AGENT CHAARI

Chatbot that helps users explore temples across India

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About the Project

<u>Problem and vision</u>

- Focus on India's temple tourism: celebrate the country's rich culture, festivals, and heritage while making temple discovery effortless across states.
- Provide reliable temple information, historical significance, and practical details to support spiritual and cultural travel.

<u>Application</u>

- Find temples by state, city, deity, period, or architectural style, with filters for timings, dress code, and accessibility.
- Explain each temple's significance: origin stories, dynasties involved, inscriptions, and key festivals.
- Generate day-wise temple itineraries tailored to trip length, interests, and travel constraints (distance, opening hours).
- Share indicative costs: entry/darshan rates where applicable, prasad/archana donations, and approximate local transport costs.

RELATED RESEARCH

Sathiyabamavathy & Anju (2024): Role of Chatbots in Cultural Heritage Tourism: An Empirical Study on Ancient Forts and Palaces

Developed TN Forts Buddy, a chatbot for Tamil Nadu's forts and palaces — demonstrating how AI and NLP can enhance cultural tourism and accessibility.

A. Doshi et al. (2024). "Smart Tourism Chatbot System: An AI-Driven Solution for Promoting Cultural Heritage." International Journal of Applied Computer Engineering & Communication Technology.

Covers a generalized, scalable architecture for chatbots in tourism, including features for Indian heritage/tourist sites.

S. Suganthi et al. (2025). "AI-Powered Heritage Exploration in Tamil Nadu Historical Wonders." IJARSCT, Vol 4, Issue 5, 2025.

Outlines a web platform using AI (GPT-4) for dynamic storytelling, itinerary planning, and multilingual support at heritage sites/temples. Emphasizes preservation, tourism outreach, and user customization.

Nurul Muizzah Johari: QUALITY ATTRIBUTES FOR A GOOD CHATBOT: A LITERATURE REVIEW

Defined essential chatbot quality factors — functionality, reliability, usability, and interactivity — guiding our evaluation metrics.

ABOUT DATASETS

Dataset	Source	Type/Format	Scale & Coverage	Best Use in Chatbot
New & Ancient Temples – India	Kaggle (kkhandekar)	CSV; tabular rows per temple	Famous temples; pan-India; count not specified	Itinerary generation, mapping, distance/order optimization
WebTempleCorpus.json (templeKB)	GitHub + ACL LREC 2020 corpus	JSON; structured QA facts (9 fields)	4,933 facts covering 573 temples; pan-India; Wikipedia + web sources	Factual QA backbone; retrieval + QA fine-tuning; evaluation benchmark
Hindu Temples JSON (rishabhmodi03)	GitHub repository	JSON; hierarchical by deity (deities.json) and state (states.json)	573+ temples; 100+ deities; 28+ states; pan-India	Storytelling and significance; deity/state filtering; enriched responses

IMPLEMENTATION

1. NLU – DistilBERT	Detects user intent (e.g., *Find_Temples*, *Plan_Visit*) and extracts entities like city or temple names. → Runs first in pipeline.
2. Retrieval – Sentence-BERT + FAISS	Encodes queries and temple descriptions; retrieves top matches within radius. → Fetches factual data.
3. Generation – Flan-T5	Generates human-like responses for significance or itinerary. → Adds natural flow.
4. Dialogue Manager – LangChain	Tracks user context and handles follow-ups. → Maintains conversation flow.
5. Frontend – Streamlit + Map API	Chat UI with map visualization. → User-facing layer.

EVALUATION

Evaluation Focus
- NLU: Test intent & entity detection (F1-score)
- Retrieval: Measure correct temple matches (Precision@k)
- Generation: Check response quality (ROUGE, BLEU, human rating)

System Evaluation
- End-to-end accuracy & response time
- Human feedback on fluency, accuracy, usefulness

Success Criteria
- ≥85% NLU F1-score
- ≥90% Retrieval accuracy
- ≥0.75 ROUGE & ≥80% user satisfaction

Thank you!