CAPSTONE PROJECT

PROJECT TITLE

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OUTLINE

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

PROBLEM STATEMENT

- Planning a trip can be difficult and time-consuming, especially for people with a limited budget, tight schedule, or specific interests. Most travel apps only give general suggestions and don't change based on real-time updates or personal preferences. Because of this, people often have to use several apps to manage bookings, transportation, weather, and things to do. There is a need for a smart and personalized AI travel assistant that can make travel planning easier, adjust to changes quickly, and provide recommendations based on each user's needs.

PROPOSED SOLUTION

- We propose building **“TripMate – The Smartest AI Travel Planner”** using IBM Watsonx.ai and Agentic AI. The assistant:
- Accepts text and voice inputs to understand user preferences
- Recommends destinations based on interests, budget, and season
- Builds personalized, day-wise itineraries including transport and accommodations
- Offers real-time travel tips, weather updates, and backup plans
- Learns from user feedback to improve future travel suggestions

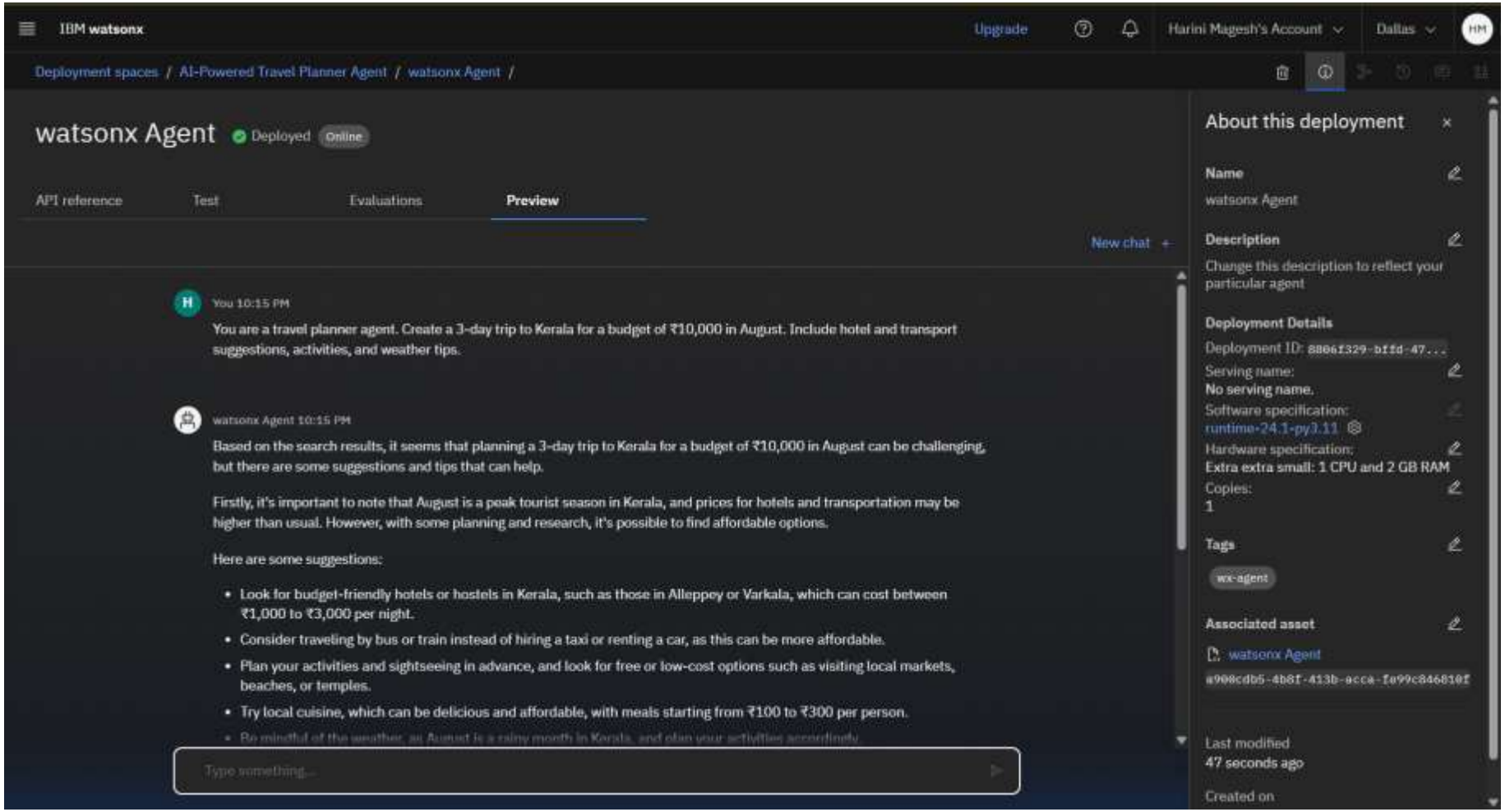
SYSTEM APPROACH

- **Technology Used:**
- IBM Cloud Lite
- Watsonx.ai Foundation Models (Granite)
- IBM Agentic AI
- Cloud Object Storage
- NLP and Prompt Engineering Tools

ALGORITHM & DEPLOYMENT

- **Algorithm Selection:**
  The project uses **Granite**, a foundation language model in IBM Watsonx.ai, well-suited for personalized and conversational tasks like travel planning. It enables contextual understanding, itinerary generation, and adaptive response creation.
- **Data Input:**
- User text or voice input (destination, travel dates, preferences, budget)
- Optional: Real-time data such as weather, events, or transport availability
- Built-in destination knowledge and travel prompt templates
- **Training Process:**
  No custom model training is required. Instead, prompt engineering in Agentic AI is used to define behaviors such as itinerary building, travel suggestions, and dynamic adjustments.
- **Prediction Process:**
  Upon receiving user input, the LLM generates a personalized travel plan by reasoning through constraints like budget, interests, and location—adapting its recommendations based on real-time context.
- **Deployment:**
  The agent is deployed using **Watsonx.ai Runtime** within a Deployment Space on IBM Cloud Lite and is accessed through a chat interface or API for end users.

RESULT



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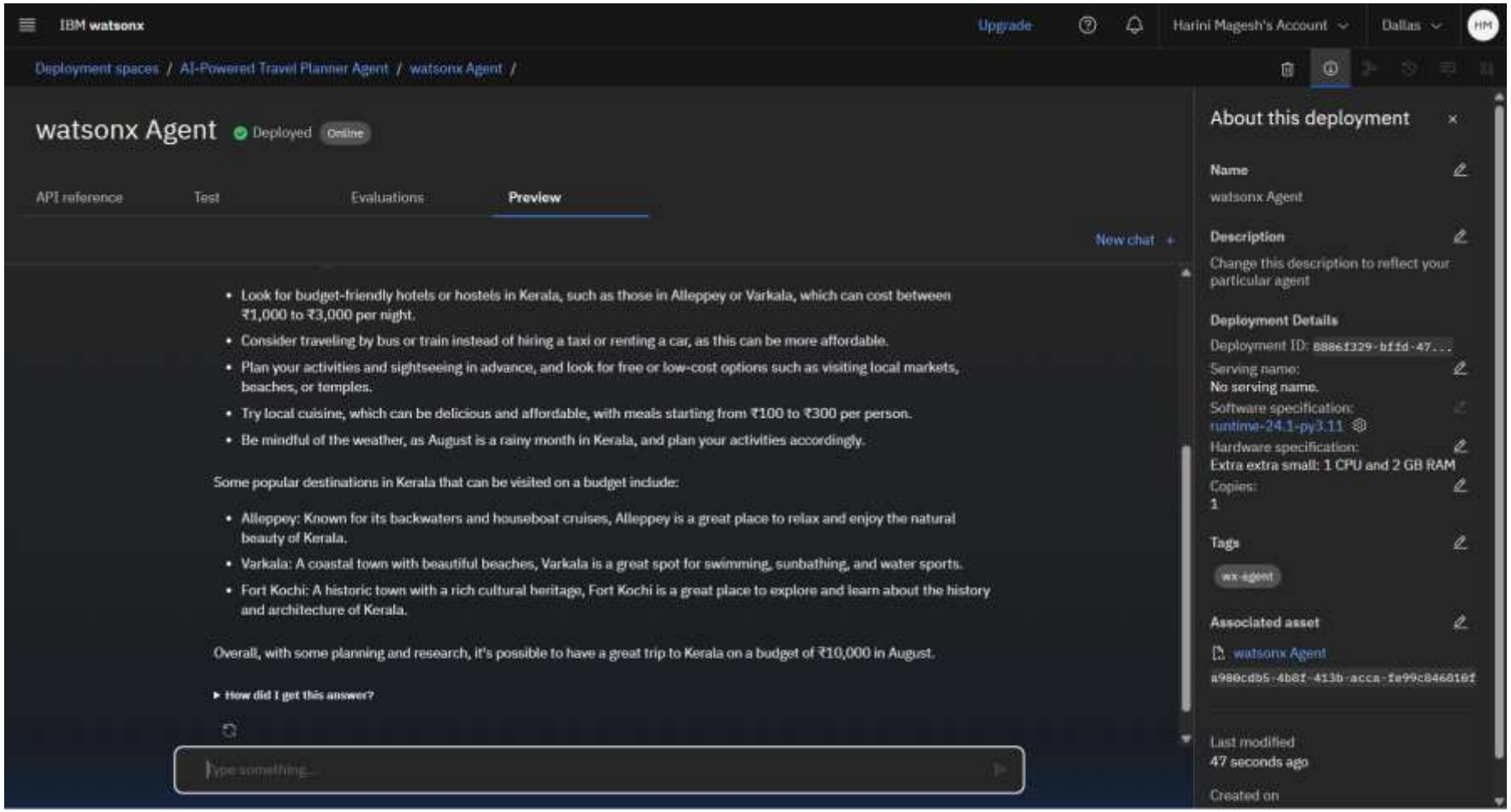

CONCLUSION

- **TripMate – The Smartest AI Travel Planner** simulates a human-like travel advisor using generative AI. It supports:
- Personalized, adaptive travel planning
- Voice and text input
- Real-time itinerary adjustments and suggestions
- It can scale to serve both domestic and international travelers using IBM Cloud infrastructure.
- Integration with maps and real-time weather APIs
- Support for multiple Indian languages (Hindi, Tamil, Bengali, etc.)
- Visual landmark and QR recognition for bookings
- Community trip ratings and shared itineraries
- Offline planning mode for areas with low or no connectivity

FUTURE SCOPE

- **TripMate – The Smartest AI Travel Planner** uses generative AI to act like a human travel advisor. It offers:
- Personalized travel planning
- Voice and text input
- Real-time itinerary updates
- Built on IBM Cloud, it supports:
- Map and weather integration
- Indian language support
- QR code and landmark recognition
- Offline planning and shared itineraries
- It’s scalable for both local and global travelers.

REFERENCES

- Integration with airline and hotel APIs for instant bookings
- AI-based travel expense tracking and budgeting
- Augmented Reality (AR) travel guide features
- Multi-user group itinerary coordination (e.g., friends or family trips)
- Sustainability-focused travel suggestions (eco-friendly routes and stays)

IBM CERTIFICATIONS

IBM CERTIFICATIONS

In recognition of the commitment to achieve professional excellence

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Has successfully satisfied the requirements for:

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According to the Adobe Learning Manager system of record

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THANK YOU

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