Kanban Board Interview Assignment

Assignment Submission Options
Deadline - 2 days (Backend Only)

Introduction

In this assignment, you will be creating a Kanban board application using the specified technologies. The goal is to implement a feature-rich Kanban board that allows users to manage tasks efficiently. You will have the option to add additional features and use certain technologies to enhance the application.

Technologies

You are required to use the following technologies:

- TypeScript
- Next.js
- Node.js
- Express.js
- MongoDB
- Tailwind CSS

Optional technologies that can be used:

- Shadcn UI
- WebSocket framework (e.g., Socket.IO)

Functionalities

Your Kanban board application should have the following functionalities:

1. **Home Page**: Display a list of Kanban boards on the home page.
2. **Kanban Board CRUD**: Implement Create, Read, Update, and Delete operations for Kanban boards.
3. **Kanban Board Properties**: Each Kanban board should have a name and description.
4. **Kanban Columns**: Each Kanban board should have a minimum of 3 columns: "To Do," "In Progress," and "Completed."

5. **Kanban Item Properties**: Each item within the board should have a name, description, and an optional due date.
6. **Column CRUD**: Implement Create, Read, Update, and Delete operations for Kanban board columns.
7. **Item CRUD**: Implement Create, Read, Update, and Delete operations for Kanban board items.
8. **Drag and Drop**: Make Kanban board items draggable and droppable within columns.
9. **Database Integration**: Save the Kanban board and its data in a MongoDB database.

Good to Have

While the above functionalities are the minimum requirements, you are encouraged to include the following features:

1. **Auto Save**: Implement auto-saving of Kanban boards to the database.
2. **Real-time Updates**: Use WebSocket or a similar framework for real-time updates in the application.
3. **Search Bar**: Include a search bar that allows users to search for specific Kanban board items.
4. **Additional Features**: You are free to add any other features that you believe would enhance the Kanban board.

Bonus Items

For bonus points, you can include the following:

1. **Unit Tests**: Provide unit tests for each component in the application.
2. **Deployment**: Deploy the application to a hosting service (Vercel, AWS preferred) and provide instructions for accessing the live application.

Submission Guidelines

- Create a GitHub repository for your project.
- Implement the Kanban board application with the specified functionalities.
- Submit the GitHub repository URL along with any additional documentation you think is necessary.

Evaluation Criteria

Your assignment will be evaluated based on the following criteria:

1. **Functionality**: Does the application meet the specified requirements and any additional features you've added?
2. **Code Quality**: Is the code well-structured, clean, and maintainable?

3. **Use of Technologies**: Have you effectively used the required technologies and optional technologies where applicable?
4. **User Interface**: Is the user interface intuitive and user-friendly?
5. **Database Integration**: Is the database integration working correctly?
6. **Real-time Updates**: If you choose to implement real-time updates, do they work as expected?
7. **Bonus Items**: If you include any bonus items, are they thorough and well-documented?

Please note that this assignment is designed to assess your skills in web development and the specified technologies. Good luck with your assignment, and we look forward to seeing your Kanban board application!