

Documentation for main.py

Overview

This script implements a simple command-line assistant for a dental clinic using the LangChain library. The assistant can help patients book appointments and check their previously booked appointments. It utilizes a conversational flow to interact with users, providing a friendly and helpful experience.

Dependencies

- **langchain_openai**: A library that integrates OpenAI's models with LangChain for conversational AI applications.

File Structure

- **ChatOpenAI**: Initializes the OpenAI chat model with a specified temperature and API key.
- **PromptTemplate**: Creates a template for the conversation prompt.
- **ConversationChain**: Manages the conversation flow using the language model and the prompt.

Functions

1. book_appointment(date, time)

- **Parameters:**
 - **date** (str): The date for the appointment.
 - **time** (str): The time for the appointment.
- **Returns:**
 - **appointment_id** (int): A unique identifier for the booked appointment.
- **Description:** This function stores the appointment details in a simulated storage (a dictionary) and returns an appointment ID.

2. `check_appointments()`

- **Returns:**
 - (str): A string listing all previously booked appointments or a message indicating no appointments have been booked.
- **Description:** This function checks the stored appointments and formats them into a user-friendly string for display.

3. `conversation_flow(user_input)`

- **Parameters:**
 - **user_input** (str): The input from the patient.
- **Returns:**
 - (str): The response from the assistant based on the user's input.
- **Description:** This function manages the conversation logic, interpreting user inputs and responding accordingly. It handles greetings, appointment bookings, and checks for previous appointments. It also provides error messages for unrecognized inputs.

Main Execution Block

The script runs a command-line interface that welcomes the user and enters a loop to continuously accept user input until the user types "bye" or "goodbye". It maintains a history of the conversation for context.

Example Interaction

Welcome to the Dental Clinic Assistant!

Type 'bye' or 'goodbye' to end the conversation.

Patient: I want to book an appointment

Agent: Sure, can you provide the date and time for the appointment?

Patient: 19 Nov at 12 Pm

Agent: Booking your appointment for 19 Nov at 12 Pm... Done! Your appointment ID is 1.

Patient: check previous appointments

Agent: Here are your previously booked appointments:

ID 1: 19 Nov at 12 Pm

Patient: bye

Agent: Goodbye! Take care and have a great day!

Notes

- The script currently uses a simulated storage mechanism for appointments, which means that the appointments will be lost when the script is terminated.
- The OpenAI API key used in the script should be kept secure and not exposed in public repositories.