Software Requirements Specification (SRS)

Project: TIB - Task & Idea Board

1. Introduction

1.1 Purpose

The purpose of this document is to define the software requirements for the **Task & Idea Board (TIB)** application. TIB is a web-based Kanban-style project management tool designed to help individuals organize tasks, visualize workflows, and improve productivity.

1.2 Scope

The application allows users to create accounts, manage multiple boards, and organize tasks within those boards using columns and cards. Key features include drag-and-drop functionality, task prioritization, and search capabilities.

2. Overall Description

2.1 Product Perspective

TIB is a standalone web application consisting of a React frontend and a Node.js/Express backend, utilizing a PostgreSQL database for persistent storage.

2.2 User Characteristics

The primary users are individuals looking for a simple, intuitive tool to manage personal projects or daily tasks. No technical expertise is required to use the application.

3. Functional Requirements

3.1 User Authentication

- **FR-01 Signup**: Users must be able to create an account using an email and password.
- **FR-02 Login**: Users must be able to authenticate using their registered email and password.
- **FR-03 Session Management**: The system must maintain user sessions using JWT (JSON Web Tokens).
- **FR-04 Logout**: Users must be able to terminate their session securely.

3.2 Board Management

- **FR-05 Create Board**: Authenticated users can create new boards with a custom title.
- **FR-06 View Boards**: Users can view a list of all boards they have created.
- **FR-07 Delete Board**: Users can delete a board. This action must cascade and delete all associated columns and cards.

3.3 Column Management

- **FR-08 Default Columns**: New boards must be initialized with default columns (e.g., "To Do", "In Progress", "Done").
- **FR-09 Add Column**: Users can add new columns to a board.
- **FR-10 Delete Column**: Users can delete a column. This action must cascade and delete all cards within that column.

3.4 Card Management

- **FR-11 Create Card**: Users can add tasks (cards) to any column with a title, description, priority, and due date.
- **FR-12 Edit Card**: Users can modify the details of an existing card.
- **FR-13 Delete Card**: Users can remove a card from the board.
- **FR-14 Drag and Drop**: Users can move cards between columns or reorder them within the same column using drag-and-drop interactions.
- **FR-15 Search**: Users can filter cards on the board by title or description.

4. Non-Functional Requirements

4.1 Security

- **NFR-01 Password Storage**: Passwords must be hashed using bcrypt before storage.
- **NFR-02 API Security**: All API endpoints (except auth) must require a valid JWT token.

4.2 Performance

- **NFR-03 UI Responsiveness**: Drag-and-drop operations should feel instantaneous to the user.
- **NFR-04 Load Time**: The dashboard and board views should load within 2 seconds under normal network conditions.

4.3 Usability

- **NFR-05 Interface**: The UI shall implement a modern "Glassmorphism" aesthetic with intuitive navigation.
- **NFR-06 Feedback**: The system must provide visual feedback for actions (e.g., loading states, success messages, error alerts).