Project Documentation: Hiring Assistant Chatbot

1. Project Overview

The Hiring Assistant is an AI-powered multilingual chatbot designed to automate and enhance the initial stages of recruitment. Built using Gradio and OpenAI's GPT models, this chatbot collects candidate details, dynamically generates technical interview questions based on their tech stack, and stores the responses in a structured format. The system supports multiple languages and is capable of detecting the candidate's language from the input automatically, making it highly adaptable for diverse applicant pools.

2. Installation Instructions

To set up and run the application locally:

1. Clone the repository:
   git clone https://github.com/tgchandu25/Hiring-Assistant-Chatbot.git
2. Navigate to the project directory:
   cd Hiring-Assistant-Chatbot
3. Install required dependencies:
   pip install -r requirements.txt
4. Run the application:
   python app.py
5. Access the chatbot interface via the local URL provided in the terminal.

3. Usage Guide

Upon launching, the chatbot begins with a greeting and starts collecting basic information from the user, such as name, email, phone number, experience, preferred position, location, and tech stack.

After collecting this information, the chatbot automatically detects the language and generates domain-specific technical questions accordingly.

Candidates can respond to each question in a conversational manner. Once the candidate types 'exit', all responses are saved and the session is concluded.

The responses can also be downloaded through a "Download All Responses" button.

4. Technical Details

- Language Model: GPT-3.5-turbo via OpenAI API
- UI Framework: Gradio (4.27.0)
- Language Detection: langdetect
- File Storage: JSON stored locally (downloadable in Hugging Face environment)
- Architecture: Stateless interaction with session-based control using Python dictionaries
- Multilingual Support: Automatic language detection for prompt generation

5. Prompt Design

Prompts were designed in a step-wise manner to simulate an interview-like experience. The chatbot first gathers necessary candidate details in a structured format through clear and concise prompts.
Once the tech stack is captured, a custom system message is sent to the GPT model instructing it to generate intermediate-level questions based on the provided stack and in the detected language.
This prompt engineering ensures contextual accuracy and user engagement across different languages.

6. Deployment

- The chatbot has been successfully deployed on Hugging Face Spaces for public access:
Live Demo: https://huggingface.co/spaces/TGChandu/Hiring_Assistant_Chatbot

If it wasn't workout, just restart the space in settings tab. This will restart the space and allow you to use the chatbot.

7. Challenges & Solutions

- Challenge: Compatibility issues due to Gradio version mismatch between Colab and Hugging Face.
  Solution: modified the code in app.py file to match the updated Gradio API while maintaining original logic.

- Challenge: Hugging Face Spaces doesn't support saving to Google Drive.
  Solution: Implemented a local JSON storage and download button feature for accessing saved responses.

- Challenge: Prompt language inconsistency for non-English users.
  Solution: Integrated automatic language detection to tailor question generation in the user's native language.

8. Conclusion

The Hiring Assistant chatbot represents a significant step forward in streamlining the candidate screening process using the power of generative AI. By intelligently collecting candidate information and generating personalized technical interview questions based on their tech stack, the system enhances both efficiency and engagement in recruitment workflows. The integration with OpenAI's GPT models ensures context-aware, multilingual communication, while the clean Gradio interface provides a user-friendly experience. The chatbot is fully deployed on Hugging Face Spaces for real-time access and is supported by a robust GitHub repository for open collaboration. From prompt engineering to model integration and deployment, every aspect has been carefully designed to demonstrate real-world AI capabilities. This project not only serves as a practical tool for recruiters but also showcases the potential of intelligent assistants in modern hiring pipelines.