Project Name: Trello Board

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1. Introduction

The Trello Board project is a web-based application aimed at simulating the functionality of a Trello-like task management system. It allows users to create, organize, and manage tasks across different stages of completion.

2. Design Approach

The design approach for the Trello Board project follows a modular and component-based architecture. React.js is used as the front-end library for building interactive user interfaces, while component composition and state management techniques are employed to create a seamless user experience.

3. Components Overview

3.1. Board

The `Board` component serves as the main container for organizing columns and cards. It utilizes React Context API for state management and passes down necessary data to child components.

3.2. Model

The `Model` component is responsible for displaying a modal window for adding or editing tasks. It interacts with the `Board` component through props to manage the state of the modal and handle task operations.

3.3. Column

The `Column` component represents a single column within the board layout. It displays a list of cards associated with the column and provides drag-and-drop functionality for reordering cards between columns.

3.4. Card

The `Card` component represents an individual task card displayed within a column. It allows users to view task details, drag cards to reorder them, and delete tasks as needed.

4. Code Design Choices

- Component Reusability: Components are designed to be reusable and composable, allowing for easy integration and maintenance.

- State Management: React hooks such as `useState` and `useContext` are used for managing component state and sharing data between components.

- Drag-and-Drop: The drag-and-drop functionality is implemented using HTML5 drag-and-drop API, enabling users to intuitively reorder tasks within columns.

- Modal Window: A modal window approach is used for adding and editing tasks, providing a seamless user experience without navigating away from the main board view.

Conclusion

The Trello Board project demonstrates the effective use of React.js and component-based architecture to create a dynamic and interactive task management application. By following best practices in code design and UI/UX principles, the project provides users with a user-friendly interface for organizing and managing tasks effectively.