

Timeshare Hotel Booking and Q&A Bot

Preliminary Information:

Definition of Timeshare:

A timeshare is a property with a divided form of ownership or use rights. These properties are typically resort condominium units, where multiple parties hold rights to use the property, and each owner of the same accommodation is allotted their period. The 'timeshare' model can be applied to various types of properties, such as vacation homes, condominiums, and resorts. The key aspect is the division of ownership or rights among multiple parties, each of whom can use the property during designated periods. This concept is central to the competition, as the application will need to manage such shared ownership arrangements efficiently.

What is a timeshare contract or agreement?

A timeshare contract is an agreement in which multiple individuals share ownership and access to a vacation property, typically for a specified period each year. Each owner is allotted a specific timeframe during which they can use the property, and the costs of ownership and maintenance are shared among the co-owners.

Introduction:

This competition focuses on creating a robust Booking and Q&A bot application for a Timeshare. The app will assist users in managing their timeshare experiences efficiently.

Problem Description:

The participants can **choose to complete** either **Objective 1 and 3 (or) 2 and 3** for this task.

Objective: Develop a comprehensive application enabling users to:

- 1) Create new bookings.
- 2) Modify or cancel existing bookings.
- 3) Ask questions and get answers about their timeshare contracts or agreements, membership details. This needs to be achieved using Retrieval Augmented Generation (RAG) (refer: https://python.langchain.com/docs/use_cases/question_answering/ and https://docs.llamaindex.ai/en/stable/getting_started/concepts.html)

Context: The application aims to enhance customer experience and streamline the booking process for a timeshare company.

Refer the following link to understand how the flow of the application should be:

https://www.youtube.com/watch?v=2L7PMkp24gY&ab_channel=WotNot

Data Description:

- **Overview:** Provided are various documents relating to the timeshare company's operations.
 - Timeshare Agreement
 - Sample Hotel Document (The Drake Hotel)
 - ANNEXURE Document
 - Membership Level Details
- **Mock-up Data - Need to be generated by the candidate:**
 - Participants are required to create SQL tables for user details, hotel booking details, and any other necessary tables. The following is an example for one user in user details table: email, password, name, age, gender, membership_level, residence, joining_year, profile_picture and so on. Similarly get creative in adding columns or features like customer_name, booking_date, hotel_name, check_in_date, check_out_date and so on to the hotel booking details SQL tables.
 - Participants are also required to create a few sample hotel documents, like the provided 'The Drake Hotel' document. These documents should contain fictional yet realistic information about different hotels, including their features, amenities, and unique selling points. The purpose is to simulate a diverse portfolio of properties managed by the Timeshare Company.
 - All this mock-up data generation can be done using ChatGPT or any LLM of the participant's choice.

Evaluation Criteria:

Metric: Solutions will be evaluated based on:

- (1) Efficiency in handling bookings and queries.
- (2) Functionality and user-friendliness
- (3) Accuracy of information retrieval

NOTE: The answers given by the bot should be **grounded and truthful**. It should **not hallucinate**.

Submission Format:

- A working application preferably deployed online using any of the hosting services.
- A screen recording of the application demo should be provided.
- Accompanying documentation outlining the bot demo and its features should also be provided.

Shortlisted candidates will have 1 hour screen share session for code walk through.

NOTE:

- **AI Models:** Participants are encouraged to use advanced AI models, specifically Generative AI models (GenAI) such as GPT-4/3.5, Llama-2, Claude-2, Mixtral, or LLMs from providers like OpenAI, together.ai, anyscales, Ollama, etc.
- **AI Coding Assistants:** The use of AI coding assistants such as ChatGPT Plus or GitHub Copilot is allowed to facilitate development.
- **Advanced Prompt Engineering:** Attempts at advanced prompt engineering, including techniques like Chain of Thought Prompts, ReAct Agents (LangChain), Self-reflection, and Meta-prompting, will be given bonus points.
- **Advanced LLM Agents and Tools:** Utilizing advanced LLM agents and tools available in platforms like pyautogen, autogen studio, LangChain, and LlamaIndex is encouraged and will also be eligible for bonus points.
- **UI:** Utilizing Streamlit, Chainlit or Gradio is highly encouraged.

What we are looking for in a GenAI Data Science Intern through this task:

- As you tackle this challenge, we'll be assessing your problem-solving approach and the relevance of your solutions.
- Emphasis is placed on how you integrate AI and data science concepts to solve the task.
- While technical precision and coding prowess are important, we're keenly interested in your innovative and analytical thinking, especially in the context of GenAI.
- Your ability to leverage data-driven AI techniques for decision-making, extract meaningful insights, and devise strategies from complex datasets is crucial.
- We encourage creativity, a deep understanding of AI-assisted analytics, and strategic thinking. Good luck!