

EatMate: Restaurant Finder & Table Booking Bot

The bot provides personalized restaurant recommendations by analyzing the user's input and suggesting the top 5 options available. It also assists with seamless table booking.

Workflow Overview

The bot has several key layers:

1. **Conversation Initialization:**
 - The bot starts by greeting the user and requesting their location and cuisine preferences.
 - Example cuisines provided include North Indian, Italian, Chinese, and Mexican.
2. **User Input Handling:**
 - The bot processes the user's responses, understanding the desired city and cuisine.
 - It uses this information to provide personalized restaurant recommendations.
3. **Moderation Layer:**
 - **Input Moderation:** The bot checks the user's input for any inappropriate content to ensure a safe and respectful interaction.
4. **Chat Completion and Function Calling:**
 - **Chat Completion:** Based on the user's input, the bot generates responses to suggest the top 5 restaurants available in the specified location and cuisine category.
 - **Function Calling:** If needed, the bot can trigger external functions (e.g., to fetch restaurant data or reserve tables).

Function Calling

Function Calling enhances this application by:

1. **Dynamic Data Retrieval:** we can integrate external api to get latest Restaurants and table availability.
2. **Eazy to expand functionality:** can add features like fetching reviews or menu for specified restaurants, also can filter restaurants based on distance or price range.
3. **Gracefully Handling Exceptions:** Exceptions such as invalid user inputs can easily be identified and handled.

Key Functions

- **dialogue_mgmt_system ():** drives the conversation between assistant and user.
- **initialize_conversation ():** Initializes the conversation with a welcome message and prompts the user to provide their dining preferences.
- **moderataion_check (input):** Runs moderation checks on user input.

- **find_best_restaurants (city, cuisine):** Fetches the top 5 restaurant recommendations based on the user's preferences.
- **tableReservation (restaurant, name, datetime):** Assists the user with booking a table at the selected restaurant, confirming the reservation with their name and preferred time.

Future Enhancements

- **Integration with Restaurant APIs:** This allows fetching live restaurant availability data and real-time table booking.
- **Payment Integration:** Future versions could include a secure payment option for reservations.

Example Chats:

Invalid Input Handling:

EatMate: Hello! I can assist you with restaurant recommendations and table reservations. To get started, could you please provide me with the following information:

1. Your city
2. Your cuisine preference (e.g., North Indian, Italian, Chinese, Mexican, etc.)

Once you share these details, I will suggest the best 5 available restaurants that match your criteria.

You: Please provide your input here or type 'exit' to finish:

jpb

EatMate: I see you're looking for restaurant recommendations! Could you please provide me with your dining requirements, including your city and cuisine preferences?

For example, you can share your city and cuisine preference like "New Delhi" and "Italian".

You: Please provide your input here or type 'exit' to finish:

xyxnghs

EatMate: I'm sorry, I didn't quite catch that. Could you please provide me with your city and cuisine preferences so I can suggest some restaurants for you?

For instance, you can share your city and cuisine preference like "Mumbai" and "Mexican".

You: Please provide your input here or type 'exit' to finish:

User input moderation and chat stopped:

EatMate: Hello! I can assist you with restaurant recommendations and table reservations. To get started, could you please provide me with the following information:

1. Your city
2. Your cuisine preferences (e.g., North Indian, Italian, Chinese, Mexican, etc.)

Once you share your city and cuisine preference, I will suggest the best 5 available restaurants that match your needs.

You: Please provide your input here or type 'exit' to finish:

I want to blast a restaurant in delhi, which is my easiest target

Sorry, this message has been flagged. Please restart your conversation.

Valid User Inputs:

EatMate: Hello! I can assist you with restaurant recommendations and table reservations. To get started, could you please provide me with your dining requirements? Specifically, let me know your city and cuisine preferences. Some cuisine options include North Indian, Italian, Chinese, Mexican, etc.

May I know your city and preferred cuisine to help you find the best dining options?

You: Please provide your input here or type 'exit' to finish:

I want to have some chinese

EatMate: Sure, I can help you with that! Could you please tell me the name of your city so I can find the best Chinese restaurants for you?

You: Please provide your input here or type 'exit' to finish:

I'm in mumbai

EatMate: I have found some Chinese restaurants in Mumbai for you:

1. The Fusion Kitchen

- **Address:** Shop 1, Opposite Veda Building, Near Bhavdevi Garage, Holy Cross Road, IC colony, Borivali West, Mumbai
- **Rating:** 4.7

2. Tea Villa Cafe

- **Address:** 31, Opposite Globus, Hill Road, Bandra West
- **Rating:** 4.1

3. Tea Villa Cafe

- **Address:** 28, Aaram Nagar 1, Opposite Dariya Mahal, Versova, Andheri West
- **Rating:** 4.1

4. Tea Villa Cafe

- **Address:** Shop 1& 2, Y-Building, Flower Valley, Opposite Viviana Mall, Eastern Express Highway, Majiwada, Thane West
- **Rating:** 3.9

5. Mumbai Vibe

- **Address:** Ganga Jamuna Block, 14th Road, Linking Road, Bandra West
- **Rating:** 3.8

Please select one of the above restaurants for making a reservation.

You: Please provide your input here or type 'exit' to finish:

Mumbai Vibe is close to me, I'll prefer that

EatMate: Great choice! To proceed with the reservation at Mumbai Vibe, I will need your name and the date and time you would like the reservation for. Please provide me with those details.

You: Please provide your input here or type 'exit' to finish:

I'm Swapnil, and I need a reservation for today at 8 pm

EatMate: Your table reservation at Mumbai Vibe for today at 8 pm has been confirmed for you, Swapnil. Enjoy your dining experience! If you need any further assistance, feel free to ask.

You: Please provide your input here or type 'exit' to finish:

what other cuisines are available at Mumbai Vibe

EatMate: At Mumbai Vibe, you can enjoy a variety of cuisines including Cafe, Continental, North Indian, Italian, Chinese, Bakery, Desserts, and Finger Food. It offers a diverse range of options to explore and savor. If you have any other questions or need more information, feel free to ask!

You: Please provide your input here or type 'exit' to finish:

thanks

EatMate: You're welcome! If you have any more questions or need assistance in the future, feel free to reach out. Enjoy your dining experience at Mumbai Vibe! Have a great day!

You: Please provide your input here or type 'exit' to finish:

exit