**Criterion E: Product development**

Complex Techniques used to Satisfy Client’s Requirements

* Use of Cascading Style Sheets to customize visual appearance of website
* Use of PHP to increase scalability of site

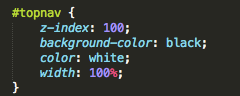
**Use of Cascading Style Sheets (CSS)**

The CSS used within these pages was written manually into a text editor (Sublime Text). Almost all pages in the site contain these links:



These links each lead to a CSS resource. The rel="stylesheet" part specifies that the files being linked are style sheet files, the type="text/css" states the content of the files are text based and that they are .css files, and the href=”something” parts specify the location of the files being linked.

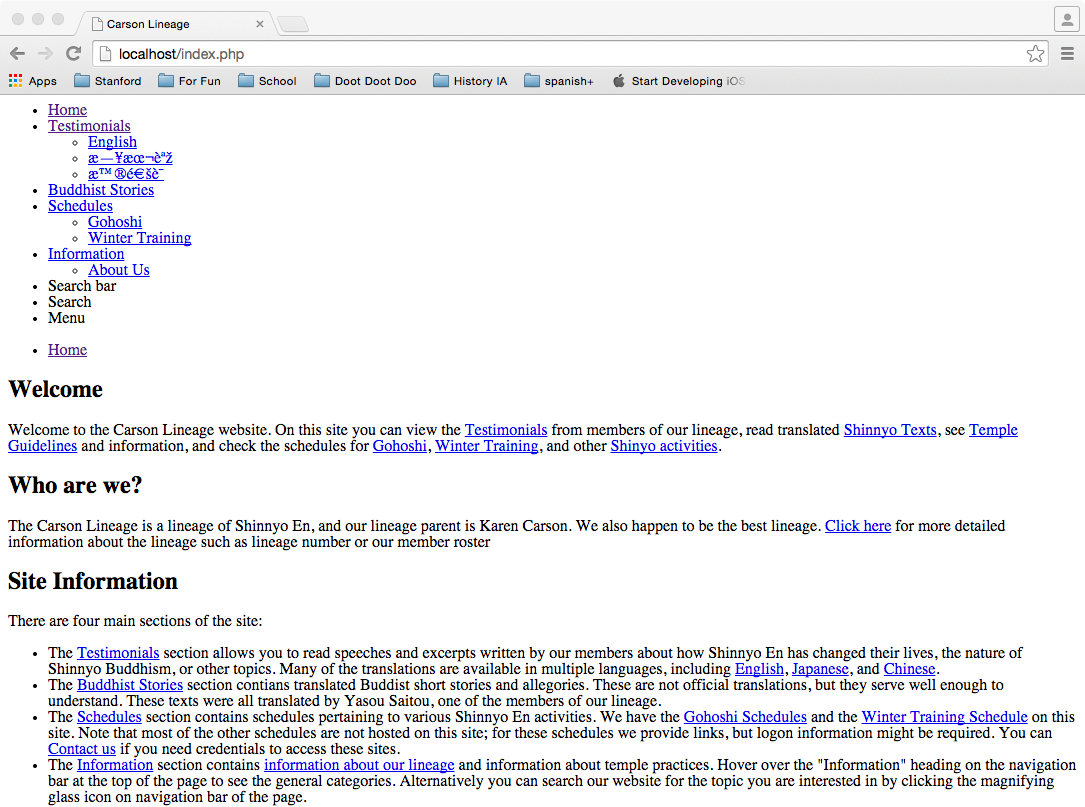
Note that there is a “/” at the beginning of the URLs within the href attribute. The “/” specifies that the path followed should start from the root of the file system (and are relative to the root of the file system, rather than the file this series of <link>s are declared in). Because of this, generally these links will not work if they are run locally, unless the root of the website is placed in the root of the computer’s file system. However, this does work when the site is uploaded, and has the benefit of making my <link> tags consistent throughout the site, reducing the need to refactor each page (this same technique is used with the header).

The actual CSS style sheets look like the image to the left. The block shown selects all elements with the ID “topnav” (which happens to be a <div> that is our navigation bar). This block sets visual attributes of our navigation bar.

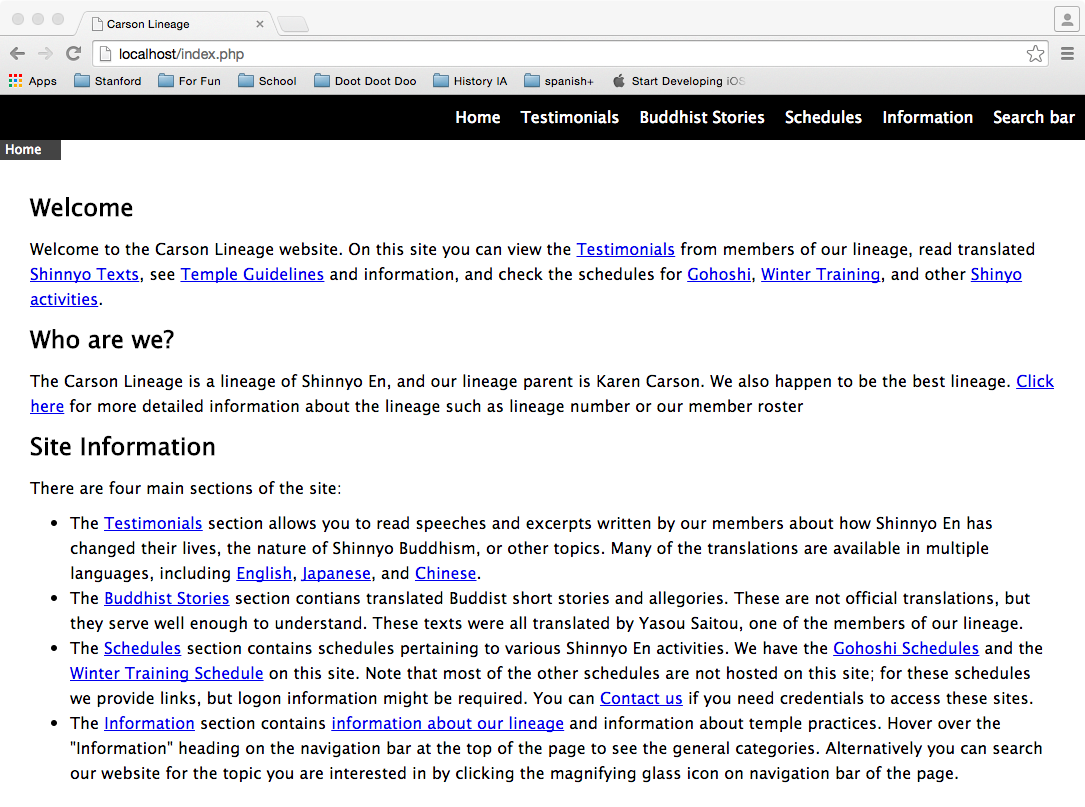
Specifically, what we are doing is setting the z-index (the precedence of ‘height’ on the screen) to 100, we set the background color to black, we set the text color to white, and we set the width of the navigation bar to be 100% of the width of the element that is around it (which is the <body> element).

Of course, this is not the only CSS styling that I apply; overall, I apply CSS styling to 16 elements, creating a visually appealing website. Examples are on the next page.

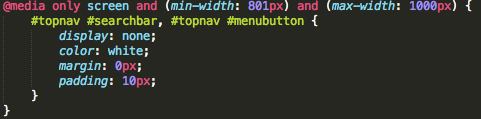
Before CSS:



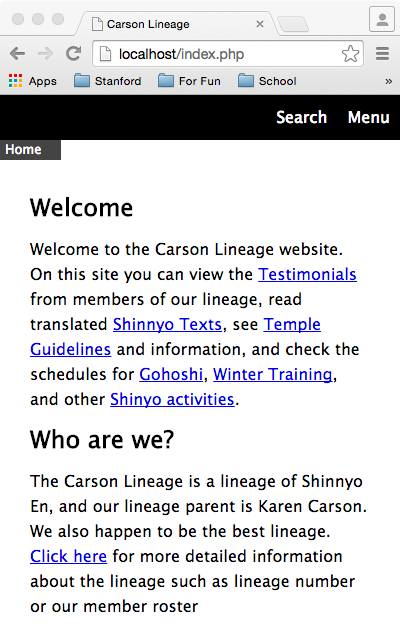
After CSS:



Alongside the general CSS, I implement CSS that changes with window size using @media queries such as



The media tag ensures that the styling specified only applies when certain things are true about the window the site is being viewed on. This media query ensures that the styling inside only applies when the screen that the website is being viewed on is between 800 and 1000 pixels wide.

This creates adaptive styling, ensuring that the menu bar items do not overlap each other. For example, when the screen is not very wide (less than 800 pixels) then the navigation bar becomes resolved to two buttons, like the picture on the left. This ensures that mobile users can get an adequate website experience.