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I made a Streamlit application implements an Advanced Retrieval-Augmented Generation (RAG) model with Google PaLM embeddings to enable users to interact with documents through text or voice queries. The primary components include document loading, language selection, document processing, and user query handling.

Users can upload PDF documents, and the application processes them using the llama_index library to extract text. The selected language preferences for the user and the document are then specified through Streamlit's interface.

The document text is passed through a ChatGoogleGenerativeAI model, configured with the "gemini-pro" model and Google API key. The application builds a sentence-level index using the build_sentence_window_index function from Advanced_RAG_Techniques, incorporating embeddings from the GoogleGenerativeAIEmbeddings model.

Users have the option to use a microphone for voice queries, which is implemented with the audio_recorder_streamlit library. If enabled, the application records audio, recognizes the speech using Google's speech recognition API, and translates the query from the user's preferred language to the document's language.

The translated query is then used to query the document's index through the sentence_window_engine. The retrieved response is translated back to the user's language, and the final result is displayed in the Streamlit interface.

In the absence of voice input, users can input text queries directly. The application handles user input, translates the query, queries the document, retrieves the response, and presents it to the user in the translated form.

The application integrates various libraries, such as llama_index, speech_recognition, pydub, and Googletrans, to provide a seamless and interactive experience for users in exploring and querying documents through a combination of text and voice inputs.



ChatGPT

It sounds like you've built a sophisticated and versatile Streamlit application that leverages several powerful libraries and APIs for document processing, language translation, voice recognition, and more. The integration of advanced techniques like the Retrieval-

Message ChatGPT...

