9 .ENHANCING HERITAGE TOURISM EXPERIENCE IN SOUTH INDIA USING AN LLM-POWERED CHATBOT WITH SPEECH INTEGRATION

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Tourism holds a vital position in economic development, cultural exchange, and global interdependence. How ever tourists usually struggle to access instant, accurate, and personalized information relating to heritage destinations, transportation, accommodation, and local attractions. The conventional customer service practices, including call centers and on-site assistance counters, are capital-intensive and lack the scalability.For enhancing heritage tourism services, the suggested research in the present study develops an AI-driven chatbot system with Large Language Models (LLMs) coupled with speech recognition and text-based query processing. It leverages the Google PaLM LLM for cognitive response generation, LangChain for efficient query processing, and Streamlit for a graphical user interface. It communicates with users through voice and text, creates dynamic SQL queries, and fetches matching data from a heritage tourism database. The chatbot also provides text-to-speech (TTS) and speech-to-text (STT) capabilities for a better experience.

This study examines the design, development, and possible influence of the chatbot on both the accessibility and interaction of the visitors learning about the rich cultural heritage of South India.

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