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PrepWise: Smart Interview Preparation Platform

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Abstract: ***Preparing for job interviews can be really tough for students and people looking for a job. It takes a lot of practice and feedback to get good at it. Usually people just read questions or practice by themselves. That does not really help them improve. This is where PrepWise comes in. PrepWise is a platform that uses artificial intelligence to help people prepare for job interviews [3]. It is like an interview but it feels real. PrepWise can make interviews based on the kind of job you want how experience you have and what technology you know. When you use PrepWise, a computer program asks you questions like a person would in a job interview. It records what you say and then gives you feedback on how you did. It tells you how well you communicated how good your technical skills are, how confident you seemed and how well you solved problems. The people who made PrepWise used something called the stack to build it. This includes things like MongoDB, Express.js, React and Node.js. They also used some technologies to make sure the platform is easy to use and works well. PrepWise is a tool for people who want to get better at job interviews. It is, like practicing with a person but it is a computer program.***

Keywords: Artificial Intelligence, Mock Interviews Interview Preparation, MERN Stack, Chatbot, Web Application.

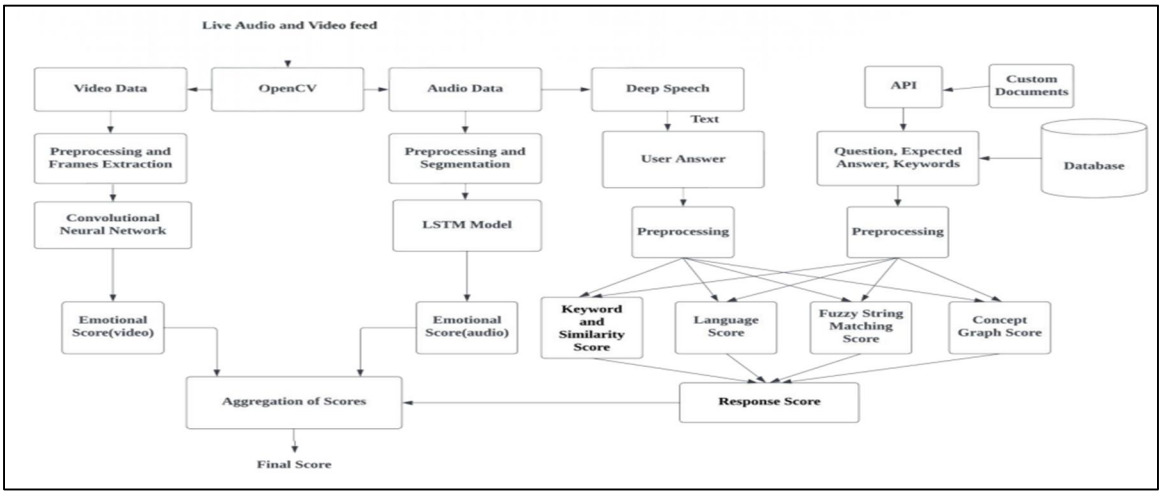
I. INTRODUCTION

In todays job market doing well in interviews is really important for success in your career. Lots of people have a time during interviews because they do not prepare well they get nervous or they do not have much experience with real interviews. The old ways of getting ready for interviews like reading questions or watching videos only give you ideas. Do not really make you feel like you are in a real interview. Now that we have things, like intelligence and new web technologies we can make websites that help people practice interviews in a better way **[3]**. PrepWise is a website that tries to solve this problem by giving users a place to practice interviews with the help of intelligence and get feedback right away.

II. LITERATURE REVIEW

People have been looking into using intelligence in systems that help with recruitment and getting ready for interviews **[1], [2]**. Artificial intelligence tools can look at what candidates say and give ideas about how they communicate how much they know and how confident they are **[3]**. There are websites that give you lists of questions coding tests or things to learn. These websites usually do not have practice interviews that are just, for you. They do not tell you how you are doing on your own. PrepWise wants to make getting ready for an interview more fun and just for you by using intelligence and a new kind of website. Artificial intelligence is used to make this happen. PrepWise is using intelligence to make this work.

III. METHODOLOGY



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The PrepWise system has parts that work together to help people prepare for interviews. The user authentication part lets users make accounts and log in safely. This is important because it keeps user data private. The interview generation part makes interview questions **[4]**. These questions are based on the job how experience the user has and what technology they know. Then there is a chatbot that talks to the user **[3]**. It asks the user interview questions. Gets their answers. After the interview is done another part looks at the users answers. It uses intelligence to evaluate the answers and gives feedback in a clear format **[4]**. The results part shows how the user did. It also lets users look at their interviews. The PrepWise system helps users see how they can improve. It gives users performance insights and interview history.

IV. SOFTWARE & HARDWARE REQUIREMENTS

1) Software Requirements: MongoDB for database management, Express.js and Node.js for backend development, React for frontend interface, Tailwind CSS for user interface design, and Gemini API for question generation and response evaluation [4].

2) Hardware Requirements: Minimum Intel i3 or Ryzen 5 processor, 8GB RAM, stable internet connection, and a modern web browser such as Chrome or Edge.

V. EXPERIMENTATION & RESULTS

To evaluate the effectiveness of the PrepWise system, a series of controlled experiments were conducted using simulated interview sessions across various technical job roles. The objective was to assess the system's ability to generate relevant interview questions, analyze user responses, and provide actionable feedback for improvement.

A. Experimental Setup

- User Input Configuration: Participants initiated sessions by specifying their target job role, experience level, and relevant technical skills. This input enabled the system to tailor interview questions dynamically.
- Interview Simulation: The system conducted mock interviews through a text-based chatbot interface. Questions were generated in real time, covering technical knowledge, problem-solving ability, and behavioral aspects.
- Response Processing: User responses were analyzed using Natural Language Processing (NLP) techniques. The system evaluated multiple parameters such as keyword relevance, semantic similarity, clarity of expression, and logical structure.
- Feedback Generation: After completion of the interview, the system generated a detailed performance report highlighting strengths, weaknesses, and suggested areas for improvement.

B. System Performance Metrics

The PrepWise system demonstrated effective performance across several evaluation parameters:

- Response Evaluation Accuracy: The system consistently provided meaningful and context-aware feedback aligned with expected answers.
- Processing Speed: Feedback reports were generated instantly upon interview completion, ensuring a seamless user experience.
- Relevance of Questions: The dynamically generated questions closely matched the selected job role and technical domain.
- User Improvement Insight: The feedback reports successfully identified gaps in knowledge, communication skills, and problem-solving approaches.

C. Observations

- Users reported improved confidence and clarity after multiple practice sessions.
- The system effectively simulated real interview scenarios, helping users adapt to structured questioning patterns.
- Personalized feedback enabled targeted preparation rather than generic practice.

D. Technical Challenges

- Context Understanding: Accurately interpreting diverse user responses remains challenging, especially when answers are vague or incomplete.
- Domain Adaptability: Expanding the system to cover highly specialized technical domains requires continuous dataset enrichment.
- Evaluation Limitations: While NLP-based scoring is effective, it may not fully capture nuanced human judgment in certain subjective responses.

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VI. DISCUSSION

The PrepWise system is really good at helping people get ready for interviews. It uses Artificial Intelligence and Natural Language Processing to make interview scenarios that feel real. Then it gives feedback that is based on facts and is organized in a way that makes sense. This is what some studies have found out about using Artificial Intelligence to help people get ready for interviews.

One thing that is great about the PrepWise system is that it can make up questions that're just right for the job you are applying for and how much experience you have. This means you get to practice answering questions that're relevant and useful. The system also looks at how you answer questions and tells you how you are doing. It checks if your answers make sense and are clear. This helps you figure out what you are good at and what you need to work on. The system is also connected to tools that help it understand language better.

The PrepWise system is only as good as the answers you give it. If you give answers that're not clear or are incomplete it might not be able to tell how you are doing very accurately. Also the Artificial Intelligence models that the system uses are not perfect. They can make mistakes. Not always understand what you mean. This can affect the feedback you get.

With these problems the PrepWise system is a good way to get ready for interviews. It is faster and more efficient than ways of preparing. As the Artificial Intelligence models get better and the system gets more data it will become an even more useful tool, for practicing interviews. The PrepWise system will keep getting better and better.

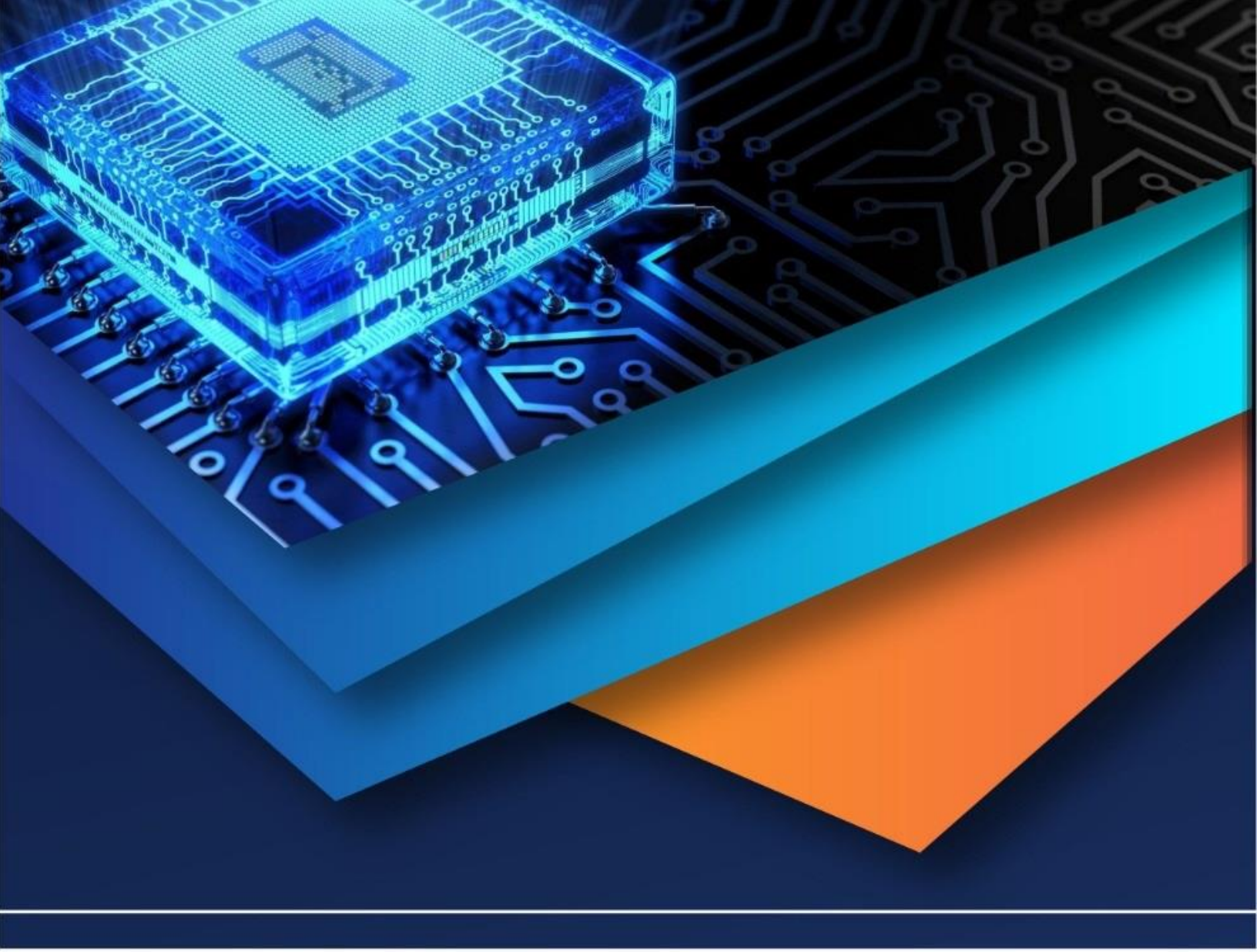
VII. CONCLUSION AND FUTURE WORK

PrepWise has a platform that helps people get ready for job interviews. This platform uses computer intelligence to make interviews that feel real **[3]**. It helps people practice answering behavioral questions. The system uses computers to make the learning fun and see how well the person is doing. PrepWise is thinking about making the platform even better. They want to add things like special learning plans for each person tests to see how good someone is, at coding and better computer models to judge the interviews. They also want to make a version that works on phones. PrepWise platform will keep getting better with these features.

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