

# FINAL REPORT

Date	28 June 2025
Team ID	LTVIP2025TMID50324
Project Name	Heritage Treasures: An In-Depth Analysis of UNESCO World Heritage Sites in Tableau
Maximum Marks	4 Marks

## INTRODUCTION

### 1.1 Project Overview

The project titled “**Heritage Treasures: An In-Depth Analysis of UNESCO World Heritage Sites in Tableau**” is a data-driven visualization initiative designed to explore, analyze, and present insightful patterns within the UNESCO World Heritage Sites dataset. This dataset encompasses a diverse range of cultural and natural sites recognized globally for their universal value, encompassing ancient monuments, architectural marvels, ecosystems, and more.

With globalization, tourism, and urban development intensifying, there is an increasing need to preserve and understand our shared heritage. This project addresses that need by transforming historical and categorical data into interactive, easy-to-understand visual stories. The use of **Tableau**, a leading business intelligence and data visualization tool, allows for dynamic representation of large datasets through various charts, maps, and dashboards.

The dataset used in this project includes key attributes such as the name of each site (Name\_en), the country where the site is located (Country), the geographical region (Region), the year the site was inscribed (Date\_inscribed), and whether the site is currently classified as "In Danger" (Danger). These attributes are used to build multiple dashboard components that together form a comprehensive, interactive platform for analysis.

"Heritage Treasures: An In-Depth Analysis of UNESCO World Heritage Sites (2019)" is a comprehensive project aimed at exploring the rich dataset of UNESCO World Heritage Sites using Tableau. This project focuses on visualizing the distribution, trends, and key attributes of these sites to provide valuable insights. By leveraging the power of data visualization, stakeholders can gain a deeper understanding of the global heritage landscape, identify patterns, and make informed decisions to enhance the preservation and promotion of these sites.

Key features of the project include:

- A **Tree Map** showing the number of heritage sites per country.
- A **Pie Chart** highlighting the proportion of sites in danger.
- A **Line Graph** tracking site inscription trends across regions over time.
- Filters and tooltips to enhance user interactivity and exploration.

This project is not just a technical implementation but also a meaningful application of data analytics to support heritage conservation and education. It serves a dual purpose of showcasing technical skills in Tableau and contributing to the understanding of cultural heritage distribution worldwide.

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### 1.2 Purpose

The purpose of this project is multidimensional, combining technical, educational, and social goals:

## **1. Data Visualization for Heritage Awareness**

The project seeks to bring visibility to the UNESCO World Heritage Sites by presenting the data in an accessible and engaging visual format. Instead of traditional static reports or spreadsheets, the interactive dashboards allow users to explore the data themselves—drilling down into specific countries, comparing trends over decades, and identifying endangered sites.

## **2. Supporting Preservation Efforts**

By identifying the number and condition of sites in each region and highlighting those classified as "In Danger," the project provides valuable insights for policymakers, conservationists, and NGOs. It helps prioritize regions and sites that require immediate intervention and can serve as a decision-support tool in planning conservation strategies.

## **3. Educational Insight**

The project also has an academic and awareness-building dimension. Educators, students, and tourists can use the dashboards to learn more about world heritage in an interactive way. The insights into historical trends and regional distributions deepen the understanding of how and where heritage conservation is evolving.

## **4. Demonstrating Tableau Capabilities**

On a technical front, the project aims to demonstrate how Tableau can be effectively used to turn raw datasets into visually compelling and informative dashboards. It showcases various visualization techniques such as filtering, tooltips, interactive maps, and storytelling dashboards.

## **5. Data-Driven Decision Making**

Lastly, the project promotes data literacy and encourages a culture of data-driven thinking. By enabling users to interact with real-world data, it empowers stakeholders to base their insights and strategies on actual patterns rather than assumptions.

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Reference: <https://www.mural.co/templates/brainstorm-and-idea-prioritization>

Template

## Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

🕒 10 minutes to prepare  
🕒 1 hour to collaborate  
👤 2-8 people recommended

### Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

🕒 10 minutes

#### 1 Team gathering

My team consisted of only one member with backgrounds in data analytics, design, and heritage studies. I was briefed on the objectives and provided with access to the UNESCO dataset prior to the session.

#### 2 Set the goal

The primary goal was to explore the 2019 UNESCO World Heritage dataset to uncover meaningful insights and trends through compelling visualizations using Tableau.

#### 3 Learn how to use the facilitation tools

I used a shared Google Doc and a Miro brainstorming template for idea collection and categorization. Tableau was preinstalled on all systems for testing feasibility during the session.

[Open article](#) →

### Define your problem statement

How might we use data visualization to provide deeper insights into the distribution, classification, and trends of UNESCO World Heritage Sites to support global preservation efforts?

🕒 5 minutes

### Key rules of brainstorming

To run an smooth and productive session

Stay in topic.

Encourage wild ideas.

Defer judgment.

Listen to others.

Go for volume.

If possible, be visual.

Step-2: Brainstorm, Idea Listing and Grouping

2

Brainstorm

Write down any ideas that come to mind that address your problem statement.

10 minutes

TIP

You can select a sticky note and hit the pencil (switch to sketch) icon to start drawing!

Person 1

- Create a world map showing all UNESCO sites
- Use color to differentiate site types (Cultural, Natural, Mixed)
- Filter sites by continent or region
- Show a bar chart of site count by country
- Include a timeline showing number of sites added per year
- Visualize inscription trends over decades
- Add a treemap to show site types by region
- Include hover tooltips with site names and details
- Create filters for criteria like biodiversity, history, architecture
- Visualize which criteria (i–x) are most common

- Use a heatmap to show site density
- Identify top 10 countries with most sites
- Highlight endangered or at-risk sites (if data available)
- Include a breakdown of sites by UNESCO criteria (i–x)
- Link visuals to relevant preservation info or efforts
- Make the dashboard interactive with slicers/filters
- Use Tableau Story to guide users through insights
- Show average age of heritage sites per region
- Highlight newly added sites in the last decade
- Add an overview of total number of sites globally

3

Group ideas

Cluster similar ideas together and give each group a label.

Geographic Distribution

- Create a world map showing all UNESCO sites
- Filter sites by continent or region
- Show a bar chart of site count by country
- Use a heatmap to show site density
- Identify top 10 countries with most sites
- Add an overview of total number of sites globally

Type & Classification

- Use color to differentiate site types (Cultural, Natural, Mixed)
- Add a treemap to show site types by region
- Visualize which criteria (i–x) are most common
- Include a breakdown of sites by UNESCO criteria (i–x)

Time-Based Trends

- Include a timeline showing number of sites added per year
- Visualize inscription trends over decades
- Show average age of heritage sites per region
- Highlight newly added sites in the last decade

Exploration & Interaction

- Include hover tooltips with site names and details
- Create filters for criteria like biodiversity, history, architecture
- Make the dashboard interactive with slicers/filters
- Use Tableau Story to guide users through insights

Risk & Awareness

- Highlight endangered or at-risk sites (if data available)
- Link visuals to relevant preservation info or efforts

TIP

Add customizable tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as themes within your mind.

20 minutes

Step-3: Idea Prioritization

4

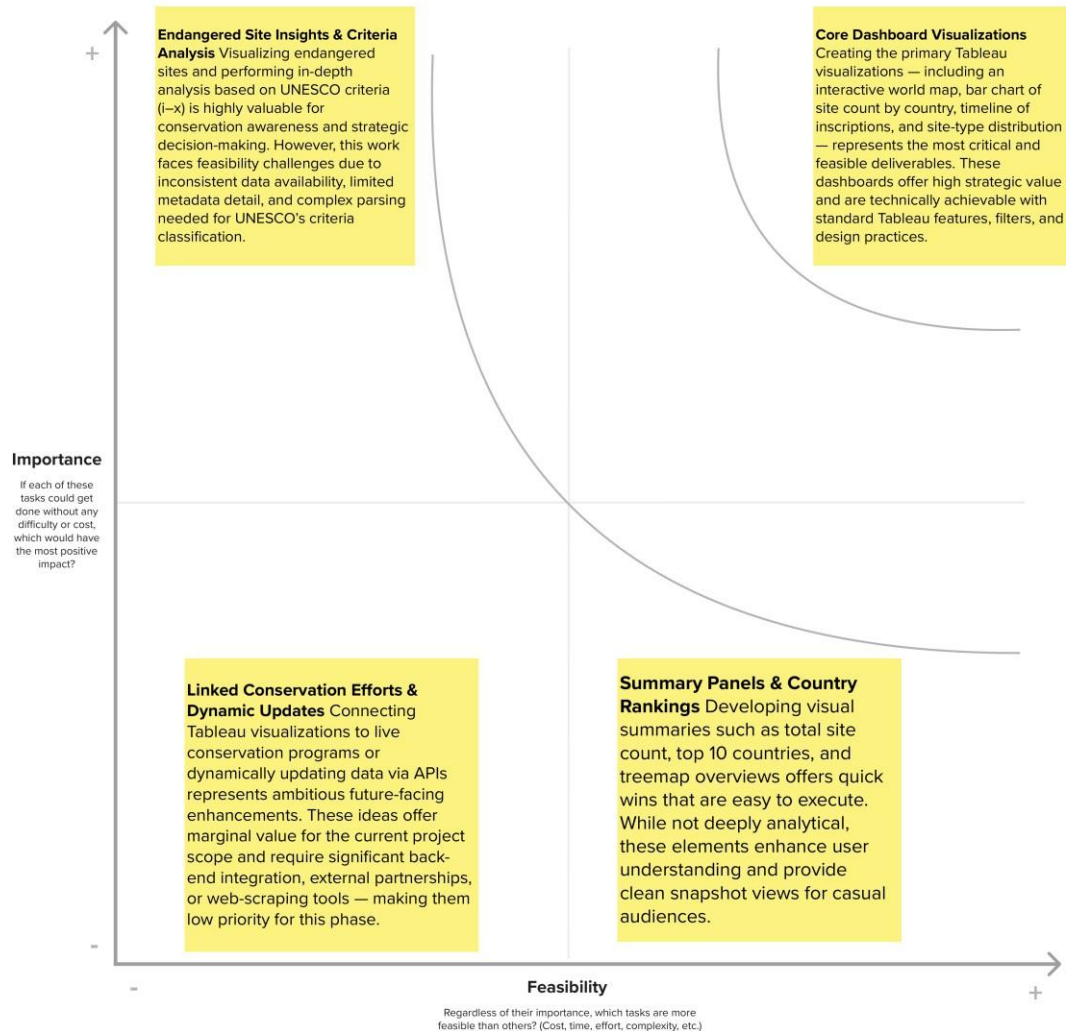
## Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

🕒 20 minutes

### TIP

Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the **H** key on the keyboard.



## Ideation Phase

### Define the Problem Statements

Date	29 June 2025
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Maximum Marks	2 Marks

#### Customer Problem Statement Template:

Create a problem statement to understand your customer's point of view. The Customer Problem Statement template helps you focus on what matters to create experiences people will love.

A well-articulated customer problem statement allows you and your team to find the ideal solution for the challenges your customers face. Throughout the process, you'll also be able to empathize with your customers, which helps you better understand how they perceive your product or service.

<b>I am</b>	A data-driven policy maker, cultural heritage researcher, or UNESCO analyst who cares about preserving world heritage. They rely on accessible and insightful data to inform decisions, write reports, or educate others.
<b>I'm trying to</b>	Understand global patterns in UNESCO World Heritage listings — including distribution, types, and preservation needs — through clear, visual representations of the data.
<b>But</b>	The raw data is difficult to interpret, lacks visual context, and doesn't easily reveal trends or comparisons between countries, regions, or site categories.
<b>Because</b>	There are no intuitive tools or dashboards that transform this complex dataset into meaningful visual insights — most users are not data analysts and need easier access.
<b>Which makes me feel</b>	Frustrated, limited, and overwhelmed — because I care deeply about cultural heritage but can't draw actionable insights from the current form of the data.

<b>I am</b>  A cultural heritage analyst, researcher, or UNESCO decision-maker who wants to understand global heritage site distribution and trends.	<b>I'm trying to</b>  Explore patterns, identify preservation priorities, and communicate insights visually to support data-informed heritage protection.	<b>But</b>  The UNESCO dataset is too complex and scattered — it lacks clarity, visuals, and interactivity, making it hard to extract meaningful insights.	<b>Because</b>  The raw data is tabular, inconsistent across categories, and doesn't highlight trends or comparisons effectively without expert data skills.	<b>Which makes me feel</b>  Frustrated and limited — I can't quickly gain insights or advocate for preservation strategies effectively due to lack of usable visual tools.
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Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1	UNESCO Analyst / Cultural Heritage Officer	Analyze and present global heritage site trends to support policymaking and preservation strategies	The raw data is complex, scattered, and lacks interactive visualization	The dataset includes multiple columns with inconsistent formatting, criteria, and metadata across thousands of entries	Frustrated, limited, and unable to communicate insights effectively to decision-makers or the public
PS-2	Heritage Researcher / Educator	Understand patterns in site types, age, geography, and inscription criteria to educate students or the public	I can't extract insights or visualize data trends without spending hours cleaning and processing the dataset	UNESCO's official site provides basic search but lacks visual storytelling tools or downloadable interactive dashboards	Disengaged, overwhelmed by manual work, and unable to showcase the rich global context of heritage information meaningfully

## Ideation Phase

### Empathize & Discover

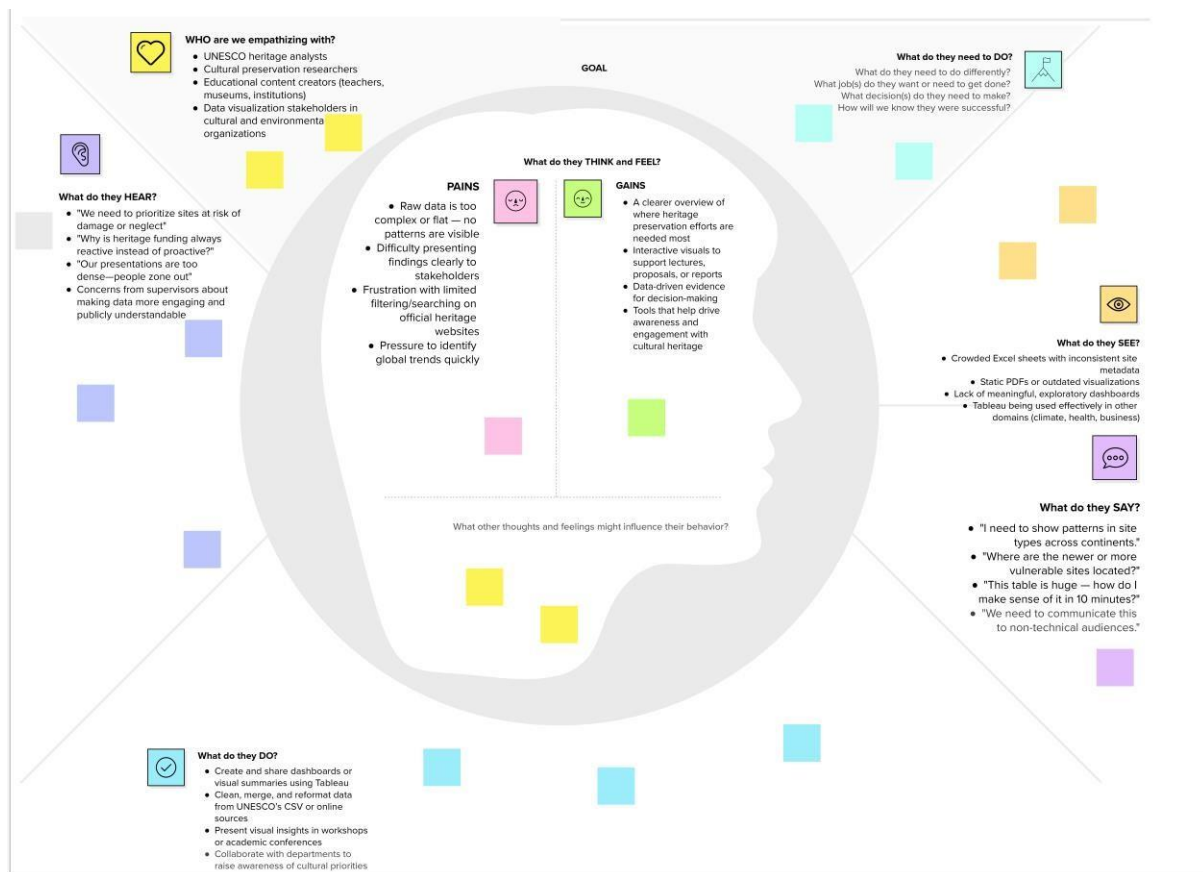
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### Empathy Map Canvas:

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours and attitudes.

It is a useful tool to help teams better understand their users.

Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.





## Project Design Phase-II

### Data Flow Diagram & User Stories

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#### Data Flow Diagrams:

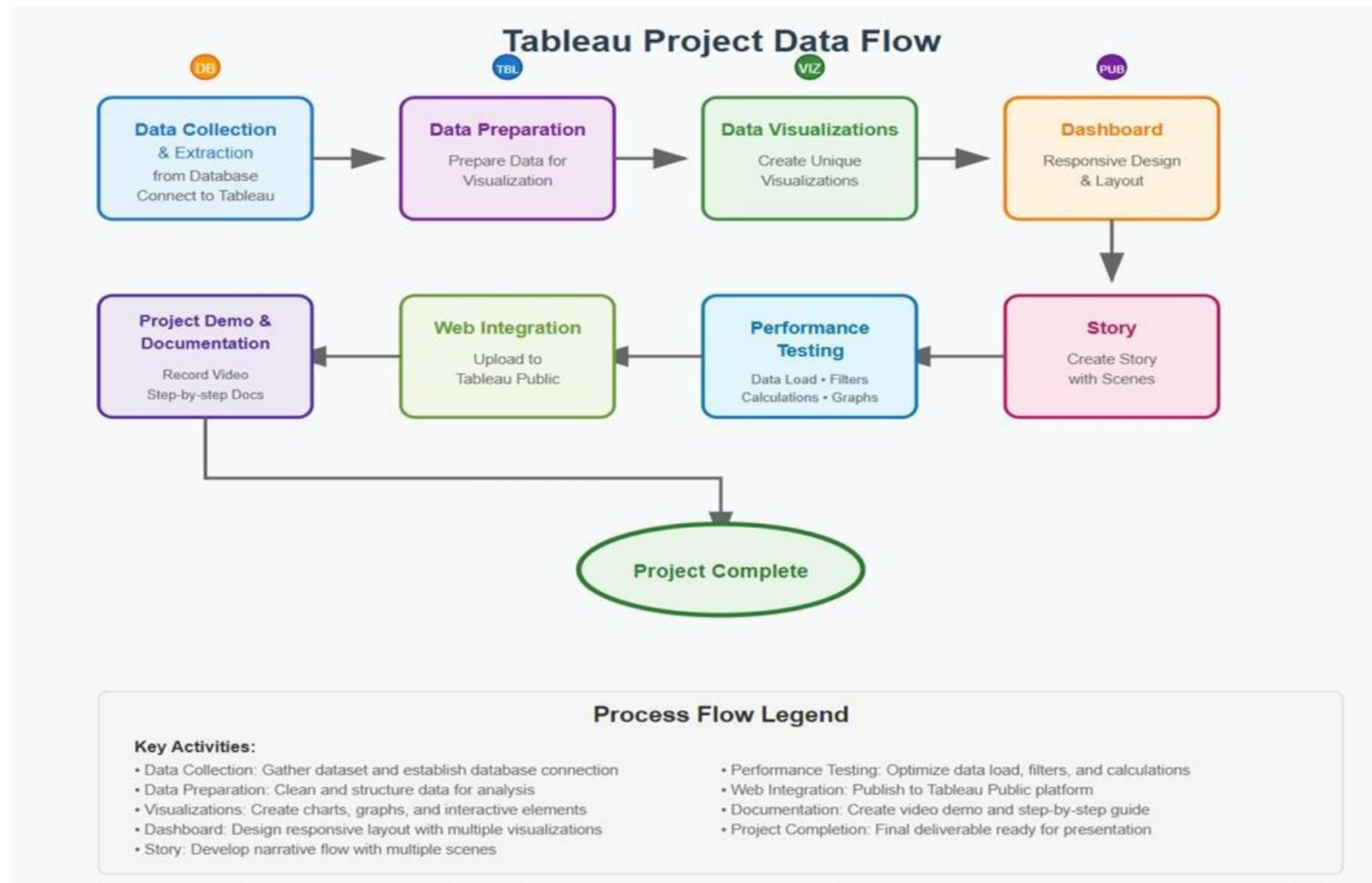
A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

#### Flow Integration & Dependencies

##### Sequential Dependencies:

1. **Data Collection** must be completed before **Data Preparation**
2. **Data Preparation** enables effective **Data Visualizations**
3. **Visualizations** form the foundation for **Dashboard Creation**
4. **Dashboards** provide content for **Story Development**
5. **Performance Testing** runs parallel to all **development phases**
6. **Web Integration** requires completed **dashboards and stories**
7. **Documentation** captures the entire **development process**

## Data Flow Diagram :



## User Stories

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Data Analyst	Dashboard Performance Optimization	USN-1	As a Data Analyst, I want dashboards to load within 10 seconds even for global data, so users can explore without delay.	Dashboard loads under 10s; filters respond under 3s	High	Sprint-1
Project Stakeholder	Data Overview & Site Summary	USN-2	As a stakeholder, I want to see total heritage site counts by region and category, so I can understand data coverage.	Display total site count, and percentage by category and region	High	Sprint-1
Cultural Researcher	Heritage Sites Risk Analysis	USN-3	As a researcher, I want to view endangered sites and compare their areas and regions, so I can focus on high-risk zones.	Pie chart for Danger status, Top 10 danger sites by area	High	Sprint-1
UNESCO Planner	Regional Trend Insights	USN-4	As a planner, I want to see how site inscriptions have changed over decades across regions, so I can assess growth trends.	Line chart with year-wise site count; region filter available	Medium	Sprint-1
Tourism Strategist	Category-wise Analysis	USN-5	As a tourism strategist, I want to analyze which countries have more natural or cultural sites to plan destination marketing.	Bar chart by category, country filter enabled	Medium	Sprint-2
Policy Maker	Country/Region Comparison	USN-6	As a policymaker, I want to compare number of heritage sites per country within each region, to assess global representation.	Bubble chart by country within region; tooltip with site count	High	Sprint-2
Conservation Team	Forecasting Insights	USN-7	As a conservation analyst, I want to forecast future site additions using historical data, to predict UNESCO activity.	Forecast chart using Date_inscribed, with estimate & actual series	High	Sprint-2

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Public User	Interactive Dashboard Access	USN-8	As a public user, I want an integrated, interactive dashboard that is easy to navigate and informative.	Unified dashboard view with filters by region, year, danger	High	Sprint-3

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

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**Functional Requirements:**

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	Data Visualization	Filter by Region, Country, Year, Type Interactive Dashboards (Maps, Bar Charts, Pie Charts)
FR-4	Data Management	Upload UNESCO Dataset Clean/Transform data Export Dashboard in PDF/Image
FR-5	User Interaction	Hover-over Info Tooltips Search Feature Zoom on Map
FR-6	Sharing & Access	Share Dashboard via Public Link Download Options for Reports

**Non-functional Requirements:**

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

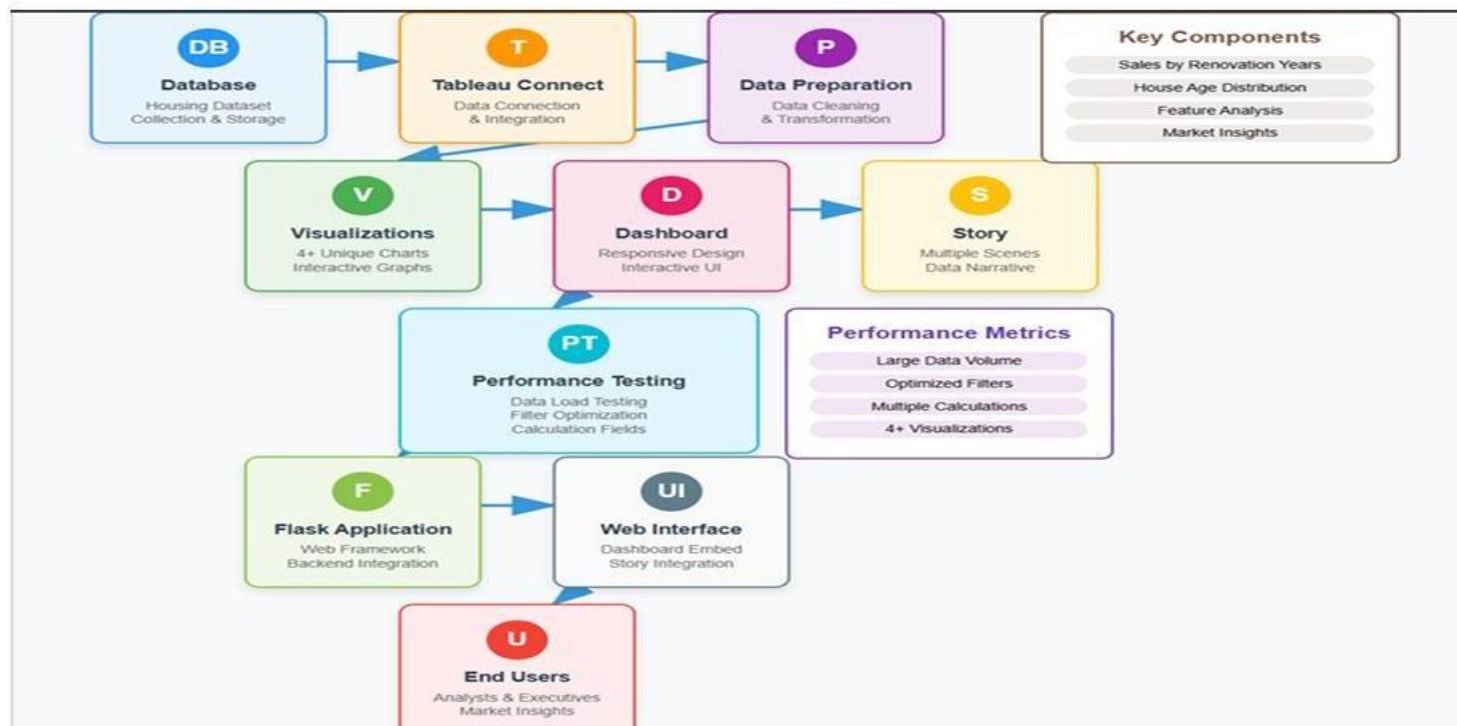
FR No.	Non-Functional Requirement	Description
NFR-1	<b>Usability</b>	Easy-to-navigate dashboards with intuitive filters and icons
NFR-2	<b>Security</b>	Restricted access to edit data; secure sharing with view-only mode
NFR-3	<b>Reliability</b>	Accurate data rendering without crashes or loading failures
NFR-4	<b>Performance</b>	Dashboard loads within 3 seconds for standard datasets
NFR-5	<b>Availability</b>	Dashboards accessible 24/7 through Tableau Public
NFR-6	<b>Scalability</b>	Supports adding more countries/sites as data expands

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

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Maximum Marks	4 Marks

### Technical Architecture:

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



**Table-1 : Components & Technologies:**

S.No	Component	Description	Technology
1.	User Interface	Web-based dashboards for viewing and interaction	HTML, CSS, JavaScript / Tableau Public
2.	Application Logic-1	Data preprocessing and transformation workflows	Tableau Prep Builder
3.	Application Logic-2	Interactivity using filters, parameters, and actions	Tableau Filters, Parameters, Actions
4.	Dashboard/Story Logic	Logical flow of insights using story features	Tableau Story Feature
5.	Data Source	Flat files used as World Heritage datasets	CSV
6.	File Storage	Heritage datasets stored and accessed locally or from cloud storage	Local File System / Google Drive

**Table-2: Application Characteristics:**

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Uses open-source data (UNESCO dataset), hosted on Tableau Public	Dataset – UNESCO (CSV)
2.	Security Implementations	Basic security (view-only links, no edit access on public dashboard)	Tableau Public (limited)
3.	Scalable Architecture	Can scale by publishing to Tableau Cloud or embedding in websites	Tableau Cloud / Web Embed
4.	Availability	Dashboards accessible 24/7 via Tableau Public	Tableau Public
5.	Performance	Performs well with moderate data size; quick filter responsiveness	Tableau Public

**References:**

<https://c4model.com/>

<https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/>

<https://www.ibm.com/cloud/architecture>

<https://aws.amazon.com/architecture>

<https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d>



## Project Design Phase

### Problem – Solution Fit Template

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Maximum Marks	2 Marks

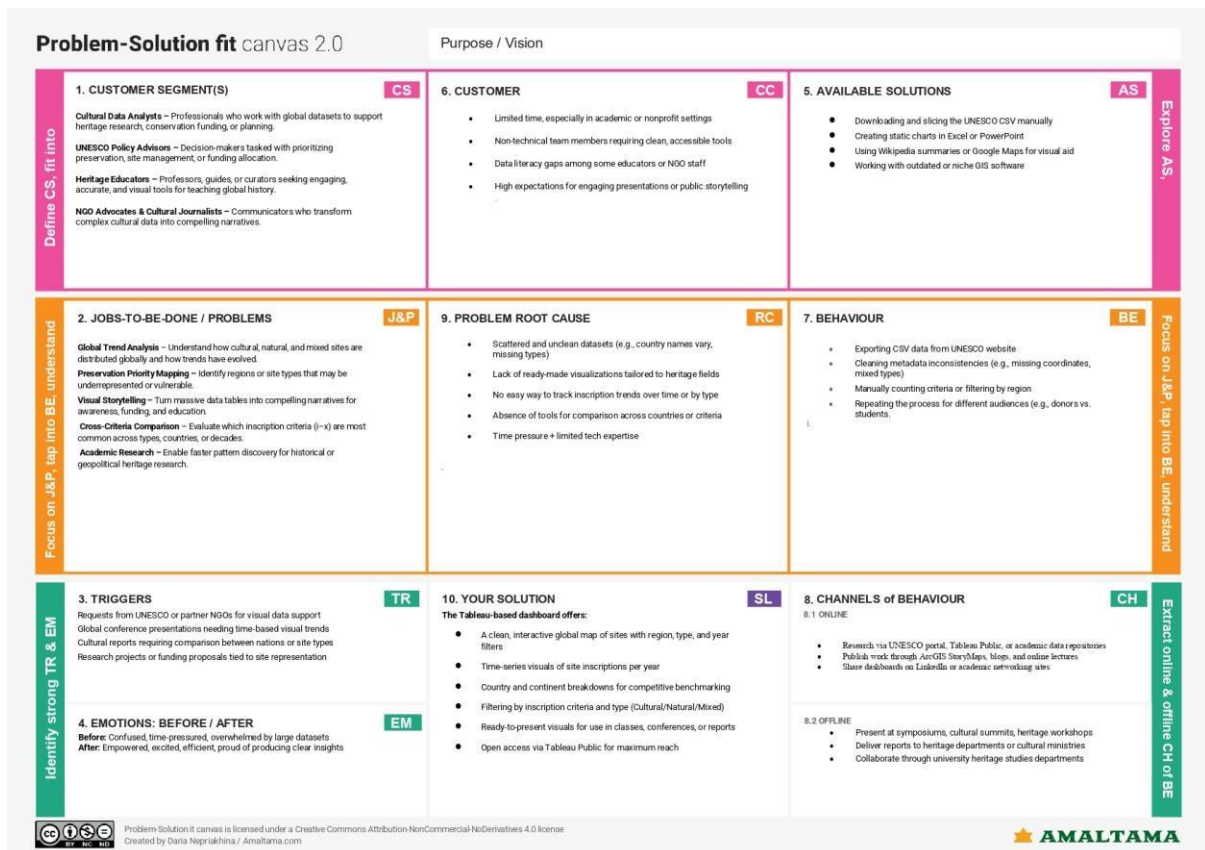
#### Problem – Solution Fit Template:

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.

#### Template:



References: <https://www.idealhackers.network/problem-solution-fit-canvas/>

**Project Design Phase**  
**Proposed Solution Template**

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**Proposed Solution Template:**

Project team shall fill the following information in the proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	UNESCO's World Heritage dataset is a globally important resource, yet it is presented in raw, tabular form that is difficult to interpret and explore visually. Researchers, policy makers, and educators often lack the tools to derive meaningful insights about the distribution, type, status, and trends of these heritage sites. This limit understanding and action for preservation, awareness, and advocacy.
2.	Idea / Solution description	We propose the development of a comprehensive, interactive <b>Tableau dashboard</b> that visualizes the UNESCO World Heritage Sites dataset from 2019. The dashboard will display site distribution by type (Cultural, Natural, Mixed), geographic region, year of inscription, and inscription criteria. It will include maps, bar charts, timelines, and filters to enable users to explore insights at global, national, or thematic levels. The solution will be hosted on Tableau Public for open access.
3.	Novelty / Uniqueness	Unlike existing static lists or basic maps, our solution provides <b>live, filterable, and comparative visualizations</b> that combine geospatial and temporal insights. The use of Tableau allows for real-time exploration without the need for coding, making the solution accessible to both technical and non-technical users in the heritage sector. No official interactive visualization tool of this depth exists for this dataset currently.
4.	Social Impact / Customer Satisfaction	This project enhances global heritage awareness and supports decision-making for cultural preservation. NGOs, heritage planners, educators, and students will benefit from easy access to visual insights. The platform enables deeper understanding of at-risk sites, regional inequalities, and long-term cultural patterns —

		thereby supporting more equitable preservation efforts.
5.	Business Model (Revenue Model)	<p>This is a <b>non-commercial, open-access project</b> primarily intended for social good and awareness. However, in the long term, this model could support:</p> <ul style="list-style-type: none"> <li>• <b>Partnerships</b> with heritage NGOs or government bodies</li> <li>• <b>Workshops/training programs</b> on cultural data visualization</li> <li>• <b>Customized dashboards</b> for country-specific or research-specific use cases on a paid or grant-supported basis</li> </ul>
6.	Scalability of the Solution	<p>The platform is highly scalable. It can:</p> <ul style="list-style-type: none"> <li>• Be updated with newer UNESCO datasets annually</li> <li>• Be expanded to include <b>threatened site analysis, UNESCO funding records, or visitor statistics</b></li> <li>• Be translated and localized for global use</li> <li>• Integrate real-time APIs or mobile dashboards in the future</li> </ul>

## Project Design Phase Solution Architecture

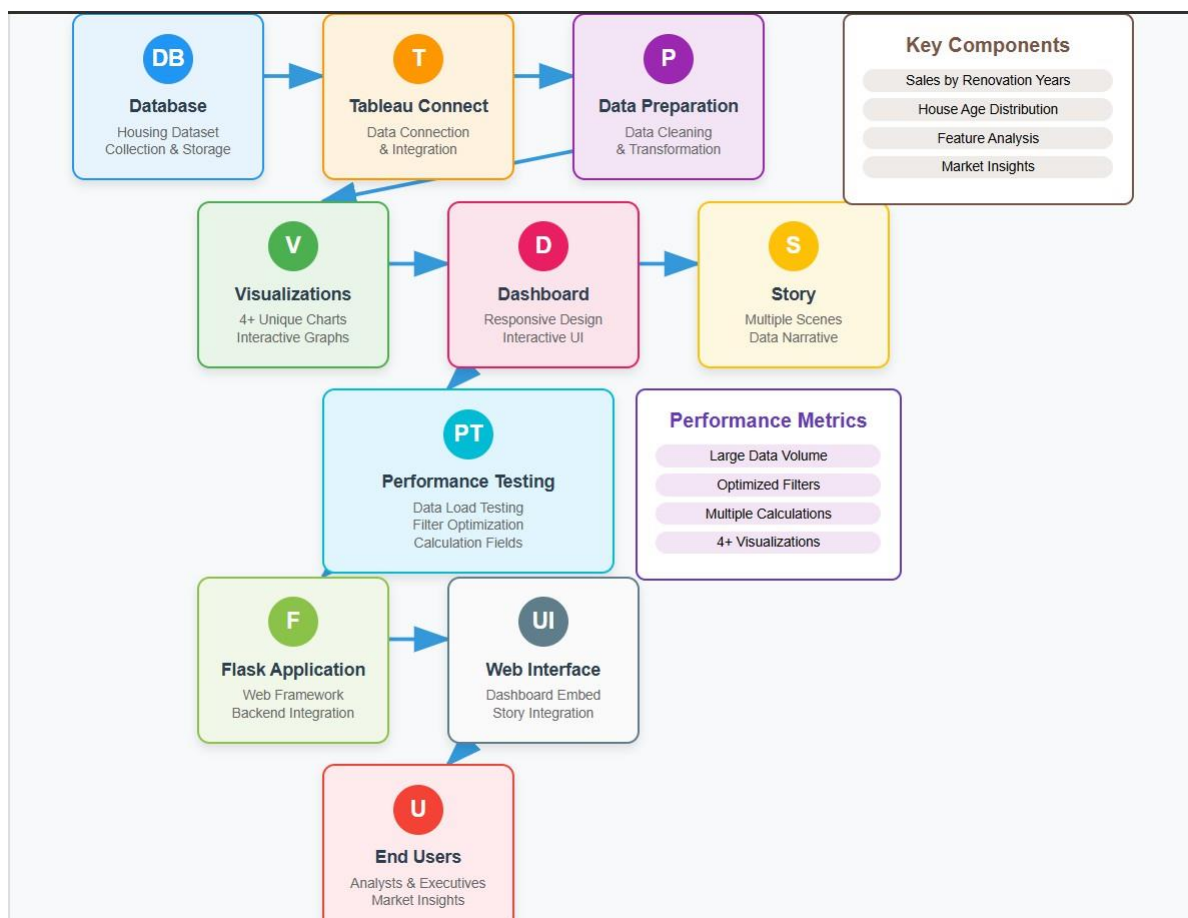
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### Solution Architecture:

Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

- Find the best tech solution to solve existing business problems.
- Describe the structure, characteristics, behavior, and other aspects of the software to project stakeholders.
- Define features, development phases, and solution requirements.
- Provide specifications according to which the solution is defined, managed, and delivered.

### Example - Solution Architecture Diagram:



*Figure 1: Architecture and data flow of the voice patient diary sample application*

**Reference:** <https://aws.amazon.com/blogs/industries/voice-applications-in-clinical-research-powered-by-ai-on-aws-part-1-architecture-and-design-considerations/>

## Planning Logic

**A Sprint** fixed period or duration in which a team works to complete a set of tasks

An **Epic** is a **big task or project** that is too large to complete in one sprint. It is broken down into **smaller tasks (stories)** that can be completed over multiple sprints.

A **Story** is a small task . It is part of an **Epic**.

A **Story Point** is a number that represents how much effort a story takes to complete.  
(usually in form of Fibonacci series)

- 1- Very Easy task
- 2- Easy task
- 3- Moderate task
- 5- Difficult task

### Sprint 1: (5 Days)

Data Collection

Collection of Data **2**

Loading Data **1**

Data Preprocessing

Handling Missing Values **3**

Handling Categorical values **2**

### Sprint 2 (5 Days)

Model Building

Model Building **5**

Testing Model **3**

Deployment

Working HTML Pages **3**

Flask deployment **5**

**Total Story Points**

Sprint 1 = 8

Sprint 2 = 16

Velocity= Total Story Points Completed/ Number of Sprints

Total story Points= 16+8 =24

No of Sprints= 2

**Velocity** =  $(16+8)/2 = 24/2$

12 (Story Points per Sprint)

**Your team's velocity is 12 Story Points per Sprint.**



## Project Planning Phase

### Project Planning Template (Product Backlog, Sprint Planning, Stories, Story points)

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#### Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Use the below template to create product backlog and sprint schedule

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Data Understanding	USN-1	As a data analyst, I want to collect the UNESCO Heritage Sites dataset.	2	High	P. Akhila
Sprint-1	Data Preprocessing	USN-2	As a data analyst, I want to clean and preprocess the dataset.	3	High	P. Akhila
Sprint-1	Data Analysis	USN-3	As a data analyst, I want to explore trends by region and site type.	2	Medium	P. Akhila
Sprint-2	Visualization	USN-4	As a user, I want to visualize global site distribution on a map.	3	High	P. Akhila
Sprint-2	Visualization	USN-5	As a user, I want bar charts showing number of sites by country/year.	3	High	P. Akhila
Sprint-2	Insights	USN-6	As a user, I want to identify trends in inscription years and site types.	3	Medium	P. Akhila
Sprint-2	Deployment	USN-7	As a team, we want to publish and share the Tableau dashboard effectively.	4	High	P. Akhila

### Project Tracker, Velocity & Burndown Chart: (4 Marks)

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	7	5 Days	19 June 2025	24 June 2025	7	19 June 2025
Sprint-2	13	5 Days	24 June 2025	29 June 2025	13	24 June 2025

#### Velocity:

Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

$$AV = \frac{\text{sprint duration}}{\text{velocity}} = \frac{20}{10} = 2$$

#### Burndown Chart:

A burn down chart is a graphical representation of work left to do versus time. It is often used in agile software development methodologies such as Scrum. However, burn down charts can be applied to any project containing measurable progress over time.

<https://www.visual-paradigm.com/scrum/scrum-burndown-chart/>

<https://www.atlassian.com/agile/tutorials/burndown-charts>

**Reference:**

<https://www.atlassian.com/agile/project-management>

<https://www.atlassian.com/agile/tutorials/how-to-do-scrum-with-jira-software>

<https://www.atlassian.com/agile/tutorials/epics>

<https://www.atlassian.com/agile/tutorials/sprints>

<https://www.atlassian.com/agile/project-management/estimation>

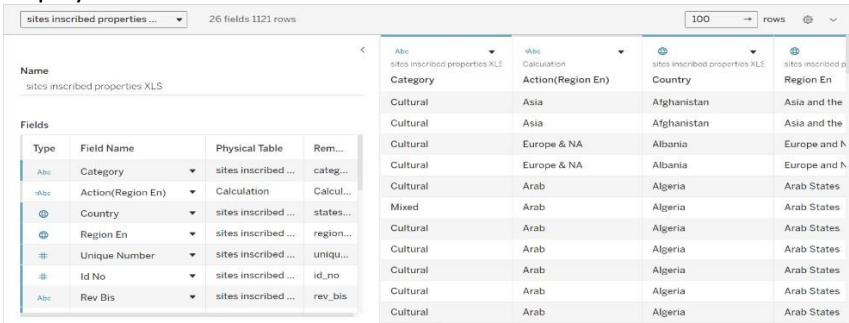
<https://www.atlassian.com/agile/tutorials/burndown-charts>

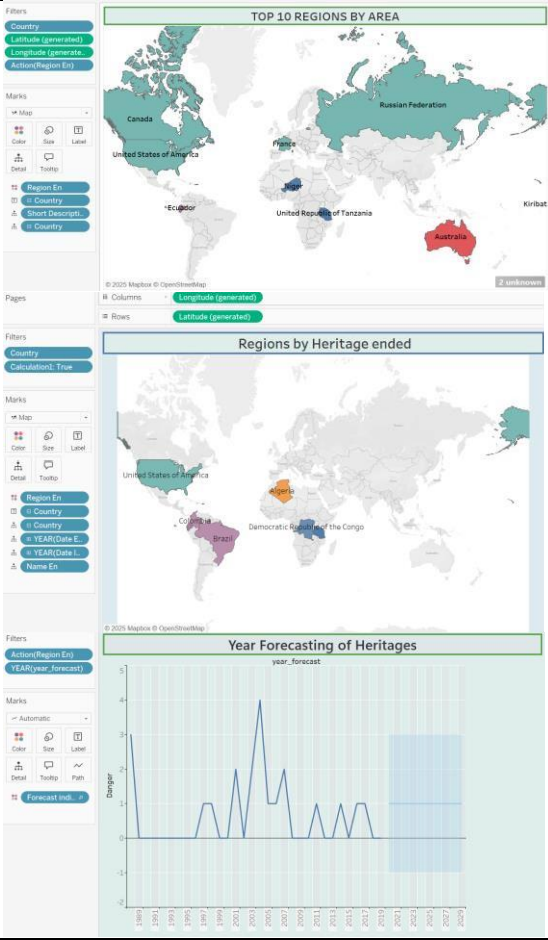
## Project Development Phase Model Performance Test

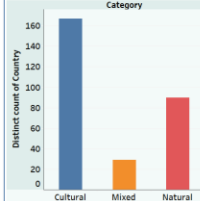
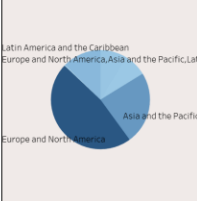

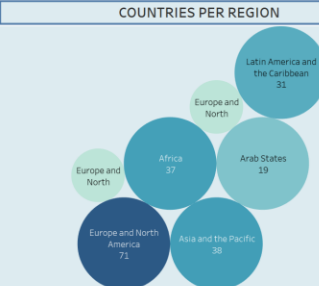
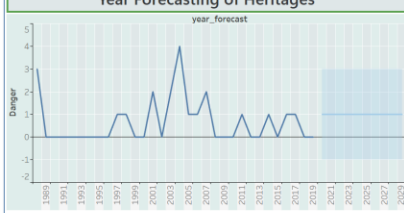

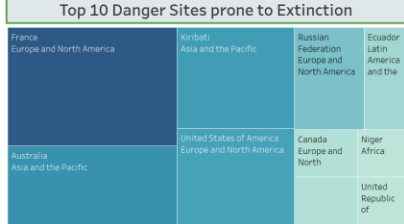
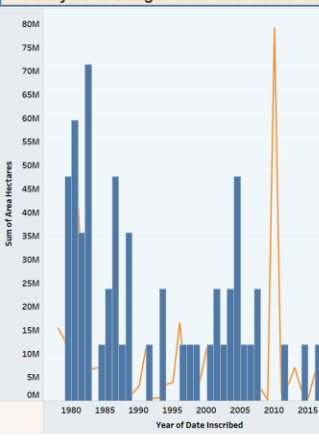
Date	29 June 2025
Team ID	LTVIP2025TMID50324
Project Name	Heritage Treasures: An In-Depth Analysis of UNESCO World Heritage Sites in Tableau
Maximum Marks	

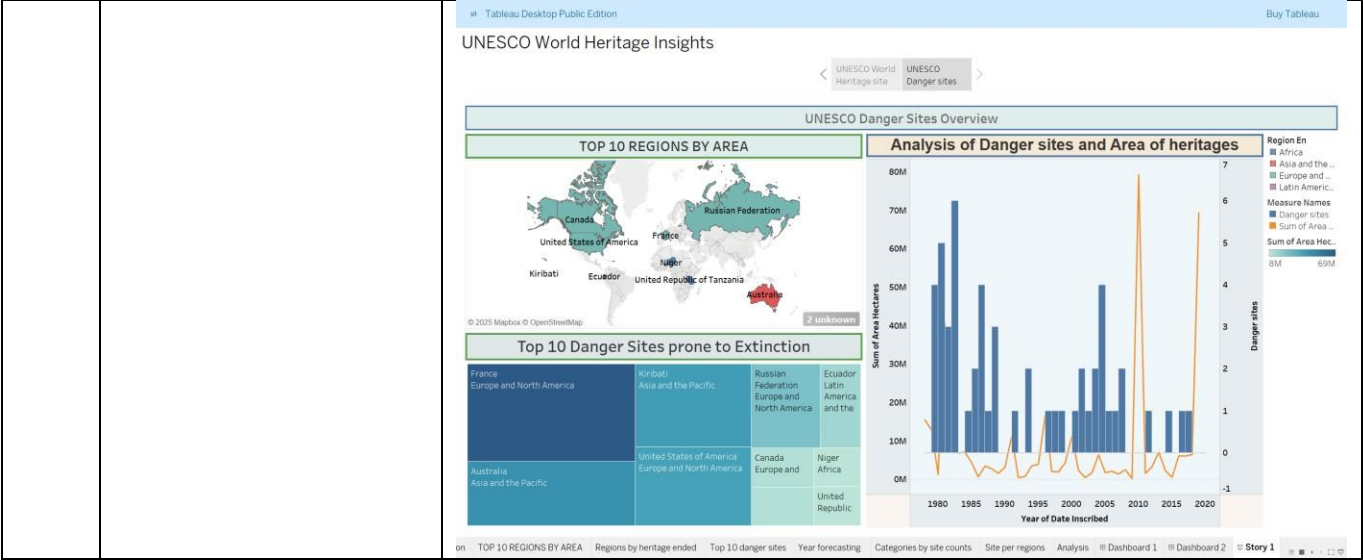
### Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Screenshot / Values
1.	Data Rendered	<p>Successfully imported UNESCO dataset with fields including Name_en, Country, Region, Danger, Date_inscribed, and more. Data is correctly displayed in Tableau and linked to visualizations.</p> 
2.	Data Preprocessing	<p>Removed missing/null values, ensured data types (dates, strings, boolean) were correctly set, and added calculated fields such as year extraction from Date_inscribed. Filtered out redundant columns. Number of rows after cleaning data:1121</p>
3.	Utilization of Filters	<p>Implemented filters on <b>Country</b>, <b>Region</b>, <b>Danger Status</b>, and <b>Year</b>. Filters are interactive and applied to all visualizations for dynamic exploration.</p>

		 <p>The screenshot displays a Tableau dashboard with three main visualizations. The top visualization, 'TOP 10 REGIONS BY AREA', is a world map showing the top 10 regions by area, with labels for Canada, United States of America, Russian Federation, United Republic of Tanzania, and Australia. The middle visualization, 'Regions by Heritage ended', is a world map showing regions by heritage ended, with labels for United States of America, Colombia, Brazil, and Democratic Republic of the Congo. The bottom visualization, 'Year Forecasting of Heritages', is a line chart showing the year forecast for heritages, with a y-axis labeled 'Danger' ranging from -2 to 5 and an x-axis labeled 'year_forecast' ranging from 1980 to 2050. The dashboard includes filters for Country, Region, and Year, and marks for Map, Color, Size, and Label.</p>
4.	Calculation fields Used	<p>Year Extracted from Date_inscribed</p> <ul style="list-style-type: none"> <li>Count of Sites by Country</li> <li>Danger Flag Conversion for Pie Chart (IF [Danger] = 'Yes' THEN 'In Danger' ELSE 'Not in Danger')</li> <li>Region-wise Risk Rate: <math>\text{SUM}(\text{IF} [\text{Danger}] = \text{'Yes'} \text{ THEN } 1 \text{ ELSE } 0) / \text{COUNT}([\text{Name\_en}])</math></li> <li>Decade of Inscription: <math>\text{INT}(\text{YEAR}([\text{Date\_inscribed}]) / 10) * 10</math></li> <li>Country-wise Site Percentage: <math>(\text{COUNTD}([\text{Name\_en}]) / \text{TOTAL}(\text{COUNTD}([\text{Name\_en}]))) * 100</math></li> </ul>
5.	Dashboard design	<p>No of Visualizations / Graphs – 8 No of Dashboards designs- 2</p>

		<div><div><div><div><div>Tableau Desktop Public Edition</div><div>Buy Tableau</div></div><div><h3>UNESCO World Heritage Site Overview</h3><div><div><div><b>Categories by sites count</b></div><div>Category</div><div>Distinct count of Country</div><div>CulturalMixedNatural</div></div><div><div><b>Site Count per Region</b></div><div>Latin America and the Caribbean</div><div>Europe and North America, Asia and the Pacific, Lat</div><div>Asia and the Pacific</div><div>Europe and North America</div></div><div><div><b>TOP 10 REGIONS BY AREA</b></div><div>Canada</div><div>United States of America</div><div>France</div><div>Kiribati</div><div>Ecuador</div><div>Russian Federation</div><div>Niger</div><div>United Republic of Tanzania</div><div>Australia</div><div>2 unknown</div></div><div><div><b>COUNTRIES PER REGION</b></div><div>Latin America and the Caribbean 31</div><div>Europe and North 37</div><div>Arab States 19</div><div>Europe and North America 71</div><div>Asia and the Pacific 38</div></div><div><div><b>Year Forecasting of Heritages</b></div><div>year_forecast</div><div>Danger</div><div>198019911993199519971999200120032005200720092011201320152017201920212023202520272029</div></div></div><div><div>on TOP 10 REGIONS BY AREARegions by heritage endedTop 10 danger sitesYear forecastingCategories by site countsSite per regionsAnalysisDashboard 1Dashboard 2Story 1</div><div>Tableau Desktop Public EditionBuy Tableau</div></div></div><div><div><div><h3>UNESCO Danger Sites Overview</h3><div><div><div><b>TOP 10 REGIONS BY AREA</b></div><div>Canada</div><div>United States of America</div><div>France</div><div>Kiribati</div><div>Ecuador</div><div>Russian Federation</div><div>Niger</div><div>United Republic of Tanzania</div><div>Australia</div><div>2 unknown</div></div><div><div><b>Top 10 Danger Sites prone to Extinction</b></div><table><tr><td>France</td><td>Kiribati</td><td>Russian Federation</td><td>Ecuador</td></tr><tr><td>Europe and North America</td><td>Asia and the Pacific</td><td>Europe and North America</td><td>Latin America and the Caribbean</td></tr><tr><td>Australia</td><td>United States of America</td><td>Canada</td><td>Niger</td></tr><tr><td>Asia and the Pacific</td><td>Europe and North America</td><td>Europe and North</td><td>Africa</td></tr><tr><td></td><td></td><td>United Republic of</td><td></td></tr></table></div><div><div><b>Analysis of Danger sites and Area of heritages</b></div><div>Sum of Area Hectares</div><div>Year of Date Incribed</div><div>80M75M70M65M60M55M50M45M40M35M30M25M20M15M10M5M0M</div><div>198019851990199520002005201020152020</div><div>Danger sites</div></div></div><div><div>on TOP 10 REGIONS BY AREARegions by heritage endedTop 10 danger sitesYear forecastingCategories by site countsSite per regionsAnalysisDashboard 1Dashboard 2Story 1</div><div>Tableau Desktop Public EditionBuy Tableau</div></div></div></div></div></div></div></div>	France	Kiribati	Russian Federation	Ecuador	Europe and North America	Asia and the Pacific	Europe and North America	Latin America and the Caribbean	Australia	United States of America	Canada	Niger	Asia and the Pacific	Europe and North America	Europe and North	Africa			United Republic of	
France	Kiribati	Russian Federation	Ecuador																			
Europe and North America	Asia and the Pacific	Europe and North America	Latin America and the Caribbean																			
Australia	United States of America	Canada	Niger																			
Asia and the Pacific	Europe and North America	Europe and North	Africa																			
		United Republic of																				
6	Story Design	No of Visualizations / Graphs -8 No of Story Design- 1																				



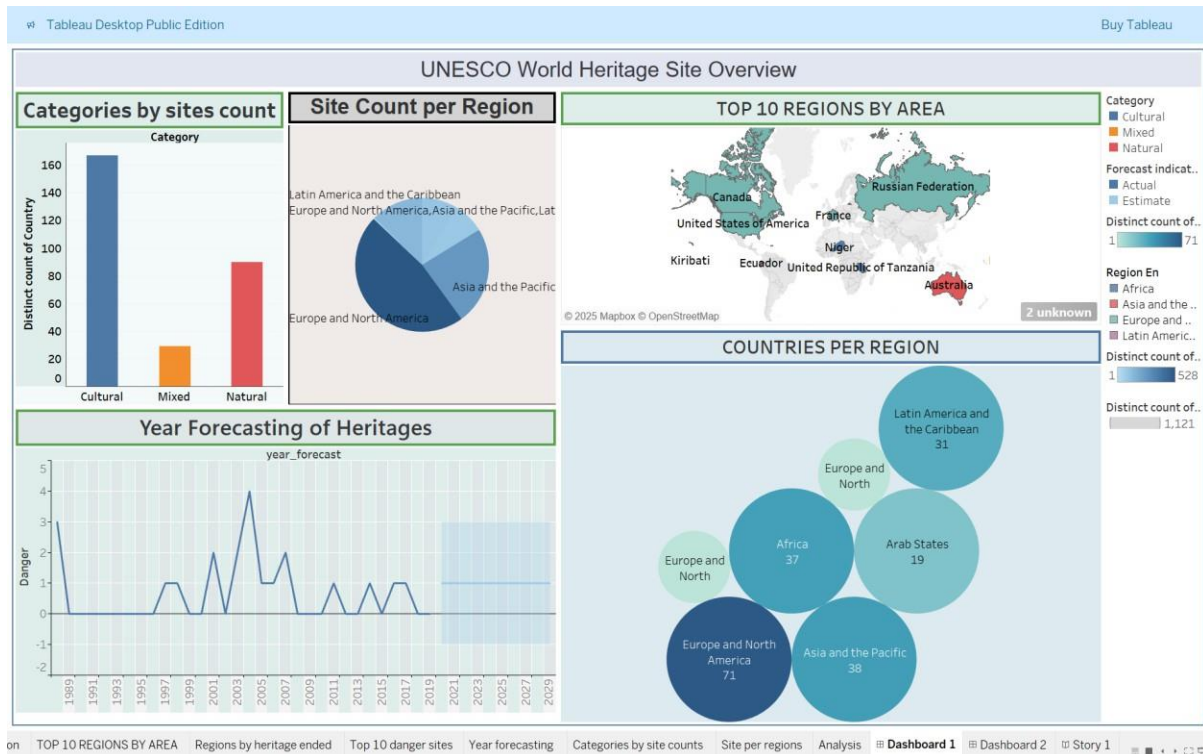
# RESULTS

Date : 28 June 2025

Team ID: LTVIP2025TMID50324

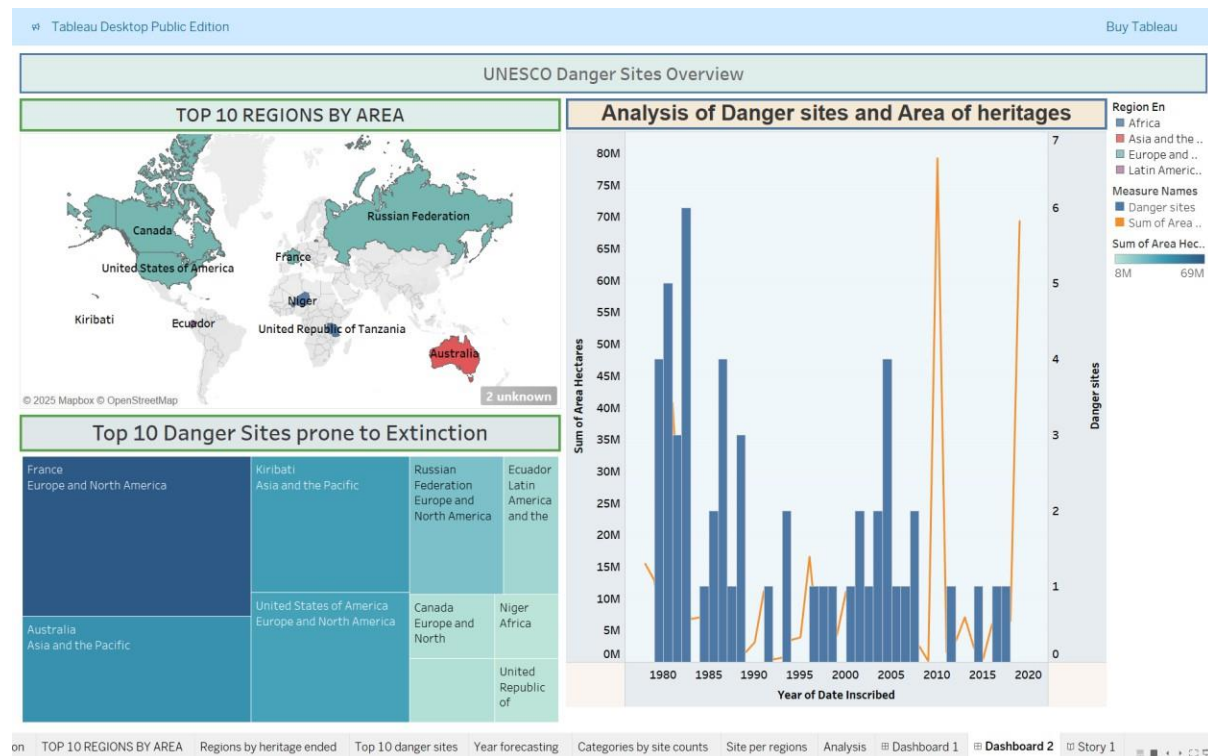
Project Name: Heritage Treasures: An In-Depth Analysis of UNESCO World Heritage Sites in Tableau.

## Dashboard – 1: UNESCO WORLD HERITAGE SITE OVERVIEW

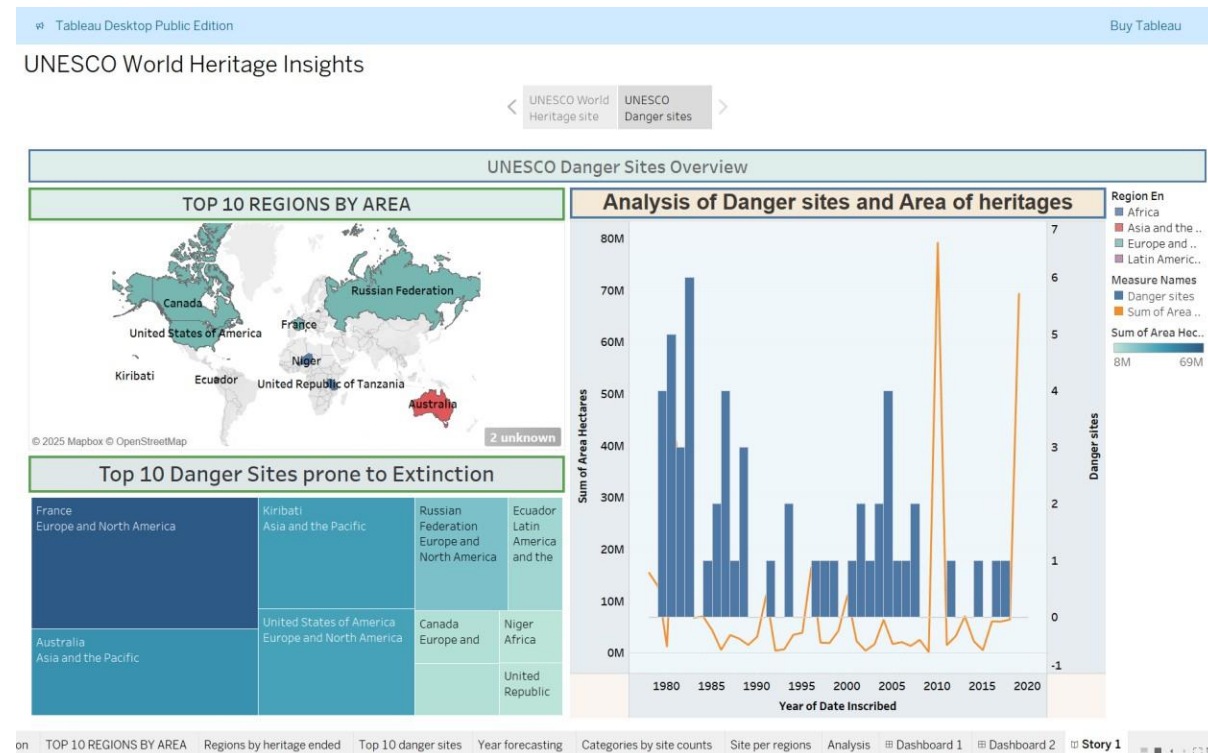




## Dashboard – 2: UNESCO DANGER SITE OVERVIEW



## Story: UNESCO WORLD HERITAGE INSIGHTS



## References

- UNESCO World Heritage Centre: <https://whc.unesco.org/>
- Tableau Public: [Profile - akhila.polepalli | Tableau Public](#)
- Dataset Link: <https://www.kaggle.com/datasets/ujwalkandi/unesco-world-heritage-sites/data?select=whc-sites-2019.csv>

