

# Next.js / React.js Technical Assessment

You have been invited to complete a 24-hour technical coding assessment to evaluate your skills in React.js and Next.js. This challenge is designed to test your code quality, structure, problem-solving ability, edge-case handling, efficiency, and critical thinking.

## **Goal:**

Build a small **Next.js 14 app (App Router, TypeScript)** that lets a user manage Contacts and Tasks. The app should support viewing, searching, sorting, and paginating contacts, and managing tasks linked to those contacts.

## **Required Features:**

- 1 List, search, sort, and paginate Contacts (10k+ dataset).
- 2 Create, edit, toggle, and delete Tasks linked to Contacts.
- 3 Implement optimistic UI updates and handle simulated API failures.
- 4 Show clear empty and error states with retry.
- 5 Ensure accessibility and keyboard navigation.
- 6 Apply validation and performance optimization (virtualization, memoization).

## **Technical Requirements:**

- 1 Use Next.js 14 (App Router) with TypeScript.
- 2 State management via React hooks or server actions.
- 3 Use consistent styling (Tailwind or CSS Modules).
- 4 Include ESLint + Prettier configuration.
- 5 Add Jest + React Testing Library tests and one Playwright/Cypress e2e test.
- 6 No external DB. Use in-memory data or local JSON file for storage.

## **Deliverables:**

- 1 GitHub repo link or zipped project.
- 2 README with setup instructions, feature checklist, and trade-offs.
- 3 ADR.md with architecture and decision notes.
- 4 LOG.md describing work steps and timeline.
- 5 Unit, component, and e2e tests with clear coverage.
- 6 Optional 3-min demo video showing main app flow and performance.

## **Evaluation Criteria (100 points total):**

- 1 Architecture & Structure (20 points)
- 2 Code Quality (20 points)
- 3 Problem Solving & Correctness (20 points)

- 4 Edge Case Handling (15 points)
- 5 Performance (15 points)
- 6 Accessibility (5 points)
- 7 Testing (5 points)

**Submission Deadline:** 24 hours from assignment.

Please share your GitHub repository or zipped project along with the README and ADR files.  
Good luck — we'll be reviewing your approach, not just completion!