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# **CAPSTONE PROJECT**

## **TRAVEL PLANNER AGENT**

**Presented By:**  
**Name: Abhinav Pratap**  
**College Name: Chandigarh University**  
**Department: Computer Science and Engineering**

# OUTLINE

- ❑ Problem Statement
- ❑ Proposed System/Solution
- ❑ System Development Approach (Technology Used)
- ❑ Algorithm & Deployment
- ❑ Result (Output Image)
- ❑ Conclusion
- ❑ Future Scope
- ❑ References

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# PROBLEM STATEMENT

A **Travel Planner Agent** is an AI-powered assistant that helps users plan trips efficiently and intelligently. It uses real-time data to suggest destinations, build itineraries, and recommend transport and accommodation options. By understanding user preferences, budgets, and constraints, it tailors personalized travel plans. Integrated with maps, weather updates, and local guides, it ensures a smooth travel experience. The agent can also manage bookings, alert users to changes, and optimize schedules on the go. This smart assistant transforms complex travel planning into a seamless, enjoyable process.

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# PROPOSED SOLUTION

We propose an AI-powered Travel Planner Agent that automates and personalizes the trip planning process using IBM Granite (LLM) on IBM Cloud. The system intelligently suggests destinations, builds optimized itineraries, recommends accommodations and transport, and integrates real-time weather and travel updates.

- Personalized itineraries based on preferences
- Budget-conscious planning
- Real-time suggestions and alerts
- Simplified bookings and smooth travel experience

# SYSTEM APPROACH

The Travel Planner Agent is developed **entirely on IBM Cloud Lite** using the following technologies:

Component	Technology Used
AI Logic	IBM Granite Foundation Models (watsonx.ai)
Development Environment	Watson Studio Notebooks
Data Storage	IBM Cloud Object Storage
Real-time Updates	IBM Weather APIs
Deployment	IBM Cloud Services

# ALGORITHM & DEPLOYMENT

## Algorithm Workflow:

1. **Input Collection:** User provides trip preferences (location, duration, budget, interest)
2. **AI Processing:** Granite LLM generates travel plan with itinerary
3. **Real-time Data:** Weather & alerts fetched
4. **Output:** Complete plan with destinations, hotels, and transportation

## Deployment Steps on IBM Cloud:

1. **Create Watsonx.ai instance and Watson Studio project**
2. **Use Python notebook with Granite model**
3. **Generate text-based responses**

# RESULT

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Projects / Travel Planner / Travel Planner Agent

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Build

AI Model: granite-3-3-8b-instruct ⌵ ⚙️ <

Setup


Name



Travel Planner Agent

Description 94/100

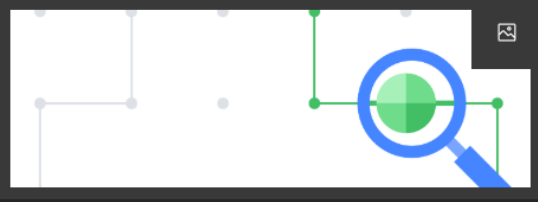
To suggest destinations, build itineraries, and recommend transport and accommodation options.

Icon



Placeholder image



Quick start questions

Agent preview

AP You: 08:17 PM

I want to go on a 5-day trip to Himachal Pradesh in India. My budget is ₹25,000. I prefer mountains, light trekking, and local food experiences. Plan my travel with destinations, transport, accommodation, and day-wise itinerary.

Travel Planner Agent 08:17 PM

To plan your 5-day trip to Himachal Pradesh within a budget of ₹25,000, focusing on mountains, light trekking, and local food experiences, here's a suggested itinerary:

Day 1: Arrival in Shimla

- **Transport:** Fly into Jubbarhatti Airport, Shimla. Alternatively, take a train to Sanjkalana Express from Chandigarh.
- **Accommodation:** Stay at budget-friendly hotels or guesthouses in The Mall area, such as Hotel Hill Top or The Heritage Shimla.
- **Activities:** Explore The Mall, Ridge, and Kali Bari Temple. Enjoy local cuisine at restaurants like The Glass House or Tea Garden.

Day 2: Shimla Sightseeing

• Transport: Local taxis or buses

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Build

AI Model: granite-3-3-8b-instruct ▾ ⚙️ <

Setup ▾

Configuration ▴

Framework

LangGraph ▾

Architecture

ReAct ▾

Instructions

Advanced configuration

You are a helpful assistant that uses tools to answer questions in detail.  
When greeted, say "Hi, I am watsonx.ai agent. How can I help you?"

Knowledge ▾

Tools ▴

Add a tool

Create custom tool

Agent preview

the The Glass House or Red Garden.

Day 2: Shimla Sightseeing

- **Transport:** Local taxis or buses.
- **Accommodation:** Same as Day 1.
- **Activities:** Visit Jhansi Ki Chowk, Christ Church, and In suite. Take a toy train ride to Kalka (round trip). Have lunch at local eateries like Chowpatty.

Day 3: Chail and Naldehra

- **Transport:** Hire a taxi for the day.
- **Accommodation:** Stay overnight in Chail.
- **Activities:** Visit Chail Palace and Chail Kali Temple. Explore Naldehra for its golf course and scenic views. Enjoy local food at Chail's small eateries.

Day 4: Manali via Kullu

- **Transport:** Hire a taxi to Kullu, then proceed to Manali.
- **Accommodation:** Stay at budget hotels in Manali, like Hotel Pine Woods or Mountain End.
- **Activities:** Visit Solang Valley for adventure sports, Vashisht Hot Springs, and Hadimba Temple. Try local dishes at cafes like Old Manali Cafe.

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Deployment spaces / ↕ ⓘ 🔍 🕒 💬

Travel Planner\_deploy

Overview

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Name	Type	Status	Asset	Asset type	Tags	Last modified	
<span>🔗</span> Travel Planner Agent	Online	<span>✅</span> Deployed	Travel Planner Agent	Ai service	<span>wx-agent</span> <span>✎</span>	18 minutes ago Abhinav Pratap (You)	<span>⋮</span>

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Deployments Code Schema

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↻ New deployment

Name	Type	Status	Tags	Last modified	
🔗 Travel Planner Agent	Online	✅ Deployed	wx-agent	1 hour ago Abhinav Pratap (You)	⋮

Items per page: 20 1–1 of 1 items 1 of 1 pages

About this asset

Name

Travel Planner Agent

Description

To suggest destinations, build itineraries, and recommend transport and accommodation options.

Asset Details

Type: python

AI service ID: de217cf3-2709-45...

Software specification: runtime-24.1-py3.11

Tags

wx-agent

Last modified

1 hour ago by Abhinav Pratap

Created on

Aug 2, 2025 by Abhinav Pratap

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# CONCLUSION

The Travel Planner Agent significantly simplifies the travel planning process. With the power of IBM Granite and cloud computing, users receive personalized, dynamic, and budget-friendly travel plans in seconds. It transforms a complex task into an intelligent and seamless experience, making travel more enjoyable and stress-free.

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# FUTURE SCOPE

- Integration with real-time booking APIs (e.g., hotel, flights)
- Voice assistant integration for hands-free planning
- Multi-language support for global use
- Improved personalization with user history and feedback
- Offline mobile assistant app using IBM Edge services

# REFERENCES

- IBM Cloud Documentation – <https://cloud.ibm.com/docs>
- IBM Granite (watsonx.ai) – <https://cloud.ibm.com/catalog/services/watsonx-ai>
- IBM Cloud Object Storage – <https://cloud.ibm.com/catalog/services/cloud-object-storage>
- All generated outputs are from IBM Foundation Model (Granite)

# IBM CERTIFICATIONS

In recognition of the commitment to achieve  
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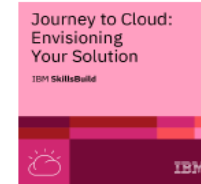
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Completion Certificate



This certificate is presented to

Abhinav Pratap

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LangChain**

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According to the Adobe Learning Manager system of record

**Completion date:** 24 Jul 2025 (GMT)

**Learning hours:** 20 mins





# THANK YOU