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PROJECT REPORT – CONCEPT NOTE

Project Title: PrepWise – AI Powered Mock Interview Platform

Introduction

In today's competitive job market, interview preparation is essential for career success. Many students rely on text-based AI tools or peer practice, but these methods fail to provide a realistic interview experience. PrepWise is an AI-powered mock interview platform designed to simulate real interview conditions using voice-based interaction, personalized questions, and detailed performance feedback. The goal is to bridge the gap between knowing answers and performing confidently in real interviews.

Problem Statement

Students often struggle with real-time communication, handling pressure, and responding to follow-up questions during actual interviews. Existing mock interview services are expensive, limited in accessibility, and provide inconsistent or subjective feedback. There is also a lack of personalization and measurable performance tracking in traditional preparation methods.

Objective

The main objective of this project is to develop an AI-powered mock interview system that can conduct realistic interview sessions through voice interaction, generate personalized questions based on job role and skill level, and provide comprehensive performance analysis. The platform also aims to improve user confidence, accessibility, and continuous learning through feedback.

Why This Problem?

Many capable students fail in interviews not due to lack of knowledge, but due to lack of practice in real-like conditions. Professional mock interviews are costly and not accessible to everyone, especially students from tier-2 and tier-3 cities. By solving this problem, PrepWise supports equal opportunity and helps learners build confidence and communication skills.

Solution: Overview

PrepWise provides a web-based AI mock interview platform where users can create personalized interview sessions by selecting job role, experience level, and skills.

The system conducts voice-based interviews using AI, analyzes user responses, and generates structured feedback reports. This creates a safe environment for continuous practice and improvement.

Key Features

- AI-powered personalized question generation
- Real-time voice-based interview sessions
- Comprehensive feedback with scores (communication, technical skills, confidence, etc.)
- Performance history and progress tracking
- Resume-based question customization (optional)
- Accessible web-based platform available anytime

Technical Implementation

- The platform is built using modern web technologies.
- The frontend uses React/Next.js for a responsive user interface.
- Firebase is used for authentication and data storage.
- Google Gemini AI is integrated for intelligent question generation and feedback.
- while Vapi AI is used for voice processing.
- The system follows a modular and scalable architecture to support future enhancements.

Why These Tools and Technologies?

- Google Gemini AI: For advanced natural language understanding and intelligent feedback generation
- Firebase: For secure authentication, real-time database, and scalability
- React/Next.js: For efficient, responsive, and user-friendly interface
- Vapi AI: For real-time speech recognition and natural voice interaction

Conclusion

PrepWise represents a meaningful step towards improving interview preparation through the use of artificial intelligence. By providing a realistic, voice-based mock interview experience, the platform helps bridge the gap between theoretical knowledge and actual performance. Students often struggle not because they lack knowledge, but because they lack confidence, communication practice, and exposure to real interview environments. This project directly addresses that

challenge.

The integration of AI technologies such as Google Gemini and voice interaction tools allows users to receive personalized questions and detailed feedback, making learning more effective and goal-oriented. The system also encourages continuous improvement through performance tracking and self-reflection. Overall, PrepWise is not just a technical project but a practical solution that can support students, job seekers, and institutions in enhancing interview readiness and building confidence for real-world success.