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Project Title: Sneaker Shop

1. **Project Overview:**

My web development project will consist of an ecommerce based platform aimed specifically for sneakers. It will allow users to scroll through different sneakers which are categorized into different brands. Different brands will be organized into their own distinct web pages so that it is more user friendly if the customer is looking for a specific brand. There is also a search engine that allows the user to potentially look up the specific sneaker they are looking for. There is also a separate webpage dedicated to the user's cart where they're allowed to add any sneakers they're interested in and check out when they are ready to do so. The target audience will be mainly young adults or teenagers that are looking to purchase some sneakers or are sneaker enthusiasts. To make the website look smooth and engaging, I will be implementing different animations and visuals that will add to the aesthetics of the website overall.

2. **Project Timeline:**

The first half of the development of my website will focus on the frontend aspect which consists of HTML, CSS and Javascript. Using HTML, I will implement all the sneakers that will be added to my shop and implement different webpages for all the brands of sneakers. I will also implement a home page, a cart page, and a customer support page using HTML. After finishing with HTML, I will go ahead and give my website a creative design using CSS. I will organize my products into grids and make my header user friendly in the sense where the user will be able to distinguish different categories easily. I will also add different animations and transitions using CSS to make my website look smooth and engaging to look at. Finally, I will use CSS to space out different elements of my website so that the user doesn't feel frustrated when engaging with the content of my website. The next technology I will use is Javascript which will allow me to make my website dynamic. I will add different features such as fading in content when the user scrolls and a live timer which will be included in my header section. However, the main feature that I will be using Javascript for is the cart feature where users can check out various items. The second half of the development of my website will focus on the backend aspect. This consists of PHP and MySQL. Using these two technologies, I will be able to incorporate a login system and a search engine onto my website. I will store information about users that sign up for my website onto my database and also incorporate all the sneakers in my shop onto my database so that users can use the search engine for their needs.

3. **Project Architecture**

The architecture of my website will be similar to most typical ecommerce websites out there. When the user first enters my website, there will be a home page. The user can then choose to login into my website if they have an account. If they do not, they can sign up for one and their login information will be stored into mySQL. This information includes full name, username, password and email. When the user wants to login, I just check my database to see if the

username exists first and if it does, check if the password matches the given password from the user. Next, the user can navigate different brands of sneakers or choose to use the search engine to look up a specific sneaker they have in mind. If they choose to use the search engine, they will be engaging with the database with all the sneakers stored inside of it. I will create a function where I match either the sneaker name or brand to the search-term that the user entered. Finally, I will be using Javascript and its local storage function for my cart page. It will use event listeners which will detect when the user has clicked on “add to cart” for a specific sneaker. It will update the total based on the sneaker’s price and the quantity that the user wants. Local storage will ensure that when the user refreshes the page, the items in their cart will still be unchanged and intact.

4. **User Interface (UI) Design**

The layout of my website is standard. I will include a header and footer for each webpage and the header will consist of a categories section specifically for the different brands of sneakers. The color scheme will consist mainly of red,black and white because those are the three colors of the logo I will be using for my website. To make my home page engaging, I will incorporate the fading in of various content when the user scrolls down my page. I will also be adding a gif to my home page which will be the first thing that the user sees when they click on my website. I believe that the gif will make my website look more engaging and aesthetically pleasing. I will also add transitions of background color to my buttons when the user hovers over them. This includes “add to cart” buttons, check out buttons, submit buttons, etc. Opacity will also be used when hovering over various elements so that the user knows what they are hovering over. This can be achieved by lowering the opacity when the user hovers over the specific element which gives it a more transparent look. Next, I will be using a lot of flex-box techniques to center elements and display various content such as images. Finally, I will be using grids for my sneakers and organize them into equal rows and columns so that it looks appealing to the user.

5. **Database Design**

I will be creating two tables for the database of my website. One table will function as the storage of all the sneakers on my website and their corresponding attributes. This includes sneaker name, sneaker price, sneaker’s ratings, sneaker’s distinct webpage and the image of the sneaker. All these attributes will be used for my search engine where corresponding sneakers will be displayed when the user searches a specific term. These attributes are required to display all the necessary information about the sneaker. The other table that will be created for my database is used for the login/signup system of my website. The attributes that will be taken when a user signs up includes full name, user’s email, username and password. The full name will be used as display once the user logs into the website. In other words, the website will identify who the user is by their full name. The email isn’t necessarily required but is nice to have for a signup system. Finally, the username and password attributes are self explanatory because they are required to login to the website.

6. Functionality & Features

The main functionalities and features of my website mainly involve adding items to cart and being able to check out once the user is ready. Users will be able to analyze each sneaker and decide whether they want to add it to their cart or not. To detect when a user clicks a “add to cart” button, I will incorporate the use of event listeners in Javascript. Then I will target the specific button’s neighboring elements which include the sneaker’s name, price and the sneaker size that the user selected and add all this information to the cart. This information is required because we need to calculate the grand total once the user decides to check out. Once the user is ready to check out, they can go to the cart page where they’ll be able to change quantities of different sneakers they have added to their carts. The grand total will be updated each time they change the quantities they desire. It will also be updated each time the user adds a new sneaker to their cart. Once the user is ready to check out, it will notify the user that their purchase is complete and the cart will be resetted with zero balance and zero items. If the user wants to make another purchase, they will have a fresh new cart to do so.

7. Technology Stack

For the front-end, I plan to use HTML, CSS and Javascript. I will mostly use HTML to write text, headers and split my website into different sections such as header, main content, and footer. As for CSS, I will be using it to style the content of my website so that it is user friendly. This includes incorporating spacing between elements, positioning elements and applying colors to different content. Finally, Javascript will allow me to transform my pages into a dynamic website. It will allow me to create dropdown menus, live timers, create popup modals, and style different elements at certain scenarios. As for the backend, I will be using Javascript and PHP. Javascript will allow me to create my cart page by tracking down when “add to cart” buttons are pressed, manipulating the total price in the cart and displaying the items that are added to the cart. PHP will allow me to take input from users in forms and input the data of my sneakers onto my database. The PHP version I will be using is 8.0.1. Also, it will allow me to fetch data from my database when I require it. To conclude, I will be using MySQL for my database which will allow me to create tables and input data into the rows and columns of the table. The version I will be using for MySQL is 5.7.24.

8. Challenges & Mitigation

There were many challenges that I faced during the development process. For example, one challenge was to get long text to not overflow in their containers. I addressed this by either limiting the amount of text allowed or using an overflow property in CSS where I set the overflow to hidden. Another challenge I had was centering elements or positioning elements where I wanted them to be on the page. My solution was to use flex-box, text-align, margins and padding for the content on my page. By using these properties, I can create equal rows and columns maintaining spacing of text from their neighboring elements. Finally, I had difficulty determining how to create the login system on my page. I had to use a bit of external help through watching videos of other people creating their login system. Once I understood how the process works, creating a signup form, adding all the information onto the database,

determining whether the login information matches the information fetched from the database, I was able to create my own login system. This also goes with my cart page where I watched another tutorial to achieve the same results.

9. **References**

- https://www.youtube.com/watch?v=gCo6JqGMi30&t=3114s (This youtube tutorial gave me the knowledge to create my own login system)
- https://www.flightclub.com/ (This sneaker website inspired some of the features I incorporated into my own website such as the images and the style of my header
- https://www.youtube.com/watch?v=1Q74A6ZQxdY&list=PLoN_ejT35AEhzNoPStBzAkpqAu3YQwPj7 (This playlist from youtube allowed me to visualize how my cart page should function and look like. It also taught me how Javascript works)