

# **Project Report Format**

## **1. INTRODUCTION**

1.1 Project Overview

1.2 Purpose

## **2. IDEATION PHASE**

2.1 Problem Statement

2.2 Empathy Map Canvas

2.3 Brainstorming

## **3. REQUIREMENT ANALYSIS**

3.1 Customer Journey map

3.2 Solution Requirement

3.3 Data Flow Diagram

3.4 Technology Stack

## **4. PROJECT DESIGN**

4.1 Problem Solution Fit

4.2 Proposed Solution

4.3 Solution Architecture

## **5. PROJECT PLANNING & SCHEDULING**

5.1 Project Planning

## **6. FUNCTIONAL AND PERFORMANCE TESTING**

6.1 Performance Testing

## **7. RESULTS**

7.1 Output Screenshots

## **8. ADVANTAGES & DISADVANTAGES**

## **9. CONCLUSION**

## **10. FUTURE SCOPE**

## **11. APPENDIX**

# Heritage Treasures Project – Final Report

## 1. INTRODUCTION

### 1.1 Project Overview

This project presents an interactive dashboard analyzing UNESCO World Heritage Sites. It enables users to explore site categories, endangered statuses, locations, and historical trends with ease.

### 1.2 Purpose

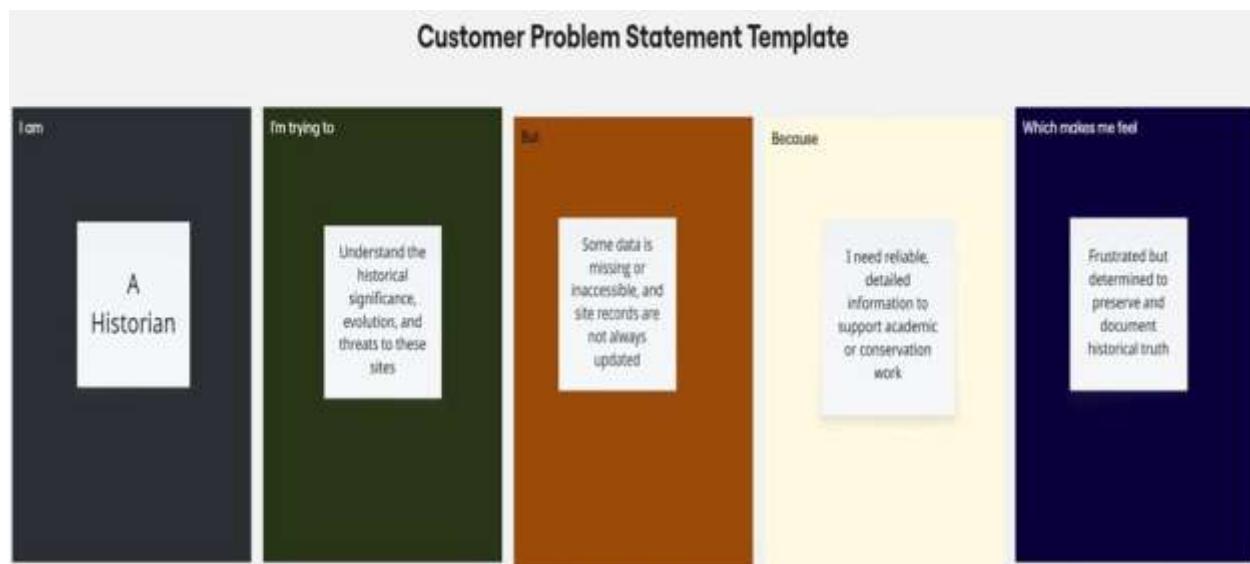
The purpose is to make cultural data more accessible for travelers, researchers, and policymakers using data visualization.

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## 2. IDEATION PHASE

### 2.1 Problem Statement

Users find it difficult to locate and interpret global heritage data in a simple, meaningful format.

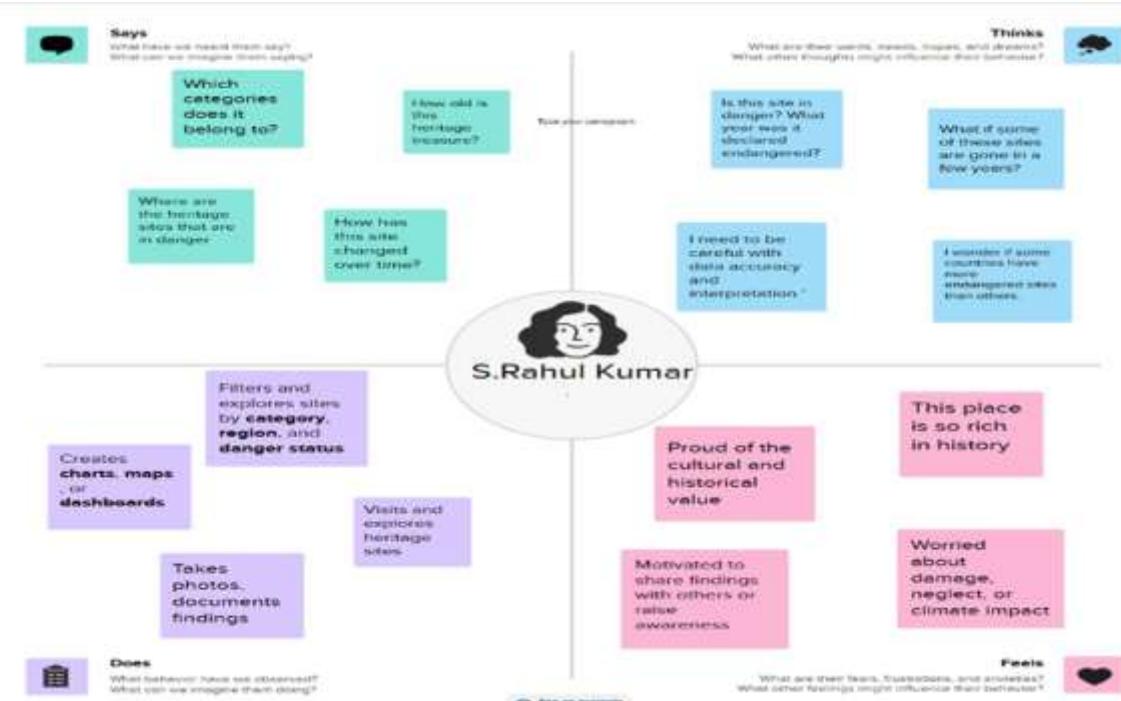


## Customer Problem Statement Template



## 2.2 Empathy Map Canvas

Included perspectives of travelers, historians, and students focusing on their needs, actions, and challenges when exploring heritage data.



## 2.3 Brainstorming

Ideas included visualizing endangered sites, filtering by category, embedding dashboards on the web, and designing a regional comparison.

The wireframe illustrates a process flow:

- Initial Brainstorming:** A central card titled "Brainstorm & idea prioritization" contains a "Key role of Prioritizing" section with five priority levels: Must, Important, Acceptable, Unacceptable, and Least Important.
- Group Ideas:** This section includes a "Group ideas" card where team members share their ideas while clustering similar ones. It also includes a "Prioritize" card where the team lists ideas based on importance and possibility.
- Individual Brainstorming:** Six individuals (Vinodh, Vishnu, Raja Sekhar, Yashwanth, Sukumar, and a placeholder) have their own cards detailing specific tasks:
  - Vinodh:** Create a dashboard showing the number of sites by Category, Region, and Danger status.
  - Vishnu:** Select famous sites from each category and write short descriptions of their significance.
  - Raja Sekhar:** Design category-wise infographics using the data from Person 1 and Person 2 from Person 2.
  - Yashwanth:** Add a hover feature that explains each site's category or UNESCO criterion.
  - Sukumar:** Identify countries/regions with few or no Mixed-category sites.
  - Placeholder:** List top 10 danger zones with their respective types and reasons if available.
- Visual Communication & Interaction:** This section includes cards for "Category-Based Distribution & Comparison" and "Regional and Danger Zone Analysis".
- Final Output:** A large card at the bottom right shows a wireframe of a dashboard with four main sections: "Find the top 5 countries with the most sites in each category", "Analyze how many sites are endangered in each category", "I want to visit all the heritage sites and document which category each one belongs to", and "Create a dashboard showing the number of sites by Category, Region, and Danger status".

# 3. REQUIREMENT ANALYSIS

## 3.1 Customer Journey Map

Mapped how different user types interact with the dashboard, from accessing it to drawing insights.

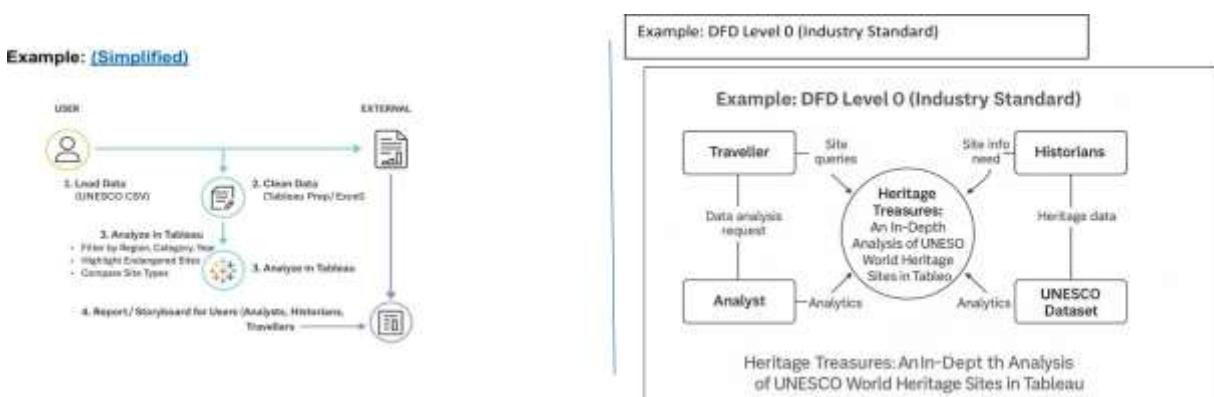
Scenario	Entice	Enter	Engage	Exit	Extend						
Experience stage	See info on UNESCO website, social media, or travel blogs	Learn about the UNESCO dataset or project from a mentor or assignment	Open dataset in Tableau or visit the physical heritage site	Start aggregating data or location info	Clean, transform, and visualize the data	Explore site or data; read info, take photos, visualize stats	Historian analysis: reference site into historical records	Export dashboards and write analysis	Take notes, screenshots, or photos	Reflect, share stories, or publish findings	Present insights to stakeholders, share them on platform
Interactions	Browsing, bookmarking, Google search, heritage forums ↳ People: Who do they talk to? What do they say? ↳ Press: Where are they? ↳ Things: What regular interests or hobbies do they have?	Trainers, historians, Google search, heritage forums Teacher or tour guide	Social media or tourist sites Tableau Prep Builder, Excel, peers	Physical maps or apps at the site	Tableau Desktop, group members, dataset tools	Discuss insights with group or local expert	Read heritage background via QR codes or online info	Faculty, project review team	Submit project or reflect on site experience	Class audience, online community, portfolio viewers	Blog or publish summary
Goals & motivations	All users: learn about a specific place or period in history ("What was...?" "Why did...?")	I want to discover meaningful historical pieces	Help me find something culturally rich to explore	Help me start my own research with mentors	Want to analyze endangered sites and their categories	I want to review meaningful insights about categories and danger zones	I want to learn how heritage is classified	Let me experience, learn, or analyze this database deeply	Make sure the visuals are clear and polished	Make it memorable and educational	Let others learn on benefit from our work
Positive statements	We're revolutionizing how we see and experience architecture, history, and culture!	Excited about working on a real-world global topic	Inspired by beautiful or historic places	Discovering cultural patterns in the data	Easy to navigate or open data	Building maps and category dashboards	Happy to find clean insights or visualizations	Learning something unique about history/culture	Seeing clean visual output & great experiences	Presented in an accessible and memorable way	Project used in a presentation or added to portfolio
Negative comments	Not much info about a specific period or location	Confused about data structure or field names	Too many filters or pages	Missing or unclear context like date, etc., and danger	Data is incomplete or messy	Tableau bugs or loading issues	Some dashboards/tools are slow or hard to use	Not enough historical context	Trouble summarizing all insights in limited slides	Physical references	Not enough time to discuss with larger audience
Area of opportunity	Provide clearer data dictionaries or simplified dataset version	Promote untagged sites clearly	Add better onboarding or site review	Auto-suggest insights in dashboards	Auto-highlight outliers and missing values in Tableau	Show cause of endangerment solutions	Enable site category filters	Offer a presentation template for historical webinars	Offer a presentation template for museum webinars	Publish projects on a virtual class gallery or open source board	Create heritage learning hedge or classroom escape

## 3.2 Solution Requirement

- Functional: Site filtering, map visualizations, story insights
- Non-Functional: Usability, performance, and scalability

## 3.3 Data Flow Diagram

Structured data from CSV → Tableau Prep → Dashboard → Embedded Web App



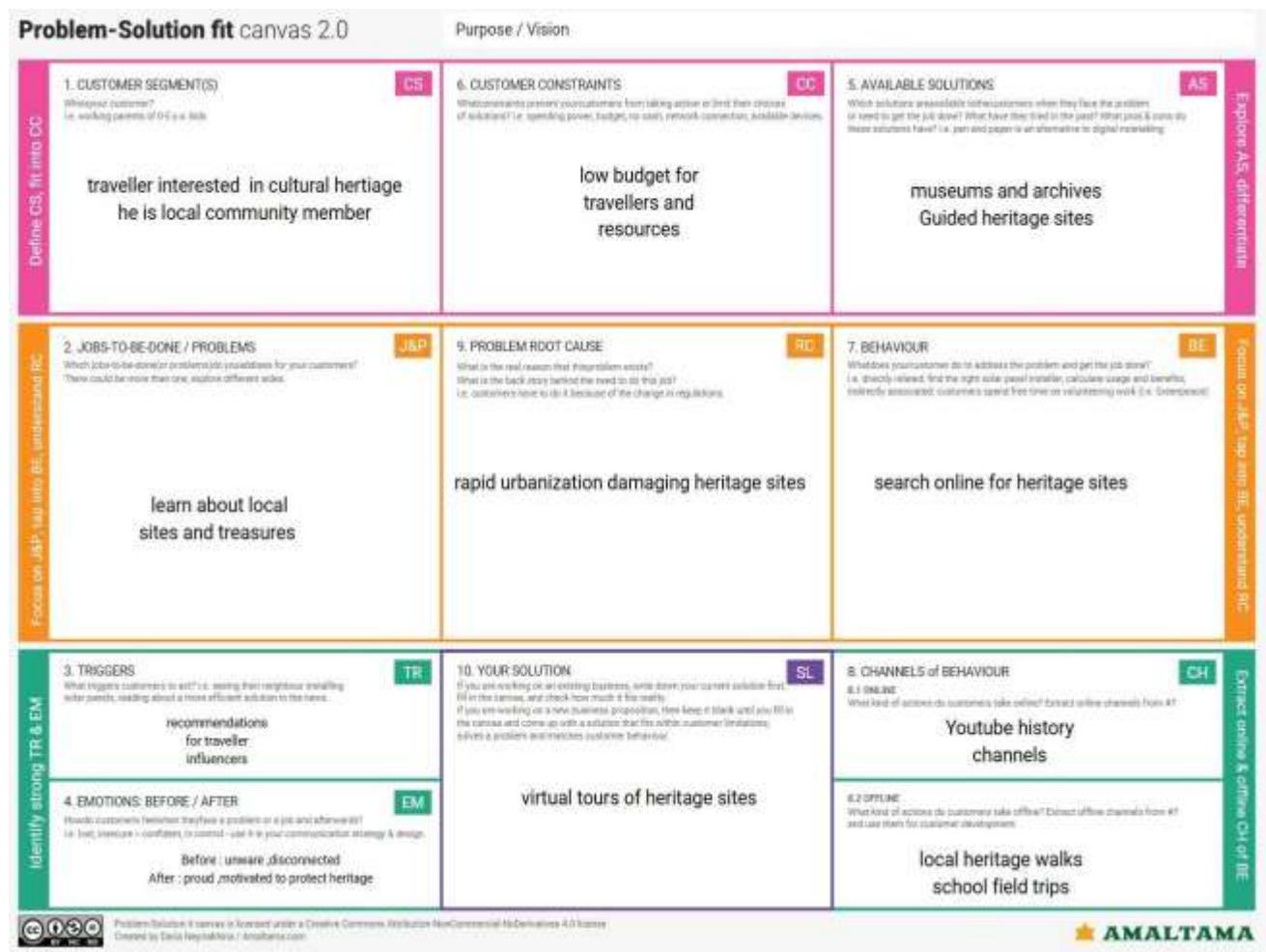
## 3.4 Technology Stack

- Tableau Prep, Tableau Desktop
- Flask (Python), HTML/CSS
- Google Drive (storage)

# 4. PROJECT DESIGN

## 4.1 Problem Solution Fit

A dashboard was identified as the best way to present multi-dimensional data to a broad audience.



## 4.2 Proposed Solution

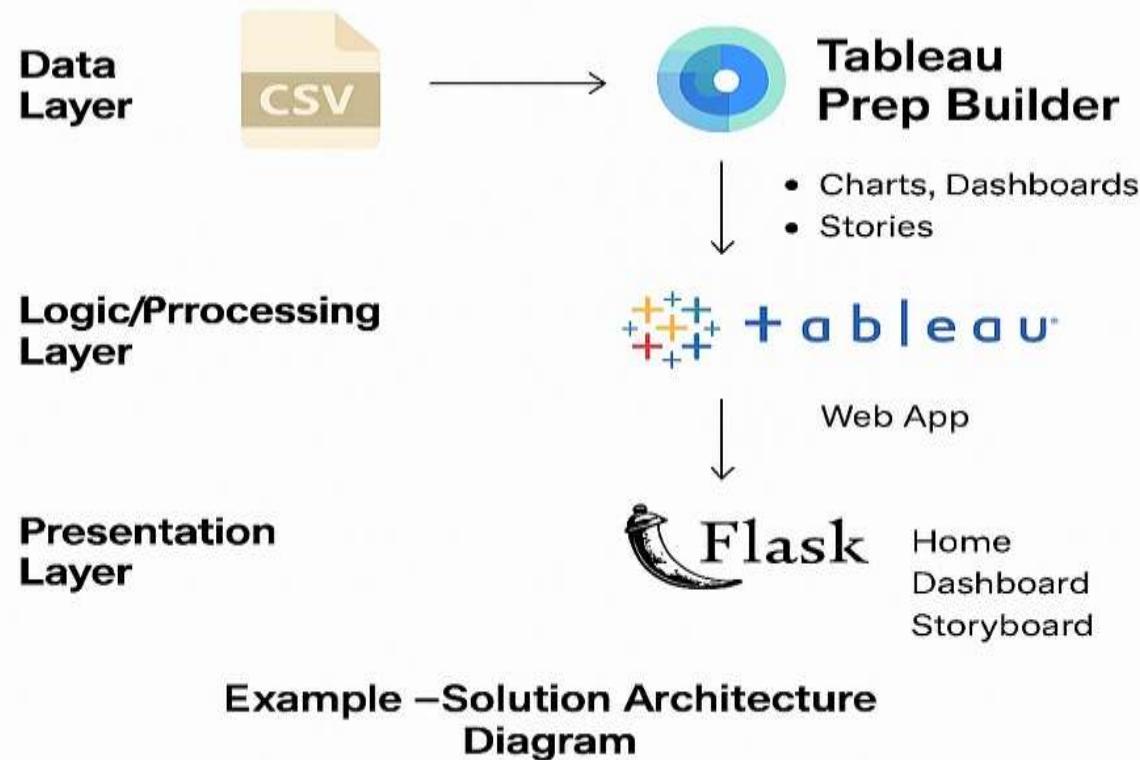
Create a multi-page Tableau dashboard hosted in a web app using Flask, including visual and story insights.

### 4.3 Solution Architecture

Three-tier architecture: Data Layer → Logic Layer (processing & visualization) → Presentation Layer (web UI)

## Solution Architecture – Heritage Treasures Project

Using a 3-tier architecture to present data on UNESCO World Heritage Sites visually and interactively.



## 5. PROJECT PLANNING & SCHEDULING

### 5.1 Project Planning

Sprints, user stories, velocity, and burndown chart planned and tracked across 2 sprints.

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## 6. FUNCTIONAL AND PERFORMANCE TESTING

### 6.1 Performance Testing

Tested dashboard load time, filter performance, and user interactivity.

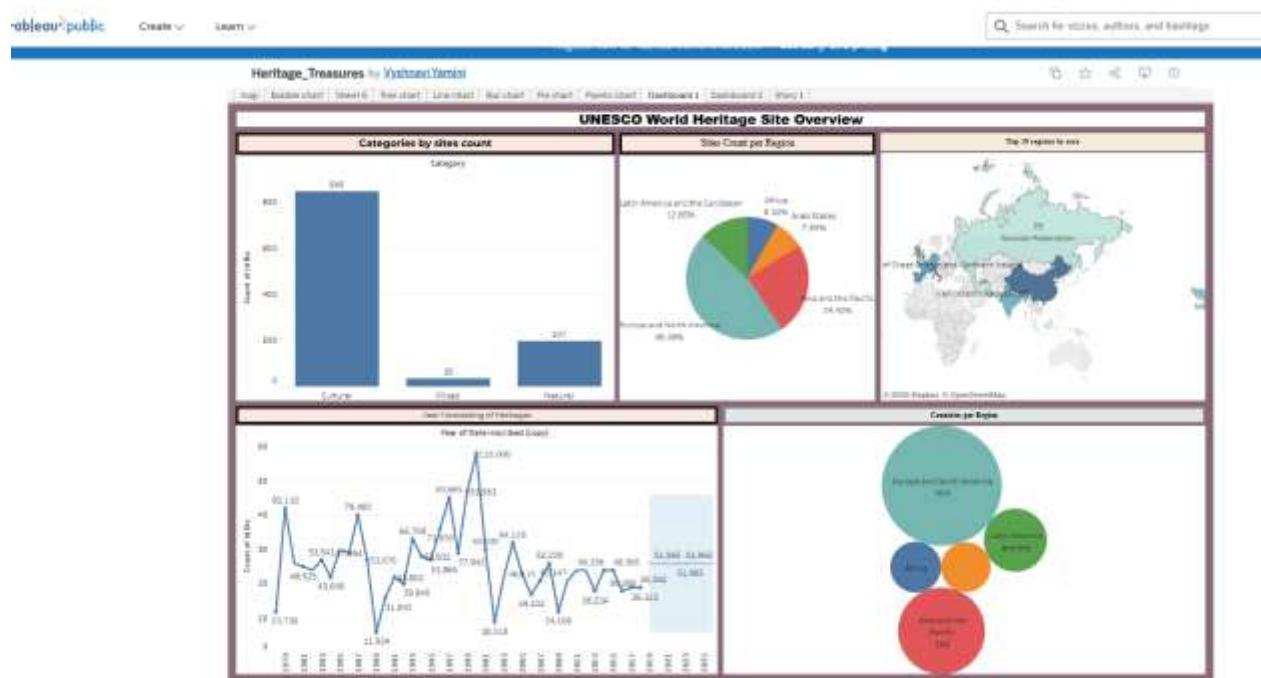
- Velocity = 14 story points per sprint
  - Burndown graph created to visualize sprint progress
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## 7. RESULTS

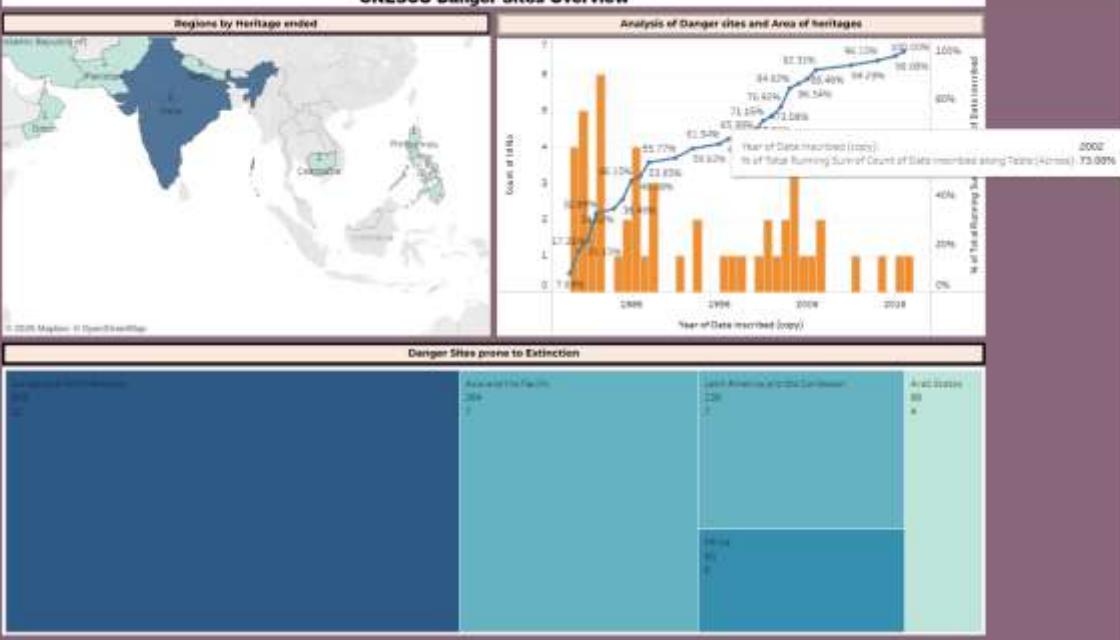
### 7.1 Output Screenshots

- **Screenshots of Tableau dashboards showing**

UNESCO World Heritage Site Overview



UNESCO Danger Sites Overview

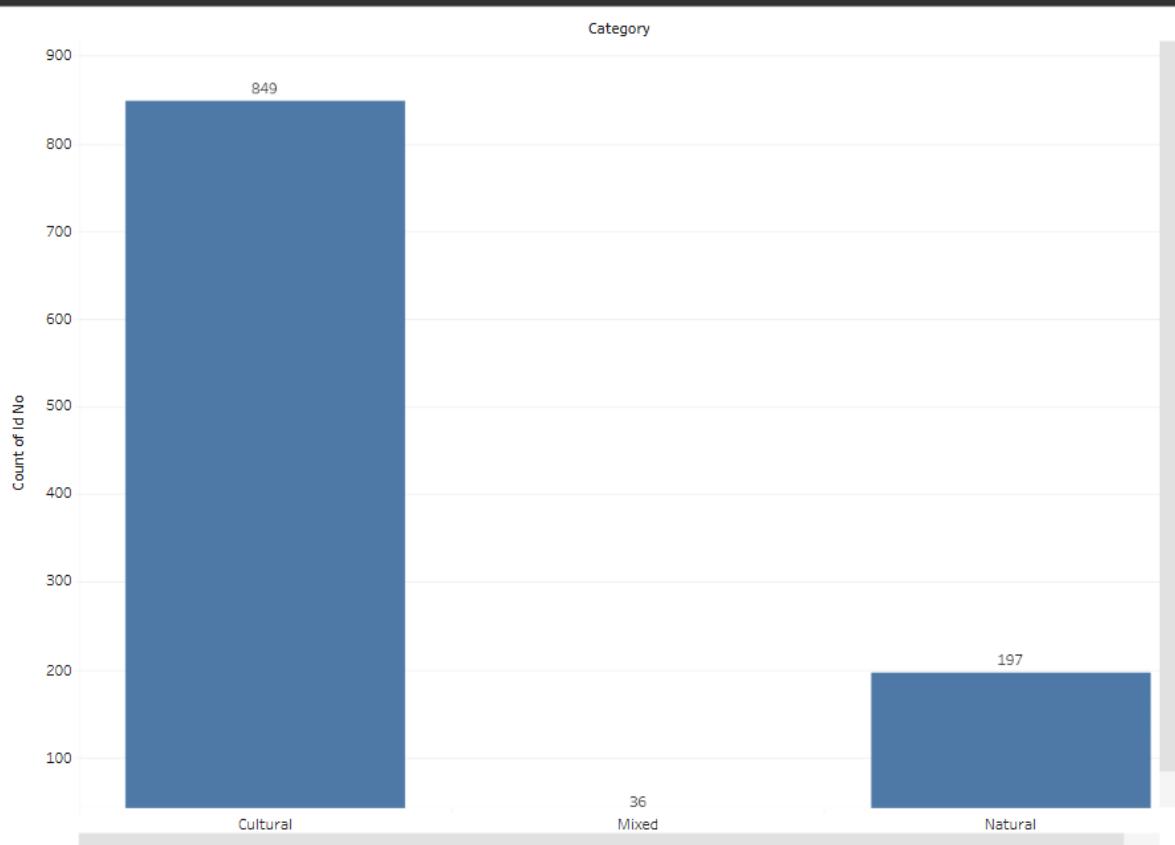
**UNESCO Danger Sites Overview****Story****Heritage Treasures**

Cultural sites dominate the heritage list with 849 entries, highlighting their global historical significance. In contrast, Mixed

Europe and North America account for nearly half (46.49%) of all World Heritage sites. Latin America and the Caribbean represent

China and Italy has the highest number of heritage treasures by area, followed by Iran and Mexico. These countries are rich in

The number o year. Some ye future looks s



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## **8. ADVANTAGES & DISADVANTAGES**

### **Advantages:**

- Easy access to cultural data
- Visually appealing
- Interactive and filterable

### **Disadvantages:**

- Requires internet for dashboard embedding
  - Limited offline access
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## **9. CONCLUSION**

The project successfully converts heritage site data into interactive insights using modern tools, helping raise awareness of endangered sites.

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## 10. FUTURE SCOPE

- Add machine learning for site risk prediction
  - Enable real-time updates via API
  - Support more languages and offline features
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## 11. APPENDIX

**Source Code:** Provided in GitHub repo

**Dataset Link:** [UNESCO World Heritage Sites 2019](https://UNESCO-World-Heritage-Sites-2019)

**GitHub**

<https://github.com/Vishnu89-ui/Heritage-treasures-an-in-depth-analysis-of-unesco-world-heritage-sites-in-tableau>

**Demo link**

<https://drive.google.com/file/d/1j-GggaMOpW83qHPIgtxCWkGGI3BeLGSc/view?usp=drivesdk>