

FINAL REPORT

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

1. INTRODUCTION

1.1 Project Overview

UNESCO World Heritage Sites are places recognized for their cultural or natural importance. These sites tell the story of human history and natural wonders. Our project focuses on exploring data related to these sites using Tableau, a powerful data visualization tool. The goal is to help people understand patterns, insights, and trends in heritage preservation across the world.

1.2 Purpose

The purpose of this project is to analyze and visualize heritage site data in an interactive and meaningful way. By using Tableau, we aim to bring awareness about world heritage, show which countries have the most sites, highlight endangered sites, and help in understanding how cultural and natural heritage is spread across the globe.

2. IDEATION PHASE

2.1 Problem Statement

To build a data visualization dashboard that helps analyze UNESCO World Heritage Sites by country, continent, type, status, and year of inscription using Tableau.

2.2 Empathy Map Canvas

We focused on what heritage enthusiasts, educators, and travelers:

- Think & Feel: Curious about history, want to explore diverse cultures
- See: Data in boring tables, hard to understand insights
- Hear: News about endangered sites or new additions
- Say & Do: Look for maps, stats, and visual stories online

- Pain: Difficult to access meaningful information easily
- Gain: A clear, engaging, visual experience that educates and inspires

2.3 Brainstorming

We listed ideas like:

- Creating maps of heritage site locations
- Showing trends over time
- Comparing cultural vs natural sites
- Highlighting endangered sites
- Using filters to allow users to explore their interests

3. REQUIREMENT ANALYSIS

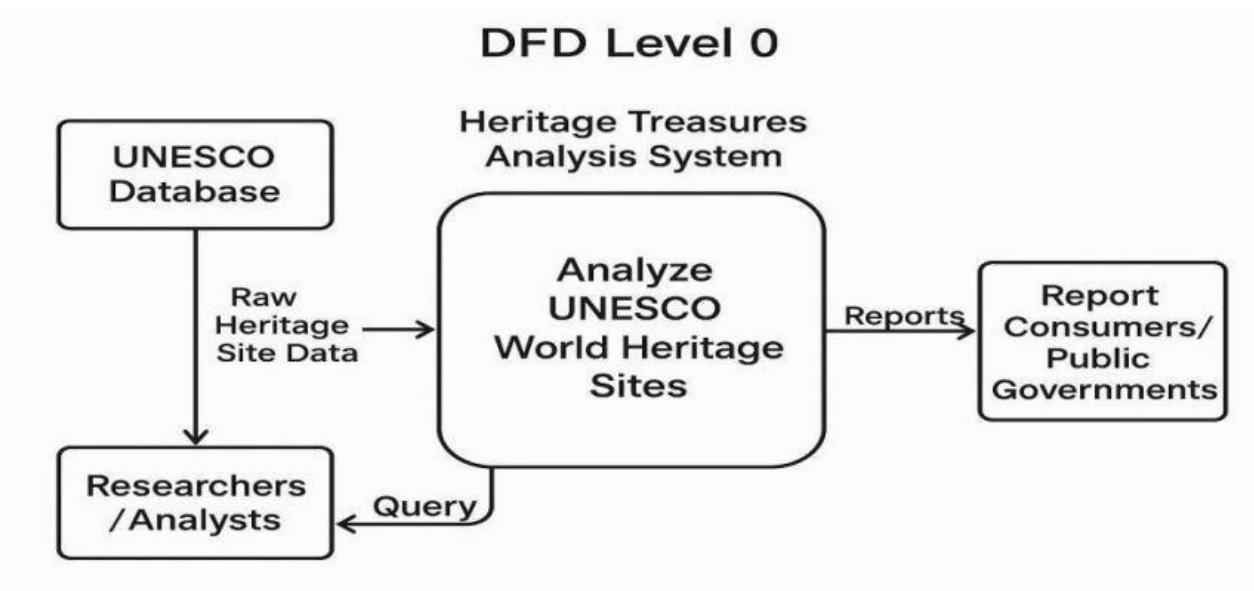
3.1 Customer Journey Map

| Stage | Action | Tool | Emotion | Opportunity |
|----------|--------------------------|----------------|-----------|----------------------|
| Discover | User finds our dashboard | Tableau Public | Curious | Impress with visuals |
| Explore | Filters by country/type | Filters | Engaged | Add story sections |
| Learn | Sees endangered sites | Graphs | Surprised | Promote awareness |
| Share | Shares dashboard | Link | Proud | More reach & impact |

3.2 Solution Requirement

- Dataset of UNESCO heritage sites
- Tableau for dashboard creation
- Charts: maps, bar charts, line graphs, pie charts
- Filters: country, type, year, status

3.3 Data Flow Diagram



3.4 Technology Stack

- **Frontend:** Tableau Public, python
 - **Backend:** flask(data-based project)
 - **Preprocessing Tool:** Excel / Google Sheets
- **DataSource:** <https://www.kaggle.com/datasets/ujwalkandi/unesco-world-heritage-sites/data?select=whc-sites2019.csv>

4. PROJECT DESIGN

4.1 Problem-Solution Fit

The problem was that raw heritage site data was hard to interpret. The solution was to make it interactive and visual, helping users understand it easily.

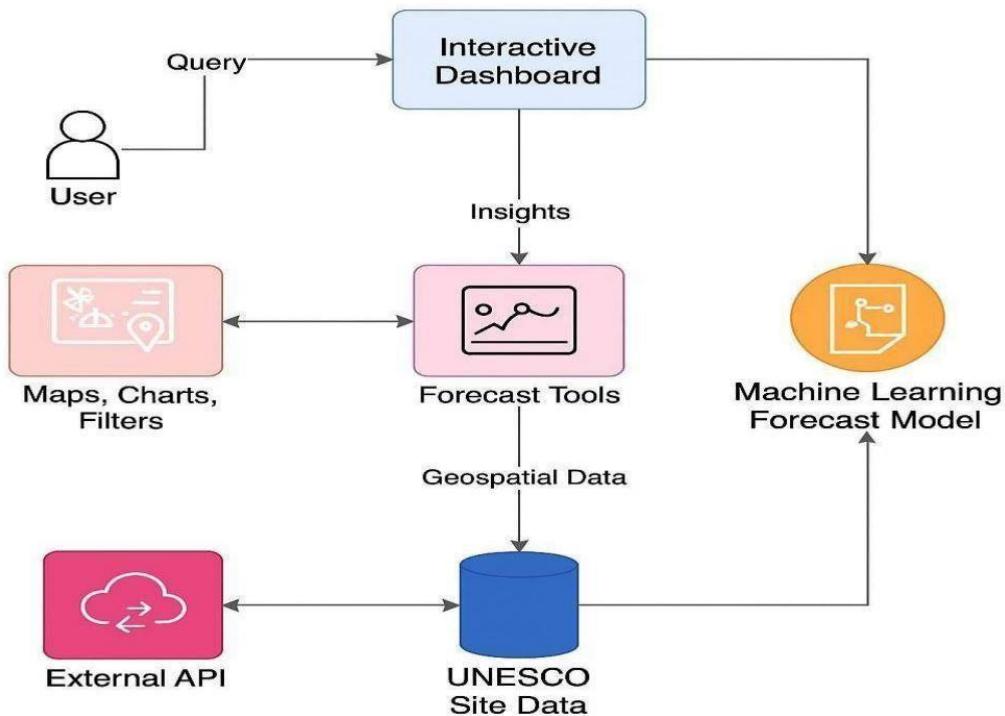
4.2 Proposed Solution

An interactive Tableau dashboard that shows insights such as:

- Number of heritage sites per country
- Growth over time
- Endangered sites
- Cultural vs Natural site comparisons

4.3 Solution Architecture

- Data collected from UNESCO
- Preprocessing to clean and prepare
- Imported into Tableau
- Dashboards created using maps, filters, and charts
- Published on Tableau Public for public access



5. PROJECT PLANNING & SCHEDULING

5.1 Project Planning

Week Task

- 1 Data Collection and Understanding
- 2 Data Cleaning and Preprocessing
- 3 Creating Dashboards in Tableau
- 4 Designing Story Slides
- 5 Final Testing and Review

6 Documentation and Report Writing

6. FUNCTIONAL AND PERFORMANCE TESTING

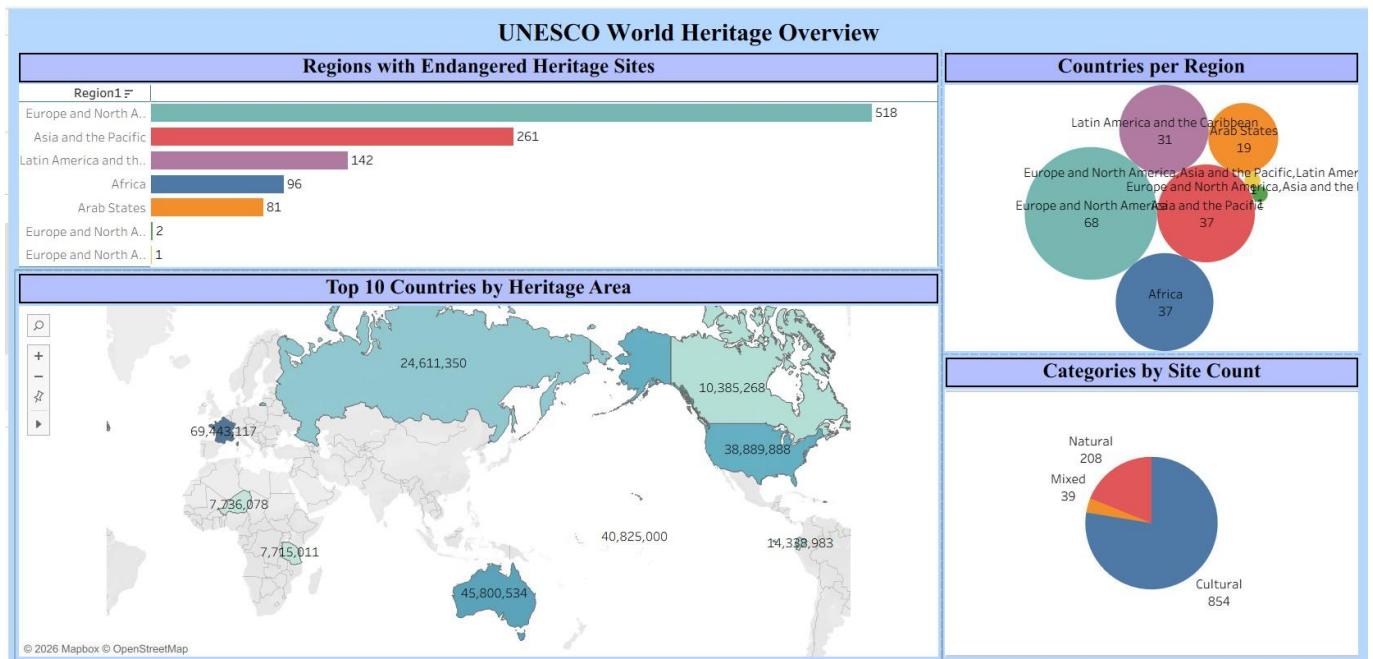
6.1 Performance Testing

We tested the dashboard on different devices and browsers. It loaded quickly and worked well. Filters and visuals responded smoothly, and no lag was noticed.

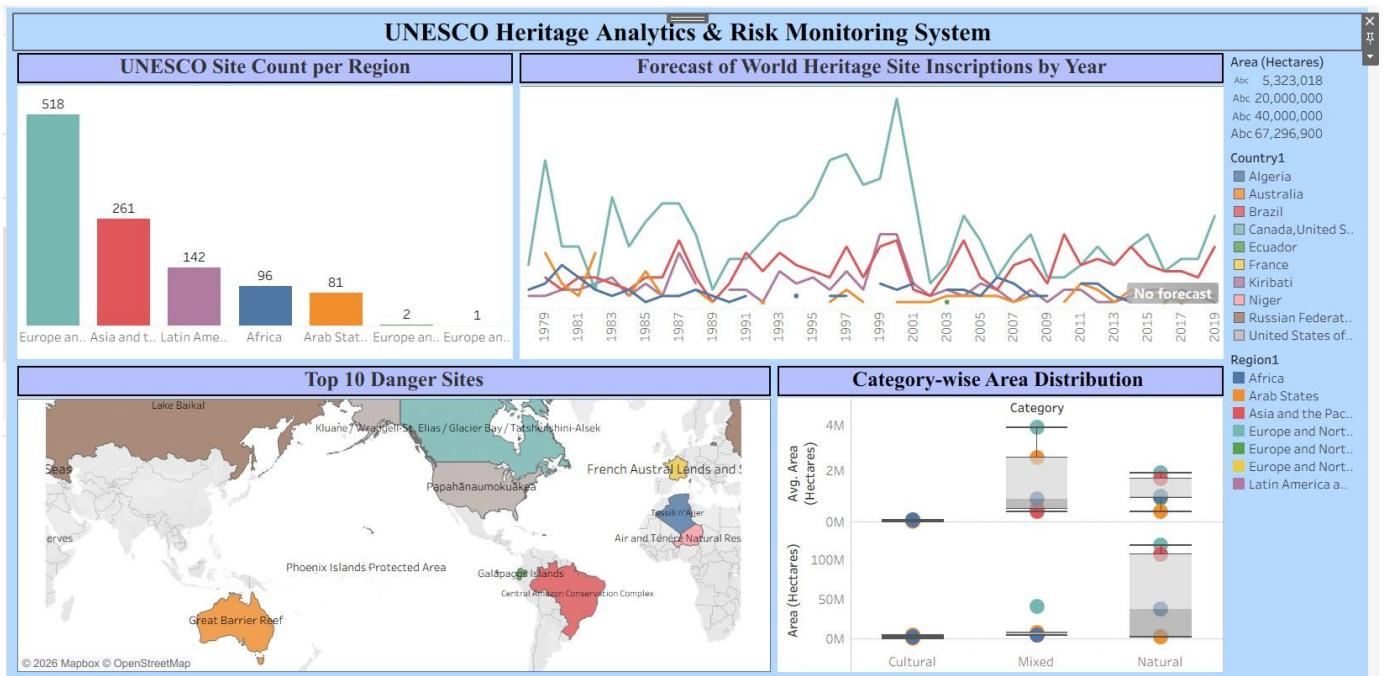
7. RESULTS

7.1 Output Screenshots

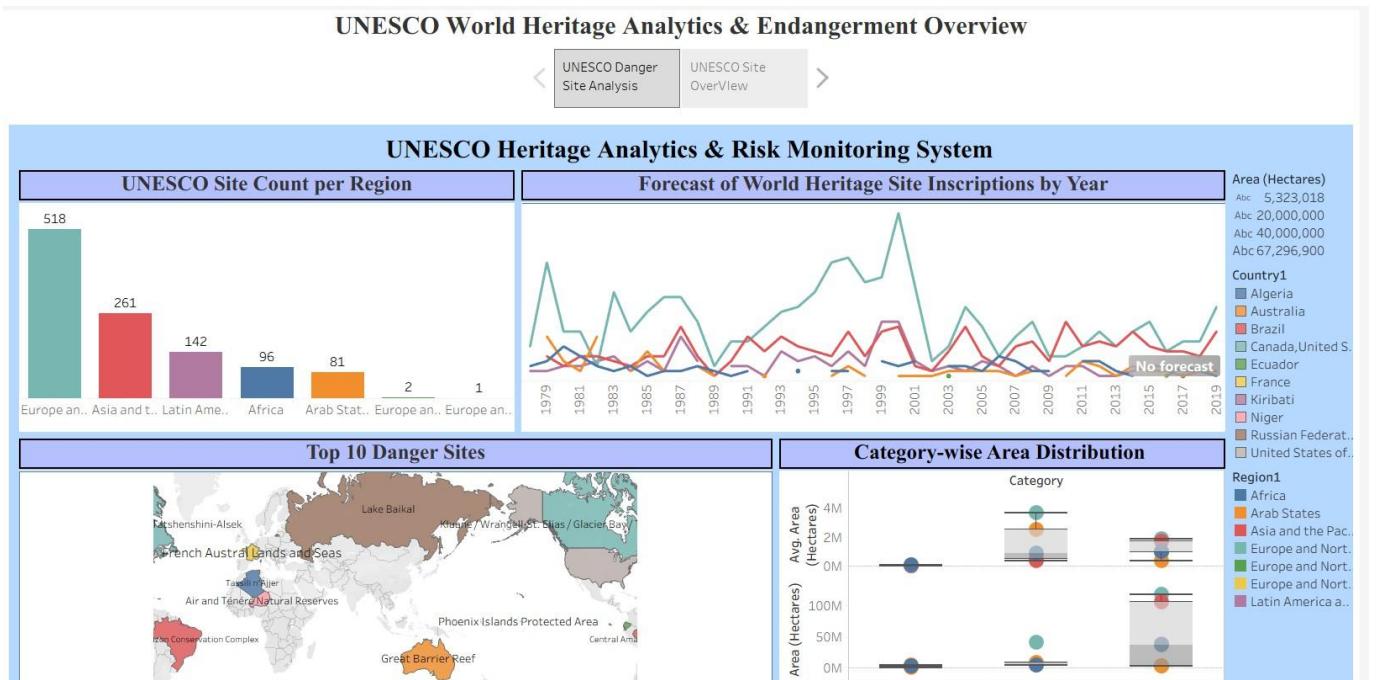
Dashboard-1

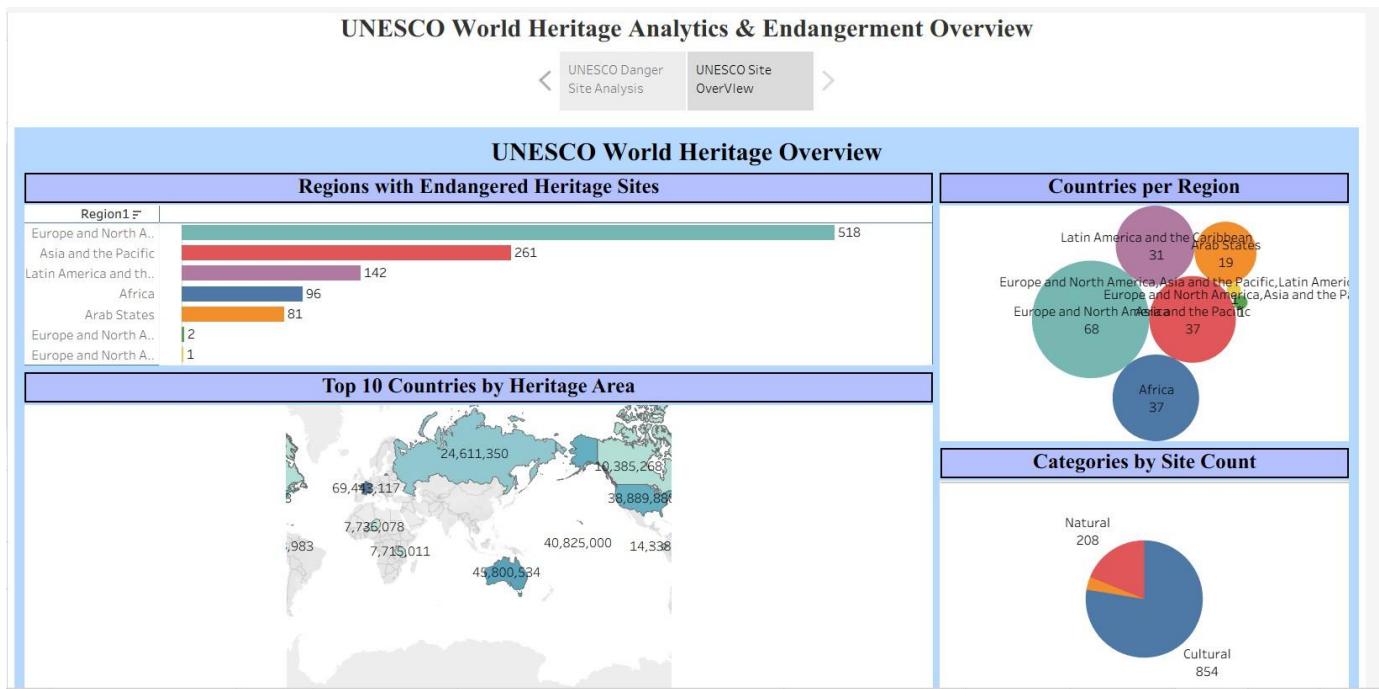


Dashboard-2

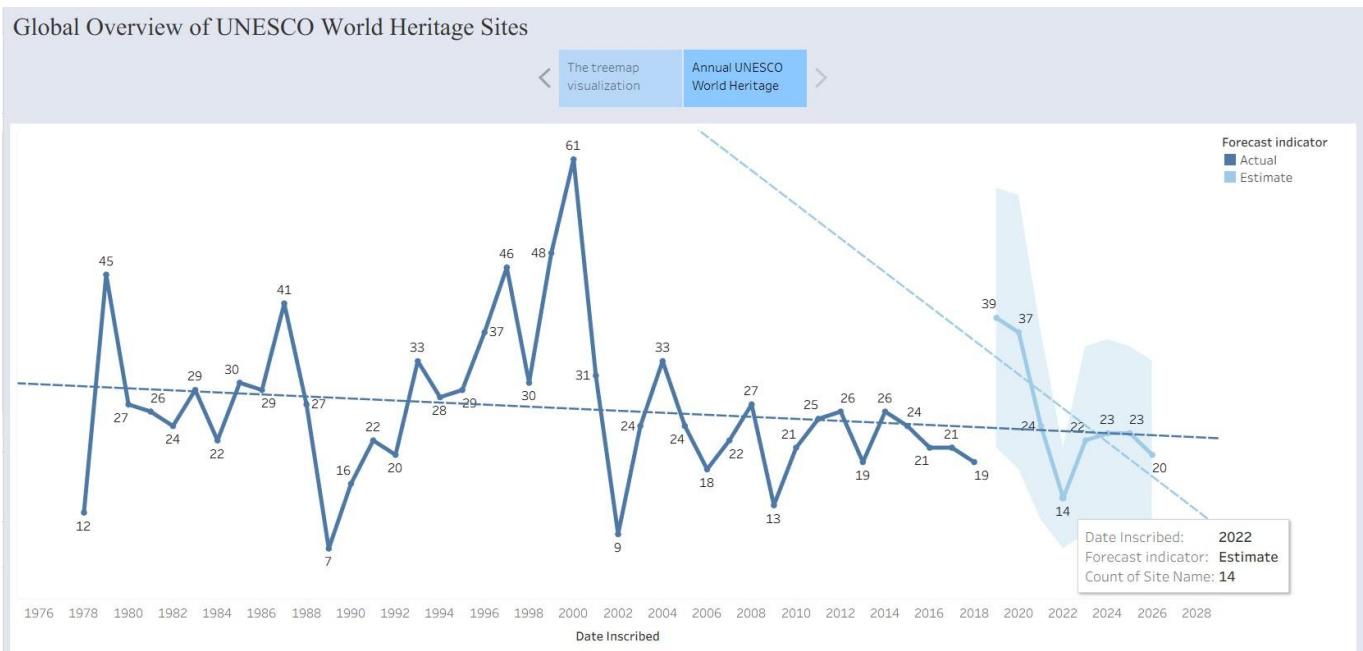


Story-1





Story-2



Global Overview of UNESCO World Heritage Sites

The treemap visualization
Annual UNESCO World Heritage



8. ADVANTAGES & DISADVANTAGES

Advantages

- Easy to understand visual data
- Interactive filters for personalized views
- Helps raise awareness about endangered sites
- Can be accessed publicly and shared

Disadvantages

- Static dataset (not live updating)
- No prediction or AI involved
- Depends on the accuracy of source data

9. CONCLUSION

The project successfully transformed a raw heritage dataset into a rich, interactive visual experience using Tableau. Users can now explore, learn, and appreciate world heritage more easily. This project shows how data science can help in promoting culture and history.

10. FUTURE SCOPE

- Add real-time data updates using APIs
- Include images or videos of sites
- Build a mobile-friendly version
- Enable AI-based recommendations or predictions

Web Integration:

Source Code:

```
<!doctype html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Heritage Explorer | UNESCO Insights</title>

    <link
      href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
      rel="stylesheet"
    />
    <link href="https://unpkg.com/aos@2.3.1/dist-aos.css" rel="stylesheet" />

    <style>
      :root {
        --navy: #0b3c5d;
        --gold: #d4af37;
        --ivory: #f8f4e3;
        --dark: #1c1c1c;
      }

      body {
        background-color: var(--ivory);
        font-family: "Georgia", serif;
        color: var(--dark);
        scroll-behavior: smooth;
      }

      .navbar {
        background-color: var(--navy);
      }
    </style>
  
```

```
}

.navbar-brand,
.nav-link {
  color: var(--gold) !important;
  font-weight: 500;
}

.hero-section {
  background:
    linear-gradient(rgba(11, 60, 93, 0.8), rgba(11, 60, 93, 0.8)),
    url("https://images.unsplash.com/photo-1500530855697-b586d89ba3ee");
  background-size: cover;
  background-position: center;
  color: white;
  padding: 120px 20px;
  text-align: center;
}

.hero-section h1 {
  font-size: 3rem;
  letter-spacing: 2px;
}

.section-title {
  text-align: center;
  font-size: 2rem;
  margin: 60px 0 30px 0;
  color: var(--navy);
}

.dashboard-card {
  background: white;
  border-radius: 15px;
  box-shadow: 0 10px 30px rgba(0, 0, 0, 0.1);
  padding: 20px;
  margin-bottom: 50px;
  border-top: 6px solid var(--gold);
  transition: 0.4s;
}
```

```
.dashboard-card:hover {  
    transform: translateY(-8px);  
}  
  
.tableauViz {  
    width: 100%;  
    height: 800px;  
    border-radius: 15px;  
}  
  
footer {  
    background-color: var(--navy);  
    color: var(--gold);  
    text-align: center;  
    padding: 20px;  
    margin-top: 80px;  
}  
  
.scroll-btn {  
    position: fixed;  
    bottom: 30px;  
    right: 30px;  
    background: var(--gold);  
    border: none;  
    padding: 12px 15px;  
    border-radius: 50%;  
    cursor: pointer;  
    font-size: 18px;  
}  
</style>  
</head>  
  
<body>  
<nav class="navbar navbar-expand-lg sticky-top">  
    <div class="container">  
        <a class="navbar-brand" href="#">Heritage Explorer</a>  
        <button  
            class="navbar-toggler"  
            type="button"  
            data-bs-toggle="collapse"  
            data-bs-target="#navMenu"
```

```
>
  <span class="navbar-toggler-icon"></span>
</button>
<div class="collapse navbar-collapse" id="navMenu">
  <ul class="navbar-nav ms-auto">
    <li class="nav-item">
      <a class="nav-link" href="#overview">Overview</a>
    </li>
    <li class="nav-item">
      <a class="nav-link" href="#analysis">Risk Analysis</a>
    </li>
    <li class="nav-item">
      <a class="nav-link" href="#story1">Story 1</a>
    </li>
    <li class="nav-item">
      <a class="nav-link" href="#story2">Story 2</a>
    </li>
  </ul>
</div>
</div>
</nav>

<section class="hero-section">
  <h1>UNESCO World Heritage Insights</h1>
  <p>Interactive Data Storytelling of Global Cultural Treasures</p>
</section>

<div class="container">
  <h2 class="section-title" id="overview">Global Site Overview</h2>
  <div class="dashboard-card">
    <div class="tableauPlaceholder">
      <object class="tableauViz">
        <param name="host_url" value="https://public.tableau.com/" />
        <param name="embed_code_version" value="3" />
        <param name="path" value="shared/B43H7R8BR" />
        <param name="toolbar" value="yes" />
      </object>
    </div>
  </div>
</div>

<h2 class="section-title" id="analysis">Heritage Risk Monitoring</h2>
```

```
<div class="dashboard-card">
  <div class="tableauPlaceholder">
    <object class="tableauViz">
      <param name="host_url" value="https://public.tableau.com/" />
      <param name="embed_code_version" value="3" />
      <param name="path" value="shared/84ZCYGPTQ" />
      <param name="toolbar" value="yes" />
    </object>
  </div>
</div>

<h2 class="section-title" id="story1">
  Heritage Story - Endangerment Overview
</h2>
<div class="dashboard-card">
  <div class="tableauPlaceholder">
    <object class="tableauViz">
      <param name="host_url" value="https://public.tableau.com/" />
      <param name="embed_code_version" value="3" />
      <param
        name="name"
        value="UNESCO_World_Heritage_Sites_17720315763480/Story1"
      />
      <param name="toolbar" value="yes" />
    </object>
  </div>
</div>

<h2 class="section-title" id="story2">
  Heritage Story - Global Overview
</h2>
<div class="dashboard-card">
  <div class="tableauPlaceholder">
    <object class="tableauViz">
      <param name="host_url" value="https://public.tableau.com/" />
      <param name="embed_code_version" value="3" />
      <param
        name="name"
        value="UNESCO_World_Heritage_Sites_17720315763480/Story2"
      />
      <param name="toolbar" value="yes" />
    </object>
  </div>
</div>
```

```
</object>
</div>
</div>
</div>

<button
  class="scroll-btn"
  onclick="window.scrollTo({ top: 0, behavior: 'smooth' })"
>
  ↑
</button>

<footer>© 2026 Heritage Explorer </footer>

<script src="https://public.tableau.com/javascripts/api/viz_v1.js"></script>
<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"></script>
</body>
</html>
```

LINKS :

Dashboard-1 :

https://public.tableau.com/shared/ZH6523T4N?:display_count=n&:origin=viz_share_link

Dashboard-2 :

https://public.tableau.com/shared/84ZCYGPTQ?:display_count=n&:origin=viz_share_link

Story 1 :

https://public.tableau.com/views/UNESCO_World_Heritage_Sites_17720315763480/Story1?:language=en-US&publish=yes&:sid=&:redirect=auth&:display_count=n&:origin=viz_share_link

Story 2 :

https://public.tableau.com/views/UNESCO_World_Heritage_Sites_17720315763480/Story2?:language=en-US&publish=yes&:sid=&:redirect=auth&:display_count=n&:origin=viz_share_link

Dataset Link :

<https://www.kaggle.com/datasets/ujwalkandi/unesco-world-heritage-sites/data?select=whc-sites2019.csv>

Web Integration Link :

<https://unesco-heritage-app.onrender.com/>

https://github.com/bhavyasri9/UNESCO_Flask_App.git

Github Repository Link :

<https://github.com/bhavyasri9/UNESCO-World-Heritage-Sites.git>