

Project Design Phase

Problem – Solution Fit Template

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Team ID	LTVIP2026TMIDS78778
Project Name	Gemini Historical Artifact Description System
Maximum Marks	2 Marks

Problem – Solution Fit Template:

The Problem-Solution Fit simply means that you have found a problem with your customer and that the solution you have realized for it actually solves the customer's problem. It helps entrepreneurs, marketers and corporate innovators identify behavioral patterns and recognize what would work and why.

Purpose:

- Solve complex problems in a way that fits the state of your customers.
- Succeed faster and increase your solution adoption by tapping into existing mediums and channels of behavior.
- Sharpen your communication and marketing strategy with the right triggers and messaging.
- Increase touch-points with your company by finding the right problem-behavior fit and building trust by solving frequent annoyances, or urgent or costly problems.
- **Understand the existing situation in order to improve it for your target group.**

<p> Problem</p> <p>Historians, students, museum curators, bloggers, and historical artifact enthusiasts (users) face challenges in creating accurate, structured, and engaging descriptions of historical artifacts due to:</p> <ul style="list-style-type: none"> • Limited access to primary sources • Lack of expertise in historical context • Difficulty interpreting artifact images • Fragmented information across various sources 	<p> Solution</p> <p>Develop a user-friendly, AI-powered web application that generates detailed and accurate historical descriptions from both text and uploaded artifact images using Gemini 1.5 Flash.</p> <ul style="list-style-type: none"> • Gemini 1.5 Flash: Use generative AI to create accurate and engaging descriptions from text inputs and images uploaded • Streamlit Interface: Simple and intuitive web interface for easy interaction. • Image Analysis: AI analyzes uploaded images to generate contextual descriptions. • Customization Options: Users can choose the word count and regenerate descriptions for better results. • Interesting Historical Facts: Generated descriptions include captivating historical insights to make the content engaging.
<p> Existing Alternatives</p> <ul style="list-style-type: none"> • Manually researching and compiling artifact descriptions using multiple online and offline sources. • Using basic AI tools or text generators that lack historical accuracy. • Relying on museum databases and other online references that are often incomplete or outdated. • Hiring historians or experts, which can be costly and time-consuming. 	<p> Early Adopters</p> <p>Historians, museum curators, history students, bloggers and educators.</p>
<p> Consequence of Failure</p> <ul style="list-style-type: none"> • Prolonged Research: Users spend excessive time gathering information from various sources. • Limited Accessibility: Users struggle to create useful descriptions. 	<p> Measurement of Success</p> <ul style="list-style-type: none"> • User Adoption Rate: Number of active users, within the historical community.
	<p> Differentiators</p> <ul style="list-style-type: none"> • Expert-Level Content: Generates historically accurate and detailed descriptions beyond basic AI capabilities. • Content Engagement: High levels of interaction and sharing of generated artifact descriptions here.

1. Problem

Historians, students, museum curators, bloggers, and history enthusiasts face difficulty in creating accurate, structured, and engaging descriptions of historical artifacts.

The main problems include:

- Limited access to reliable primary historical sources
- Lack of deep historical expertise
- Difficulty in interpreting artifact images
- Time-consuming manual research
- Fragmented information across multiple websites and books
- Inconsistent quality of existing AI-generated content

These challenges make it difficult to quickly generate well-structured and historically accurate artifact descriptions.

2. Existing Alternatives

Currently, users rely on:

- Manual research using books and online sources
- Museum databases and academic journals
- Basic AI text generators (which may lack historical accuracy)
- Hiring experts or historians (costly and time-consuming)

These alternatives are either slow, expensive, or do not guarantee structured and contextually rich outputs.

3. Consequences of the Problem

If the problem is not solved:

- Users spend excessive time researching
- Incomplete or inaccurate artifact descriptions are published
- Reduced engagement in educational content
- Limited accessibility for students and researchers
- Increased dependency on costly expert consultation

4. Proposed Solution

Develop a user-friendly AI-powered web application that:

- Generates detailed historical descriptions using artifact name input
- Analyzes uploaded artifact images
- Provides structured output (Origin, Period, Significance, Facts)
- Allows customization of word count
- Includes interesting historical facts
- Regenerates improved responses

The system uses advanced Generative AI (Gemini model) to produce accurate and context-aware content.

5. Early Adopters

- Historians
- Museum curators
- History students
- Bloggers & content creators
- Educators
- Cultural researchers

6. Unique Value / Differentiators

- Combines text + image-based artifact analysis
- Structured and well-formatted outputs
- Fast content generation (within seconds)
- User-friendly web interface
- Customizable word length
- AI-generated interesting historical insights

7. Measurement of Success

The solution will be considered successful if:

- High user adoption rate
- Reduced time spent on research
- Positive feedback from users
- Increased engagement with generated content
- Frequent usage of image-based artifact analysis