CLIFF & CO GUITARS

DECO1400: WEBSITE IMPLEMENTATION REPORT

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1.0 Introduction

For my project, I chose to design a guitar company website called "*Cliff & Co Guitars*". The company is a guitar manufacturer and seller, with a store based in Brisbane, Queensland. The website serves as both a brand website with information on the company itself, as well as an e-commerce hub that displays and markets different guitar models to its customers.

The target audience are guitar enthusiasts, or simply people looking to buy a new guitar. As the company produces Australian made guitars, the target market will likely also be Australian musicians. As the site will also be interactive, another target audience could be people who like looking at different models of guitars, and comparing their sounds, looks and features.

I picked this topic because I have a passion for learning and writing my own music. I currently own three guitars in total, the first of which I bought when I was just 16. I still browse guitar websites frequently, meaning I'm very familiar with the overall layout and design of guitar websites.

2.0 Implementation

The overall structure and format of the website has remained largely unchanged from the original high-fidelity prototype (see appendix 2.0).

2.1 Homepage

Figure 1.0: Homepage

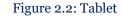
Figure 1.1: Homepage HTML



Figure 1.0 presents the final homepage implementation. The image was changed from the high-fidelity prototype to accommodate the wide-screen devices that are commonly used to browse websites. The CSS (appendix 1.0) describes the styling for the navigation menu. The navbar (present in all pages) at the top has a fixed position, with the links being placed at the end of the flexbox container. The links are given a flex-grow property higher than the logo making it take up all the remaining space. This assists with window resizing, as the links will space themselves out correctly as the window changes size.

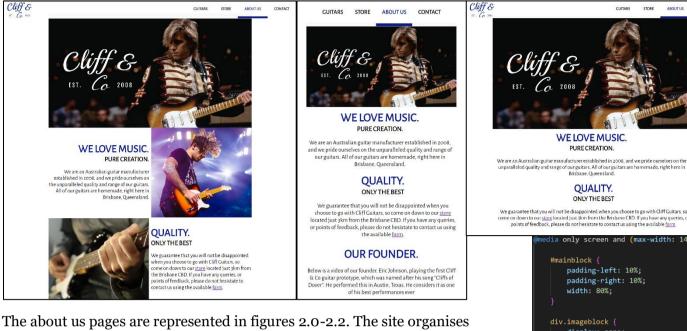
When the user reduces the screen width to a low value, the logo disappears and the links are centered in order to facilitate easy access for mobile users (see below Figure 2.1). When the user is currently on one of the linked pages, the link is highlighted and bottom-bordered to communicate the user's current location in the navigation menu (see top of Figure 2.0).

The footer is also present in all pages, which is just a simple copyright message that is centered at the bottom of the page.



ABOUTUS

CONTACT



information into text and image blocks, with its zig-zag layout that helps segment the information into smaller pieces (see Figure 2.0). This makes information easier to digest, as opposed to a single block of text. This is achieved using flexbox containers, with each 'div.textimageblock' containing a single div.textblock and div.imageblock (see appendix 1.1 for styling).

padding-right: 10%;
width: 80%; display: none; div.textblock { text-align: center;

Figure 2.3: CSS Resizing

The CSS has been configured to change according to the user's current screen width. This helps make information more readable for different platforms. An example of the CSS that was used for the tablet version is presented in Figure 2.3. The border for the desktop version is 15% at each side, but is reduced to 10% in the tablet, and 5% in the mobile versions. Also, the images are hidden to make room for the text. The text blocks are then centered, with the font-size also increasing as the screen width reduces. The store page (see appendix 1.3, not shown in main report) is configured using the same text and image format, with very similar CSS resizing functionality being implemented.

2.3 Contact Us

Figure 3.0: FAQs

Figure 3.1: Contact Us

Is this in reference to a particular quitar model?

Cliff &	GUITARS STORE ABOUT US CONTACT	Cliff &	GUITARS STORE AB	BOUTUS	CONTACT
(4	CONTACT US.	EST. Co. 2008	CONTACT US.		
	Many questions you may have can be answered by the following FAQs. WHAT IS THE WARRANTY ON MY GUITAR?	_	Many questions you may have can be answered by the following FAQs.		
	All of our guitars have a 5 year warranty. Cliff & Co Guitars offers limited product warranties of varying length for goods purchased from Australian Authorised Cliff & Co* dealers.	_	WHAT IS THE WARRANTY ON MY GUITAR?	V	
	WHAT TYPE OF STRINGS COME WITH MY GUITAR? ▼	_	WHAT TYPE OF STRINGS COME WITH MY GUITAR?		
	DOES THIS WEBSITE OFFER SHIPPING? ▼	l _	DOES THIS WEBSITE OFFER SHIPPING?	•	
	WHAT TIME DOES THE STORE CLOSE? ▼		WHAT TIME DOES THE STORE CLOSE?	•	
		1 7	STILL UNSURE?		
Figure 3.1 describes the layout for the			You can use the following contact form to contact us directly. Please fill out your details, and we'll get back to you shortly.		
contact page. The page is split into two segments: the FAQs and the contact form.			ıll Name*		_
The border from the high-fidelity prototype			mail*	0	J
has been omitted, as I personally thought			1100		
	borderless design was cleaner. The	P	hone Number		
	w down icon has been replaced by a code character that is more easily	0	ompany		ِ ا
	grated and modified than the image in	S	ubject*		,
•	nigh-fidelity prototype.				J

The FAQs have collapsible buttons that show/hide the content underneath. This was achieved using a JavaScript function (see Figure 3.3) that adds event listeners to each of the buttons whenever the page is loaded. The function changes the max height property of the content (see Figure 3.4) which is initialised to zero. As the overflow is hidden, the content is not shown by default. The function changes the max height to be equal to the default height of the content in pixels, and toggles the button between its active and inactive CSS styles. The result is that the user can click each of the buttons to show the content below the button. This transition is animated using the transition property, with a duration of 0.1 seconds.

Figure 3.3: FAQ JavaScript

Figure 3.4: FAQ CSS

```
.collapsecontent {
    overflow: hidden;
    text-align: center;
    max-height: 0;
    /* Adjusted with javascript to show content */
    padding-left: 30px;
    transition: max-height 0.1s;
}
.collapsebutton::after {
    content: '\25be';
    float: right;
    color: □#0E1B8D;
    transform: scale(2);
}
.collapsebutton--active {
    border-bottom: □black;
}
.collapsebutton--active::after {
    content: '\25b4';
}
```

Surprisingly, this was the one of the most difficult elements of the website to implement correctly. I tried many different approaches that either weren't successful, or were implemented very poorly. For example, I originally assigned each content its own ID, each of which had its own CSS active class with a pre-defined max-height value. The onclick function of each button would toggle the contents active status. However, this resulted in different behaviour for different screen widths, which sometimes resulted in the content overflowing past the max height.

I also wasn't happy with the unmaintainable hard-coded values for each piece of content, and did some research to help automate the calculation of the content height. I ended up adapting the w3schools tutorial [1], which used the scroll height in its calculation. This also removed the need for specific content IDs, and instead made it so that each piece of content can be added simply using the 'collapseContent' class. This is also much more maintainable as new FAQs can be added easily to the site later in development.

The contact form (see Figure 3.5) uses basic form validation for all required elements by specifying the required attribute in the input tag (see Appendix 1.3). Appendix 1.4 shows that the email is verified using a simple JavaScript function that checks for the correct email characters. Also, the name is locally stored to be used for the contact confirmation page (see Appendix 1.5). Additionally, the guitar model selection input is hidden / shown depending on the users answer to the previous question. This is done by modifying the element's display attribute to hidden (see Appendix 1.4).



Figure 3.5: Contact Form

2.4 Guitar Menu

The website in its current form only markets electric guitars, as opposed to the high-fidelity prototype which also marketed acoustic guitars. This was omitted in the high-fidelity prototype as it would have added unnecessary duplication of html pages. Instead, the guitar tab in the navigation bar navigates straight to the guitar menu.

Figure 4.0: Guitar Menu

Figure 4.1: Mobile

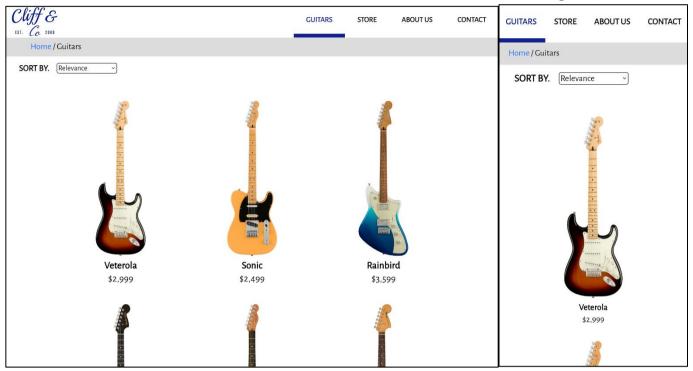


Figure 4.0 presents the guitar menu page, which contains six guitars that are aligned using a 2x3 flexbox layout. As the screen width decreases, the layout changes first to a 3x2 (not shown), and then to a column flex direction (see Figure 4.1). This allows mobile users to scroll and look at guitars individually. As can be seen in Appendix 1.6, the CSS has been implemented such that the guitar div gets bigger when the user hovers over it. This was designed in the high-fidelity prototype (see Appendix 2.0). In the final implementation of the guitar menu, the blue background and the black border were omitted as I felt that the white background was more minimalist and consistent with the rest of the site.

Figure 4.2: Sort Function

Figure 4.1: Sort Menu

```
/* Sorts guitars based on price or relevance in the guitars page */

function sortGuitars(sort) {

if (sort=='relevance') {

location.reload(); // Simply reload to go back to default order.
}

if (sort.includes('price')) {

var negator = ""; // Used to negate flex order for descending price

if (sort.includes('desc')) {

negator="-";

}

document.querySelectorAll('div.guitarblock').forEach(guitarblock => {

// Set flex order of element to price of guitar (or negative price for descending)

guitarblock.style.order = negator + guitarblock.getAttribute('data-value');
}

}

*!--Allows sorting of guitars using a select menu that calls sortGuitars()-->

*div id="sortmenu">

* (label class="sortchoice" for="sortchoice">

SORT BY.

* (/label>

* select class="sortchoice" onchange="sortGuitars(value);">

* (option class="sortchoice" value="relevance">Relevance

* option class="sortchoice" value="priceasc">Price: Ascending

* option class="sortchoice" value="pricedesc">Price: Descending

* (select)
```

The 'sorting' functionality was implemented using the order property of each guitar element. The sorting select menu (see Figure 4.1) displays the different sorting options that the user can choose from. When the value changes, the onchange event is triggered, which passes the selected value to the sortGuitars function. As can be seen in Appendix 1.6, each guitar has its price stored using the 'data-value' attribute. The function examines each guitar, and sets each guitar's order property to its price. If the user specified that the price should be descending, then the price is negated before being assigned to the guitar's order. As lower elements are prioritised first, this results in the guitars being listed in descending order of price.

2.5 Guitar Page

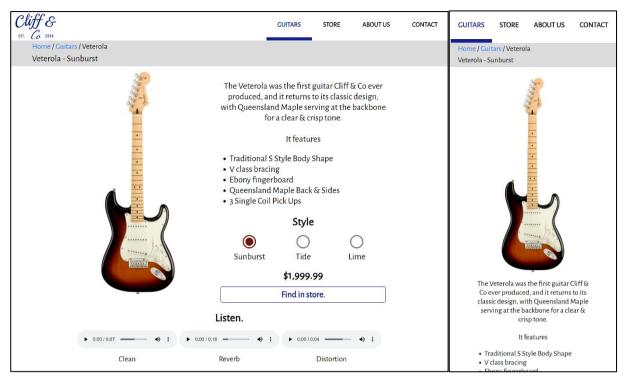


Figure 5.0: Guitar Page

Figure 5.1: Mobile

Figure 5.0 displays the guitar page, which is broken up into 3 main segments. The guitar image and description both sit within the #guitardescriptionblock container (see Appendix 1.7). These each have a width of 50%, and use a row flex-direction. When the screen-width decreases, this changes to a column format, similar to the guitar menu page.

Users can select the 'style' of the guitar, which is simply a button that changes the image of the guitar. This was accomplished using the JavaScript function changeGuitarColor() (see Appendix 1.7). This simply changes the title of the guitar page, and the image source to be a different coloured guitar. It's worth noting that only Veterola has been implemented in the main site, as each guitar page will have an identical layout.

Issues & Lessons

Correct sizing was the most prominent issue throughout the project, as I was initially unsure what size the text and image elements should be. When I started writing the website, I thought that the text and image elements should be larger, so that later when it comes to adapting the site to mobile devices, the users would be able to see the elements even with a small screen. However I realised later on that this meant that in the desktop site, the user wouldn't be able to see a lot of content without scrolling. My current solution is to use the zoom property on the body. This scales down everything so that its more readable. At the time, this made sense to use as I could easily adjust it on different screen-widths to scale the elements up or down accordingly. However, I only realised late in development that this property is non-standard and is not supported on Firefox. I currently have fixed sizes for most elements in the site, that change according to screen-width. This becomes hard to manage, as if you want to change the size of a particular element, you also must change the size on different screen-widths. If I were to make this website again, I would make sure that the initial sizes I chose were suitable for desktop sites, and then adapt it to suit mobile applications.

As the site heavily uses div elements with flexbox applied, a large number of issues stemmed from using flexbox correctly. Correct alignment and ordering were both present issues in nearly all of the pages. Trial and error helped improve my understanding of flexbox. Additionally, using custom icons within HTML was also an issue. For example, in the guitar page (Figure 2.5), I wanted to use the style buttons that I developed when I created the high-fidelity prototype (appendix 2.0). However, styling the buttons to be these images was more difficult than I thought, as you need to override HTMLs default button styling. Due to time constraints, I only coloured and configured the default buttons to suit the guitar colour, as I didn't think it was worth the complexity. Similarly in the FAQs (Figure 3.0), instead of the custom drop-down arrows in the high-fidelity prototype, I used a Unicode down/up arrow character as it was easier to configure as

oppose to using my own image. If I had more time, I would have styled each element to suit my original design.

Design Evaluation

• Visibility of System Status

The website has many visible indicators that communicate the current status of the system. For example, in Figure 2.0, you can clearly see the current page as indicated by the blue highlighting of the navigation bar. This indicates the user's current page, which helps communicate their location in the site relative to the other main pages. A design decision was made to also include a blue bar underneath the highlighted text, as I felt that it would improve the overall visibility of the indicator. Additionally, in Figures 4.0 and 5.0, there is a breadcrumb style navigation menu displayed within a grey bar. Similarly, this also communicates the user's location in the site relative to previous pages.

• Match between system and the real world

There are many icons and controls in the prototype which attempt to draw similarities to the real world. As can be seen in Appendix 1.2, I added some relevant icons which the user's brain can automatically draw similarity to objects in the real world. This helps the brain quickly categorise and identify information. For example, I added a phone icon next to the store phone number and a clock icon next to the opening hours. Additionally there are also drop-down arrows in the contact page (Figure 3.0) that communicate to the user that they can click on the button to see more information.

User Control and Freedom

One example of allowing users to recover from mistakes can be found in Figure 5.0. Here, a location directory is displayed within a grey bar near the top of the screen. This was included in the design for multiple reasons, one of which is that it allows users to easily recover from mis-clicks. A user that is unsure of their location can look at this directory and know where they are relative to their previous page/s. They can also click on one of the blue highlighted words to navigate back. Additionally, there are many alt texts which are used in the place of images. This helps communicate to the user what should have been there in the place of the image that failed to load.

• Recognition rather than recall

The fact that there is little screen hierarchy present in the site (see Figure 1), means that all the information can be found easily using the main navigation bar at the top. Users do not need to remember routes to particular pages, as they can all be found easily within a couple clicks of the main navigation bar. Additionally, most controls are simple selectors, and therefore require no learning to use. For example, in Figure 4.2, selecting a colour is as simple as clicking it.

· Flexibility and efficiency of use

There is some improvement to be made when it comes to efficiency of use. One example of a possible improvement would be to include a shortcut to the different guitar models in the main navigation menu. This list could be a drop-down that is displayed when the user hovers over the guitar portion of the navigation bar. There are also many links to different parts of the sites within the elements (e.g. Figure 2.0, underneath the quality section), that help the users quickly navigate to the part of the site they are looking for.

• Consistency and standards, aesthetic and minimalist design

The website presents a minimalist white/blue theme that is consistent across all the pages. The way I organised the images and text together is also very consistent between the about us and store pages (Figures 2.0 and appendix 1.2 respectively). Additionally, the way that the page reformats itself according to the screen width is also consistent within the site. For example, in Figures 4.1 and 5.1, both the mobile versions are organised in a column direction.

Conclusion & Future Work

In conclusion, Cliffs & Co guitars is a minimalist, simplistic website that is intuitive to use and easy to navigate. There are many areas where the site could be expanded upon in later iterations, as highlighted during the evaluation based on Nielsen's heuristics, and in the issues faced. Additional usability issues could be identified through user testing, so that the design can be evaluated and improved with user's needs in mind.

Additionally, more details and functionality could be added later in the development cycle, which would populate the site with more content, and provide new mechanisms for users to interact with the site.

These could include:

- More filtering options for the list of guitars
- A tool that allows users to directly compare different guitar models and sounds
- An embedded street view of the guitar store, instead of a static image
- An image slideshow on the welcome screen, instead of a static image
- More photos of different angles of the guitars that the user can select
- Support for online shopping with a cart and checkout system

References

NOTE:

All guitar models were taken from [2].

Some relevant sections of the report are copied from my design report submission.

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- 4. Cliffs of Dover Live (2012). Retrieved 4 June 2022, from https://www.youtube.com/watch?v=5Nd7EZ3k39s&ab_channel=EricJohnson
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- 7. Outside picture of our new Guitar & Amplifier store, the Sticky Fingers Rock Bar/Cafe on the side. | House styles, Local businesses, Mansions. (2022). Retrieved 12 May 2022, from https://www.pinterest.co.uk/pin/433049320392628882/
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- 10. Can Electric Guitars Be Played Without An Amp? MSpot The Spot for Musical Instruments & Audio Equipment. (2022). Retrieved 12 May 2022, from https://www.mspot.com/can-electric-guitars-be-played-without-an-amp/

Design Inspirations:

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- 2. Gibson. (2022). Retrieved 12 May 2022, from https://www.gibson.com/en-US/
- 3. Taylor Guitars. (2022). Retrieved 12 May 2022, from https://www.taylorguitars.com/
- 4. Martin Guitars | The Choice of Musicians Worldwide | C.F. Martin. (2022). Retrieved 12 May 2022, from https://www.martinguitar.com/

Appendix

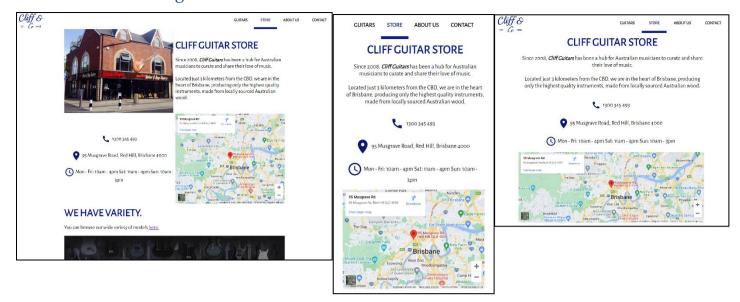
1.0 Navigation styling

```
eadcrumb navigation menu #breadcrumbs {
                                      height: 100%;
   display: flex;
                                                                        #breadcrumbnav {
                                                                                                                        font-size: 35px;
   flex-direction: row;
                                                                            display: flex;
   font-size: 30px;
                                                                            margin-top: 124px;
   font-weight: bold;
                                                                            width: 100%;
                                                                                                                    #breadcrumbtitle {
                                  div.mainnavitem {
   position: fixed;
                                                                             min-height: 80px;
                                                                                                                        padding-top: 0;
                                      padding: 38px 50px;
   padding: 1px;
                                                                             position: absolute;
   top: 0;
                                                                             left: 0;
   left: 0;
                                  div.mainnavitem a {
                                                                             top: 0;
                                                                                                                    #breadcrumbs a {
                                      color: □black;
   width: 100%;
                                                                                                                       color: ■#1974fc;
                                                                             flex-direction: column;
                                      text-decoration: none;
   opacity: 98%;
                                                                             justify-content: center;
                                                                                                                        text-decoration: none
   background-color: ■white;
                                                                             background-color: ■#dcdcdc;
   justify-content: space-evenly; div.mainnavitem a:hover {
                                                                             align-items: flex-start;
   z-index: 1; /* Set navbar to o
                                     color: □#0E1B8D:
                                                                             opacity: 98%;
                                                                                                                    #breadcrumbs a:visited {
                                                                                                                        color: ■#1974fc;
#links {
   display: flex;
                                  div.currentmainnavitem {
                                                                        #breadcrumbtitle,
                                     padding: 38px 50px;
   flex-grow: 1;
                                      border-bottom: 15px □#0E1B8D solid; #breadcrumbs {
   flex-direction: row;
                                                                             padding-left: 5%;
   justify-content: end;
                                                                             margin: 0;
   align-self: center;
                                                                             padding-top: 10px;
   text-align: center;
                                      color: □#0E1B8D;
                                                                             padding-bottom: 10px;
   white-space: nowrap;
                                      text-decoration: none;
```

1.1 Textblock, imageblock, and mapblock styles

```
Styles for image and text block segments in about us and store pages ^st/
div.textimageblock,
div.textmapblock {
    display: flex;
    flex-direction: row;
    justify-content: space-evenly;
    align-items: stretch;
div.textblock {
    width: 50%;
    text-align: right;
    padding-right: 15px;
    display: flex;
    flex-direction: column;
    align-self: center;
div.textmapblock div.textblock {
    text-align: center;
div.imageblock,
div.mapblock {
    width: 50%;
    text-align: right;
div.imageblock+div.textblock {
    text-align: left;
    padding-left: 15px;
    padding-right: 0px;
div.textblock+div.imageblock {
    text-align: left;
```

1.2 Store Pages



1.3 Contact Form HTML

1.4 Contact Form JavaScript

```
/* Validates the contact form (only email) and stores name */
function validateContactForm() {
    let email = document.forms["contact"]["email"].value;
    if (email.search("@") == -1 || email.search(".") == -1) {
        alert("Email must contain @ and . characters");
        return false;
    }

    // Save name for use in confirmation page
    var name = document.forms["contact"]["fullname"].value;
    localStorage.setItem("userfullname", name);
}

/* Shows / hides the select guitar model selection in the contact form */
function showGuitarModelSelection() {
        document.getElementById("selectguitarmodel").style.display = "block";
}

function hideGuitarModelSelection() {
        document.getElementById("selectguitarmodel").style.display = "none";
}

/* Simply formats the contact confirmation page to include the name of the user entered in the contact form */
function displayContactConfirmation() {
    let message = document.getElementById("confirmationmessage")
        message.innerHTML = "Thank you " + localStorage.getItem("userfullname") + ", for your message. We will get back to you shortly.";
}
```



GUITARS

STORE

ABOUT US

CONTACT

FORM RECEIVED

Thank you Jacob, for your message. We will get back to you shortly.

Copyright © 2022 Cliff & Co.

1.6 Guitar Menu CSS & HTML

```
#guitarmenu {
    display: flex;
    flex-wrap: wrap;
    justify-content: space-between;
div.guitarblock {
    display: block;
    margin-left: 10%;
    margin-right: 10%;
    margin-bottom: 5%;
    transition: transform 0.2s;
div.guitarblock:hover {
    transform: scale(1.1);
    cursor: pointer;
img.guitarimage {
    align-self: center;
    width: 200px;
    height: 621px;
p.guitartitle {
    font-weight: bold;
    margin: 5px;
    margin-top: 10px;
    text-align: center;
o.guitarprice {
    text-align: center;
    padding: 0;
    margin: 0;
```

1.7 Guitar Page HTML, CSS, and JavaScript (veterola.html)

```
#guitardescriptionblock {
    display: flex;
                                               width: 30%:
    width: 95%;
flex-direction: row;
                                               flex-direction: column-reverse
                                               text-align: center;
     justify-content: center;
                                          div.styleoption input {
#individualguitarblock {
                                               accent-color: ■#0E1B8D:
    display: flex;
justify-content: center;
                                               align-self: center;
                                               margin-top: 25px;
                                               margin-bottom: 35px:
                                               cursor: pointer;
#individualguitardescription {
    width: 50%;
                                          #audiomenu {
    display: flex;
#individualguitarimage {
    width: 330px:
                                               margin-top: 40px;
                                               margin-bottom: 20px;
/* "Find guitar in store" button */
#storebutton {
                                               margin-left: 10%;
    font-size: 40px;
font-family: 'Alegreya Sans';
                                               margin-right: 10%;
                                               justify-content: space-evenly;
    width: 100%;
padding: 10px;
    #audiomenu audio {
   margin-left: 80px;
                                               margin-right: 80px;
                                               transform: scale(1.5);
     font-weight: bolder;
     cursor: pointer;
                                          #audiomenu p {
   font-size: 35px;
```

```
/* Changes the guitar image based on the given selected color */
function changeGuitarColor(color) {

// Change image and name to match selected color.
const currentImage = document.getElementById("individualguitarimage");
const currentName = document.getElementById("breadcrumbtitle");

if (color=='sunburst') {
    currentImage.src="images/guitars/veterola-sunburst.jpg";
    currentName.innerHTML = "Veterola - Sunburst";
}

if (color=='seablue') {
    currentImage.src="images/guitars/veterola-seablue.jpg";
    currentName.innerHTML = "Veterola - Tide";
}

if (color=='lime') {
    currentImage.src="images/guitars/veterola-lime.jpg";
    currentName.innerHTML = "Veterola - Lime";
}
```

2.0 High Fidelity Prototype



