ELEVATEX AI – Intelligent Interview Preparation & Skill Enhancement System

1. INTRODUCTION

ElevateX AI is a full■stack intelligent interview preparation and skill enhancement system designed for students, freshers, and working professionals. The platform helps users practice real interview questions, strengthen technical theory, improve coding skills, and receive AI■powered feedback.

2. OBJECTIVES

• Prepare users for theory-based technical interviews using AI. • Provide auto■generated role■based interview questions. • Enable coding practice with real coding problems. • Provide AI■powered code review and improvement feedback. • Track user skill growth through dashboards.

3. SYSTEM ARCHITECTURE

ElevateX AI consists of: 1. Resume Analysis Module 2. AI Theory Interview Coach 3. Coding Practice Engine 4. AI Code Reviewer 5. User Dashboard and Progress Tracker Frontend: React/Next.js Backend: Node.js + Python (mixed architecture) AI Models: OpenAI / Gemini / HuggingFace Database: MongoDB / NeonDB

4. MODULE 1 – AI THEORY INTERVIEW COACH

• User selects domain (Web Dev, Python, Java, SQL, HR Round) • AI generates role■specific interview questions • User answers in text • AI evaluates: correctness, clarity, confidence, structure • Score + improvement suggestions

5. MODULE 2 – CODING PRACTICE ENGINE

• User selects coding level: Easy / Medium / Hard • AI generates coding problems (DSA, Web Tasks, API tasks) • User writes code in built■in editor • Code is executed in backend sandbox

6. MODULE 3 – AI CODE REVIEW ENGINE

• AI checks user's submitted code for: - Logic correctness - Bug detection - Time complexity - Code readability - Better optimized version • AI generates a detailed review report

7. MODULE 4 – USER DASHBOARD

• Shows completed interview questions • Coding attempts • Skill accuracy levels • AI improvement suggestions • Weekly performance chart

8. MODULE 5 – SKILL PROGRESS TRACKING

• Tracks per■skill score (JavaScript, Python, SQL, React, etc.) • Tracks weak areas & recommends improvements • Weekly and Monthly performance graphs

9. TECHNOLOGY STACK

Frontend: React.js, Next.js, TailwindCSS Backend: Node.js + Express / Python FastAPI Database: MongoDB / NeonDB AI Models: GPT, Gemini, HuggingFace Tools: Inngest, Clerk Auth, n8n Automation

10. SYSTEM WORKFLOW

1. User logs in 2. Uploads resume (optional) 3. System extracts skills 4. User chooses Interview or Coding Mode 5. AI generates questions or coding tasks 6. User submits answers 7. AI reviews & gives feedback 8. Dashboard tracks progress

11. FUTURE ENHANCEMENTS

• Voice■based interview • Video■based body language analysis • Gamified skill levels • Multi■language interview support

12. CONCLUSION

ElevateX AI is an intelligent, scalable, full■stack interview preparation system that integrates theoretical knowledge assessment, coding skill evaluation, and AI■driven feedback into one seamless platform.