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Voice Enabled Virtual Interviewer

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ABSTRACT

Nowadays, almost everything is equipped with technology. People can save time by using modern day technological applications in the most convenient way. Smart Interviewing System is one such software tool. An interviewing system that helps students to prepare for technical interviews. The system will be voice enabled and virtual interviewer will be Alexa Skill. The system checks the accuracy of the answers which interviewee provided by comparing them with the answers stored in MongoDB database using ChatGPT. Use of ChatGPT has reduced the human intervene and also increased the performance compared to traditional interviewing systems as GPT-3 technology include the use of many pre-trained algorithms which produce content similar to texts written by people which helps in generating huge question bank and also helps in checking similarity of answers accurately.

1. INTRODUCTION

The purpose of the VOICE ENABLED VIRTUAL INTERVIEWER application is to create a convenient and efficient way for users to practice for job interviews. This system aims to leverage modern technologies like ChatGPT and voice interaction through Alexa to offer an engaging and realistic interview experience

By integrating ChatGPT, the project ensures that interview questions are not only plentiful but also diverse. This helps users prepare for a wide range of interview scenarios, improving their readiness for real job interviews.

One of the project's goals is to provide immediate feedback to users. After users respond to interview questions, the system evaluates their answers and provides scores. This instant feedback helps users identify their strengths and weaknesses, enabling them to improve their interview skills.

2. LITERATURE SURVEY

The advent of voice-enabled virtual interviewers, with the integration of

Amazon's Alexa skill, has garnered significant attention in recent years, representing a fascinating and innovative application at the intersection of artificial intelligence, natural language processing, and human resources technology. This rapidly growing field has seen a proliferation of research and literature aimed at understanding, refining, and harnessing the potential of voice-activated virtual interviewers. Much of the early work in this area has focused on the broader landscape of virtual interviewers, emphasizing the need for streamlined recruitment processes, enhanced candidate engagement, and the mitigation of bias in hiring decisions. The introduction of voice-based interfaces, such as Alexa, adds a new dimension to this research, bringing forth a more conversational and user-friendly interaction that closely mirrors human communication.

Several studies have delved into the effectiveness of voice-enabled virtual interviewers, assessing their capacity to evaluate candidates' soft skills and cultural fit within organizations. This exploration has highlighted the potential benefits, including increased efficiency in the hiring process, scalability in conducting multiple interviews simultaneously, and personalization tailored to both candidates and organizations' specific needs. However, as the technology continues to advance, several challenges have come to the forefront. One critical concern is related to privacy and data security, given that voice data is highly sensitive and necessitates robust protection measures.

3. SYSTEM ANALYSIS

3.1 EXISTING SYSTEM:

The existing models have limited understanding i.e., existing platforms are struggling with understanding complex and ambiguous queries, pre-defined conversation flows have limited their ability to handle user input effectively.

In the existing system, interview questions are typically generated manually. This process can be time-consuming and limits the variety and number of questions available for practice. Users may have access to only a limited set of questions, which might not cover the full spectrum of potential interview scenarios.

3.2 PROPOSED SYSTEM:

ChatGPT, being a sophisticated language model, can understand context and nuances in user queries and responses, enhancing the naturalness of the conversation. GPT-3 has strong natural language understanding capabilities which can be beneficial for generating interview questions and evaluating answers. The proposed system will also have some other features such as:

Convenience: Users can practice interviews anytime and anywhere using voice commands, making it a convenient and flexible solution.

Realistic Practice: The system leverages AI (ChatGPT) to generate realistic interview questions, providing users with an authentic interview experience.

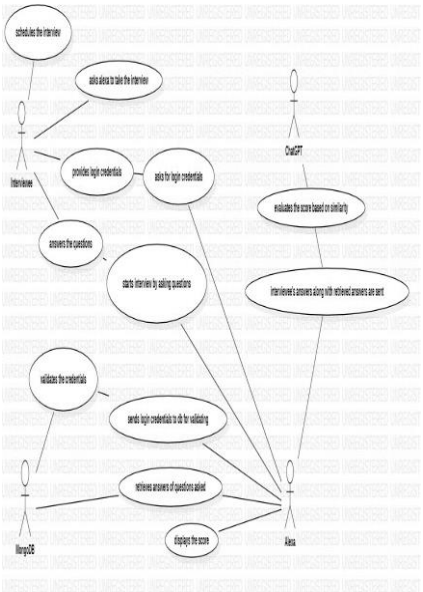
User-Friendly: The user interface is easy to navigate, and the voice-enabled interaction with Alexa simplifies the interview process.

Scalability: The system can be expanded to include more topics and interview scenarios, catering to a wide range of users.

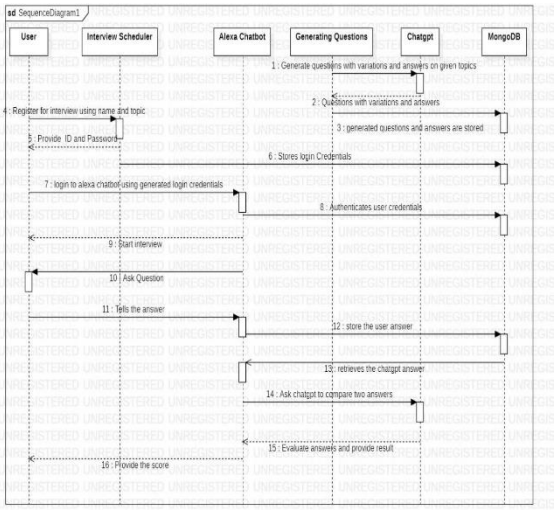
Data Storage: User data and scores are securely stored in a MongoDB database, ensuring data persistence and privacy

4. SYSTEM DESIGN

4.1 CLASS DIAGRAM



4.2 SEQUENCE DIAGRAM



5. IMPLEMENTATION

5.1 Module 1: Generating the Questions

In the backend, list of topics will be sent as a prompt to a function which is linked to ChatGPT through API key. So, then ChatGPT will be generating questions with variations and answers. The response generated by ChatGPT is sent back to the called function. The generated response is then parsed to JSON object and then stored in MongoDB.

5.2 Module 2: Scheduling the Interview

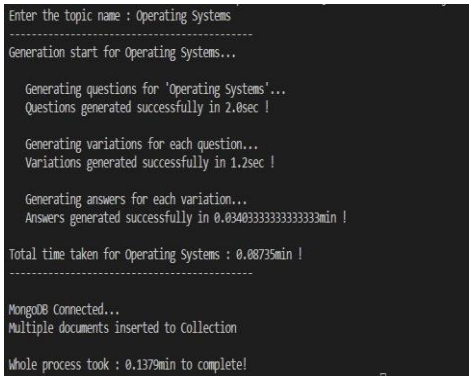
Developed a Flask web application that allows users to schedule their interview by providing their name and choosing a topic. User have to provide their name and select topic from drop downlist and then submit. After submit it redirects to a page where

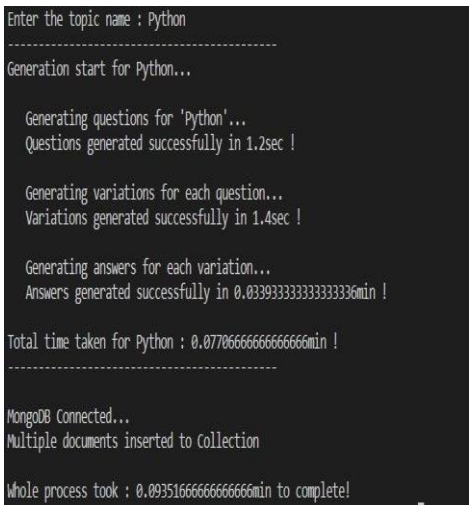
user will be provided with login credentials. User have to copy those login credentials to start interview.

5.3 Module 3: Taking Interviews through Alexa

Developed AWS lambda function for Alexa Skill which will be acting as virtual interviewer. The above skill is developed for interacting with the user to collect login credentials, taking the interview and recording the answers. The developed skill utilizes multiple intents and handlers to manage the interview flow, including handling user responses, generating prompts, and calculating scores.

6. SCREENSHOTS





7. CONCLUSION

In conclusion, the development and integration of a voice-enabled virtual interviewer using

Alexa skill and ChatGPT provides innovative solution and offers a seamless and convenient way for practicing for interviews. By harnessing the power of Artificial intelligence, it not only saves time and resources but also enhances the overall user experience.

This virtual interviewer provides a consistent and unbiased platform for candidates to improve their skills. As we continue to embrace the digital age, voice-enabled technologies like Alexa Skill can revolutionize the way we approach job interview preparations. The potential for increased efficiency, accessibility, and inclusivity in the preparation process is promising.

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