

**Project Design Phase-II**  
**Solution Requirements (Functional & Non-functional)**

Date	4 February 2026
Team ID	LTVIP2026TMIDS91648
Project Name	Gemini Historical Artifact Description
Maximum Marks	4 Marks

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Input Handling	<ul style="list-style-type: none"><li>User can enter the <b>Artifact Name</b></li><li>User can enter the <b>Historical Period / Civilization</b></li><li>User can select the <b>word count (100–2000 words)</b></li></ul>
FR-2	Input Validation	<ul style="list-style-type: none"><li>System checks that <b>Artifact Name is not empty</b></li><li>System checks that <b>Historical Period is entered</b></li><li>System ensures <b>word count is within allowed range (100–2000)</b></li></ul>
FR-3	AI Artifact Description Generation	<ul style="list-style-type: none"><li>System creates <b>structured prompt for Gemini API</b></li><li>System sends request to <b>Gemini API</b></li><li>System receives <b>generated artifact description</b></li></ul>
FR-4	Content Display	<ul style="list-style-type: none"><li>System displays <b>generated description clearly</b></li><li>System shows <b>Title, Origin, Material, Historical Context, Cultural Significance</b></li></ul>

FR-5	Markdown Export	<ul style="list-style-type: none"> <li>System converts content to <b>Markdown format</b></li> <li>User can <b>download .md file</b></li> </ul>
FR-6	Loading Experience	<ul style="list-style-type: none"> <li>System displays a historical fact or quote during AI processing</li> </ul>
FR-7	Error Handling	<ul style="list-style-type: none"> <li>System shows <b>user-friendly error message if API fails</b></li> <li>System prevents application crash</li> </ul>

#### Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	<b>Usability</b>	The system shall provide a clean, intuitive Streamlit interface requiring no technical expertise.
NFR-2	<b>Performance</b>	AI generation should complete within acceptable response time (typically 3–8 seconds depending on API latency).
NFR-3	<b>Reliability</b>	The system shall handle API failures gracefully without crashing.
NFR-4	<b>Availability</b>	The application should be accessible whenever the hosting platform is active.
NFR-5	<b>Scalability</b>	The system should handle multiple concurrent requests depending on Gemini API limits.
NFR-6	<b>Maintainability</b>	The codebase should be modular and easy to update for future enhancements.
NFR-7	<b>Security</b>	API keys must be securely stored using environment variables or Streamlit secrets.