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CSCI-201 Final Project Technical Specification

Project Description:
- The project is a color-based outfit search and combination website. This website enables users to share their favourite outfit combinations with other users, explore cool color combinations, and be creative in their color palette combinations.

Technology:
MySQL Workbench:
- The MySQL Workbench is a visual database design tool that is used to manage the data stored for the project. For this specific project, we are going to store 4 different data sets: User, Items, Outfits and User session info.

JDBC:
- Java Database Connectivity (JDBC) is an application programming interface (API) for the programming language Java. It is used to wrap SQL queries in our Java Shell.

Java shell:
- Java is a high-level, class-based, object-oriented programming language. It provides various functionalities and can run on different running environments.

HTML & CSS & JavaScript & Vue.js:
- VueJS is a progressive JavaScript framework used to build interactive user interfaces.
- We will use these to develop the front end of our project, as an attempt to make our front end code easier to maintain and scale. Moreover, we will use Vue.js and javascript to communicate with the backend and display dynamic contents from the backend to the users.

Python
- Python, the programming language, will allow us to use its vast variety of libraries for scraping and extracting color palettes. You can view the language documentation at https://www.python.org/doc/. The libraries that we may use are colorgram.py or color-thief-py for color generation and extruct for scraping website metadata.

Modules:

Databases:

Functionality & Features:
- The MySQL Workbench is used to store the data of 4 different sections of our project: User, Items, Outfits and User session info. The User database will store the username and password information of the user when he/she has registered an account. Whenever the user login, we will verify its username and password before it can continue to the Color Palette page. The Items database will store all these scrapped items from the cloth sites in order to gain quick access and their information from our database. The outfit created by the user will store the specific products the user has chosen for its specific color palette, and whether it is publicly or privately posted. The user session info will store the User's session ID to verify if the User is active or inactive.

Purpose:
- To store all the needed information of the User, sorted Items, Outfits and the user session info in order to efficiently communicate with the front-end o   r maintain the functionality requested from the front-end. Specifically, User information is stored in order to remember the authenticated users who have registered to our website so that when they login again we could provide them with their past information and make them available to user functionalities. Sorted items are stored to provide users quick access to them on our website by just doing color matching instead of searching for them then matching at the spot. The outfits created by the users are the ultimate products of the users on our website. It is also important to store for ranking and searching in the View Ranking page. The session information is needed to keep track of the user's activity status for security purposes as the user's account should not be making actions when it is inactive.

Log-in page:

Functionality & Features:
- The user may log in using their username and password combination. The front-end page will send a request to look up the user account information database and see if there is a match.
    - If there is a match, the user will be logged in and provided a session ID, which will be stored in the user session info database so that the log-in status is remembered. Cookies will be used to ensure the user stays logged in.
    - If there is no match, the user will be prompted to enter username & password again.
- For new users, they may be redirected to create an account page to sign up.

Purpose:
- The purpose of the log-in page is to authenticate users with an account and to provide extra functionalities for them. This is done to encourage users to sign up.

Create an account page

Functionality & Features:
- The user may sign up for an account using a username, password, and email address.
- The username cannot contain special characters and must be unique; the password will have a minimum length of 6; and the email address must be in a valid format.
- Email address ownership will not be confirmed.

Purpose:
- This will allow a user to log-in and access special functionality (viewing other users' outfits and submitting theirs publicly).

Choose your color page:

Functionality & Features:
- The user may choose up to 4 colors for their color palette using color wheel and submit it to proceed.
- The user may also specify RGB using a text box.

Purpose:
- The user can specify what color they want for their outfits.

Product page

Functionality & Features:
- The user would be able to view a list of products based on their choice of color palette. Each product would include the basic information (name, price, picture, brand, source, and description), a link to the website product page, and an "add" button.
- The user may add an unlimited number of products to their outfit page and post it. The outfit combination could only be created and posted one at a time.

Purpose:
- The user may view various products from different websites, create their own outfit combinations based on their color palette, and purchase them using the link.

View current outfit page (my cart)

Functionality & Features:
- The user may choose to post them privately (save) or publicly.
- The user may delete any product from the current outfit combination.

Purpose:
- The purpose of this page is to let users view all the outfits they have already chosen and let them decide if they want to keep/delete each item. Once they are happy with the outfit combination, they can submit it either publicly (only for authenticated users) or privately.

View outfits page:

Functionality & Features:
- User may view shared shopping carts of other users to see their outfit selections
- A user can also like other users' selections, which may allow the liked selection to be ranked higher.

Purpose:
- The purpose of this is to encourage users to share their outfits ideas, promote user engagement, and spread fashion ideas. It also promotes competition between users and encourages them to create the best possible outfits.