**INVIEW-AI**

## A PROJECT

*Submitted by*

**Gunnidhi Mago E23CSEU0511)**

**Jasnoor Kaur Bhullar (E23CSEU0512)**

**Shreya Tiwari (E23CSEU0537)**

*Submitted to*

Dr Shwetang Dubey

Assistant Professor

School of Computer Science Engineering and Technology



SCHOOL OF COMPUTER SCIENCE ENGINEERING AND TECHNOLOGY

BENNETT UNIVERSITY, GREATER NOIDA

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LIST OF ABBREVIATIONS

| Abbreviation | Full Form |
| --- | --- |
| TTS | Text-To-Speech |
| VAPI | Voice API (used for TTS and interaction) |
| NLP | Natural Language Processing |
| DB | Database |
| CRUD | Create, Read, Update, Delete |
| SDK | Software Development Kit |
| QA | Quality Assurance |
| JWT | JSON Web Token (for authentication) |
| SSR | Server-Side Rendering (used in Next.js) |
| CDN | Content Delivery Network |
| HTTP | Hypertext Transfer Protocol |
| HTTPS | Hypertext Transfer Protocol Secure |
| JSON | JavaScript Object Notation |

1.INTRODUCTION

#### In today’s highly competitive job market, interview performance often determines a candidate’s success in securing opportunities. Despite the availability of numerous preparation resources, many candidates struggle to practice effectively under conditions that mimic real-world interviews. Traditional preparation methods, such as static question banks and written exercises, often fail to recreate the spontaneous, dynamic nature of live interview conversations. As a result, many candidates find themselves unprepared to think quickly, respond confidently, and adapt naturally during actual interviews.

#### InView AI addresses this critical gap by offering a real-time, voice-based mock interview assistant designed to simulate professional interview environments. The system utilizes Vapi AI for speech-to-text and text-to-speech capabilities, enabling real-time voice interactions, while Gemini Flash 2.0 powers intelligent natural language processing for question generation and response evaluation. Users engage with the platform through realistic, voice-driven practice sessions, receiving dynamically generated questions and immediate feedback aligned with Applicant Tracking System (ATS) standards. This structure helps candidates enhance their clarity, relevance, and confidence in responding to interview prompts.

Problem Statement

#### Company recruitment processes depend heavily on conventional techniques that are time-consuming, biased, and inefficient. Conducting an interview, assessing the candidates, and giving feedback is a time and labor-intensive human process that develops with delays and inconsistent judgments. Further, for candidates who do not have easy access to skilled interviewers, the practice and feedback opportunities are limited, and thereby their performance and confidence may also suffer.

#### Furthermore, although technical, communication, and problem-solving skills are best measured using interviews, they are subjective in nature and are difficult for many recruiters to keep consistently objective while assessing candidates. This shortcoming in the hiring process results in inefficient recruitment and makes it difficult for candidates to prepare for actual job interviews.

#### Inview AI solves this challenge by providing an intelligent, AI-driven interview assistant. The assistant makes it possible for candidates to practice actual interview scenarios, practice different questions, and receive feedback on their performance. The platform also stores interview data on Firebase, produces tailored interview cards, and analyzes responses to give performance statistics. The process not only minimizes bias but also renders interview practice more accessible and streamlined for applicants, making the entire recruitment process better for both companies and applicants.

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#### Dataset Description

#### In the Inview AI initiative, we don't use a conventional dataset. Instead, we leverage Vapi and Gemini APIs to create real-time, dynamic interview simulations tailored to job specifications, candidate skill levels, and interview challenges.

#### Vapi API generates and adapts interview questions (technical, behavioral, problem-solving) based on candidate progress and role requirements.

#### Gemini API scores responses, providing detailed feedback on accuracy, clarity, and depth to highlight strengths and areas for improvement.

#### This live, adaptive system eliminates the need for a fixed dataset, offering scalable, cost-effective interview practice and assessment for both candidates and recruiters

#### Real-Time Performance Tracking

#### Stored candidate performance data, i.e., time taken to complete a question, accuracy of responses, and score feedback, in Firebase. Develop a real-time performance dashboard where candidates are able to see their status and where the recruiter can analyze the performance of the candidates.

#### Created a graphical dashboard to monitor overall interview performance and provide analytics to candidates and recruiters.

#### Text-to-Speech Functionality

#### Implemented Vapi AI to translate questions to speech. This assists candidates to practice voice responses, giving a similar experience to the actual interview. Introduced a button that makes candidates hear every question besides reading.

#### Scalable and Interactive Features

#### Utilized Firebase real-time database to synchronize data between the server and the client. The candidate responses, feedback, and performance data are updated in real time across devices.

#### Built the system to operate across many users at a time to enable smooth running of the interviews even at high traffic.

#### Deployment

#### Used Vercel to deploy the frontend application for smooth and speedy hosting. Implemented continuous deployment for quick updates and patches.

#### Backend Deployment: Implemented the backend API on Heroku or AWS to handle API requests and connect to Firebase.

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#### Results and Analysis

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#### The rollout and development of Inview AI provided extremely encouraging results, exceeding and matching the initial goals of the project. The platform functioned successfully to enable candidates to undertake realistic, AI-based interviews simulating actual practice conditions. Leveraging Vapi AI for dynamic question creation, candidates were provided with customized and pertinent questions reflecting their skill set, experience category, and job profile. This rendered a distinctive and interesting interview experience to every user, enhancing the platform’s versatility across various domains substantially.

#### Gemini Flash integration enabled real-time assessment of candidate responses. It analyzed core parameters like content correctness, communication ability, and logical thinking and provided comprehensive feedback reports instantly. The feedback system made it easier for candidates to identify their areas of strength and improvement and also to target their preparations more efficiently.

#### Firebase provided a vital function of storing and synchronizing data in real time, enabling effortless updates to the candidates' responses, scores, and the evaluators' ratings. Recruiters were also provided the analytics dashboard, where they were able to monitor candidates' performance, view comprehensive reports, and filter candidates according to their performance.

#### System testing on various devices and users validated the scalability and reliability of the system. Simultaneous interview sessions were processed by the application without delay and loss of data due to effective API management and database optimization. User feedback obtained from surveys reported high satisfaction with the platform’s user-friendliness, accurate response, and personalization.

#### In conclusion, Inview AI was able to demonstrate the feasibility of how AI technologies such as conversational bots, intelligent evaluation systems, and real-time databases may be integrated to create an scalable, interactive, and extremely effective interview simulation system.

Conclusions and Future Work

#### The creation of Inview AI showed the immense potential of integrating conversational AI, real-time analytics, and smart assessment to build a smooth and effective interview prep platform. The initiative was a resounding success in its fundamental goals by offering a realistic, AI-driven interview simulation that generated questions dynamically, assessed user answers in real time, and provided tailored feedback to candidates and recruiters. The use of Vapi AI for voice enablement and Gemini Flash for evaluation of the answers rendered the platform extremely user-friendly and interactive, providing a distinctive experience from that of conventional interview prep software.

#### User feedback also showed high satisfaction regarding the quality of questions, ease of use, and relevance of performance evaluations. The application of Firebase for managing data in real time provided seamless management of user sessions and secure storage of performance records, leading to the system being scalable and dependable.

#### Future developments include several interesting upgrades. One of the main objectives is to integrate an adaptive learning feature that dynamically changes the difficulty of questions according to the performance of the candidates over time. Another area is to add video-based interviews, using AI to analyze not just verbal responses, but also non-verbal signals such as facial expressions and body language. Additionally, multi-lingual support can be included to extend the platform’s reach across various regions. Augmenting recruiter dashboards using improved analytics, predictive scoring of candidates, and comprehensive recommendation frameworks is another area of high interest.

#### To sum up, Inview AI has built a robust foundation for the future of AI-powered assessment and interview services.

#### References

#### Google Cloud Documentation - <https://cloud.google.com/docs>

#### Vapi AI API Documentation - <https://docs.vapi.ai>

#### Gemini Flash API Documentation - <https://ai.google.dev/>

#### Firebase Documentation - <https://firebase.google.com/docs>

#### Next.js Official Documentation - <https://nextjs.org/docs>

#### Tailwind CSS Official Documentation -<https://tailwindcss.com/docs>

#### ShadCN UI Components - <https://ui.shadcn.dev/>

#### React Official Documentation - <https://react.dev/learn>

#### A. API Keys and Configuration: API keys for Vapi AI, Gemini Flash, and Firebase were securely managed using environment variables during development and deployment.

#### B. Deployment Details: Project was deployed on Vercel

#### C. Screenshots and UI Samples:

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