TechBot Transformers

The project aims to develop a question-answering system using LangChain tools and agents, along with OpenAI's GPT-3.5 model. The system retrieves relevant information from a set of blog posts and generates natural language answers to user queries. Streamlit is used to create a user-friendly interface for interacting with the system.

Key Components:

Data Loading and Preprocessing:

- The WebBaseLoader is utilized to scrape content from a set of blog posts.
- The content is chunked and indexed using RecursiveCharacterTextSplitter and Chroma for efficient retrieval.

Question Answering Pipeline:

- The qa_model function orchestrates the question-answering pipeline.
- It initializes the LangChain retriever and loads the GPT-3.5 model from OpenAI.
- A prompt template from rlm/rag-prompt is used to guide the question answering process.
- The pipeline combines the retriever, prompt, and GPT-3.5 model to generate answers.

User Interface:

- Streamlit is employed to create a simple user interface.
- Users can input queries via a text field and submit them for processing.
- The system displays the query along with the generated answer.

Usage:

- Users provide their OpenAI API key in the sidebar.
- They input their query in the provided text field and click the submit button.
- The system processes the query, retrieves relevant information, and generates an answer using the GPT-3.5 model.
- The query and the generated answer are displayed to the user.

Notes:

- Users need to ensure they have a valid OpenAI API key to access the GPT-3.5 model.
- The system warns users to provide their API key if they haven't done so.
- Error handling is implemented to notify users if an invalid API key is provided or if any other errors occur during processing.