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

Team ID: LTVIP2025TMID49319

1. Ideation Phase

Objective:
To explore, visualize, and analyze UNESCO World Heritage Sites using Tableau for insights into geographical distribution, cultural/natural classifications, threats, tourism impact, and preservation status.

Problem Statement:
Despite global recognition, many World Heritage Sites are under threat from urbanization, climate change, and conflict. There is a lack of intuitive dashboards for policymakers and tourists to understand trends and critical challenges.

Target Users:
- Tourists and travelers
- Conservationists and NGOs
- Government heritage departments
- Educators and researchers

Proposed Solution:
Build an interactive Tableau dashboard offering insights on:
- Geographical distribution
- Types (Cultural, Natural, Mixed)
- Sites at risk
- Historical timelines
- Top countries with highest site count

2. Required Analysis

Data Sources:

- UNESCO World Heritage Site Database (CSV/Excel)
- Supplementary datasets (e.g., tourist arrivals, threat levels, GDP vs. site density)

Data Cleaning and Preparation:
- Remove duplicates
- Split location data (Latitude, Longitude)
- Convert date fields
- Create calculated fields for region-wise counts and risk indexes

Analysis Metrics:
- Total sites per country
- Sites under threat
- Classification (Natural, Cultural, Mixed)
- Year-wise heritage declarations
- Continent-wise distribution
- Risk categorization (Pollution, Conflict, Climate)

3. Design Phase

Tool Used: Tableau Desktop

Dashboards Created:
1. Global Overview Map
   - Heatmap of heritage sites
   - Filters: Type, Year, Country

2. Top Countries Chart
   - Bar graph of countries with most sites

3. Threatened Sites Overview
   - Pie/Donut chart for risk types
   - Table with endangered sites

4. Timeline Dashboard
   - Line chart showing number of sites added over time

5. Story Points
   - Combined narrative of key dashboards to explain trends

Design Principles Used:
- Minimalist UI with readable fonts

- Color-coded classification
- Tooltip pop-ups for better interactivity
- Mobile/tablet responsive layout

4. Performance Testing

Tests Performed:
- Filter responsiveness with large datasets
- Dashboard loading speed
- Export functionality (PDF/Image)
- Mobile layout optimization
- Interactivity test for tooltips and filters

Tools Used:
- Tableau Performance Recording
- Browser developer tools (for dashboard load time if embedded)

Results:
- Load time under 4 seconds
- Filters apply under 2 seconds
- Export quality: High resolution without data loss

5. Final Report

Project Summary:
This project offers a comprehensive, data-driven exploration of UNESCO World Heritage Sites using Tableau, aimed at spreading awareness and driving conservation efforts.

Key Findings:
- Italy and China lead in the number of heritage sites.
- Cultural sites dominate globally.
- Climate change and urban expansion are leading threats.
- Africa and Latin America have underrepresented but rich heritage.

Outcomes:
- Created 5 fully interactive dashboards
- Published Tableau story for stakeholder presentation
- Source data cleaned and uploaded in GitHub (if needed)

Future Enhancements:
- Add real-time threat alerts via APIs
- Include user feedback dashboard
- Integrate tourism impact data