

PROJECT REPORT

Heritage Treasures: An In-Depth Analysis of UNESCO World Heritage Sites

1. INTRODUCTION

1.1 Project Overview

"Heritage Treasures" explores the UNESCO World Heritage Sites dataset using Tableau to deliver compelling insights through visual analytics. This project provides an in-depth analysis of the cultural and natural heritage sites listed by UNESCO up to 2019. By using a combination of charts, dashboards, and stories, it allows users to interact with the data, recognize patterns, and understand the spatial and categorical distribution of heritage sites around the world. Special emphasis is placed on endangered sites and regional inscription trends.

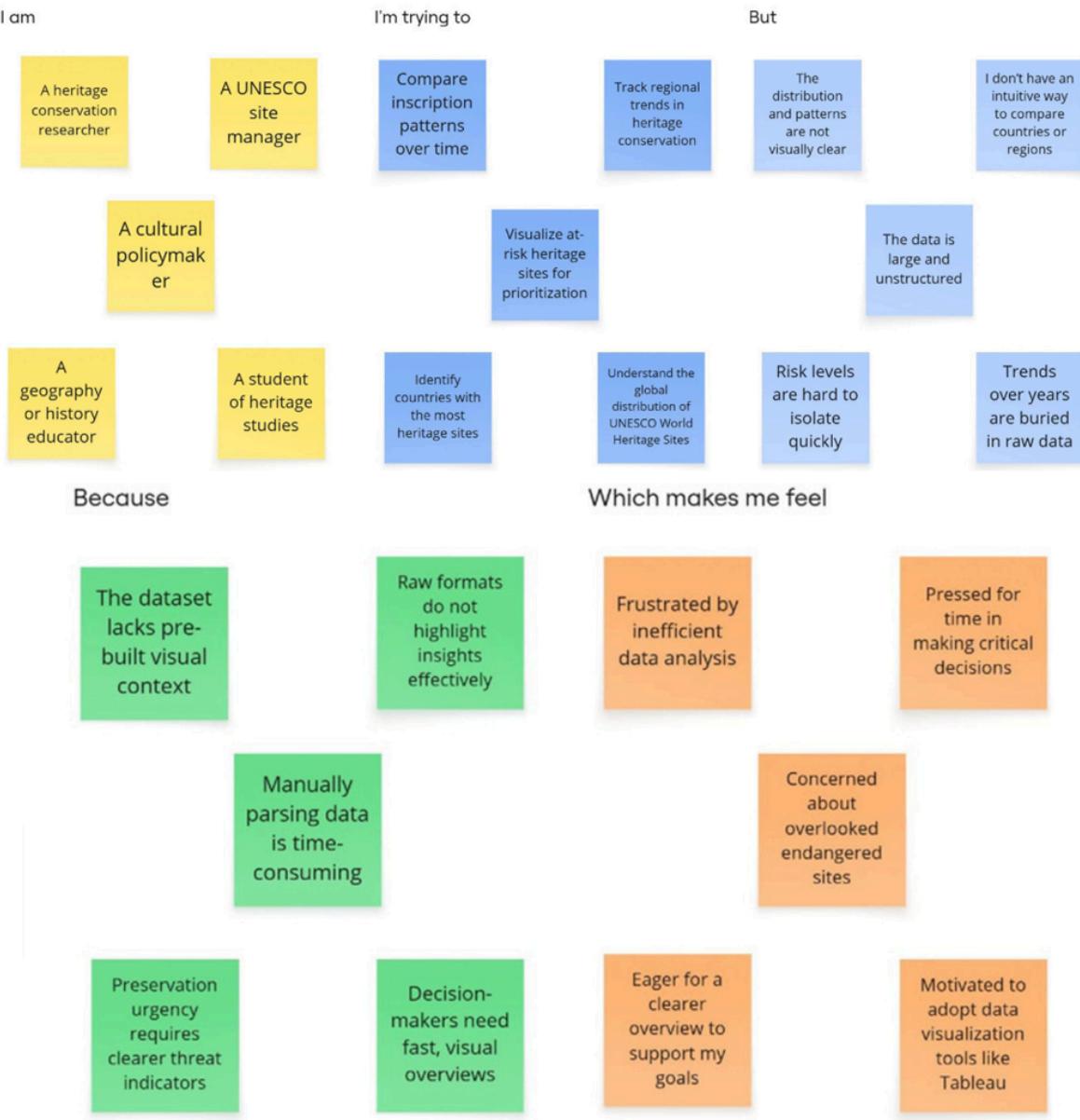
1.2 Purpose

The purpose is to provide stakeholders with an interactive, data-driven dashboard to better understand the global distribution, conservation status, and historical patterns of UNESCO World Heritage Sites.

2. IDEATION PHASE

2.1 Problem Statement

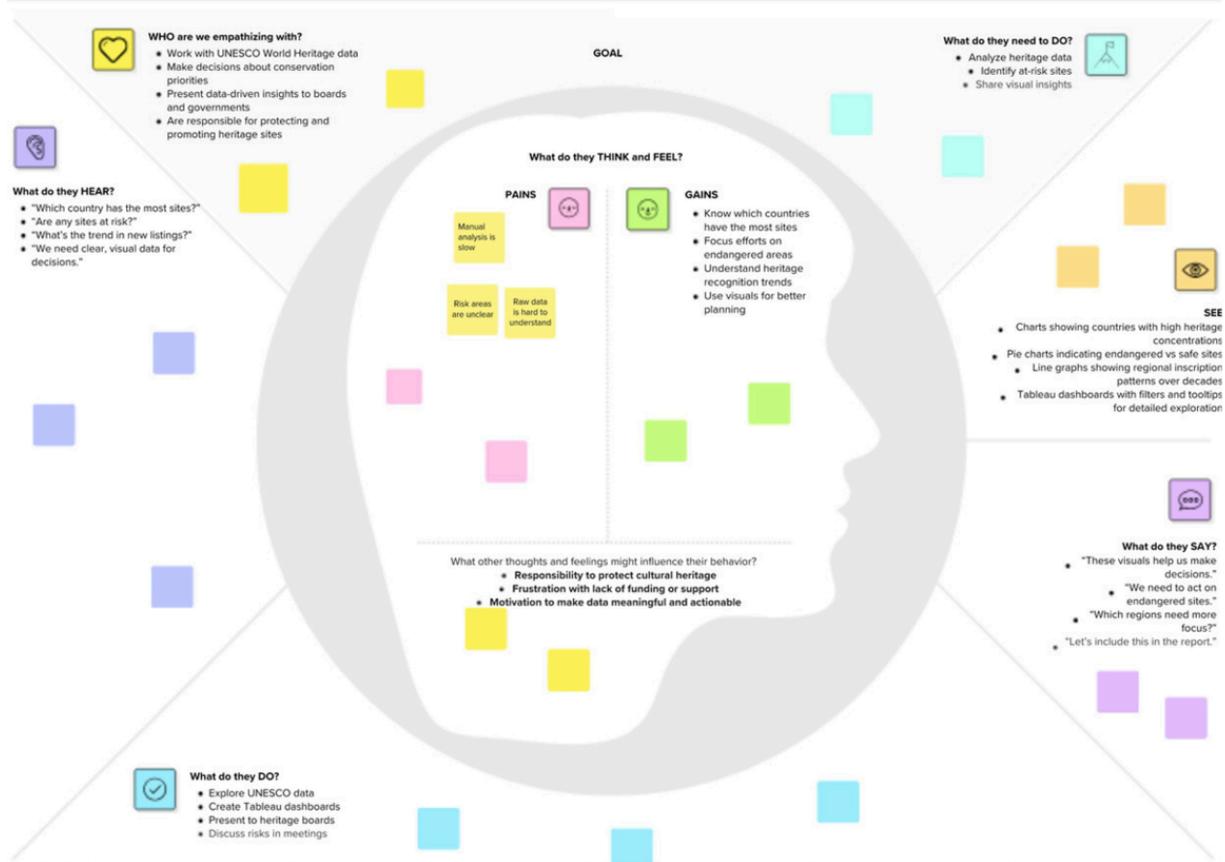
UNESCO World Heritage Sites represent irreplaceable treasures of cultural and natural significance. However, with over a thousand sites globally, there's a lack of accessible, visual tools to help stakeholders understand patterns of distribution, identify endangered sites, and prioritize conservation efforts. This project aims to bridge that gap by creating interactive Tableau dashboards to analyze and visualize the UNESCO dataset for actionable insights.



2.2 Empathy Map Canvas

The Empathy Map Canvas helps us understand our end users—heritage stakeholders, tourists, conservationists, and researchers. It maps what users think, feel, see, hear, say, and do. This helps identify user pain points, expectations, and behaviors related to accessing and

interpreting heritage site information.



2.3 Brainstorming

Step-1: Team Gathering, Collaboration and Select the Problem Statement

Explored various datasets

Shortlisted UNESCO heritage dataset for global relevance

Chose Tableau for its visual storytelling and interactive filtering capabilities

The screenshot shows the Tableau Brainstorm & idea prioritization template. It features a sidebar on the left with a lightbulb icon and a title "Brainstorm & idea prioritization". Below the title, it says: "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." It includes preparation time ("10 minutes to prepare"), collaboration time ("1 hour to collaborate"), and recommended users ("2-8 people recommended").

The main content area is divided into three columns:

- Before you collaborate**: A tip: "A little bit of preparation goes a long way with this session. Here's what you need to do to get going." Time: "10 minutes".
- Define your problem statement**: A tip: "What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm." Time: "5 minutes".
- Key rules of brainstorming**: A list of six rules with icons:
 - 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

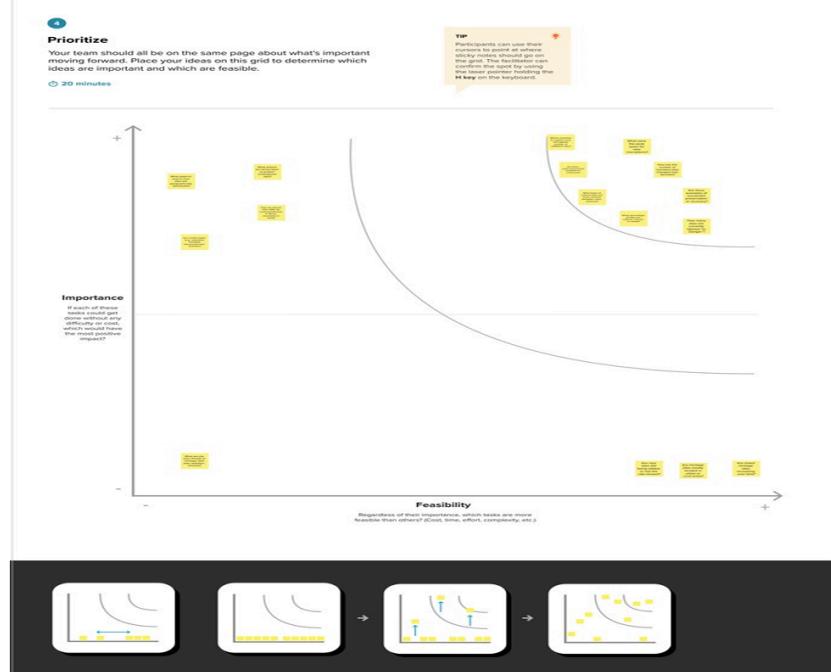
The screenshot shows the Tableau Brainstorm, Idea Listing and Grouping template. It features two main sections: "Brainstorm" and "Group ideas".

Brainstorm: A tip: "Write down any ideas that come to mind that address your problem statement." Time: "10 minutes". It shows eight rows of yellow sticky notes labeled Person 1 through Person 8, each containing several handwritten ideas.

Group ideas: A tip: "Task turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and break it up into smaller sub-groups." Time: "20 minutes". It shows four clusters of sticky notes with labels: "How have they grown?", "Where are they?", "What kind are they?", and "What's at risk?".

At the bottom, there are two diagrams illustrating the process: one showing the transition from individual ideas to clustered groups, and another showing the iterative process of grouping and labeling.

Step-3: Idea Prioritization



3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map

Scenario: [Existing experience through a product or service]	Entice	Enter	Engage	Exit	Extend
Scenario: [Existing experience through a product or service]	Entice How does someone become aware of this service?	Enter What do people experience as they begin the process?	Engage In the core moments in the process, what happens?	Exit What do people typically experience as the process finishes?	Extend What happens after the experience is over?
Experience steps What does the person (or people) at the center of this scenario typically experience in each step?	Social Discovery Content shared on LinkedIn or Facebook in a classroom, processor, or field. Peer Recommendation Shared by a colleague, processor, or friend. Academic Source Shared by a professor or teacher in an academic newsletter or event.	Link Visit: Clicks on a shared link. Landing Experience Shared by a professor or teacher and reads the project summary.	Use Filters: Uses filters to narrow down the system. Trend Analysis: Finds trends like "Users in Danger" or "Users Addicted." Download: Downloads or documents (charts).	User browses the interactive world map of heritage sites. Saves or exports reports or insights.	Raise Sharing: Tries to share their content about a POF. Benchmark: Compares user data with others in the system.
Interactions What interactions do they have at each step along the way? ▪ People: Who do they see or talk to? ▪ Places: Where are they? ▪ Things: What digital touchpoints or physical objects do they use?	Ad Engagement: Clicks on a teaser image or video on social media. Meet & Mingle: Attends the networking session or the mixer. Organic Search: Browses landing page for search terms and designs search results.	Registration: Signs up for account creation or OTP. Tour Complete: Completes the onboarding walkthrough.	Interactive Tools: Interacts with time travel interface, filters, sliders, filters, and heatmaps.	Visual Discovery: Clicks through image gallery of historical landmarks and heritage locations. Export Function: Exports data to export CSV or PDF of charts.	Watching: Embeds video from YouTube channel of heritage sites. Using Filters and sliders to change visual views.
Goals & motivations At each step, what is a person's primary goal or motivation? ("Help me..." or "Help me avoid...")	Curiosity: Curious about local heritage locations. Learning: Searching for ways to engage with global culture. Research: Looking for ways to learn more about hobbies in academic and professional fields.	Quoia: Wants to learn more about the history of certain countries or cities. Complete Data: Wants to complete the survey to move to the next level.	Understand Inequality: Gets involved in understanding various cultures. Gather Insights: Gathers information on underrepresented groups.	Risk Assessment: Understands factors putting sites at risk. Identify Preservation Priorities: Identifies preservation priorities.	Recommendations: Sees recommendations for local or global communities. Caption: Captions photo in a blog.
Positive moments What steps does a typical person find enjoyable, satisfying, fun, motivating, delightful, or exciting?	Virtual Hook: Virtual reality caught attention. Rewards: Value, recognition, and new goals achieved.	Social Proof: Influences or motivates through sociality.	Usability: Clean user interface. Performance: Video loaded quickly.	Responsive Design: Responsive design works on tablet and mobile.	Smooth UI: Smooth user interface with few works of resistance. Diversify Locations: Diversify location based on different types of places like forests, farms, towns, cities.
Negative moments What steps does a typical person find frustrating, annoying, costly, or time-consuming?	Access Confusion: Unsure whether login or sign-up is required.	Lack of Guidance: No clear guidance on how to use caused confusion.	Map Legend Missing: Map legend is missing or not represented.	UI Clarity: No tooltip to explain icons.	Annotation Limit: Not able to annotate or comment on photos.
Areas of opportunity How might we make each step better? What ideas do we have? What have others suggested?	Cleary Add a short "Why Use This Tool?" section.	Demo Tools: Include demo tools to prove value of any features.	Autonomy Targeting: Encourages students, teachers, and administrators.	Visual Guide: Add an image or icon with visual legend.	Quick Filters: Offers filters for specific country or region based needs.
	Advanced Filters: Enables multi-step analysis.	Social Sharing: Add ability to share personalized news.	Offer a multilingual toggle for global users.	Improve responsiveness for mobile/tablet users.	Add quizzes or quick guide for charts.
	Workshop: See discussion threads for repeat users.	Summary Option: Add "Email my session summary" option.			Gamification: Offer micro-tasks badges for contributions.
					Cohesive: Track and encourage community collaboration levels.
					See an example

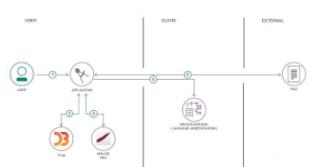
3.2 Solution Requirement

Functional: Data filtering, dashboards, stories, maps, charts
Non-functional: Performance, usability, responsiveness, accessibility

3.3 Data Flow Diagram

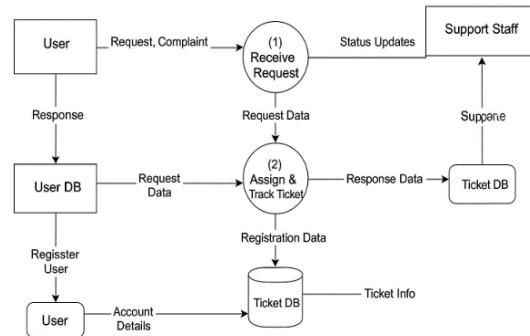
Example: [\(Simplified\)](#)

Flow



1. User configures credentials for the Watson Natural Language Understanding service and starts the app.
2. User selects data file to process and load.
3. Apache Tika extracts text from the data file.
4. Extracted text is passed to Watson NLU for enrichment.
5. Enriched data is visualized in the UI using the D3.js library.

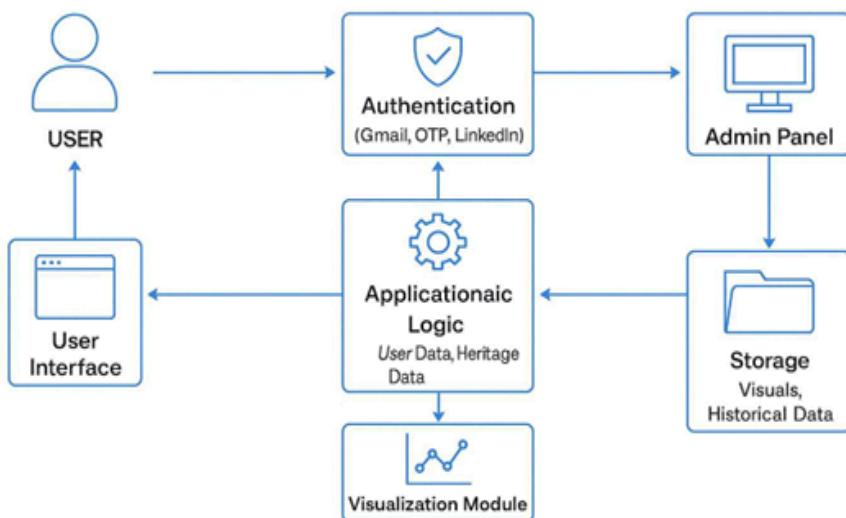
Customer Support System DFD



3.4 Technology Stack

- **Tableau Public** for visualization and publishing
- **Kaggle** dataset (CSV)
- Optional: Flask for web integration (if used)

Technical Architecture



4. PROJECT DESIGN

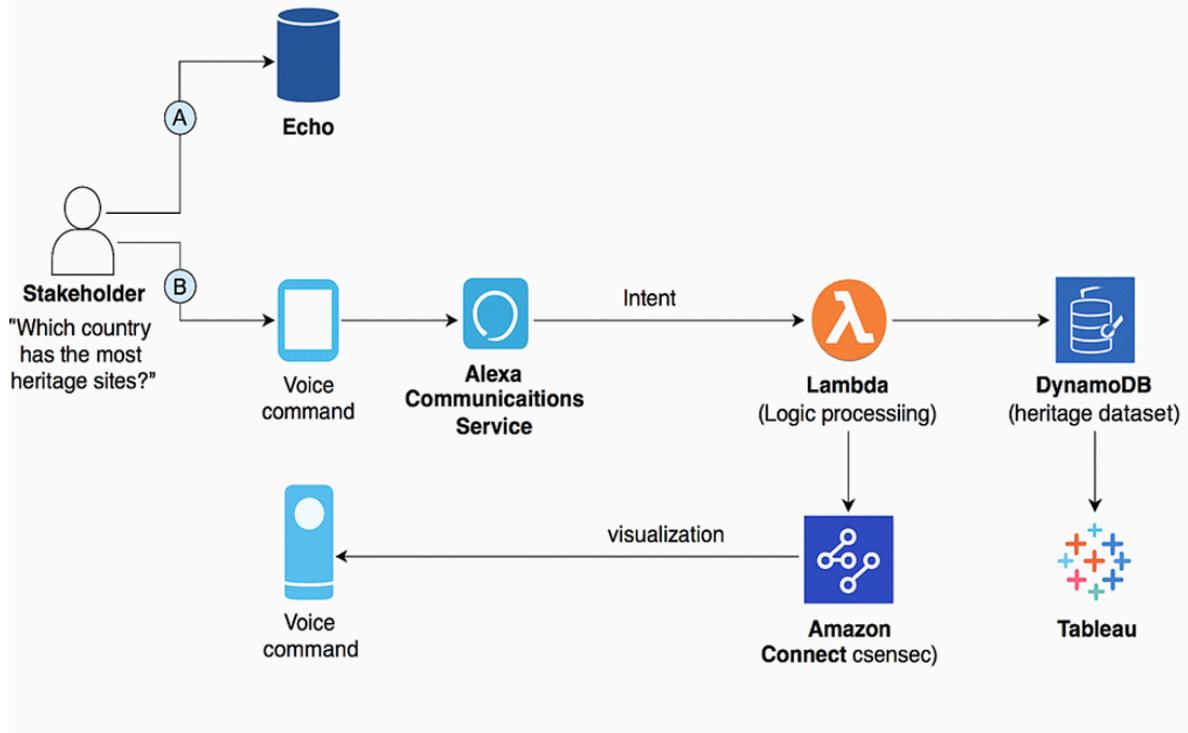
4.1 Problem-Solution Fit

Helps heritage stakeholders visualize and monitor global heritage trends interactively.



4.3 Solution Architecture

(Insert or sketch system architecture if any, e.g., data source → Tableau → Dashboard → Web)



5. PROJECT PLANNING & SCHEDULING

Activity	Duration
Dataset Download	0.5 Hrs
Data Preparation	0.5 Hrs
Visualizations	1.0 Hrs
Filters and Interactions	1.0 Hrs
Dashboard Design	1.0 Hrs
Story Creation	1.0 Hrs
Publishing & Web Integration	1.0 Hrs

(Insert Gantt chart if applicable)

6. FUNCTIONAL AND PERFORMANCE TESTING

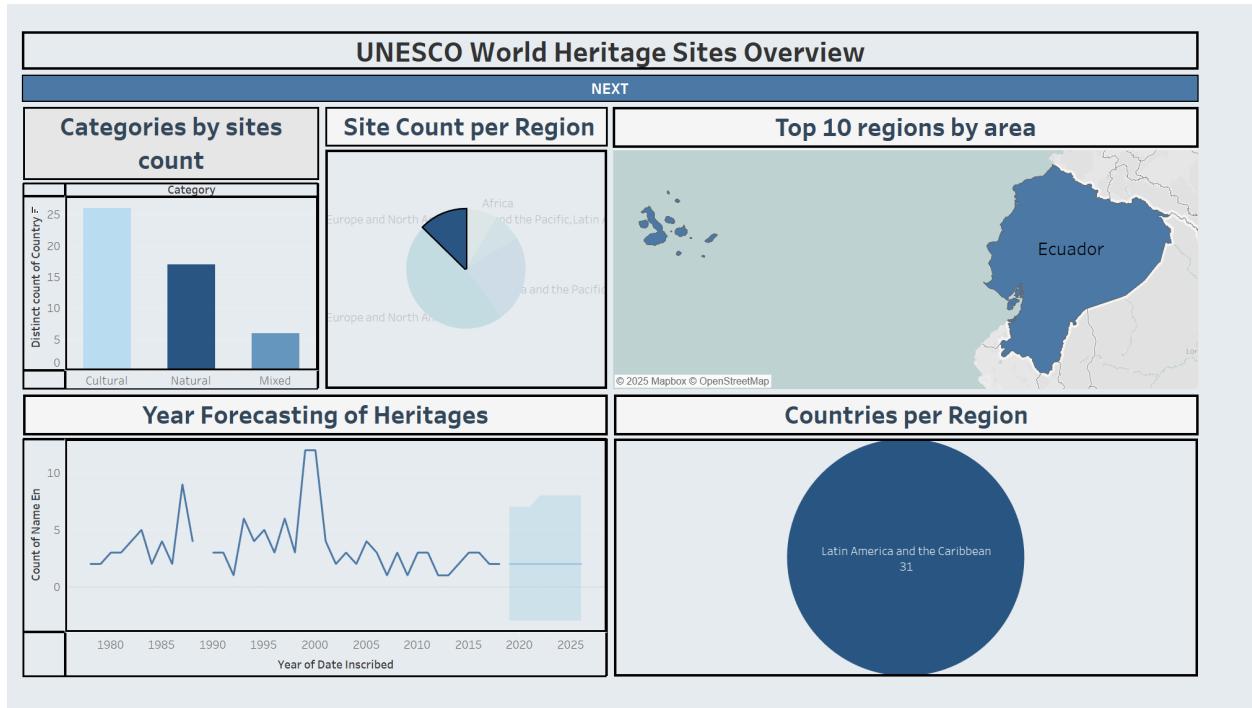
6.1 Performance Testing

Processed and visualized 1100+ records without lag. Filters and dashboards loaded instantly.

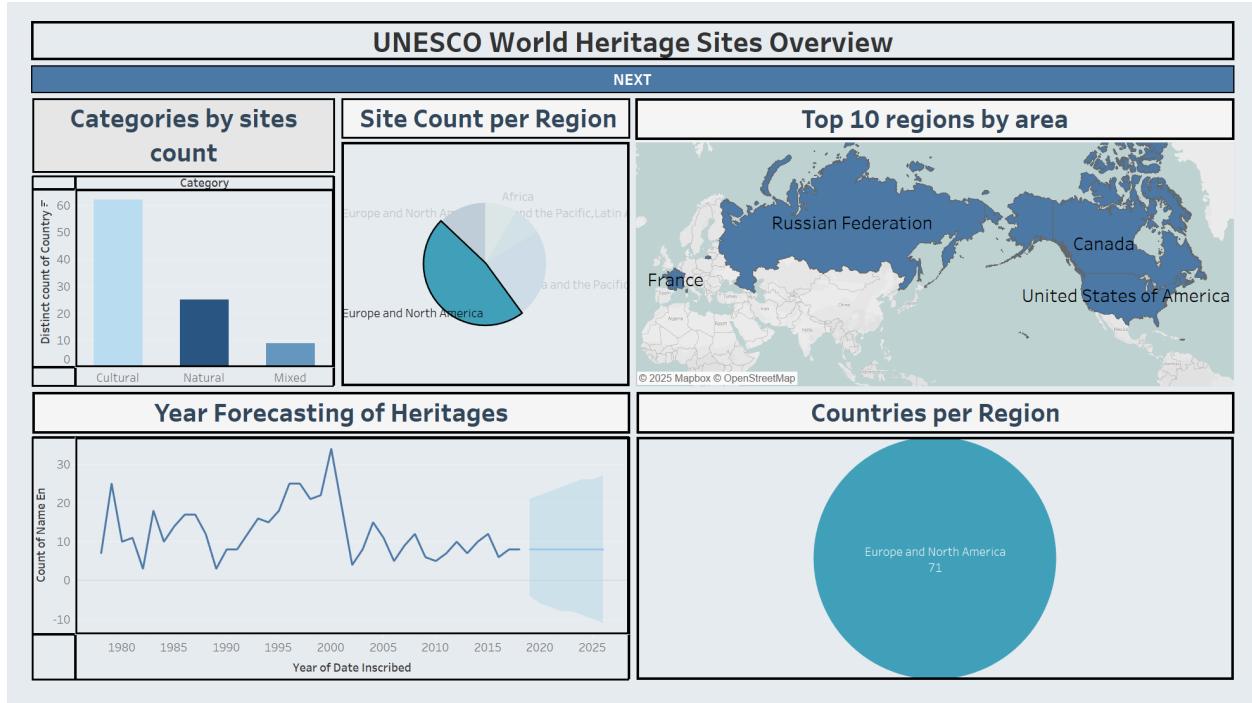
Conclusion: The performance across visualizations, dashboards, and filters was consistently smooth, ensuring usability and responsiveness for end users.

6.2 Utilization of Data Filters

- Activity 2.1: Filtered "Latin America"



- Activity 2.2: Filtered "Europe and North America"



6.3 Web Integration and Publishing

- Connected to Tableau Public
- Published dashboards using share option
- Required Tableau Public login for upload

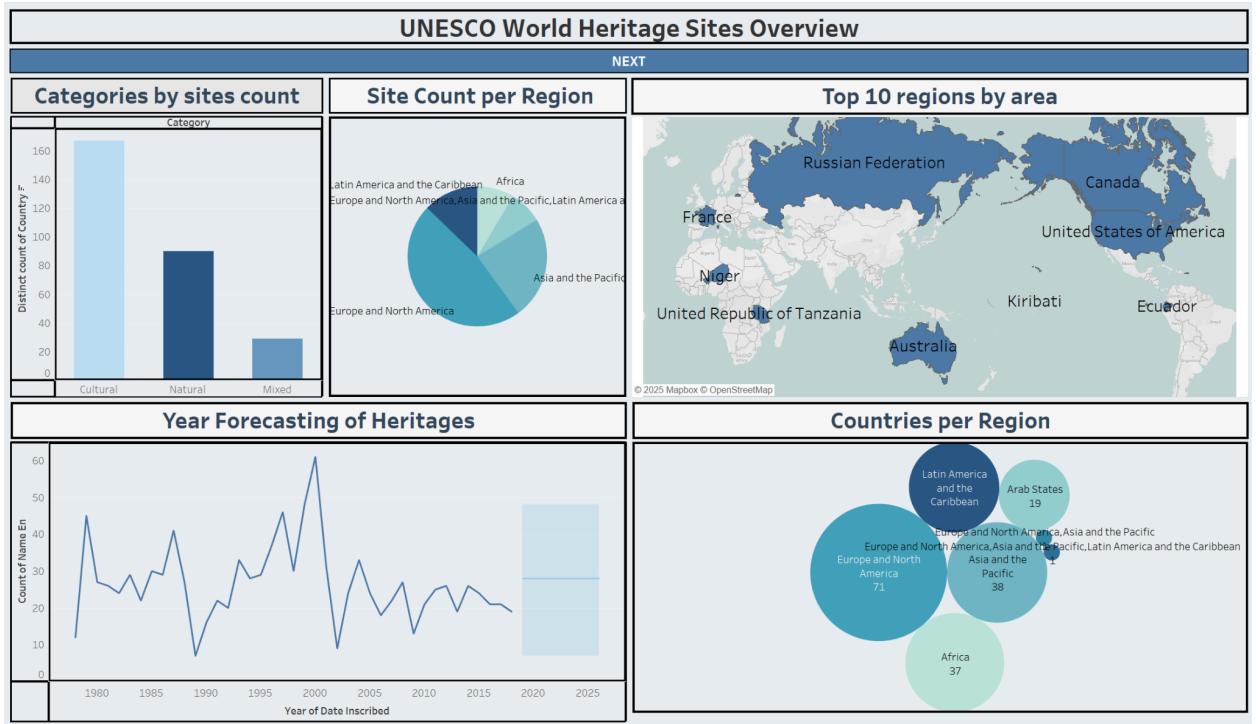
Steps:

1. Open dashboard/story > Click Share
2. Enter Tableau Public credentials
3. Click Connect and publish the selected sheet/dashboard

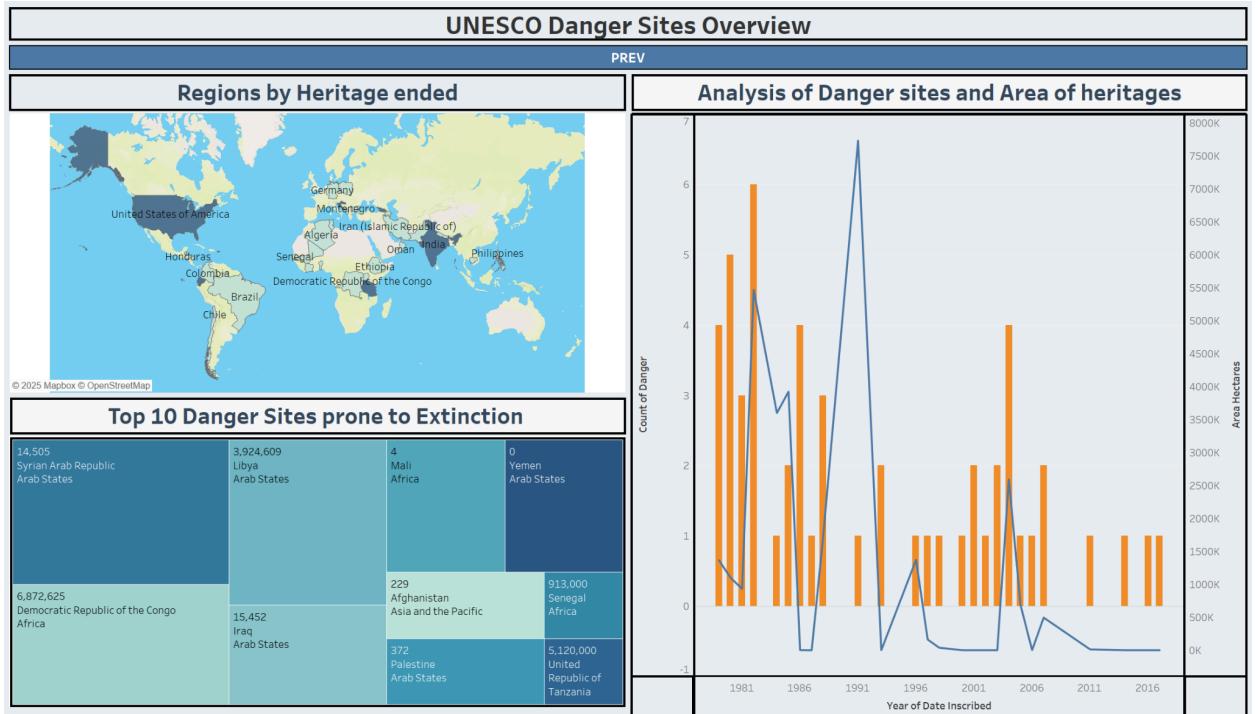
7. RESULTS

7.1 Output Screenshots

- Dashboard 1: UNESCO World Heritage Site Overview

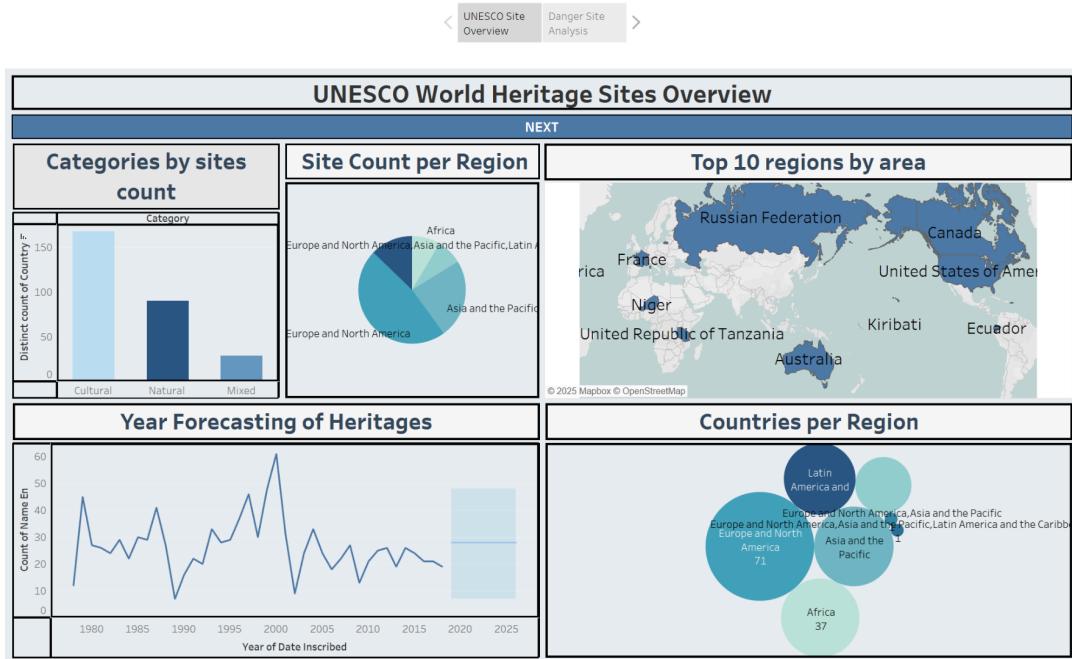


- Dashboard 2: UNESCO Danger Sites Overview

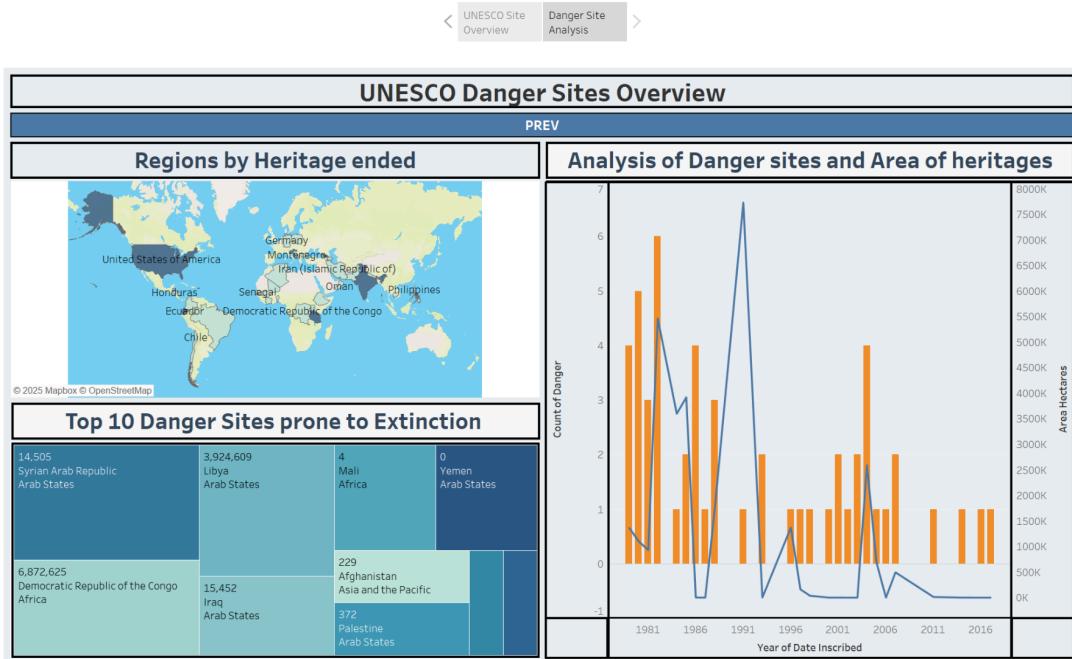


- Story Scenes with interactive flow

Story 1



Story 1



8. ADVANTAGES & DISADVANTAGES

Advantages

- Real-time filtering
- Clear visual storytelling
- Easy publishing on Tableau Public

Disadvantages

- Static dataset (2019 only)
- Public version lacks backend connectivity

9. CONCLUSION

The project successfully visualized key insights into UNESCO World Heritage Sites. It helps raise awareness of endangered sites and provides a user-friendly interface for exploration and decision-making.

10. FUTURE SCOPE

- Use updated real-time UNESCO APIs
- Integration with Google Maps or GIS tools
- Expand with socio-economic and tourism data
- Alert system for endangered site updates

11. APPENDIX

- **Dataset Link:** [UNESCO WHC Dataset \(Kaggle\)](#)
- **GitHub Link:** [thrishasri18/UNESCO-world-heritage-Treasure](#)
- **Tableau Public Link:** [Profile - thrishasri.seelam | Tableau Public](#)
- **Video Demo Link:** [Final Vedio Demo.mp4](#)