Store properties of current element
329        var currentWidth = element.width();
330        var currentLeft = element.css("marginLeft");
331        var newWidth = 750;
332        var newLeft = currentLeft - (newWidth - currentWidth) / 2;
333
334        element.animate({ width : newWidth, marginLeft : newLeft }, 250).css({ overflow : "visible" });<!--  -->
335    };
336
337    //When a nav navigation item is clicked (when the visible element changes)...
338    $(".subNavContainer li").click(function()
339    {
340        //If the item being clicked does not match the currently visible element (one now on screen)
341        if(!$(this).hasClass("currentElement"))
342        {
343            //Record the previous element and call function to reset its state (if not been clicked)
344            setTimeout(function()
```

To produce the functionality/interactivity of the visual metaphors as a whole, variables and if statements are combined with the use of custom functions to check whether or not specific instances are occurring and delegate tasks accordingly. Several jQuery effects are also utilized to create animations and handle the manipulation of specific CSS properties such as width and margins.

## PROCESS

## Code Samples

**Fig 6.5**

Depicted here is an example of the jQuery code used to handle the sliding animation utilized in the *HTML Elements* section of the website (the animation linked to the selection of an item in the secondary navigation).

```
240    showCategory : function( catidx ) {
241
242        if( catidx === this.current || this.isAnimating ) {
243            return false;
244        }
245        this.isAnimating = true;
246        // update selected navigation
247        this.$navcategories.eq( this.current ).removeClass( 'mi-selected' ).end().eq( catidx ).addClass( 'mi-selected' );
248
249        var dir = catidx > this.current ? 'right' : 'left',
250            toClass = dir === 'right' ? 'mi-moveToLeft' : 'mi-moveToRight',
251            fromClass = dir === 'right' ? 'mi-moveFromRight' : 'mi-moveFromLeft',
252            // current category
253            $currcat = this.$categories.eq( this.current ),
254            // new category
255            $newcat = this.$categories.eq( catidx ),
256            $newcatchild = $newcat.children(),
257            lastEnter = dir === 'right' ? $newcatchild.length - 1 : 0,
258            self = this;
259
260        if( this.support ) {
261
262            $currcat.removeClass().addClass( toClass );
263
264            setTimeout( function() {
265
266                $newcat.removeClass().addClass( fromClass );
267                $newcatchild.eq( lastEnter ).on( self.animEndEventName, function() {
268
269                    $( this ).off( self.animEndEventName );
270                    $newcat.addClass( 'mi-current' );
271                    self.current = catidx;
272                    var $this = $( this );
273                    // solve chrome bug
274                    self.forceRedraw( $this.get(0) );
275                    self.isAnimating = false;
276
277                } );
278
279            }, $newcatchild.length * 90 );
280
```

**Fig 6.6**

Depicted here is an example of the jQuery code used to handle the functionality/interactivity of the areas of the website that utilize the interactive side-by-side layout.

```
57    //Declare that the magnifier element is draggable
58    $(".magnifier").draggable(
59    {
60        axis: "y",
61        containment: $("#contentLeft"),
62        drag: function(event, ui)
63        {
64            adjustPositions();
65            adjustOpacity();
66        }
67    });
68
69    //Function to adjust the positions of the magnifier and the large scale container
70    function adjustPositions()
71    {
72        var magCenterPosition = magnifier.offset().top + magnifier.height() / 2 - scaledElement.offset().top;
73        var magRelativePosition = magCenterPosition / (scaledElement.height() * .4);<!-- The .4 is for the scale number set in the css -->
74
75        var newScrollerPosition = contentLeft.height() / 2 - magRelativePosition * unscaledElement.height();
76        unscaledElement.css("top", newScrollerPosition + "px");
77    };
78
79    //Adjust the opacity based on the element's position
80    function adjustOpacity()
81    {
82        //Store elements
83        var centerPoint = ($("#topBar").height() + $("#subNavContainer").height()) + (contentRight.height() / 2);
84        var pixelLimit = 169;
85        var topLimit = centerPoint - pixelLimit;
86        var bottomLimit = centerPoint + pixelLimit;
87
88        //Loop through the elements to be affected...
89        $(affectOpacity).each(function()
90        {
91            var offsetTop = $(this).offset().top;
92
93            //If the element passes the top limit...
94            if(offsetTop <= topLimit)
95            {
96                var opacity = offsetTop / topLimit;
97
```

Certain areas of the website implement the use of jQuery plugins to produce specialized functionality/interactivity such as that utilized in the interactive examples. All of the jQuery plugins have been edited/customized to accommodate the specific needs of the areas in which they are used.

## Code Samples

**Fig 6.7**

Depicted here is an example of the jQuery code used to handle the functionality/interactivity of the quiz in the *HTML Quiz* section of the website.

```
31    ///////////////////////////////////// OPEN THE HTML CONTAINER /////////////////////////////////////
32    $("#htmlOpenInput, #htmlCloseInput").keypress(function(event){
33
34        if(event.keyCode == 13)
35        {
36            if($("#htmlOpenInput").val() == "<html>" && $("#htmlCloseInput").val() == "</html>")
37            {
38                $("#htmlOpenAnswer, #htmlCloseAnswer").css({ "color" : "#EE471C" });
39                testScore = testScore + 1;
40            }
41
42            if($("#htmlOpenInput").val() != "<html>" || $("#htmlCloseInput").val() != "</html>")
43            {
44                $("#htmlOpenAnswer, #htmlCloseAnswer").css({ "color" : "#000" });
45            }
46
47            if(!$("#htmlContainer").hasClass("disabled"))
48            {
49                $("#htmlOpenInput, #htmlCloseInput").fadeOut(250);
50                openHtml($("#htmlContainer"));
51                $("#htmlContainer").addClass("disabled");
52            }
53
54            $("#startContainer").fadeOut(250);
55            clearInterval(arrowTimer);
56        }
57    });
58
59    //Open the html container
60    function openHtml(container)
61    {
62        //Store properties of current element
63        var currentHeight = container.height();
64        var currentTop = container.position().top;
65        var newHeight = 382;
66        var newTop = currentTop - (newHeight - currentHeight) / 2;
67
68        container.animate({ height : newHeight, top : newTop }, 250, function(){ $("#innerHtmlContainer").css({ "z-index" : "100" }) });
69        $("#headContainer").delay(250).fadeIn(250);
70    };
71    ///////////////////////////////////// OPEN THE HTML CONTAINER /////////////////////////////////////
```

**Fig 6.8**

Depicted here is an additional example of the jQuery code used to handle the functionality/interactivity of the quiz in the *HTML Quiz* section of the website.

```
696    //Open the body container
697    function expandBodyP(container)
698    {
699        //Store properties of current element
700        var currentHeight = container.height();
701        var currentBottom;
702        if($("#headContainer").height() == 87){ currentBottom = -211.5; }
703        if($("#headContainer").height() > 87){ currentBottom = -240; }
704        var newHeight = 598;
705        var newBottom = currentBottom - (newHeight - currentHeight) / 2;
706        if($("#headContainer").height() > 87){ newBottom = newBottom + 1; }
707
708        container.animate({ height : newHeight, bottom : newBottom - 1 }, 250, function(){ $("#innerBodyContainer, #brElement").css({ "z-index" : "9999" }); });
709        if($("#headContainer").height() == 87){ $("#headContainer").animate({ top : -252.5 }, 250); }
710        if($("#headContainer").height() > 87){ $("#headContainer").animate({ top : -284 }, 250); }
711    };
712
713    //Expand the html container
714    function expandHtmlP(container)
715    {
716        //Store properties of current element
717        var currentHeight = container.height();
718        var currentTop = container.position().top;
719        var newHeight;
720        if($("#headContainer").height() == 87){ newHeight= 898; }
721        if($("#headContainer").height() > 87){ newHeight= 957; }
722        var newTop = currentTop - (newHeight - currentHeight) / 2;
723
724        container.animate({ height : newHeight, top : newTop }, 250);
725    };
726
727    //Expand the html container
728    function expandInnerBodyP(container)
729    {
730        //Store properties of current element
731        var newHeight = 475;
732
733        container.animate({ height : newHeight, top : 73  }, 250);
734        $("#brPOpeningTag, #brPClosingTag, #brPText, #brElement").delay(250).fadeIn(250);
735    };
736    ///////////////////////////////////// ANSWER P /////////////////////////////////////
```

To produce the functionality/interactivity of the quiz in the *HTML Quiz* section of the website, variables and if statements are combined with the use of custom functions to check whether or not specific instances are occurring and delegate tasks accordingly. Several jQuery effects are also utilized to create animations and handle the manipulation of specific CSS properties such as height and position.

**USABILITY TESTING**

Unfortunately, due to several factors, user testing was not implemented until late in the design process. Although user testing occurred later than I had originally planned, I was still provided with the opportunity to receive feedback regarding the overall effectiveness and usability of the website. The feedback that I received from the implementation of user testing assisted me in making necessary refinements.
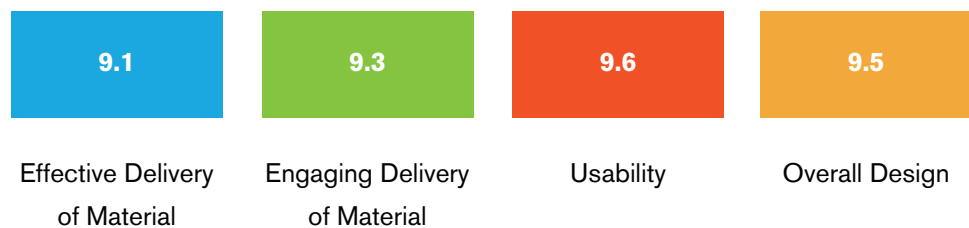
In conducting user testing, I determined that it would be beneficial to receive feedback from an abundance of individuals, including both individuals within the target audience and additional individuals of various ages. The main focus of the user testing, however, was maintained on individuals within the target audience.

The main objective of conducting user testing was to gather feedback regarding several important aspects of the website, which include the:

- Effectiveness of the utilized method of delivery in educating the user
- Effectiveness of the utilized method of delivery in engaging the user
- Usability of the interface and the different components (such as the visual metaphors)
- Overall aesthetic quality of the website

Results/Feedback

Below is a breakdown of the results/feedback gathered specifically from the user testing of individuals within the target audience. Provided are the averages of the gathered ratings, 1 being the lowest possible rating and 10 being the highest.

| 9.1 | 9.3 | 9.6 | 9.5 |
|---|---|---|---|
| Effective Delivery of Material | Engaging Delivery of Material | Usability | Overall Design |

Refinements

As previously mentioned, the feedback that I received from the implementation of user testing assisted me in making necessary refinements. One such refinement was the addition of introduction screens to each of the three main sections of the website. Much of the feedback that I received mentioned the user experiencing a slight sense of confusion upon initially arriving at any one of the three main sections. To address this issue, the introduction screens were added, which provide the user with a brief explanation of the main section that they are about to explore.

**USABILITY TESTING**

Additional refinements made as a result of the feedback that I received were subtle. One such refinement was the adjustment of specific quiz questions present in the *HTML Quiz* section of the website. Much of the feedback that I received mentioned the user experiencing difficulty with the quiz questions involving links and images, even after they had reviewed all of the material provided on the website. To address this issue, the format of these specific quiz questions was edited to require the user to input less information. Another such refinement was the addition of a splash page (a small home page), which provides the user with a brief introduction to the website.

User Comments

Below are a few of the comments that were gathered from individuals that participated in the user testing that I administered. The comments were submitted by both individuals within the target audience and additional individuals of various ages.

"I know a little bit about HTML and I think this would be great for a beginner!"

"I like how you can interact with everything. I feel like I could learn HTML using this!"

"Definitely a unique approach. I think that you created an enjoyable way for people to learn about HTML."

"If I wanted to learn about HTML I would definitely use this."

## CONCLUSION

Although the World Wide Web offers an abundance of useful resources focused on educating individuals on HTML, very few of these resources attempt to specifically address a young audience (none of which are successful in doing so). The lack of resources available to young individuals sparked my initial interest in creating an educational website targeted specifically toward teenagers. Combining my passion for design, education, and HTML, I was able to develop *Learn HTML*; a unique website focused specifically on educating teenagers on foundations of HTML.

My initial objective was not only to create an educational website that would engage teenagers, but to also develop an effective educational tool that delivers the provided material in an innovative and refreshing way. Upon exposing numerous individuals – specifically teenagers – to *Learn HTML*, it became apparent that I was considerably successful in fulfilling these objectives. Many of the individuals that used *Learn HTML* mentioned that it is engaging and that it offers an enjoyable learning experience. Despite the brief amount of time allotted to each of the users, many of them were able to achieve relatively high scores on the quiz section of the website, which further supports the overall effectiveness of the utilized methods.

Upon conducting the processes mentioned throughout the previous pages, I feel as though I have developed a unique and useful resource that provides a solution to an issue that has not yet been successfully addressed. Not only does *Learn HTML* offer a unique approach to educating users on foundations of HTML, but it also addresses an audience – teenagers – that seems to be commonly overlooked.

I would also like to personally thank Chris Jackson, Marla Schweppe, and Lorrie Frear for all of their help and guidence throughout this process.

**Rochester Institute of Technology**

A Thesis submitted to the Faculty of the College of Imaging Arts and Sciences in candidacy for the degree of Master of Fine Arts.

Educational HTML Website
By Brandon Capp
November 13, 2012

## APPENDIX (PROPOSAL)

**Signatures**

**Committee Chair**

Chris Jackson
Associate Professor
Computer Graphics Design

_____

Signature of Committee Chair                    Date

**Committee Member**

Lorrie Frear
Associate Professor
Graphic Design

_____

Signature of Committee Member                    Date

**Committee Member**

Marla Schweppe
Professor
Computer Graphics Design

_____

Signature of Committee Member                    Date

## APPENDIX (PROPOSAL)

### Abstract

I am proposing to build an HTML website with the purpose of educating middle to high school age students on selected foundations of HTML. The selected foundations will include basic areas of high importance deemed most necessary for acquiring a basic knowledge and understanding of HTML. The graphic style of the website will move away from the text based approach seen in similar applications. Informational graphics and interactivity will be used as the main means to convey information. This reduction of text and implementation of experiential based learning will engage the user and provide them with the knowledge necessary to build their own basic HTML website.

## Problem Statement

As technology and the web become increasingly important in the world, the teaching of the foundations of HTML is no longer limited to older individuals. Learning HTML is becoming increasingly relevant to young individuals and students. In my research, I have found that the electronic outlets available for learning HTML, although useful, are not successful in addressing specific age groups and/or experience levels. These outlets used for learning HTML can be grouped into several main categories:

- Those targeting anyone with a desire to learn HTML
- Those targeting different experience levels – some websites are broken down into beginner, intermediate, and advanced methods of instructing
- Those specifically targeting certain age groups
- Those specifically targeting particular groups within certain age groups (teaching HTML to computer-illiterate kids)

I feel that there are two main contributors to the lack of success of these outlets:

- The visual design of the websites does not relate to the targeted audience
- The design and introduction of the information on the websites could be more selective, based on the targeted group or experience level. It could also be displayed in a more visually interesting way to more effectively engage and educate the user

Because the foundations of HTML are becoming increasingly relevant to young individuals and students, I am proposing to solve the problems stated above and design an interactive website targeted toward educating middle to high school age individuals (with beginner level experience) on selected foundations of HTML.

**APPENDIX (PROPOSAL)**

**Survey Of The Literature**

Title                 Information Graphics and Visual Clues

Citation              Lipton, Ronnie. Information Graphics and Visual Clues. Gloucester, Massachusetts:
                      Rockport Publishers Inc., 2002. Print.

Summary               An informative book that focuses on how to convey ideas, create effective visual
                      translations, and use the internet as a means to use graphically exchange ideas.
                      Topics covered range from corporate branding, to ad campaigns, to pictographs
                      with an in-depth assessment of the reasoning behind the stylistic decisions made for
                      specific work.

Title                 Teaching the Digital Generation

Citation              Kelly, Frank S., Ted McCain, and Ian Jukes. Teaching the Digital Generation. Los
                      Angeles, California: Corwin Press, 2009. Print.

Summary               An informative book that examines how educators can address the teaching and
                      learning of students in today's digital world through designing and implementing
                      new instructional models. The book explores the fact that modern students think
                      and learn differently and that instruction must adapt to engage them. The main topic
                      covered in the book is how technology can assist in teaching and learning.

Title                 Teaching and Learning in the Middle Grades

Citation              Denise Muth, K, and Donna E. Alvermann. Teaching and Learning in the Middle
                      Grades. 2nd ed. Needham Heights, Massachusetts: Allyn & Bacon,
                      1999. Print.

Summary               An educational book designed primarily for preparing teachers of adolescents. The
                      book is broken down into three main sections, which include information about
                      adolescents, the teaching and learning of adolescents, and how to design and
                      implement effective instruction. Issues related to adolescent teaching and learning
                      are explored in depth, as are solutions to these issues.

## APPENDIX (PROPOSAL)

### Survey Of The Literature

Title            HTML Manual of Style: A Clear, Concise Reference for Hypertext Markup Language

Citation      Aronson, Larry. HTML Manual of Style: A Clear, Concise Reference for Hypertext Markup Language (Including HTML5). 4th ed. Boston, Massachusetts: Pearson Education Inc., 2011. Print.

Summary    An educational book that includes information on building websites and pages, Wiki articles, web services and ecommerce, Ebay pages, blog posts, and HTML email. The beginning of the book is informational, with information regarding HTML and the web. Gradually the content focuses on basic HTML foundations, syntax, etc. Some basic CSS styling is introduced.

Title            HTML & XHTML: The Definitive Guide

Citation      Musciano, Chuck, and Bill Kennedy. HTML & XHTML: The Definitive Guide. 4th ed. Sebastopol, California: O'Reilly & Associates, Inc., 2000. Print.

Summary    A very in-depth, educational book focusing on HTML and XHTML that covers every element of the two. Topics covered in the book include how to use style sheets to control an HTML document's appearance, create tables, design and build interactive forms, insert images, audio, and video, and create HTML documents that function well across all browsers. The content at the beginning of the book is informational, covering both very basic topics as they relate to both the HTML and the workings of the World Wide Web. The content gradually becomes more visual covering both basic and advanced topics.

Title            CSS Pocket Reference

Citation      Meyer, Eric A. CSS Pocket Reference. Sebastopol, California: O'Reilly & Associates, Inc., 2001. Print.

Summary    A small reference book that covers the key information a web designer must know to effectively style an HTML document using CSS. The content begins with the introduction of basic CSS foundations and gradually introduces more advanced applications.

**APPENDIX (PROPOSAL)**

**Survey Of The Literature**

| | |
|---|---|
| Title | HTML & CSS: Design and Build Websites |
| Citation | Duckett, Jon. HTML & CSS: Design and Build Websites. Indianapolis, Indiana: John Wiley & Sons, Inc., 2011. Print. |
| Summary | An educational book that targeted toward anyone that would like to learn how to design and build websites from scratch as well as anyone who has an existing website and would like more control over its appearance. The book covers HTML and CSS from basic foundations to advanced applications such as writing HTML and CSS, structuring webpages and sites, preparing images, audio, and video, and controlling typography and layout. The book is structured in a very simple, visual way. |
| Title | Sitepoint |
| Citation | SitePoint – Learn CSS | HTML5 | JavaScript | Wordpress | Tutorials-Web Development | Reference | Books and More. SitePoint Pty. Ltd., n.d. Web.11 Oct. 2012. <http://www.sitepoint.com/>. |
| Summary | An informational and educational website that provides information regarding HTML, CSS, and more. The website has an abundance of information on covering a multitude of computer languages and applications. The layout of the HTML reference section is reminiscent of that of similar websites. Within the reference section, the different categories of HTML are broken up, allowing the user to select which section or topic they would like to review. The webpages are text heavy, with some visual examples. Based on the website's visual appearance, there is no apparent 'target audience', but certain sections appear to be structured in such a way that a beginner would have an easier time following along. |

## APPENDIX (PROPOSAL)


**Survey Of The Literature**

Title                   W3Schools

Citation                W3Schools Online Web Tutorials. Refsnes Data, n.d. Web. 11 Oct. 2012. <http://
                        www. w3schools.com>.

Summary                 A well organized website covering several different areas relating to computer
                        languages. The website is broken down into main sections including tutorials,
                        browser scripting, server scripting, xml, web services, and web building to name
                        a few. The HTML tutorial section is broken down into basic topics such as tags,
                        elements, etc. with corresponding descriptions. This area uses a combination of
                        visual examples (almost like screen captures) with text to provide information. A little
                        later in this 'tutorial', the content turns to a more step by step approach, instructing
                        the user on specifically what to do to begin building a website using a simple text
                        editor. There are also sections that allow the user to edit given code and preview
                        what it would look like in a browser. The visual appearance of the webpages are
                        much like those of similar websites, and do not seem to be targeted specifically
                        toward any one age group. The breakdown of the content is structured in such a way
                        that it is possible they are targeting beginners.


Title                   HTML.net

Citation                Free tutorials on HTML, CSS and PHP - Build your own website - HTML.net. N.p.,
                        n.d. Web. 10 Oct. 2012. <http://www.html.net>.

Summary                 An instructional and educational website covering four main topics: HTML, CSS,
                        PHP, and JavaScript. The home page is set up in such a way that the user can
                        choose between the four topics listed above. Once in the HTML section of the
                        website, the user is given the option to choose between and introduction section
                        and several lessons. The beginning lessons are set up as step by step tutorials
                        accompanied by screenshots of what the content is describing. The later lessons
                        consist of text heavy explanations of different HTML topics with corresponding
                        examples. The tutorial aspect seen in the beginning lessons returns in the later
                        lessons instructing the user to follow certain steps to create a website using a
                        simple text editor. The content is structured in such a way that it is possible the
                        tutorials are targeting adult beginners.

**APPENDIX (PROPOSAL)**

**Survey Of The Literature**

Title                    Learning HTML for Kids of All Ages

Citation                 Goodell, Jill J. Learning HTML for Kids of All Ages. N.p., n.d. Web. 14 Oct. 2012.
                         .

Summary                  This website is clearly targeted toward teaching HTML to 'kids of all ages'
                         as stated in the title, although the website's visual appearance does not say the
                         same. It appears unprofessional and is very difficult to use. There is no real sense
                         of orientation and there is not a clear, consistent navigation. As for the content on
                         the web pages, it is set up much like that of similar websites, although it seems a lot
                         less professional and credible. The first web pages all mainly consist of text with an
                         occasional image or example to illustrate what is being covered in the content. The
                         later pages utilize a step-by-step approach to instruct the user how to begin building
                         a website while continuing to educate them on various HTML topics.

**APPENDIX (PROPOSAL)**


**Design Ideation/Methodological Design**

Because the website will be focused specifically on educating middle and high school age students, ages 14-19, (with beginner level experience) on the foundations of HTML, it will be necessary to keep the overall design of the visuals and information selective, well organized/grouped, and engaging. Although the website will be targeted toward middle to high school age students, the overall design, organization, and purpose of the website will be beneficial and usable to both teens and adults with a desire to learn basic foundations of HTML. The main structure of the website will be organized into two main sections:

- Home page
- Basic HTML foundations

Like many websites, the home page will act as an introduction to the user giving them a basic idea of what to expect from the website. They will be given a brief explanation of the purpose of the website as well as an introduction into how the different sections of the website are set up.

The HTML category will consist of several sections. From any page, the user will have the ability to navigate:

- To a main section page, which will have a brief overview of that section's subsections as well as links to them
- To a specific subsection under any of the main sections

This will all be handled in the main navigation of the website using a main menu with drop down lists.

The section of the website focusing on HTML will consist of the following main sections:

- Introduction
- Tags
- Attributes

## APPENDIX (PROPOSAL)

### Design Ideation/Methodological Design

Each of the main HTML sections will be composed of smaller subsections containing specific information relevant to its parent section. Each of the subsections will occupy its own webpage. Next and previous buttons will exist on each of the subsection webpages offering the user an addition method of navigating through the subsections in the current main section.

A basic breakdown of the HTML sections:

- The 'Introduction' section will briefly introduce HTML and the main structure of an HTML document.
- The 'Tags' section will introduce tags as well as provide visual representations of important tags such as those dealing with the basic structure of an HTML document, creating text on screen, using lists, using images, using links, using divs, using HTML comments, and briefly introduce HTML5 tags.

  Each subsection in the 'Tags' section will have an area where the user to will be asked to write the corresponding HTML. Unlike the existing outlets, which present finished code, the user will become familiar with creating simple HTML elements on their own. They will be able to manipulate the HTML and experiment with how it functions. Further help (hinting) will be made available for each section for the case where the user is not able to write the correct HTML.

- The 'Attributes' section will act much like the 'Tags' section in that it will introduce attributes as well as provide visual representations of important attributes such as those dealing with the basic use of images, links, IDs, and classes.

  Again, each subsection in the 'Attributes' section will have an area where the user to will be asked to write the corresponding HTML. They will be able to manipulate the HTML and experiment with how it functions. Further help (hinting) will be made available for each section for the case where the user is not able to write the correct HTML.

**APPENDIX (PROPOSAL)**

**Design Ideation/Methodological Design**

The delivery of information will be significantly dependent on experiential based learning through interaction with the different elements within each section on the different webpages – reading will be kept to a minimum, although it is inevitable that some reading will be required. As opposed to the standard 'textbook' structure seen in existing outlets, the graphic style of the website is going to based on an 'infographic' or image based appearance. Simple and engaging graphics will be used to convey the same information seen in the text heavy areas of similar applications.

Instead of using text as the main means to convey information, graphics, paired with interactivity, will be used to highlight different aspects such as the HTML structure, parts of tags, how different tags and attributes function, etc. The idea is to engage the user and educate them through the use of visuals and interaction, not entirely through reading paragraphs of content.

Brief examples:

- Instead of displaying a section of text describing the different parts of a tag, the website would utilize a large '<p>' graphic on which the user would roll over to reveal what each part is.

- Instead of displaying a list of header tags written in HTML and what the result would look like, the website will have a single, large heading, such as 'This Is A Heading' accompanied by a list reading h1, h2, h3, h4, h5, and h6. When the user rolls over one of these tags, it would animate to display the syntax (<h1>This Is A Heading</h1>), while the single, large heading would change to match the visual style associated with the currently selected tag.

**Design Ideation/Methodological Design**

Basic HTML Foundations
Content

Interactivity
HTML5, CSS3, JavaScript, and PHP

Simplified Graphics
Vector-Based Imagery

Educational HTML Website

**APPENDIX (PROPOSAL)**

**Design Ideation/Methodological Design**

Website
- Home
- Introduction
  - What Is HTML?
  - Document Structure
- Tags
  - What Is A Tag?
  - Basic Structure
    - HTML
    - Head
    - Meta
    - Title
    - Link
    - Body
  - Text
    - Headers
    - Paragraph
    - Formatting
  - Lists
    - Unordered
    - Ordered
    - Items
    - Nested
  - Images
    - Image
  - Links
    - Anchor
  - Divs
    - Div
  - HTML Comments
    - Comment
  - HTML5 Tags
    - Header
    - Nav
    - Article
    - Aside
    - Footer
- Attributes
  - What Is An Attribute?
  - Images
    - Source
    - Alternate
    - Title
    - Directory Structure
  - Links
    - Anchor
    - Hypertext Reference
    - Target
    - Absolute URLs
    - Relative URLs
    - Directory Structure
  - IDs and Classes
    - ID
    - Class

**APPENDIX (PROPOSAL)**

**Design Ideation/Methodological Design**

Nav Item 1    Nav Item 2    Nav Item 3

Sub Nav Item 1
Sub Nav Item 2
Sub Nav Item 3
Sub Nav Item 4
Sub Nav Item 5
Sub Nav Item 6
Sub Nav Item 7
Sub Nav Item 8
Sub Nav Item 9

WHAT IS A TAG?

Donec dolor quam, dignissim eget molestie adipiscing, eleifend sed odio. Sed aliquet dapibus eleifend. Vivamus lacinia, enim at posuere pellentesque sem tortor adipiscing ipsum, volutpat feugiat quam dolor blandit leo. Aliquam imperdiet malesuada vestibulum. Aenean eget massa vitae massa vestibulum pulvinar pretium sit amet nulla.

BASIC STRUCTURE OF A TAG

Vivamus lacinia, enim at posuere pellentesque sem tortor adipiscing ipsum.

# &lt;p&gt;          &lt;/p&gt;

Opening tag          Closing tag

LOGO

Nav Item 1    Nav Item 2    Nav Item 3

Sub Nav Item 1
Sub Nav Item 2
Sub Nav Item 3
Sub Nav Item 4

Sub Nav Item 1
Sub Nav Item 2

Sub Nav Item 1
Sub Nav Item 2
Sub Nav Item 3
Sub Nav Item 4

HEADINGS

Donec dolor quam, dignissim eg... ...sed odio. Sed aliquet dapibus eleifend. Vivamus lacinia, enim at posuere pellentesque sem tortor adipiscing... ...iat quam dolor blandit leo. Aliquam imperdiet malesuada vestibulum. Aenean eget massa vitae massa vestibulum pul... ...amet nulla.

VARIATIONS

## This is a heading!

&lt;h1&gt; This is a heading! &lt;/h1&gt;
&lt;h2&gt;
&lt;h3&gt;
&lt;h4&gt;
&lt;h5&gt;
&lt;h6&gt;

**APPENDIX (PROPOSAL)**

**Design Ideation/Methodological Design**
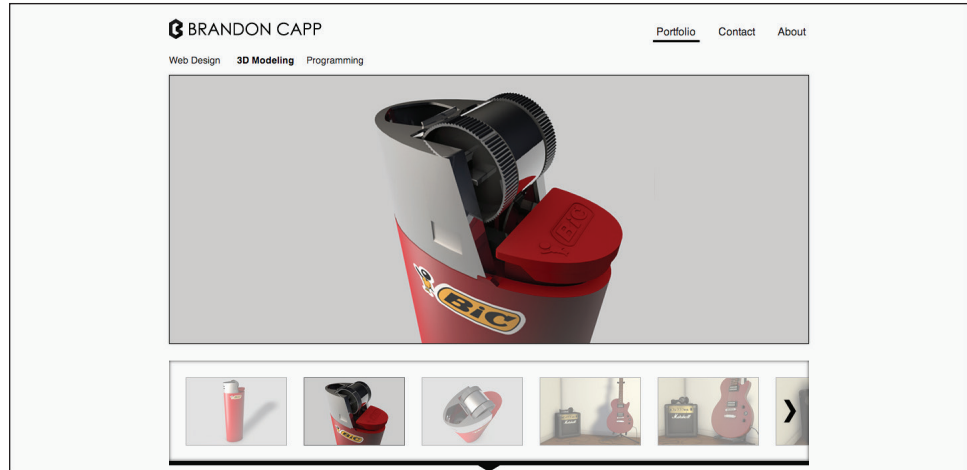


Personal Portfolio Website - Page Example



Personal Portfolio Website - JavaScript Example

## APPENDIX (PROPOSAL)

**Design Ideation/Methodological Design**



Client Website - Page Example



Client Website - JavaScript Example

## APPENDIX (PROPOSAL)

### Design Ideation/Methodological Design



Client Website - Page Example



Client Website - HTML Example

**APPENDIX (PROPOSAL)**

**Implementation Strategy**

The website will be designed and built using several Adobe applications. The graphics for the website will be created mainly in Adobe Illustrator and Adobe Photoshop and will be optimized for the web. The website itself with be built using the combination of a simple text editor, such as TextWrangler, and Adobe Dreamweaver.

The specific markup and programming languages that will be used in the building of the website will include HTML, CSS, JavaScript, jQuery, and some PHP.

My web-based work and experience spans over five years, including school and client work. With proficiency in the mentioned programs, as well as my experience and knowledge in the mentioned markup and programming languages, I am confident that I possess the skills required to build and complete the proposed project.

**APPENDIX (PROPOSAL)**

**Dissemination**

Upon completion of my thesis, I plan to distribute my work by means of the Internet. I will also being showcasing the final website in the MFA Thesis Show in May of 2013. To gain further exposure, I also plan to submit the project to several design competitions including:

- 2013 Adobe Design Achievement Awards (Deadline is June 2013)
- American Design Awards- Spring Student Design Awards (Deadline is May 2013)
- Communication Arts Interactive Competition (Deadline is not yet established for 2013)
- The Webby Awards (Deadline is not yet established for 2013)

As the website is educational in nature and targeted toward middle and high school age students, I plan on recommending my website to acquaintances that work in that field with the hope that they will put it to use.

**Evaluation Plan**

I plan to test/assess several aspects of my project throughout the design process including the effectiveness of the information design, the clarity and success of the educational aspect of the content, and the usability/interactivity of the website. This testing will consist of usability testing, which will produce feedback on the mentioned areas of interest. The testing strategy that I plan to use will be both qualitative and quantitative. I will need several different users specifically from my target audience to use the website while I observe.

Because the nature of my project will be educational, testing will require the administration of tests before and after the users explore the website. This will assist me in ensuring that my approach and design decisions are effective in clearly conveying the desired/intended information.

**APPENDIX (PROPOSAL)**

**Timeline**

Based on a twenty-seven week schedule
Sunday - Saturday

Week One
- Continue research and revising thesis proposal
- Continue preparing for final thesis defense

Week Two
- Finish preparing for final thesis defense
- Continue research

Week Three (Thanksgiving Break)
- Re-energize for the start of the winter quarter
- Store up energy to put toward thesis

Week Four
- Begin designing the structure of all pages to be included on website
- Begin preparing content for website
- Begin researching interactive components to be included in website

Week Five
- Continue designing structure of all pages to be included on website
- Continue preparing content for website
- Continue researching interactive components to be included in website

Week Six
- Continue designing structure of all pages to be included on website
- Continue preparing content for website
- Finish researching interactive components to be included in website

Week Seven
- Finish designing structure of all pages to be included on website
- Finish preparing content for website
- Begin creating graphics

**APPENDIX (PROPOSAL)**

**Timeline**

Week Eight
- Continue creating graphics

Week Nine
- Continue creating graphics

Week Ten
- Finish creating graphics (or as close to finished as possible at this point)
- Begin work on structural components of website

Week Eleven
- Continue work on structural components of website

Week Twelve
- Begin work on visual components of website

Week Thirteen
- Continue work on visual components of website

Week Fourteen
- Continue work on visual components of website

Week Fifteen
- Finish work on visual components of website

Week Sixteen
- Begin work on interactive components of website

Week Seventeen
- Continue work on interactive components of website

Week Eighteen
- Continue work on interactive components of website

**APPENDIX (PROPOSAL)**

**Timeline**

Week Nineteen
- Continue work on interactive components of website

Week Twenty
- Finish work on interactive components of website
- User testing

Week Twenty-One
- Implement changes/feedback gathered from user testing

Week Twenty-Two
- Implement changes/feedback gathered from user testing

Week Twenty-Three
- User testing

Week Twenty-Four
- Implement changes/feedback gathered from user testing

Week Twenty-Five
- Make final changes

Week Twenty-Six
- Make final changes

Week Twenty-Seven
- Make final changes

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