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Ai Based Mock Interview Platform (Intervio)

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Abstract
"Intervio" is an innovative interview preparation and recruiting platform that uses AI to improve efficiency and improve quality in the hiring experience for candidates and HR professionals alike. With two user-specific dashboards, the platform offers relevant features, including real-time, AI generated mock interviews, instant performance feedback, and automated resume analysis to help candidates get ready, while helping HR professional complete their tasks faster. Traditional tools focus on resourcing for one specific function; Intervio brings together multiple functionality into one platform that uses technology that includes interviews based on voice, mass interview scheduling, automated resume reviews, and candidate ranking functionality.
***Keywords:** AI Interview, Mock Interview, Resume Analysis, ATS, Recruitment Automation.*

1. Introduction
The recruitment landscape is changing quickly due to advancements in artificial intelligence and data-driven technologies. Traditional hiring methods, such as manually screening resumes, ranking candidates based on personal opinions, and spending too much time scheduling interviews, are becoming less useful and hard to maintain. At the same time, candidates often struggle to prepare for interviews because they miss chances for personalized practice, structured feedback, and insights into what employers expect. This situation creates problems for both applicants and recruiters. Applicants often feel unprepared, anxious, and unable to show their true abilities. Recruiters, on the other hand, deal with the frustration of endless resume screening, repeated candidate evaluations, and the challenge of organizing numerous interviews. Current solutions only address parts of these problems. Peer-to-peer mock interviews offer uneven feedback. ATS-based resume checkers mainly look for keyword matches rather than readiness for interviews. Enterprise-level AI solutions raise concerns about fairness, transparency, and accessibility. Intervio fills this gap by providing a complete AI- assisted recruitment and interview preparation platform. It features AI-driven voice-based mock interviews that simulate real conversations. Users receive real-time feedback on tone, clarity, accuracy, and confidence. The platform also includes resume analysis linked with ATS, customized for specific job descriptions. It has separate dashboards for candidates and recruiters to offer targeted support. Built on Next.js, Firebase Authentication, and Google Genkit AI, this platform provides a secure, scalable, and responsive solution. Overall, it improves candidate readiness, increases recruiter efficiency, and promotes a fairer, more effective hiring process.

2. Method
2.1. Related work
Prof. H. R. Agashe and his team looked at studies on virtual interview systems. They focused on recognizing emotions analyzing sentiments and evaluating confidence. These studies used machine learning models to analyze things like expressions, eye movements and head posture. Shubhangi Vishal Nirgide and others looked at developments in AI-driven mock interview platforms. These platforms use speech emotion recognition, behavioral analysis and real-time evaluation techniques. They even used learning models like EmoConfidNet to better estimate confidence. Aditi S. More and her team proposed an AI-based system. This system evaluates candidates personality traits by looking at their video and speech emotions. It helps make recruitment more efficient by providing unbiased analysis. B. C. Lee and B. Y. Kim introduced a learning- powered

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interview system. This system is, for hiring and got a high reliability score. It really works well in real-world applications[1].

2.2. Problem Statement

There are some big problems with the way interview preparation and hiring platforms work right now. Many of the tools that are out there are broken up and only work for certain tasks, like checking keywords in resumes or question banks. They don't offer a full solution[2]. Peer-to-peer mock interview systems often have problems with scheduling, getting feedback that isn't always helpful, and not being able to personalize the experience. Instead of checking for practical interview readiness, resume checkers mostly look for keyword matches. The hiring process is still slow and inefficient for the recruiter because they have to go through resumes by hand and set up interviews[3 – 10]. So, the main issue is: How can we make a single AI-powered platform that can help people get ready for interviews and automate hiring tasks at the same time?

2.3. Aim and Objectives

Aim:

To develop an AI-powered platform, “Intervio”, that integrates mock interviews, resume analysis, and recruitment tools into a single system.

Objectives:

- To design an AI-based mock interview assistant
- To provide real-time performance feedback
- To implement an ATS-based resume checker
- To develop separate dashboards for candidates and HR
- To ensure scalability and secure data handling

2.4. Proposed Approach

The proposed system, Intervio, is a web-based platform for interview preparation and recruitment support. It uses a client-server architecture. The application has a Next.js frontend, Firebase Authentication, and a Genkit-based backend that manages all AI tasks. These tasks include question generation, speech analysis, resume parsing, and feedback generation. Its modular structure guarantees security, scalability, and efficient performance[11].

2.5. System Modules

- **Authentication Module:** Manages secure user login, registration, and role-based access through Firebase Authentication.
- **Candidate Dashboard Module :** Provides candidates with AI mock interviews, resume checking, performance insights, and access to previous interview records.
- **HR Dashboard Module :** Enables HR professionals to schedule interviews, review candidate analytics, and manage the recruitment flow more efficiently.
- **AI Mock Interview Module :** Uses Google Genkit AI to generate dynamic interview questions and evaluate spoken responses based on clarity, accuracy, and confidence.
- **Camera Tracking & Security Module :** Ensures interview integrity by detecting unusual movements, multiple faces, or suspicious activities during live sessions.
- **Resume ATS Checker Module :** Parses resumes and job descriptions, extracts essential keywords, and generates an ATS compatibility score with improvement suggestions.
- **Feedback & Analysis Module :** Produces real-time feedback using sentiment analysis and performance metrics, highlighting strengths[12].

2.6. System Flow

User Registration

The user first creates an account on the platform.

Profile Setup

After registration, the user fills in basic details such as skills, experience, and preferences.

Select Interview Type

The user chooses the type of mock interview:

- Technical
- HR

System Loads Questions:

Based on the selected interview type, the system shows relevant questions. The user responds either through voice or text.

AI Analysis:

The system analyzes the user's answers using AI on multiple parameters:

- Voice Tone (if voice input is used)
- Correctness (accuracy of the answer)

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- Keywords (important terms included or missed)
- Confidence

Score Calculation:
Based on the AI analysis, a performance score is generated.
Feedback Generation:
The system provides constructive feedback on strengths and areas for improvement.
Retry Interview:
The user can retry the interview to improve their performance in figure 1.

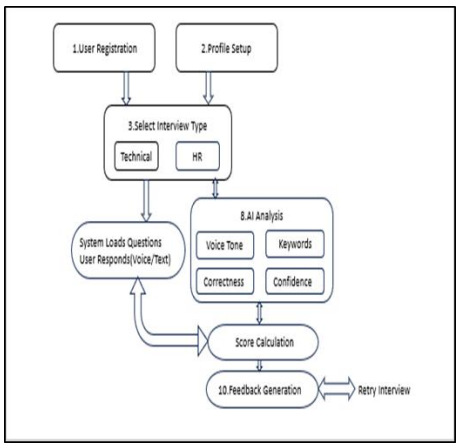

FIGURE 1 System Flow of Intervio Platform

3. RESULTS AND DISCUSSION (12 Pt)

3.1.Results

The AI-based mock interview platform shows a fair and effective way to judge candidates.
As a result, the AI based mock interview platform has the following features.

3.1.1. Home Page (Landing Page)

This is the homepage of your AI Interview Platform. It welcomes users and introduces the main purpose of the system:

- It is an AI-driven platform designed to help users prepare for interviews.
- Features include mock interviews, instant feedback, and resume analysis.
- Buttons like "Get Started for Free" and "Try Resume Analyzer" guide users to begin using the platform.

This page serves as the entry point for new users in figure 2.

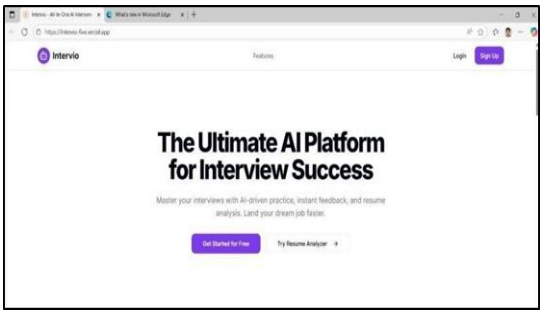

FIGURE 2 Home Page of Intervio

3.1.2. Create Account Page (Registration Step)

This screen shows the **user registration form** where the candidate provides: Full Name, Email, Password, Select Role (Candidate / HR / Admin) After filling details, the user clicks "Create Account" to join the system. This screen represents the User Registration & Profile Setup part of the project in figure 3.

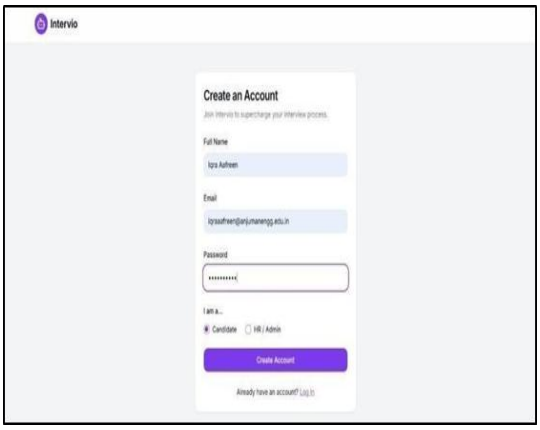

FIGURE 3 User Registration and Profile Setup Interface

3.1.3. Candidate Dashboard (Topic Selection)

Once the candidate logs in, they reach the dashboard. Here they can:

- Select technical topics for the mock interview (C, C++, Java, HTML, Docker, etc.)
- Choose multiple skills on the basis of which questions will be generated.

This screen represents the Interview Type/Topic Selection stage.

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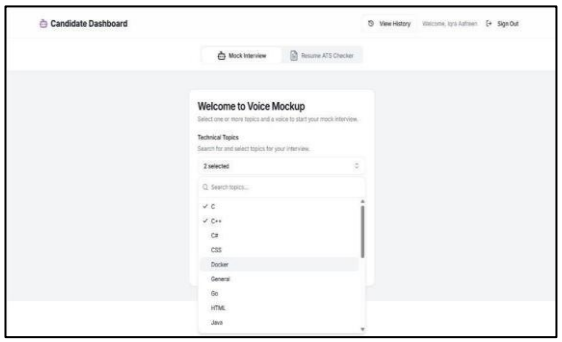

FIGURE 4 Candidate Dashboard

3.1.4. Start Mock Interview Page

On this screen, users finalize their interview settings:

- Select the technical topics
- Choose the interviewer's voice (Male or Female)
- Click Start Interview

This marks the beginning of the AI-driven mock interview where questions will load and the user will respond via voice or text in figure 4.

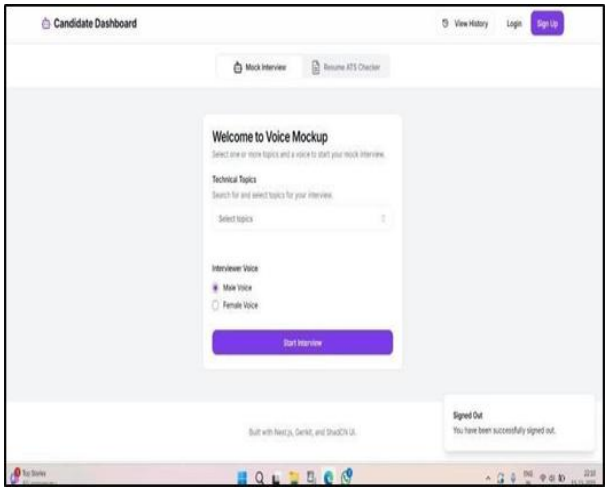

FIGURE 5 Interview Setup Screen

The platform presents a question (out of a total of 15), with visible controls for submitting answers, skipping questions, and managing the interview timer. On the left is the question area, while on the right appears to be the webcam or microphone interface for recording responses. This screenshot illustrates the user experience during a mock technical interview as part of your project, emphasizing digital practice for coding interviews in figure 5.

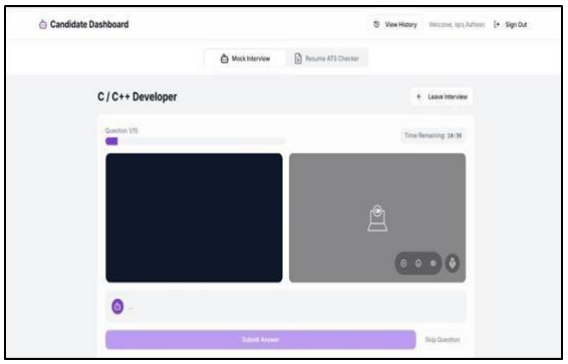

FIGURE 6: Mock Interview Interface

3.1.5. Interview Feedback Screen

This image displays the feedback section after a mock interview session, specifically for the last question: "What is the 'volatile' keyword?" The user's answer is marked as "(Skipped)", and the feedback includes a neutral sentiment, a quality rating section (unrated), and justification stating the question was skipped. Key talking points are available for review, and the interface includes a prominent option to "Start New Interview." This screen demonstrates how the project provides analytical feedback, tracks user responses, and motivates further attempts for improvement through structured practice in figure 7.

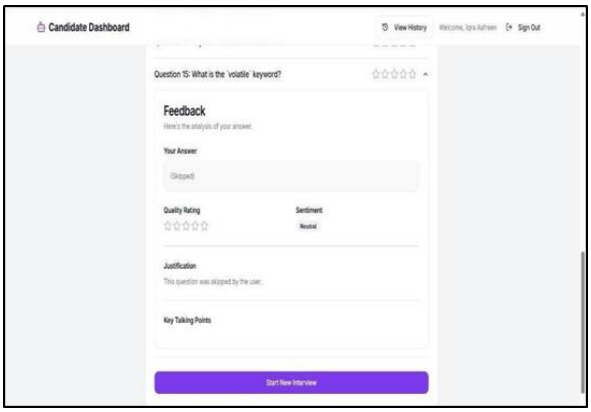

FIGURE 7 Feedback Screen

These features make it possible to prepare for structured interviews and evaluate performance in real time.

3.2.3 Discussion

The system makes both candidate preparation and

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recruiter work much easier. Candidates get real-time feedback, personalized suggestions, and chances to practice over and over again. Automated resume screening, candidate ranking, and interview scheduling are all things that recruiters can use. Using AI makes sure that evaluations are fair and cuts down on the amount of work that needs to be done by hand. The platform creates a cycle of continuous learning that helps candidates do better and recruiters make better hiring decisions.

Conclusion

The revolutionary potential of generative AI in hiring and interview preparation is demonstrated by Intervio. Intervio offers a complete, end-to-end solution that helps both job seekers and HR professionals by filling in the major gaps in current platforms, such as the lack of automated, data-driven tools for recruiters and the lack of personalized real- time feedback for candidates. Both stakeholders are guaranteed a customized experience thanks to the system's dual dashboards (for candidates and HR):

- By having access to resume analysis, performance feedback, and simulated AI-driven interviews, candidates can approach actual interviews with clarity and confidence.
- AI-powered insights, bulk interview scheduling, and automated screening help HR professionals make hiring more effective and impartial.
- Intervio guarantees that hiring is not only quicker but also more intelligent with its real- time sentiment analysis, ATS integration, and comprehensive feedback mechanisms. It establishes a learning loop in which recruiters lower the possibility of making bad hiring choices while candidates continuously get better.

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