**1. Project Overview:**

**2. Project Structure:**

* **Frontend Technologies:** React, HTML, CSS
* **Core Components:**
  + **Editor Component:** Handles code input and formatting for HTML, CSS, and JavaScript.
  + **Preview Component:** Displays the rendered output of the code using an iframe.
  + **Header Component:** Contains navigation or project-related information.

**3. Features Implemented:**

* **Code Editing:** Use of react-codemirror2 to provide a rich text editor with syntax highlighting.
* **Code Formatting:** Integration with Prettier to format HTML, CSS, and JavaScript code.
* **Live Preview:** An iframe displays the output of the code in real-time.
* **Expandable/Collapsible Panels:** Allow users to expand or collapse individual code editors.

**4. Key Technical Details:**

* **Controlled Editor:** Manages editor content using React state, ensuring synchronization between editor and state.
* **CodeMirror Integration:** Provides syntax highlighting and code editing features.
* **Styling:** Utilizes CSS for layout and appearance, including responsive design considerations.

**5. Implementation Steps:**

* **Initial Setup:** Created the basic layout with HTML and React.
* **Editor Component:** Implemented the code editor with syntax highlighting and code formatting.
* **Preview Integration:** Set up an iframe to display live output from the code editor.
* **Formatting Feature:** Added functionality to format code using Prettier.

**6. Challenges Faced:**

* **Responsive Design:** Ensuring the iframe and editor panels adjust to different screen sizes.
* **Code Formatting Integration:** Configuring Prettier for multiple languages and handling various edge cases.

**7. Future Enhancements:**

**8. Demonstration:**

* **Walkthrough:** Show how to use the editor, format code, and view the live output.
* **Examples:** Present different code snippets and their rendered results.

**9. Conclusion:**

By following these points, you'll be able to present your project clearly and effectively, showcasing its functionality and highlighting the technical aspects you've worked on.