
CAPSTONE PROJECT

TRAVEL PLANNER AGENT

Presented By:

SREEHITHA KOTHAPALLI - SRM Institute of Science and Technology- B.Tech/CSE


OUTLINE

- **Proposed System/Solution**
- **System Development Approach** (Technology Used)
- **Result (Output Image)**
- **Conclusion**
- **Problem Statement** (Should not include solution)
- **Future Scope**
- **References**

PROBLEM STATEMENT

In today's fast-paced world, planning a personalized and efficient travel experience remains a challenge for many travelers. With countless options for destinations, transportation, accommodation, and activities, users often find it overwhelming to create an optimized travel itinerary that aligns with their preferences, budget, and time constraints. The lack of real-time updates on weather, local attractions, or changes in bookings further complicates the process. To address this, we propose the Travel Planner Agent—an AI-powered assistant built using IBM Cloud Lite services and IBM Granite. It aims to simplify the travel planning experience by using real-time data to recommend destinations, build optimized itineraries, suggest accommodations and transport, and adapt plans dynamically. By integrating mapping services, weather APIs, and user preferences, the agent ensures that travel planning becomes seamless, efficient, and enjoyable.

PROPOSED SOLUTION

- The AI-based Travel Planner Agent simplifies trip planning by combining user preferences with real-time data. The system includes:
 - ◆ 1. Data Collection
 - Collect user inputs: destination type, budget, duration, and preferences.
 - Use APIs for weather, events, transport, and accommodation availability.
 - ◆ 2. Data Preprocessing
 - Clean and organize data from users and APIs.
 - Extract key features like season, location type, and cost relevance.
 - ◆ 3. Personalized Recommendations
 - Suggest destinations, transport, stays, and activities based on inputs.
 - Rank options by suitability, cost, and availability.
 - ◆ 4. Itinerary Generation
 - Build a day-wise travel plan with timings for each activity.
 - Allow real-time updates based on weather or booking changes.
 - ◆ 5. Feedback & Improvement
 - Collect user ratings and feedback.
 - Refine future suggestions using continuous learning.
-  Outcome
 - A smart, user-friendly assistant that delivers customized travel plans for a smooth and enjoyable experience.

SYSTEM APPROACH

This section outlines the setup for developing the AI-based travel planner using IBM Cloud Lite

◆ System Requirements

- IBM Cloud Lite (free)
- Watson Assistant
- Runtime API Key
- Object Storage
- Front-end (HTML/Node-RED)

◆ Tools & Libraries

- Watson Assistant
- IBM Cloud Functions (optional)
- Object Storage API
- OpenWeatherMap / Travel APIs
- IBM Cloud CLI

RESULT

SK You: 01:17 PM
beach,\$300,2 days

watsonx Agent 01:17 PM
Based on your preferences, I would recommend the following beach destinations for a 2-day trip with a budget of \$300:

1. Aruba - You can rent a car with top drive for \$300 for 7 days and explore the island, including baby beach and cave pool and ruins.
2. Cancun - You can find all-inclusive resorts or hotels for \$200-300 a night, with beach access and amenities like water sports and spa treatments.
3. Orlando - You can stay at the Beach Club Resort, which offers water or garden views, and plan 2 days at Epcot and 2 days at MK.
4. South Padre - You can enjoy 300 days of sunshine and oceanfront dining, with resorts like the Palms Resort offering breezy views and semi-private beaches.
5. Barcelona - You can find apartments for \$300 USD for a 2-bedroom apartment, and explore the city's beaches and neighborhoods.

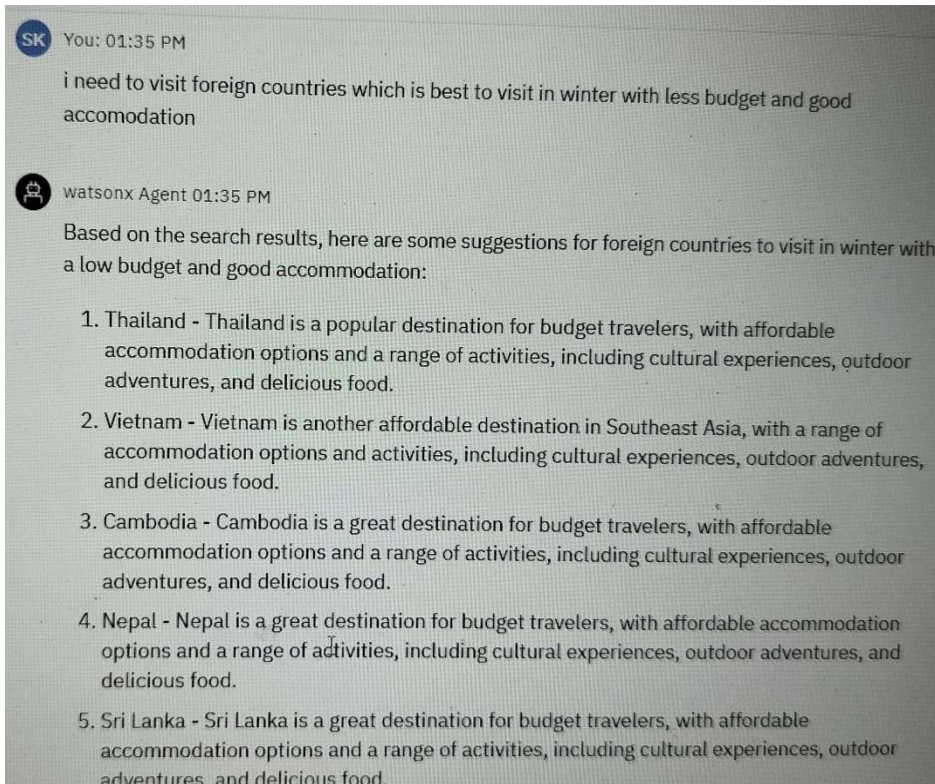
These destinations offer a range of activities, amenities, and prices to fit your budget and preferences. However, please note that prices and availability may vary depending on the time of year and other factors, so it's always a good idea to research and book in advance to get the best deals.

► How did I get this answer?

SK You: 01:31 PM
I am from Chennai. I want to go on a 3-day beach vacation with a ₹10000 budget.

watsonx Agent 01:31 PM
Based on the search results, here are some suggestions for a 3-day beach vacation near Chennai with a budget of ₹10000:

1. Goa - Goa is a popular beach destination in India that offers a range of activities, including swimming, sunbathing, and water sports. You can find affordable accommodation options, including guesthouses and hostels, and enjoy the local cuisine, which includes seafood and traditional Goan dishes.
2. Gokarna - Gokarna is a small town in Karnataka that is known for its beautiful beaches, including Om Beach and Kudle Beach. It's a great destination for budget travelers, with affordable accommodation options and a range of activities, including swimming, surfing, and trekking.
3. Pondicherry - Pondicherry is a coastal town in Tamil Nadu that is known for its French colonial architecture, beautiful beaches, and vibrant cultural scene. You can find affordable accommodation options, including guesthouses and hostels, and enjoy the local cuisine, which includes French and Indian dishes.
4. Andaman and Nicobar Islands - The Andaman and Nicobar Islands are a union territory of India that is known for its beautiful beaches, coral reefs, and lush forests. You can find affordable accommodation options, including guesthouses and hostels, and enjoy activities, including snorkeling, diving, and trekking.



FINAL RESULT

The AI-powered Travel Planner Agent successfully generates **personalized travel plans** based on user preferences and real-time data.

Using IBM Cloud Lite and Watson Assistant, it ensures a **smooth, adaptive, and intelligent** travel experience.

It enhances user convenience by **automating itinerary creation** and providing **dynamic updates**.

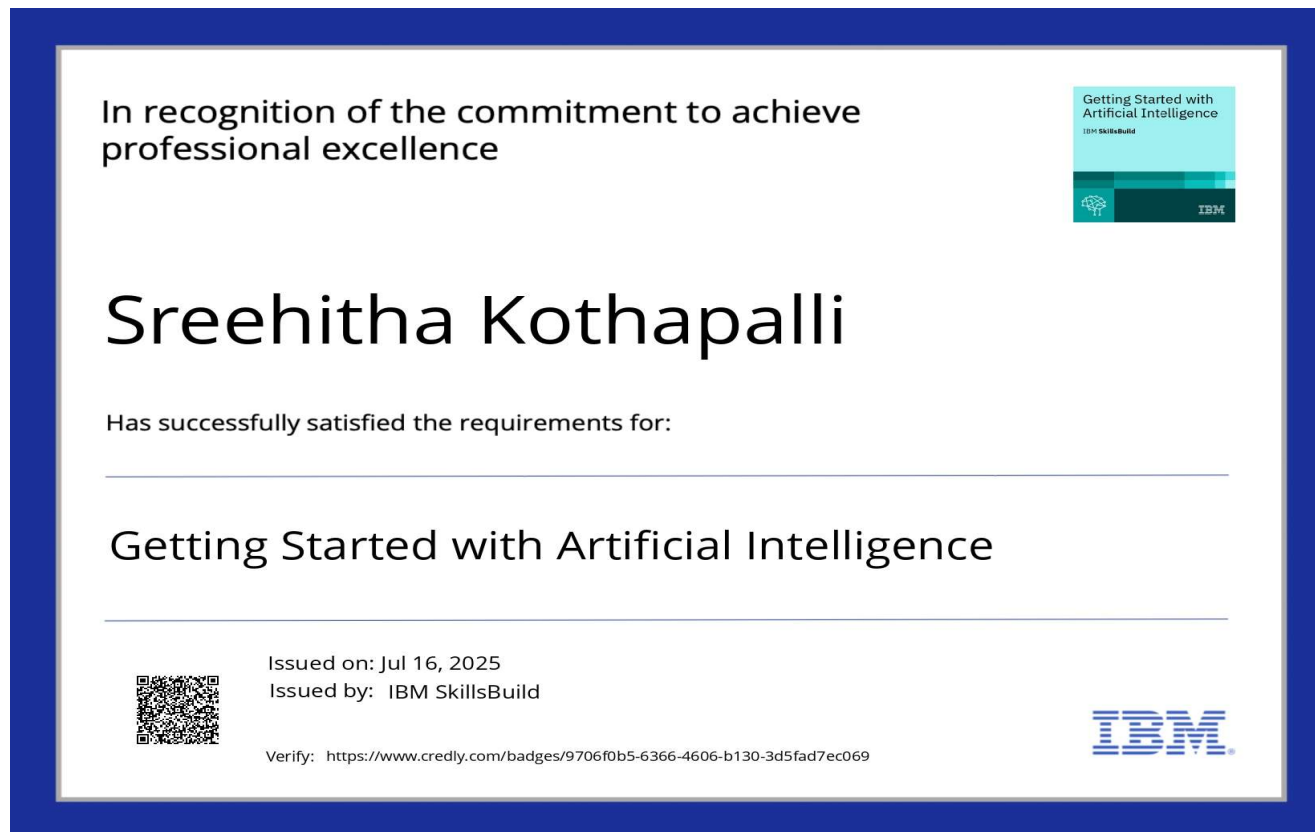
CONCLUSION

The AI-powered Travel Planner Agent successfully delivers accurate and customized travel plans by leveraging real-time user data and IBM's Watson Assistant. It effectively enhances travel planning by simplifying itinerary generation and providing intelligent recommendations based on individual preferences. While implementing the system, challenges like integrating multiple APIs and ensuring real-time responsiveness were encountered and addressed. Future improvements could include voice-based interactions and multilingual support to expand accessibility. This solution demonstrates the potential of AI to transform the travel industry by offering efficient, adaptive, and user-centric planning experiences.

FUTURE SCOPE

- To further enhance the capabilities of the AI-powered Travel Planner Agent, future developments could include the integration of additional data sources such as weather forecasts, local events, and real-time transportation updates to offer even more precise and context-aware travel suggestions. The system can be optimized using advanced machine learning techniques to improve personalization and response accuracy. Expanding support for multiple cities, regions, and languages would increase its accessibility to a global user base. Incorporating voice-based interactions, edge computing for faster local processing, and augmented reality features for virtual previews of destinations are also promising directions for innovation.

IBM CERTIFICATIONS



- Screenshot/ credly certificate(getting started with AI)

IBM CERTIFICATIONS



- Screenshot/ credly certificate(Journey to Cloud)

IBM CERTIFICATIONS

IBM SkillsBuild

Completion Certificate



This certificate is presented to
Sreehitha Kothapalli

for the completion of
**Lab: Retrieval Augmented Generation with
LangChain**
(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 26 Jul 2025 (GMT)

Learning hours: 20 mins

- Screenshot/ credly certificate(RAG Lab)

THANK YOU