**Assignment: Twitter Clone - HTML, CSS, and Vanilla JavaScript**

Objective:

In this assignment, you will build a Twitter clone using HTML, CSS, and Vanilla JavaScript. The Twitter clone will have full CRUD (Create, Read, Update, Delete) functionality and will connect to a Firebase database. You will be responsible for setting up the database, implementing login functionality, creating new user accounts, allowing users to post tweets, edit their tweets, delete tweets, and ensuring the application is optimized for both web and mobile devices.

Requirements:

1. Database Setup:

- Set up a Firebase database to store user information and tweet data.

- Define appropriate collections and document structures to store user accounts and tweets.

2. User Authentication:

- Implement a user authentication system that allows users to sign up and log in.

- Use Firebase Authentication or build your own authentication system using email and password.

- Validate user input and handle authentication errors gracefully.

3. User Management:

- Provide a user registration form where new users can sign up for an account.

- Store user account information in the Firebase database.

- Implement functionality to update user profiles and handle password changes.

4. Tweet Creation:

- Design a user-friendly interface where users can compose and submit tweets.

- Validate tweet content and handle empty or invalid inputs.

- Save the tweet data in the Firebase database.

5. Tweet Display:

- Fetch and display tweets from the Firebase database.

- Implement pagination or infinite scrolling to load additional tweets as the user scrolls.

- Optimize the tweet display for both web and mobile devices.

6. Edit and Delete Tweets:

- Allow users to edit their own tweets.

- Implement functionality to delete tweets.

- Ensure that only the tweet creator can edit or delete their own tweets.

7. Responsive Design:

- Make the Twitter clone responsive and optimized for various screen sizes.

- Use CSS media queries and responsive design techniques to adapt the layout for different devices.

8. User Experience and Interface:

- Implement a clean and intuitive user interface that resembles the Twitter platform.

- Use appropriate icons, colors, and typography to enhance the user experience.

- Provide clear feedback and error handling to guide users throughout the application.

Submission Guidelines:

- Submit your project as a compressed folder containing all the necessary HTML, CSS, and JavaScript files.

- Include any additional instructions or setup information for running the application.

- Clearly document any assumptions or considerations made during development.

- Optionally, provide a README file with instructions on how to set up the Firebase database and any other dependencies.

Note:

- You may use external libraries or frameworks for UI components, CSS styling, or Firebase integration if you prefer, but make sure to include them in your submission and document their usage.

- Ensure your code is well-structured, maintainable, and follows best practices for HTML, CSS, and JavaScript development.

Evaluation Criteria:

Your assignment will be evaluated based on the following criteria:

- Functionality: Does the Twitter clone meet all the requirements and provide the expected functionality?

- Code Quality: Is the code well-structured, readable, and follows best practices for HTML, CSS, and JavaScript?

- User Experience: Is the user interface intuitive, responsive, and visually appealing?

- Database Integration: Is the Firebase database set up correctly, and are data operations (CRUD) implemented accurately?

- Mobile Optimization: Does the application display properly and provide a good user experience on mobile devices?

- Error Handling: Does the application handle user input validation, authentication errors, and other potential issues gracefully?

Good luck with your assignment! Remember to plan and prioritize your tasks effectively and seek assistance or clarification from your instructor as needed.