

Chatbot for Travel Planning

Welcome to the world of personalized travel planning! This chatbot utilizes cutting-edge Large Language Models (LLMs) to help you craft unforgettable trips.

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The Problem

Travel planning often involves navigating a sea of information, from destination research to itinerary creation.

Destination Selection

Choosing the perfect destination can be overwhelming, considering factors like interests, budget, and time constraints.

Activity Planning

Deciding on activities, tours, and experiences to fill your itinerary requires extensive research and planning.

Accommodation Booking

Finding suitable accommodation options within your budget and preferences can be time-consuming and challenging.

Travel Tips & Information

Accessing reliable travel tips, visa requirements, local customs, and other essential information can be difficult.

Our Solution

Our chatbot leverages AI to help you overcome these challenges, providing personalized recommendations and streamlining the planning process.

1

Personalized Recommendations

The chatbot understands your preferences and offers tailored suggestions for destinations, activities, and accommodations.

2

Detailed Itineraries

It helps you create detailed itineraries, including suggested activities, transportation, and dining options.

3

Travel Tips

The chatbot provides useful travel tips, including visa requirements, local customs, and safety information.

4

Engaging Conversation

The chatbot interacts with you in a conversational tone, making the planning process enjoyable and interactive.

Technology Stack

The chatbot is built using a powerful combination of front-end and back-end technologies.

Frontend

Streamlit provides a user-friendly framework for creating intuitive web applications.

Backend

Ollama, an LLM running locally, handles the natural language processing and provides insightful responses.

Implementation Steps

1. Environment Setup

- Install necessary dependencies, including Streamlit and Request libraries.
- Configure the Ollama LLM model on your local machine.
 - Install Ollama from: <https://github.com/ollama/ollama?tab=readme-ov-file>
 - Start your local instance of the LLM service: `ollama serve --model llama3`

to create a robust development environment.

Implementation Steps

2. User Interface Design

Build an intuitive and engaging user interface using Streamlit components like text input, buttons, and markdown.

Travel Planning and Recommendations Chatbot

Welcome to the Travel Planning and Recommendations Chatbot! I'm TravelBot, your friendly and knowledgeable travel assistant. Ask me anything about travel planning, and I'll provide you with personalized recommendations and tips.

You:

Send

TravelBot: Hello! I'm TravelBot. How can I assist you with your travel plans today?

Clear Chat

Implementation Steps

3. LLM Integration

Connect the chatbot with the Ollama LLM model using its API to enable natural language processing.

```
curl http://localhost:11434/api/chat -d '{
  "model": "llama3",
  "messages": [
    {
      "role": "user",
      "content": "why is the sky blue?"
    }
  ],
  "stream": false
}'
```


Implementation Steps

4. User Query Handling

Implement functions to process user inputs and generate responses using the LLM, providing personalized recommendations.

```
# Function to get response from local LLM
def local_llm_response(messages):
    url = "http://localhost:11434/api/chat"
    headers = {"Content-Type": "application/json"}
    payload = {
        "model": "gemma:2b",
        "messages": messages,
        "stream": False
    }

    response = requests.post(url, headers=headers, data=json.dumps(payload))

    if response.status_code == 200:
        return response.json().get("message", {}).get("content")
    else:
        return f"Error: {response.status_code}"
```


Implementation Steps

5. Testing and Evaluation

Thoroughly test the chatbot with various queries to validate its accuracy and usability, gather user feedback, and refine its performance.

Prompt Design

The chatbot's personality and communication style are crucial for creating a positive user experience.



Persona

The chatbot adopts a friendly and knowledgeable travel assistant persona named TravelBot.



Communication

TravelBot maintains a conversational and engaging tone, providing helpful guidance and recommendations.

Prompt Example

The prompts are carefully designed to ensure TravelBot provides accurate and relevant information.

You are a helpful and knowledgeable travel assistant named TravelBot. Your goal is to help users plan their trips by providing personalized recommendations for destinations, itineraries, activities, accommodations, and travel tips based on their preferences and queries. Maintain a friendly and engaging tone throughout the conversation.

Result

The chatbot delivers personalized travel recommendations, detailed itineraries, and helpful travel tips.



User Query

Could you give me a good destination for a 5-day trip?

You:

Hi, Could you give me a good destination for a 5-day trip?

Send

TravelBot: Hello! I'm TravelBot. How can I assist you with your travel plans today?

You: Can you give me a good destination for a 5-day trip?

TravelBot: Hello! I'd be delighted to assist you with your travel plans.

Destination suggestions for a 5-day trip:

- **Los Cabos, Mexico:** A vibrant city with stunning beaches, world-class resorts, and a wide range of activities.
- **Nice, France:** A charming coastal city with a rich history, beautiful architecture, and a variety of restaurants.
- **Dubai, United Arab Emirates:** A futuristic city with towering skyscrapers, bustling markets, and a wide selection of attractions.
- **New York City, USA:** The bustling heart of the world, offering endless possibilities for sightseeing, dining, and entertainment.
- **Sydney, Australia:** A vibrant city with stunning scenery, diverse culture, and a variety of activities.
- **Maui, Hawaii:** A paradise for nature lovers, with pristine beaches, lush rainforests, and diverse wildlife.

What would you like to prioritize in your trip? (e.g., relaxation, adventure, culture, family-friendly)

Additional resources to help you plan your trip:

- **TripAdvisor:** A comprehensive travel guide with reviews, recommendations, and a wide range of destination options.
- **Lonely Planet:** A well-known travel guide that offers insider tips and cultural insights.
- **Expedia:** A leading travel booking website with a wide selection of destinations and accommodations.

Please let me know your preferences, and I'll recommend a destination that matches your needs.