Task Management Application Using React

Introduction

The Task Management Application is a feature-rich web-based tool designed to help users effectively organize and manage their tasks. Built using React, this application provides a user-friendly interface and an array of features to enhance productivity, including customization options, task filtering, and visual feedback. With its light and dark modes, countdown timer, and seamless integration with JSON server for data storage, the application is an ideal solution for managing day-to-day tasks efficiently.

Features

- **Light & Dark Modes:** The application supports both light and dark themes, allowing users to customize the interface based on their preferences or environmental conditions. This feature ensures better usability and reduces eye strain during extended usage.
- **Edit Task:** Users can easily edit existing tasks to update details or correct errors. This feature ensures flexibility in task management, enabling real-time updates as priorities change.
- **Add Task:** Users can quickly add new tasks to the list, ensuring that no task is overlooked. The input form is designed for simplicity and ease of use.
- **Count-Down Timer:** The application includes a countdown timer feature to help users stay focused on time-bound tasks. This visual cue encourages better time management.
- **Theme Change:** Apart from light and dark modes, users can switch between different color themes to personalize their experience further.
- **Toggling:** Tasks can be toggled between active and completed states with a single click, making it easier to track progress.
- **Filter the Task:** Users can filter tasks based on specific criteria, such as active or completed tasks, for better organization and prioritization.
- **Search:** The search functionality allows users to locate tasks quickly using keywords, saving time and effort when managing large task lists.
- **Delete Task:** Tasks can be deleted effortlessly, ensuring the list remains clean and relevant. Users can remove completed or irrelevant tasks with a single click.

Homepage Design

The homepage of the Task Management Application is thoughtfully designed to provide a seamless and user-friendly experience for managing tasks

Header Section

At the top of the homepage is the header section, which includes essential navigation and control features:

- Greeting & Festive Message: Displays a personalized or festive greeting, such as "Advance Happy Pongal," adding a touch of positivity and relevance based on the context or season.

- Tagline: Encourages motivation with phrases like "Make this year super," fostering a productive mindset.

- Theme Toggle: A toggle switch allows users to alternate between light and dark modes or customize the theme colors.

- Countdown Timer: Positioned prominently, the countdown timer provides real-time tracking of a specific event or time-bound task, helping users stay focused and organized.

Words of Wisdom

Beneath the header, a "Words of Wisdom" section is displayed prominently, featuring motivational quotes. This element serves to inspire and engage users as they interact with the application & the quotes will be changing whenever page is refreshed.
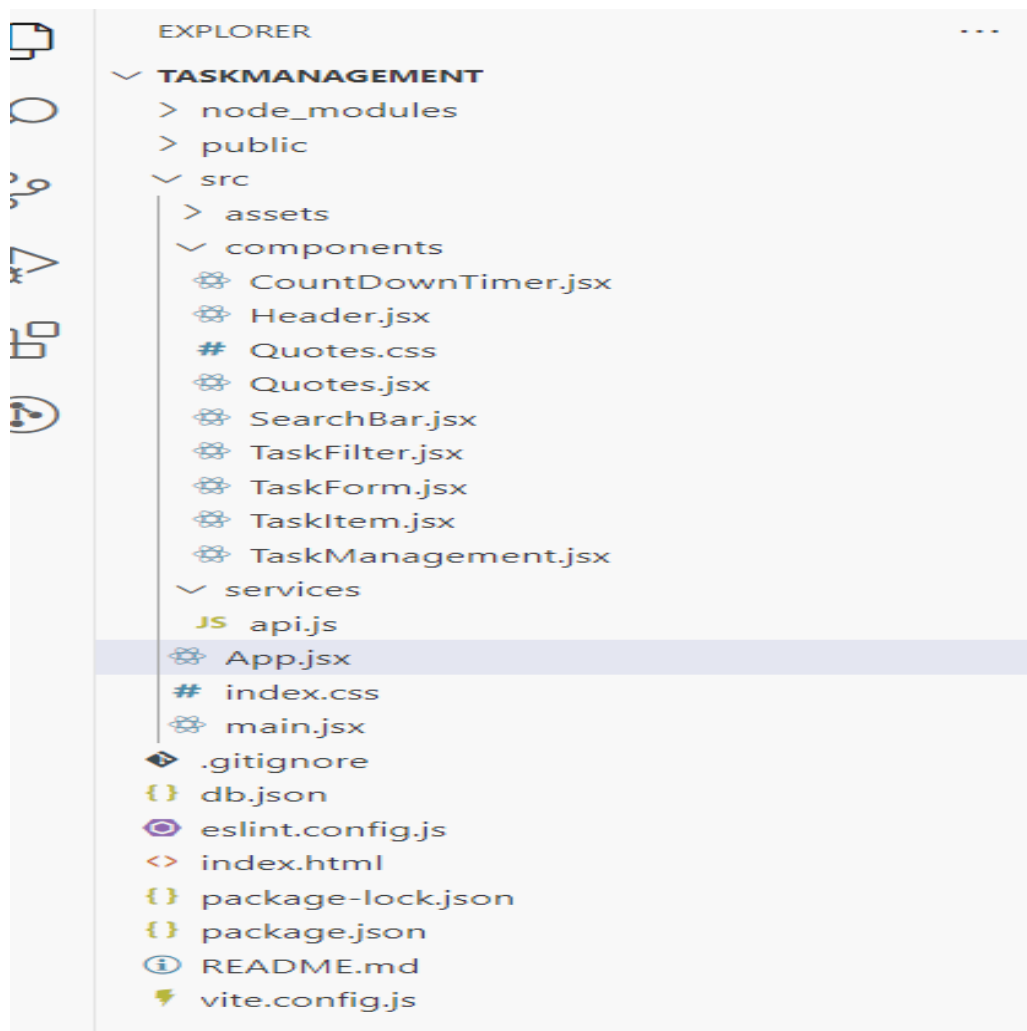
Task Management Features

- Search Bar: Allows users to search for tasks by keywords, providing quick access to specific tasks.

- Add Task Section: Includes an input field for task details, a priority dropdown (e.g., Low, Medium, High), and an "Add Task" button. This section streamlines task creation.

- Filter Buttons: Users can filter tasks to view "All," "Completed," or "Pending" tasks. This enhances task organization and focus.

- Task List: Displays tasks in a clean and structured format. Each task is shown with:

  - Priority level, marked by tags (e.g., Medium, High).

  - Action buttons for editing, deleting, and toggling completion status.

- Interactive Visual Feedback: The interface uses color-coded tags and intuitive buttons for actions, ensuring tasks are easy to identify and manage.

Technologies & Libraries Used

- **Bootstrap:** Used for responsive design and styling, ensuring a consistent look and feel across devices and screen sizes.
- **Bootstrap-icons:** Provides a wide range of icons for buttons and visual elements, enhancing the application's user interface.
- **React Toastify:** Used for displaying toast notifications to inform users about actions, such as task creation or deletion.
- **React Confetti:** Adds a celebratory confetti animation when significant milestones, such as completing all tasks, are achieved.

- **Axios:** A promise-based HTTP client used for making API calls to the JSON server, enabling seamless data storage and retrieval.
- **Json server:** Used as a mock backend to store task data persistently. It simplifies development and testing by providing an easy-to-set-up database.
- **React.js:** The core framework used for building the user interface and managing state across components. React ensures the application is dynamic and responsive.
- **CSS & Custom Styling:** For creating custom themes, including light and dark modes, and for fine-tuning UI components beyond what is provided by Bootstrap.
- **React Hooks:** Utilized for managing state and side effects in functional components. Hooks like useState, useEffect simplify state management and enhance component logic.

Project Structure

EXPLORER

∨ **TASKMANAGEMENT**
- > node_modules
- > public
- ∨ src
  - > assets
  - ∨ components
    - ⚛ CountDownTimer.jsx
    - ⚛ Header.jsx
    - # Quotes.css
    - ⚛ Quotes.jsx
    - ⚛ SearchBar.jsx
    - ⚛ TaskFilter.jsx
    - ⚛ TaskForm.jsx
    - ⚛ TaskItem.jsx
    - ⚛ TaskManagement.jsx
  - ∨ services
    - JS api.js
  - ⚛ App.jsx
  - # index.css
  - ⚛ main.jsx
- ◆ .gitignore
- {} db.json
- ◎ eslint.config.js
- <> index.html
- {} package-lock.json
- {} package.json
- ⓘ README.md
- ⚡ vite.config.js

The project follows a modular structure to ensure maintainability and scalability:

- **src/**

  - ➢ **components/:** Contains reusable UI components such as TaskList, TaskForm, Header, and CountdownTimer.

➢ **services/:** Handles API calls using Axios.

➢ **App.jsx:** The main application entry point.

➢ **main.jsx:** Renders the React application to the DOM.

Usage

➢ Clone the repository and navigate to the project folder.

➢ Install dependencies using npm install.

➢ Start the JSON server with json-server --watch db.json.

➢ Run the application using npm start.

➢ Open the application in a web browser at http://localhost:5000.

➢ Add, edit, delete, search, and filter tasks as needed. Use the countdown timer and theme options to enhance productivity.

Conclusion

The Task Management Application demonstrates how React can be used to create a dynamic, user-friendly tool for task organization. Its rich feature set, modern design, and responsive interface make it a valuable asset for anyone looking to improve their productivity. With potential for further enhancements, such as integration with third-party services, the application serves as a solid foundation for more advanced task management solutions.