



Final Dialogue Management Flow – Stepwise Breakdown

Start Conversation

Initializes the session using a system message that defines the assistant's behavior and objective.

Sets the tone: a helpful, friendly travel planner gathering trip details to build a personalized itinerary.

User Input

Captures the user's free-form messages regarding travel plans (e.g., destinations, dates, preferences).

Input is appended to the ongoing conversation history used for context.

Loop to Capture All Necessary Information

Enters a loop to iteratively collect missing information such as:

Departure location

Destination

Travel dates

Number of travelers
Trip duration or return date

This loop ensures the assistant gathers complete and structured information before any recommendation.

Moderation Check (for User Input & LLM Output)

Applies `moderation_check()` after each user input and assistant response to filter inappropriate or unsafe content.

Ensures conversation remains compliant with safety policies and avoids misuse.

Function Call from LLM for API Access

Once enough details are gathered, the assistant uses OpenAI Function Calling to trigger:

`get_weather_forecast_by_day()` for 5-day weather forecasts.

`get_round_trip_flights_flightapi()` for available round-trip flights.

The LLM automatically invokes the relevant function and uses the output to continue the conversation intelligently.

Intent Confirmation

Uses `intent_confirmation()` layer to ensure all required information has been gathered from the user. Basically double checking if the customer wants any other information.

If not confirmed, the assistant asks targeted follow-up questions to capture missing details.

Recommend Travel Plan and Flight Timings

Uses a new system message with `initialize_conv_travel_assistant()` to combine:

User preferences

Weather data

Flight information

LLM generates a day-wise travel itinerary including travel timings, activities, and contextual suggestions.

End Conversation

Presents the final personalized travel plan to the user.

Optionally allows further queries or closes the session with a friendly message if exit is typed.