
Hackathon Project Phases Template

Project Title:

Gemini Landmark Description App Tourist Experiences with AI

Team Name:

Byte blazers

Team Members:

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Phase-1: Brainstorming & Ideation

Objective:

To create a powerful and user-friendly app that leverages Gemini's AI capabilities to provide tourists with rich, personalized, and informative experiences at landmarks across India.

Key Points:

1. Problem Statement:

- Tourists need a dynamic, informative, and accessible mobile application that provides AI-powered descriptions of landmarks.
- Enhancing the user understanding and appreciation of cultural and historic sites.

2. **Proposed Solution:**

Develop a "**Gemini Landmark Description App**" that leverages Google's Gemini AI to provide:

- Comprehensive landmark descriptions:
Generate detailed and engaging descriptions that cover historical context, architectural features, cultural significance, and interesting anecdotes.
- User-generated content:
Allow users to share their own experiences, photos, and reviews, enriching the app's content and fostering a community.
- Interactive exploration:
Integrate maps and augmented reality features to allow users to virtually explore landmarks.

3. **Target Users:**

- Tourists visiting cultural and historical landmarks.
- Travel enthusiasts seeking in-depth information.
- Educators and students interested in history and architecture.
- Individuals with accessibility needs.

4. **Expected Outcome:**

- A functional **Gemini Landmark Description App** that provides informative experiences and landmarks across India.

Phase-2: Requirement Analysis

Objective:

Define technical and functional requirements for Gemini Landmark Description App.

Key Points:

1. Technical Requirements:

- Programming Language: **Python**
- Backend: **Python**
- Frontend: **HTML, CSS, UI, API Calls**

2. Functional Requirements:

- AI-Powered Description Display
- Personalized Recommendations
- Map Integration
- Landmark Information Retrieval

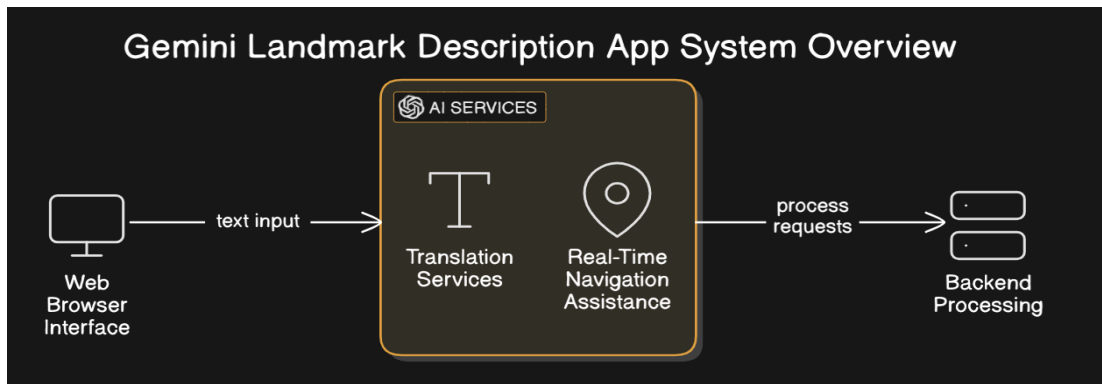
3. Constraints & Challenges:

- **Accuracy:**
Gemini is still under development, and it may not always be accurate in its descriptions of landmarks.
 - **Privacy:**
The app should be designed to protect the privacy of users. It should not collect or store any personal information without the user's consent.
 - **Accessibility:**
The app should be accessible to all users, including those with disabilities. It should be designed to be usable by people with a wide range of abilities.
 - **Multimodality:**
The app needs to be able to understand and generate descriptions of landmarks in multiple modalities, such as text, images, and audio.
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Phase-3: Project Design

Objective:

Create the architecture and user flow of the application.



Key Points:

1. System Architecture Diagram:

- User enters the web browser interface.
- The text input is given to the required features.
- They are processed as requests in the backend.
- It displays the output for the given input.

2. User Flow:

- Step 1: User enters a query for eg: the best landscape in India.
- Step 2: It processes the requests in backend.
- Step 3: The app processes the data and displays the best results in an easy-to-read format.

3. UI/UX Considerations:

- Use a clear and concise layout.
- Use high-quality images and videos.
- Use a natural language interface.
- Provide feedback to users.

Phase-4: Project Planning (Agile Methodologies)

Objective:

Break down the tasks for effective completion.

Task	Team Member(s)	Day 1 (Morning)	Day 1 (Afternoon)	Day 2 (Morning)	Day 2 (Afternoon)
Project Planning & Setup	All Members	✔ Kickoff Meeting & Task Assignment	✔ Setup Development Environment	-	-
UI/UX Design	Member 1, Member 2	✔ Wireframe & Mockups	✔ Design Finalization	-	-
Backend Development	Member 3, Member 4	✔ API & Database Setup	✔ Basic Data Retrieval & Storage	✔ API Refinements	✔ Testing & Debugging
Frontend Development	Member 1, Member 2	-	✔ Implement UI Components	✔ Connect with Backend	✔ Final UI Tweaks
AI/ML Integration (Gemini API)	Member 5	-	✔ Research & Setup API	✔ Implement AI-based Landmark Descriptions	✔ Debugging & Optimization
Testing & Debugging	All Members	-	-	✔ Unit & Integration Testing	✔ Final Bug Fixes
Documentation & Report	Member 5	-	-	✔ Prepare Documentation	✔ Final Review & Submission

Phase-5: Project Development

Objective:

Code the project and integrate components.

Key Points:

1. Technology Stack Used:

Programming Language: **Python**

Backend: **Python**

Frontend: **UI, API Calls**

2. Development Process:

- Installing the necessary software development kit (SDK) and libraries, such as the Gemini API and the Google Cloud SDK. Design the user interface (UI).
- Implement the landmark detection functionality.
- Display the landmark descriptions in the UI.
- Test the app thoroughly.
- Deploy the app.

3. Challenges & Fixes:

- **Challenge:** Designing a user-friendly interface that seamlessly integrates the landmark detection functionality can be difficult.

Fix: Clear Visual Cues- Use visual cues to indicate when the app is processing, when a landmark is identified.

- **Challenge:** Handling user data and API keys securely is crucial. Users need to trust the app with their location and camera access.

Fix: Data Minimization- Only collect and store necessary data. Be transparent about what data is collected and how it's used.

- **Challenge:** As the app gains popularity, it needs to handle a large number of requests efficiently.

Fix: Monitoring and Logging- Implement robust monitoring and logging to track performance and identify issues.

Phase-6: Functional & Performance Testing

Objective:

Ensure the Landmark detection app works as expected.

Test Case ID	Test Scenario	Test Steps	Expected Result	Status
TC_01	Website Launch	Open the app on different devices	Website should launch without crashes	Pass
TC_02	User Input Landmark Name	Enter a landmark name in the search bar and submit	Website should accept input and process request	Pass
TC_03	AI Description Fetching	Enter a landmark name and request a description	Website should fetch an AI-generated description from Gemini API	Pass
TC_04	Image-Based Landmark Recognition	Upload an image of a landmark	App should analyze and return the correct landmark description	Pass
TC_05	Navigation Between Screens	Move between home, search results, and description screens	Smooth transitions without crashes	Pass
TC_06	Error Handling	Disconnect the internet and search for a landmark	App should display a "No Internet Connection" message	Pass
TC_07	User Feedback Form	Submit feedback after viewing a description	Feedback should be successfully submitted	Pass

Final Submission

1. **Project Report Based on the templates**
 2. **Demo Video (3-5 Minutes)**
 3. **GitHub/Code Repository Link**
 4. **Presentation**
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