

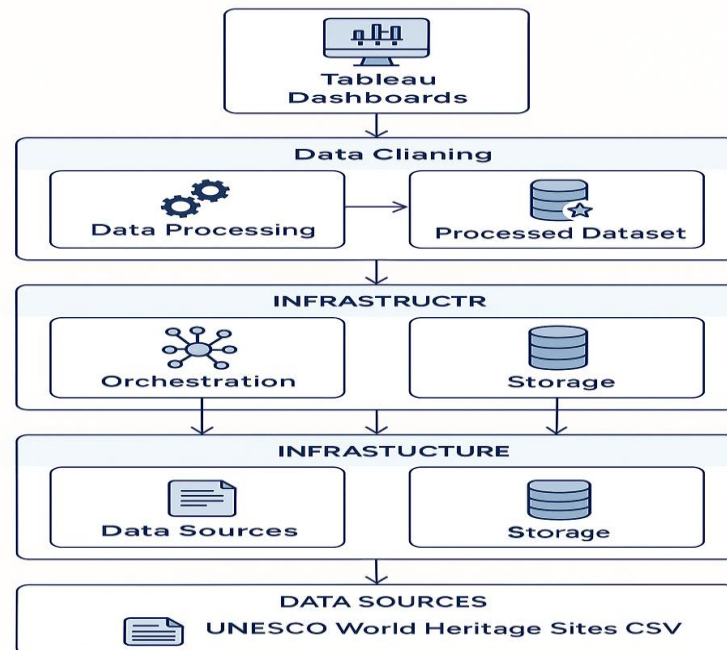
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	27 June 2025
Team ID	LTVIP2025TMID49283
Project Name	Heritage Treasures: An In-Depth Analysis of UNESCO World Heritage Sites in Tableau
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Example: iRevolution_ A Data-driven Exploration of Apple's iPhone Impact in India



Guidelines:

Include all the processes (As an application logic / Technology Block)
Provide infrastructural demarcation (Local / Cloud)
Indicate external interfaces (third party API's etc.)
Indicate Data Storage components / services
Indicate interface to machine learning models (if applicable)

Table-1 : Components & Technologies:

S. No	Component	Description	Technology
1.	User Interface	Interactive dashboards for heritage site insights	Tableau Public
2.	Application Logic-1	Data import, cleaning, transformation	Python (Pandas, NumPy)
3.	Application Logic-2	Region/category/year-wise segmentation, KPI extraction	Python
4.	Application Logic-3	Dynamic CSV processing and preprocessing logic	Python
5.	Database	Structured data storage (after preprocessing)	CSV / Excel
6.	Cloud Database	Cloud backup of processed data	Google Drive / IBM Cloudant
7.	File Storage	Storage of original + cleaned datasets, dashboards	Local Filesystem / Google Drive
8.	External API-1	For supplementary UNESCO metadata	UNESCO API (if integrated)
9.	External API-2	Not applicable	—
10.	Machine Learning Model	Site classification / cluster	K-Means / Decision Tree (future)
11.	Infrastructure (Server / Cloud)	Tableau + Python stack on cloud	Local System / Google Colab / IBM Cloud

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Used for data manipulation, visualizations, and AI	Pandas, NumPy
2.	Security Implementations	Local storage, minimal sensitive data, secure sharing via Tableau	Password Protection, Tableau Permissions
3.	Scalable Architecture	Modular pipeline that can scale to other heritage datasets	CSV Pipelines, Tableau Filters
4.	Availability	Dashboards are accessible online via Tableau Public	Tableau Public
5.	Performance	Optimized datasets, filtered views, efficient map rendering	Tableau Optimization Features