Smart To-Do List: A React Hooks PoC App

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Project Overview

Smart To-Do List is a lightweight, single-page React application that demonstrates how to use core **React Hooks** to build an interactive, functional task management app. It includes features such as filtering, theming, and task persistence using `localStorage`.

This project serves as a Proof of Concept (PoC) illustrating how to use a modern React-based application framework with hooks, fulfilling the assessment requirement for a framework PoC (option D).

Technologies Used

- React (via Vite)
- JavaScript (ES6)
- CSS (custom, no framework)
- React Hooks: `useState`, `useEffect`, `useContext`, `useRef`

Core Features and Hooks

Feature	**Hook Used**	**Purpose**
Add/Delete Tasks	`useState`	Manage list of tasks in component state.
Task Completion Toggle	`useState`	Toggle completed status and UI updates.
Filter Tasks	`useState`	Switch between All, Active, Completed views.
Persist to LocalStorage	`useEffect`	Load and save tasks from/to localStorage.
Autofocus Input	`useRef`	Automatically focus the input on component mount.
Theme Toggle (Dark/Light)	`useContext`	Use global context to manage theme state.

Table 1: Features and Associated Hooks

Example Code Snippets

useState for Tasks

```
const [tasks, setTasks] = useState([]);
```

useEffect for Local Storage

```
useEffect(() => {
  localStorage.setItem('tasks', JSON.stringify(tasks));
}, [tasks]);
```

useContext for Theme

```
const { darkMode, toggleTheme } = useTheme();
```

useRef for Input Focus

```
const inputRef = useRef();

useEffect(() => {
  inputRef.current.focus();
}, []);
```

How to Run the App

1. Clone the repository.
2. Install dependencies:

   ```
   npm install
   ```

3. Start the development server:

   ```
   npm run dev
   ```

Conclusion

This project demonstrates the core capabilities of React Hooks and their role in building modular, modern frontend apps. The Smart To-Do List is simple, clean, and effectively highlights stateful logic and interaction patterns without any third-party dependencies.