**Documentation for Part 2: Interactive QA Bot Interface**

**Overview**

Part 2 of the project involves developing an interactive QA bot interface using Gradio for the previously implemented Retrieval-Augmented Generation (RAG) model. This interface allows users to interact with the QA bot by uploading a PDF and asking questions.

**Requirements**

* Python 3.7 or higher
* Gradio
* Pinecone
* Cohere
* PyPDF2

**Setup and Installation**

1. **Clone the Repository**

bash

git clone https://github.com/ThisTimeMaybe/Part-2-Interactive-QA-Bot-Interface.git

cd Part-2-Interactive-QA-Bot-Interface

1. **Install Required Packages**

You need to install the required Python packages. Run the following command in your terminal or command prompt:

bash

pip install -r requirements.txt

Here is the requirements.txt file content:

plaintext

gradio

pinecone-client

cohere

PyPDF2

1. **Configure API Keys**

Ensure you have your Pinecone and Cohere API keys. Create a file named config.py in the root directory of the project and add the following content, replacing the placeholders with your actual API keys:

python

PINECONE\_API\_KEY = 'your-pinecone-api-key'

COHERE\_API\_KEY = 'your-cohere-api-key'

1. **Run the Interactive QA Bot**

Start the Gradio interface by running:

bash

python app.py

The application will be accessible at http://localhost:7860 by default.

**Code Explanation**

1. **app.py**
   * **Imports:** Imports necessary libraries including Gradio, Pinecone, Cohere, and PyPDF2.
   * **process\_pdf(pdf\_file):** Extracts text from the uploaded PDF.
   * **get\_embeddings(text):** Generates embeddings for the document text.
   * **query\_index(question):** Queries the Pinecone index for relevant information.
   * **qa\_interface(pdf\_file, question):** Main function that integrates PDF processing, embedding retrieval, and querying.
   * **Gradio Interface:** Defines the interface for user interaction with the QA bot, including file upload and question input.
2. **config.py**

Contains configuration for API keys.

**Example Usage**

1. **Upload a PDF File**

Click on the "Upload PDF" button to select a PDF file from your local machine.

1. **Ask a Question**

Enter your question in the textbox and click "Submit."

1. **View Results**

The answer generated by the QA bot will be displayed on the interface.