AI-Powered Full-Stack Mock Interview Platform

Project Overview

This project involves building a full-stack SaaS AI mock interview application from scratch, designed to simulate real-life job interviews with AI-powered automation, modern web technologies, and interactive streaming features.

Key Technologies & Tools

- Frontend: React & Next.js (folder-based routing, server components, optimization)
- Automation: n8n for workflow orchestration and AI logic
- Authentication & Billing: Clerk for secure auth and subscription management
- Database: Convex (real-time, type-safe, serverless functions)
- Streaming AI Avatar: Akool API for real-time AI interviewer
- Cloud Storage: ImageKit.io for resumes and file handling
- Security: Arjet for rate limiting, bot detection, and attack prevention
- UI: Tailwind CSS, ShadCN, Aceternity UI components
- Deployment: Vercel for CI/CD and Hostinger for n8n automation

Core Application Functionality

- Secure user authentication with Gmail, email/password, and social sign-ons.
- Resume/job description input to trigger AI-generated interview questions.
- Interactive live mock interviews using a streaming AI avatar with transcripts.
- Real-time controls (mute, unmute, call termination).
- Instant automated feedback with suggestions and ratings out of 10.
- Interview history dashboard for accessing past sessions.
- Free vs paid subscription tiers with daily usage limits for free users.

Workflow of Interview Question Generation

1. Resume uploaded to ImageKit → generates file URL.
2. n8n webhook triggered → resume/job description sent.
3. Resume text extracted via HTTP request and file parser.
4. AI model (OpenAI/Gemini) generates tailored interview questions.
5. Webhook returns questions → stored in Convex database.
6. User proceeds to mock interview session.

Deployment & Production

The application is deployed on Vercel for the frontend, with CI/CD pipelines configured. n8n automation workflows run on Hostinger for scalability. Convex serves as the real-time database backend, ensuring efficient data handling and scalability.