

Project Report

Visualizattion Tool ftor Electric Vehicle Charge and Range Analysis

Team ID : LTVIP2026TMIDS35236

Team Size : 6

Team Leader : Shaik Maniyar Abdul Jabbar

Team member : Shaik Mohammed Ashrafl Hussain

1. INTRODUCTION

1.1 Project Overview

The project analyzes global UNESCO World Heritage Sites using interactive charts and maps. The project presents insights about site distribution by region, country, category (Cultural, Natural, Mixed), year of inscription, area (hectares), and danger status.

The dashboard is developed using Tableau for visualization and integrated into a Flask-based web application, providing an interactive and user-friendly platform for exploring UNESCO heritage data.

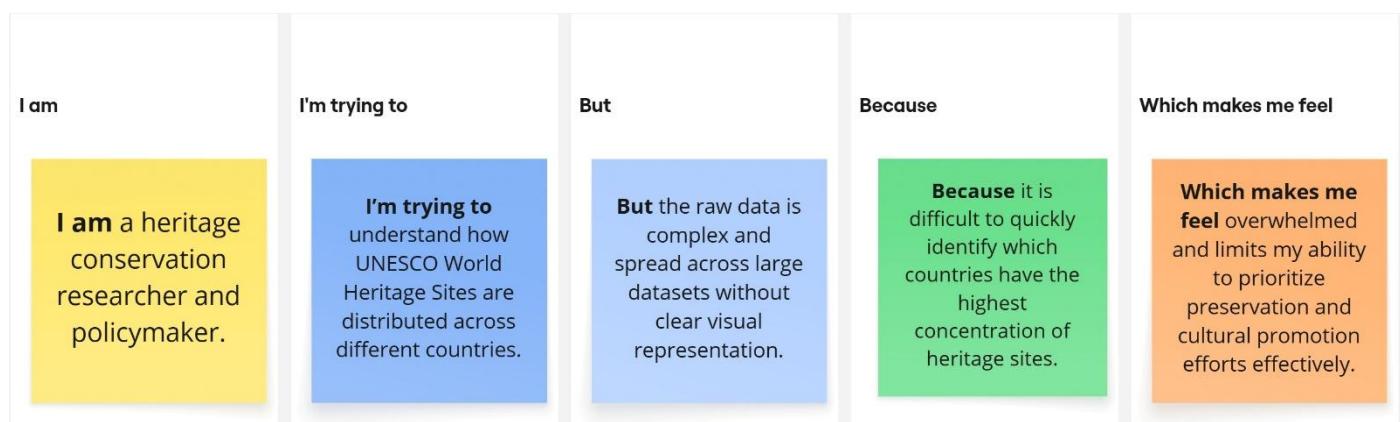
1.2 Purpose

The purpose of this project is to:

- Visualizattion Tool flor Electric Vehicle Charge and Range
- Identify regional and country-wise distribution patterns.
- Understand trends in site inscriptions over the years.
- Examine the status of sites (In Danger vs Not in Danger).
- Provide an interactive tool for academic and analytical use.

2. IDEATION PHASE

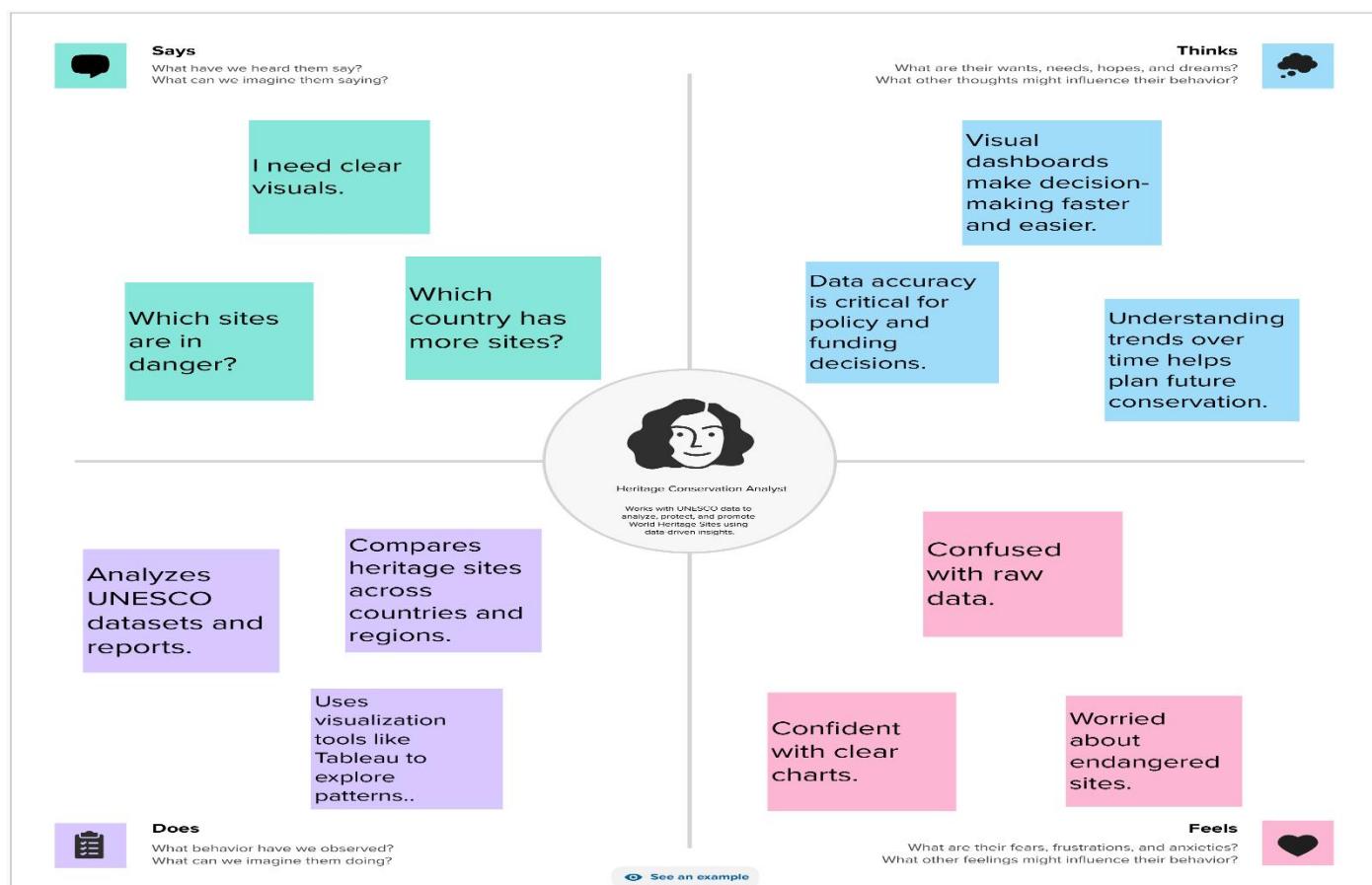
2.1 Problem Statement



Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1	I am a heritage conservation researcher and policymaker.	I'm trying to understand how UNESCO World Heritage Sites are distributed across different countries.	But the raw data is complex and spread across large datasets without clear visual representation.	Because it is difficult to quickly identify which countries have the highest concentration of heritage sites.	Which makes me feel overwhelmed and limits my ability to prioritize preservation and cultural promotion efforts effectively.
PS-2	I am a UNESCO stakeholder and heritage management authority.	I'm trying to identify World Heritage Sites that are at risk and analyse regional trends in site inscriptions over time.	But the information is not presented in an intuitive or comparative visual format.	Because assessing endangered sites and long-term regional conservation trends requires manual analysis of raw data.	Which makes me feel uncertain about where to focus immediate conservation actions and future heritage planning strategies.

2.2 Empathy Map Canvas

Empathy Map for the project title: Heritage Treasures: An In-Depth Analysis of UNESCO World Heritage Sites in Tableau



2.3 Brainstorming

Template



Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can work together from anywhere and start shaping concepts even if you're not sitting in the same room.

⌚ 10 minutes to prepare
⌚ 1 hour to collaborate
👤 3-8 people recommended

Before you collaborate
A little bit of preparation goes a long way with this template. Here's what you need:
⌚ 10 minutes

1 Team gathering
Define who should participate in the session and send an invite to each participant in your workspace.

2 Set the goal
Think about the problem you'll be focusing on solving in the brainstorming session.

3 Create focus for the ideation tools
Use the Super powers to turn a happy and productive session.

[Open article](#)

1 Define your problem statement
What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.
⌚ 5 minutes

2 Brainstorming
Analyze & prioritize your ideas. Ideas are automatically sorted by popularity. You can also use Super powers to turn a happy and productive session.

Key rules of brainstorming
To have an fruitful and productive session:

- Stay in focus.
- Encourage wild ideas.
- Avoid judgment.
- Listen to others.
- Go for volume.
- If possible, be visual.

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 icon to start drawing'.

Murali

Country-wise heritage site count

Sites at risk

Region-wise comparison of sites

Category-wise distribution

Year-wise inscription trends

Map-based analysis of heritage areas

Sreeja

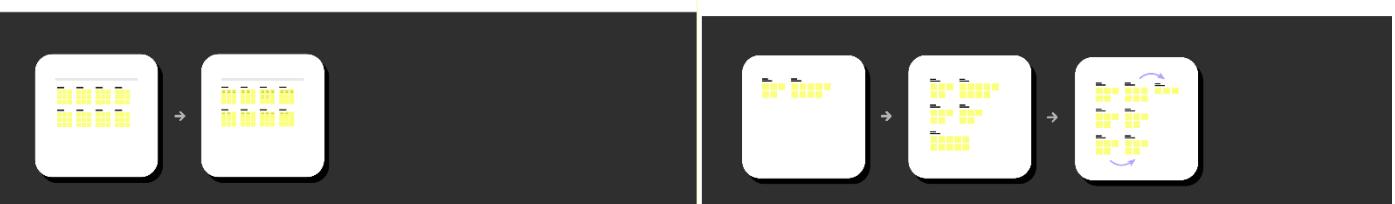
3 Group ideas
Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and break it up into smaller sub-groups.
⌚ 20 minutes

TIP
Add a sensible tag to every note to make it easier to find, browse, organize and compare them later as themes within your mural.

How to Analyze UNESCO World Heritage Sites ?

```

graph TD
    DA["Distribution Analysis  
• Country-wise heritage site count  
• Region-wise comparison of sites"] --> HAWHS
    TA["Temporal Analysis  
• Year-wise inscription trends"] --> HAWHS
    CBA["Category-Based Analysis  
• Category-wise distribution"] --> HAWHS
    RCS["Risk & Conservation Status  
• Sites at risk"] --> HAWHS
    GAA["Geographical & Area Analysis  
• Map-based analysis of heritage areas"] --> HAWHS
    
```

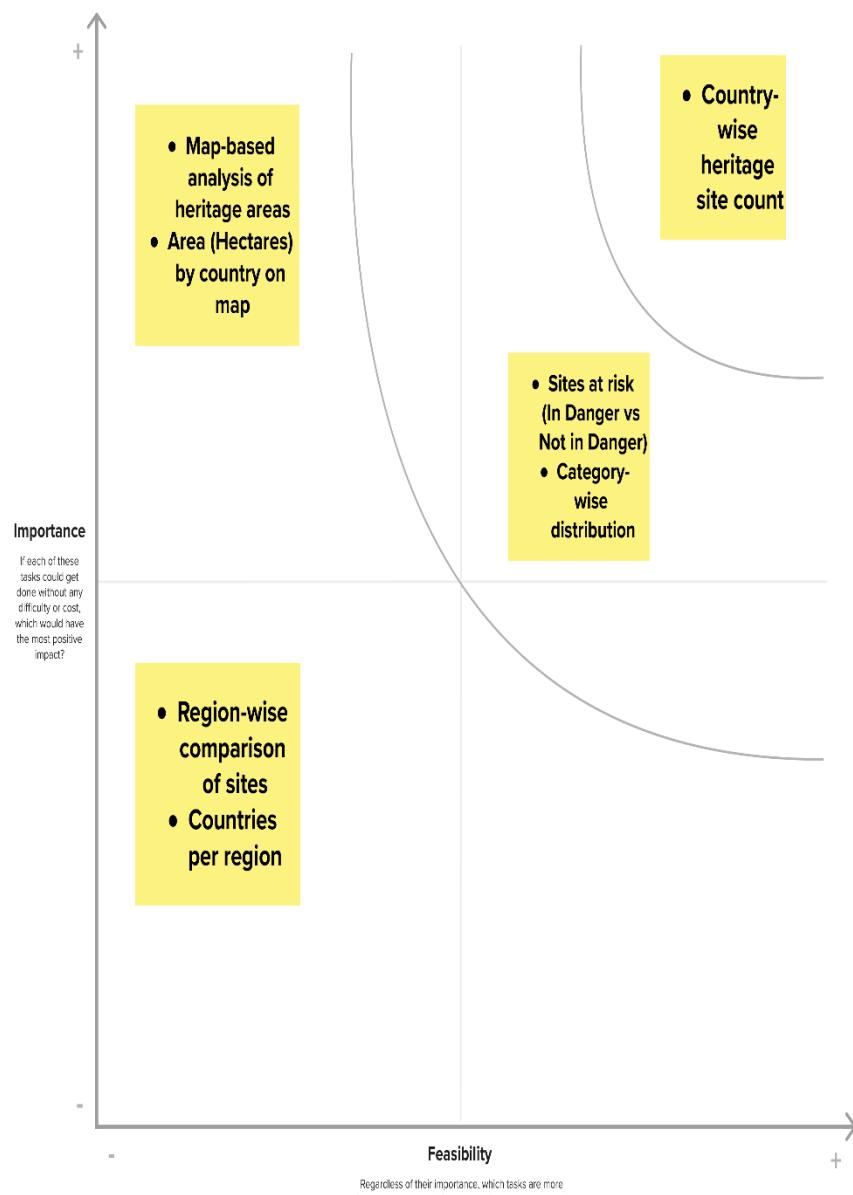
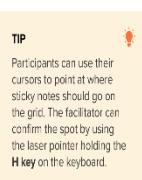


4

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



After you collaborate

You can export the mural as an image or pdf to share with members of your company who might find it helpful.

Quick add-ons

A Share the mural
Share a view link to the mural with stakeholders to keep them in the loop about the outcomes of the session.

B Export the mural
Export a copy of the mural as a PNG or PDF to attach to emails, include in slides, or save in your drive.

Keep moving forward

Strategy blueprint
Define the components of a new idea or strategy.
[Open the template →](#)

Customer experience journey map
Understand customer needs, motivations, and obstacles for an experience.
[Open the template →](#)

Strengths, weaknesses, opportunities & threats
Identify strengths, weaknesses, opportunities, and threats (SWOT) to develop a plan.
[Open the template →](#)



3. REQUIREMENT ANALYSIS

3.1 Customer Journey map

Scenario: UNESCO World Heritage Professional Uses the dashboard to monitor heritage sites, assess risk status, and support conservation decisions.	Entice 	Enter 	Engage 	Exit 	Extend 
Experience steps What does the person (or people) at the center of this scenario typically experience in each step?	Hears about the dashboard through reports or colleagues	Opens dashboard and explores filters	Analyzes country, region, category, and danger status	Uses insights to prepare reports or decisions	Revisits dashboard for updates
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?	Colleagues, UNESCO portal, emails	Dashboard UI, filters, maps	Charts, maps, hover tooltips	Exports, screenshots, meetings	Updated data, shared dashboards
Goals & motivations At each step, what is a person's primary goal or motivation? ("Help me..." or "Help me avoid...")	Find reliable heritage data quickly	Understand site distribution and risks	Identify high-risk sites and priority regions	Support conservation planning	Track progress over time
Positive moments What steps does a typical person find enjoyable, productive, fun, motivating, delightful, or exciting?	Centralized global data	Clean visuals, easy navigation	Clear comparisons, interactive insights	Confident, data-backed decisions	Consistent monitoring
Negative moments What steps does a typical person find frustrating, confusing, angering, costly, or time-consuming?	Unsure about data accuracy	Too many filters initially	Overlapping map points	Limited annotations	Manual refresh needed
Areas of opportunity How might we make each step better? What ideas do we have? What have others suggested?	Clear intro and data source explanation	Guided walkthrough or tooltips	Highlight critical sites and trends	Add summary insights and notes	Automated updates and alerts

 Product School. © 2023 Product School Ltd. All rights reserved.

 See an example

3.2 Solution Requirement

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Data Visualization	Display UNESCO World Heritage Sites data using charts and maps
FR-2	Country Analysis	Show number of heritage sites by country
FR-3	Regional Analysis	Display site distribution across regions
FR-4	Category Analysis	Visualize Cultural, Natural, and Mixed site categories
FR-5	Trend Analysis	Show year-wise inscription trends using line charts
FR-6	Risk Analysis	Display sites at risk (In Danger vs Not in Danger)
FR-7	Interactive Filters	Filter data by Year, Region, Country, and Category
FR-8	Map Visualization	Show geographical distribution of sites on maps

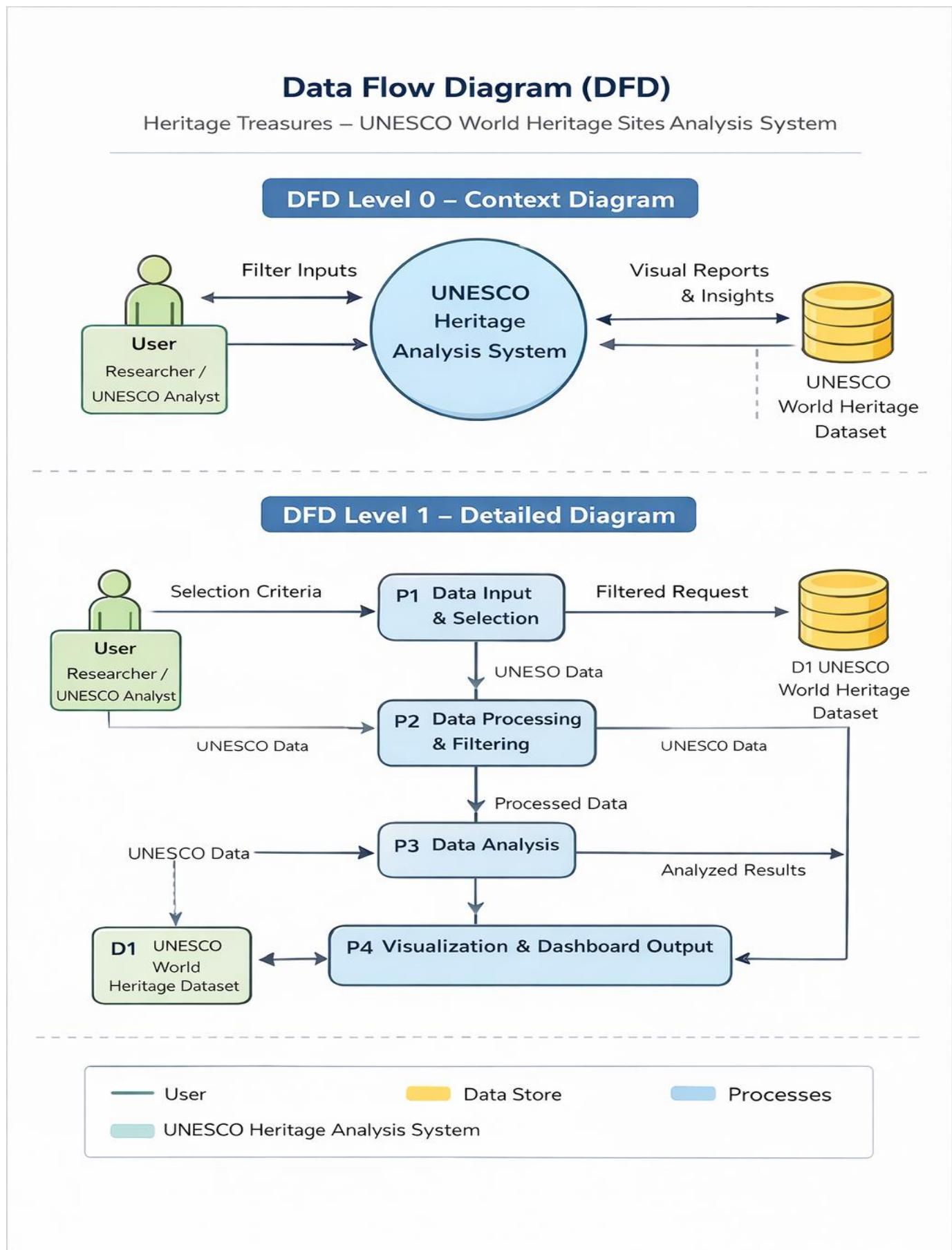
Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	The dashboard should be simple, intuitive, and easy to navigate for all users.
NFR-2	Security	The dashboard should ensure data integrity and prevent unauthorized modification of data.
NFR-3	Reliability	The dashboard should consistently display accurate and correct information without errors.
NFR-4	Performance	The dashboard should load quickly and respond smoothly to filters and interactions.
NFR-5	Availability	The dashboard should be accessible whenever required without downtime.
NFR-6	Scalability	The dashboard should handle increasing data size without performance degradation.

3.3 Data Flow Diagram

Data Flow Diagrams:



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
UNESCO Professional	Login	USN-1	As a UNESCO professional, I can log in to access the dashboard.	User can log in successfully	High	Sprint-1
UNESCO Professional	Dashboard Overview	USN-2	As a user, I can view total heritage sites by country and region.	Country & region counts are visible	High	Sprint-1
UNESCO Professional	Risk Monitoring	USN-3	As a user, I can see sites marked In Danger and Not in Danger.	Risk status charts display correctly	High	Sprint-1
UNESCO Professional	Category Analysis	USN-4	As a user, I can analyse sites by category (Cultural, Natural, Mixed).	Category-wise charts load	Medium	Sprint-1
UNESCO Professional	Trend Analysis	USN-5	As a user, I can view year-wise inscription trends.	Line chart shows yearly trends	Medium	Sprint-1
UNESCO Professional	Geographic Visualization	USN-6	As a user, I can view heritage sites on an interactive world map.	Map shows accurate locations	High	Sprint-2
UNESCO Professional	Area Comparison	USN-7	As a user, I can compare heritage site areas (hectares) by country.	Filled map displays area size	Low	Sprint-2
UNESCO Professional	Advanced Filters	USN-8	As a user, I can filter data by year, category, region, and country.	Filters update visuals dynamically	Medium	Sprint-2
UNESCO Professional	Insight Exploration	USN-9	As a user, I can explore less prominent countries with fewer sites.	Data is visible for all countries	Low	Sprint-3

3.4 Technology Stack

Technical Architecture:

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

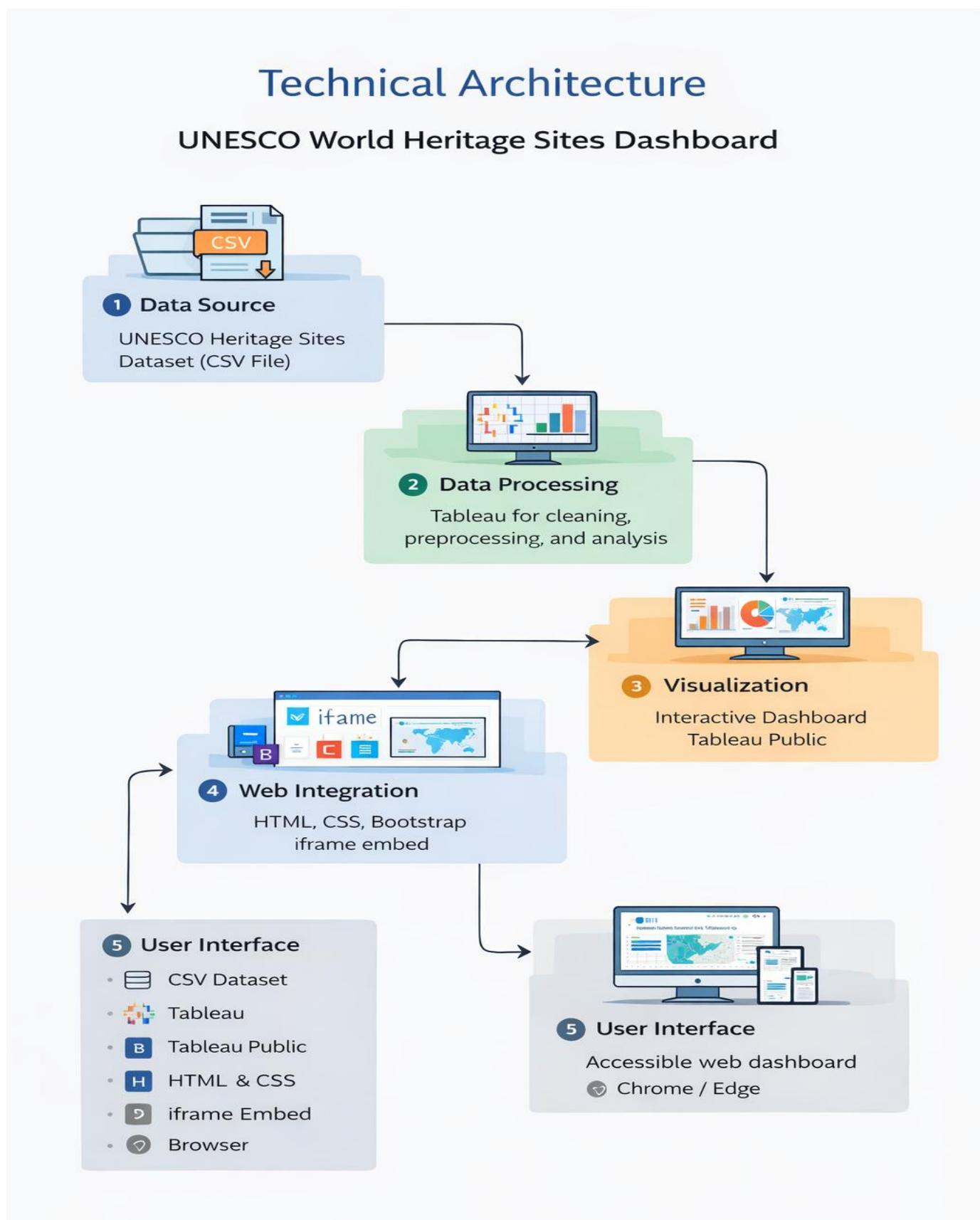


Table-1 : Components & Technologies:

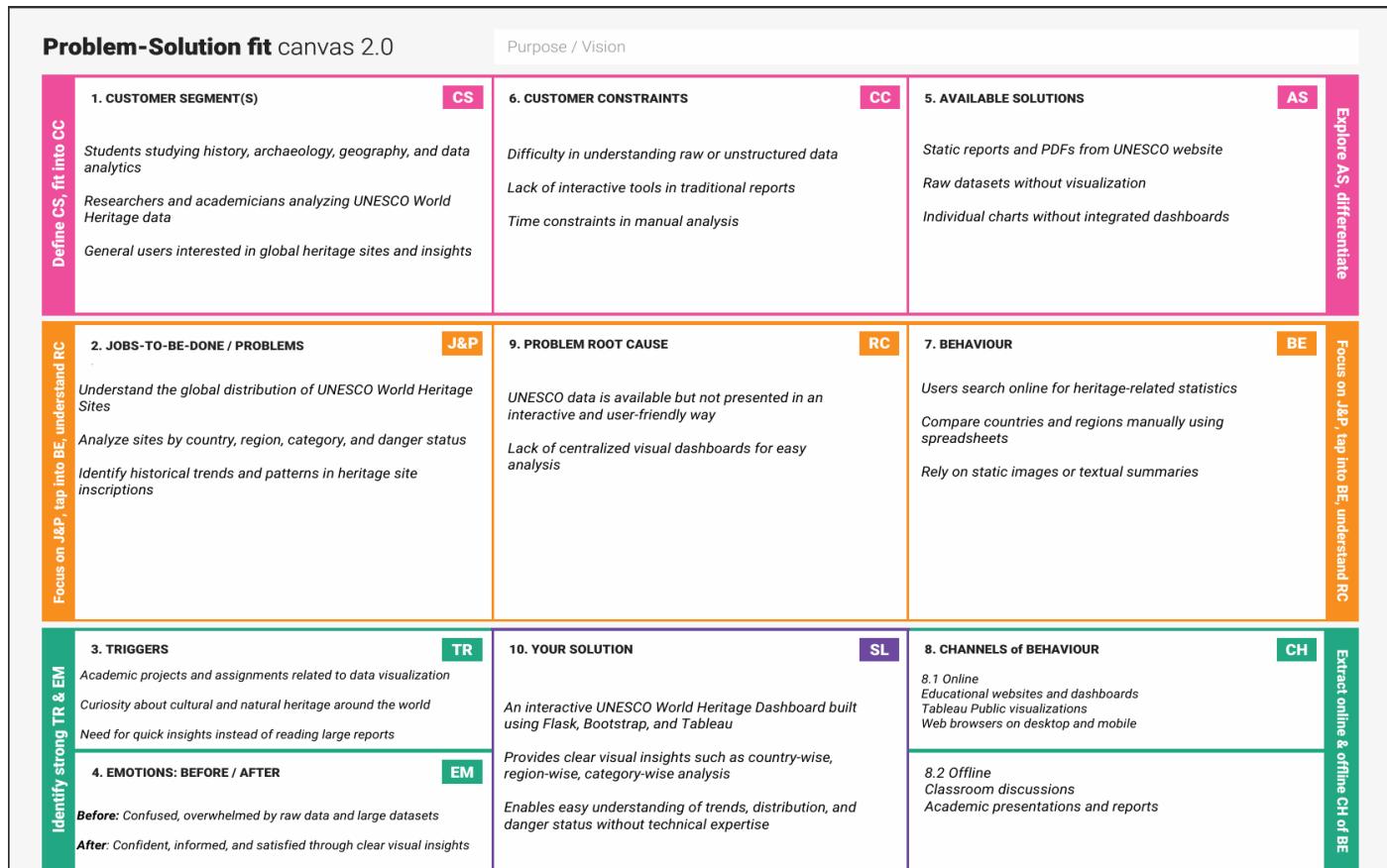
S.No	Component	Description	Technology
1.	User Interface	Web interface through which users view dashboards, stories, maps, and insights	HTML, CSS, JavaScript, Bootstrap
2.	Frontend Logic	Handles page navigation, UI interactions, responsiveness, and animations	JavaScript, Bootstrap JS
3.	Web Framework	Connects frontend with backend and manages routing and page rendering	Flask (Python)
4.	Application Logic	Controls application flow and serves embedded dashboards and static content	Python (Flask)
5.	Data Visualization Engine	Creates interactive charts, maps, dashboards, and stories	Tableau Public
6.	Data Processing Layer	Performs data cleaning, aggregation, filtering, and calculations	Tableau Calculated Fields
7.	Dataset	Stores UNESCO World Heritage data such as country, region, category, year, and danger status	CSV / Excel Dataset
8.	Embedding Layer	Embeds Tableau dashboards and stories into web pages	Tableau Embed
9.	Static Resource Management	Stores CSS, JS, images, icons, and template assets	Flask Static Folder
10.	Infrastructure (Server / Cloud)	Hosts and runs the Flask web application	Local System / Cloud Hosting

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Uses open-source frameworks and libraries for building the web interface and backend server	Flask (Python), Bootstrap, JavaScript
2.	Security Implementations	No user authentication is required. The application follows basic web security practices such as secure embedding and safe routing	HTTPS, Secure Embedding
3.	Scalable Architecture	Follows a layered architecture where frontend, backend, and visualization layers are loosely coupled, allowing easy scalability	Flask Backend, Tableau Public
4.	Availability	Application is accessible anytime as dashboards are hosted on Tableau Public and served through a Flask web server	Tableau Public Hosting, Flask Server
5.	Performance	Optimized by using pre-aggregated data in Tableau dashboards and lightweight frontend rendering	Tableau Optimized Views, Bootstrap

4. PROJECT DESIGN

4.1 Problem Solution Fit



4.2 Proposed Solution

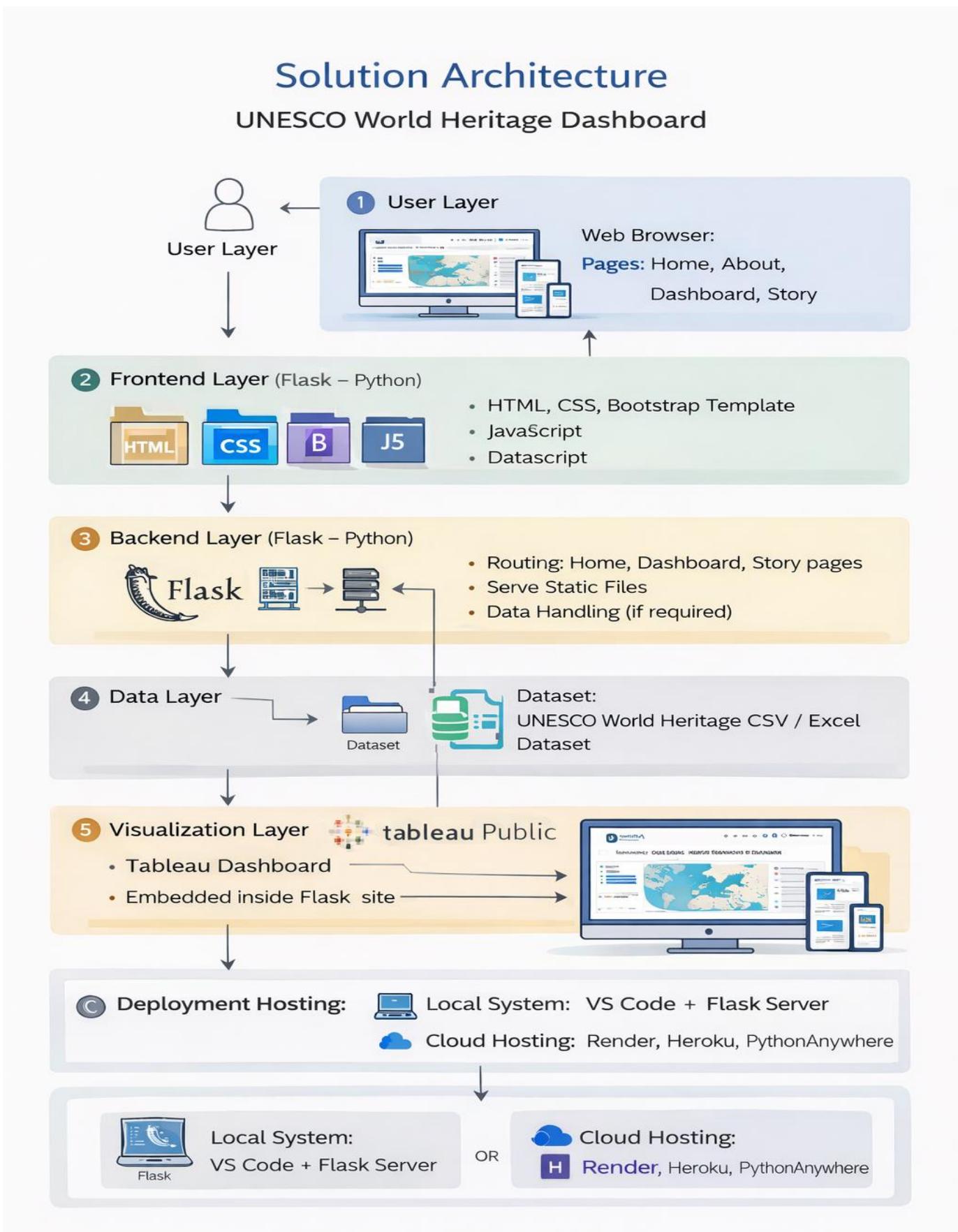
Proposed Solution Template:

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

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	<ul style="list-style-type: none">UNESCO World Heritage data is available in raw and report formats, making it difficult for students and researchers to quickly analyse trends, regional distribution, categories, and danger status of heritage sites.
2.	Idea / Solution description	<ul style="list-style-type: none">Develop an interactive web-based dashboard using Flask, Bootstrap, and Tableau to visualize UNESCO World Heritage Sites data. The dashboard provides country-wise, region-wise, category-wise, year-wise, and danger status analysis in a simple and interactive format.
3.	Novelty / Uniqueness	<ul style="list-style-type: none">Combines data visualization + storytelling in one platform.Converts complex heritage datasets into easy-to-understand visuals.User-friendly academic dashboard without login requirement.
4.	Social Impact / Customer Satisfaction	<ul style="list-style-type: none">Helps students and researchers understand global cultural and natural heritage.Encourages awareness about endangered heritage sites.Supports academic learning and research projects.
5.	Business Model (Revenue Model)	<ul style="list-style-type: none">Academic and educational use (non-commercial).Can be extended as a premium research analytics tool.Potential integration with tourism analytics platforms.
6.	Scalability of the Solution	<ul style="list-style-type: none">Can be extended to include real-time UNESCO updates.Can integrate more datasets (tourism data, environmental data).Deployable on cloud platforms for large-scale usage.

4.3 Solution Architecture

Solution Architecture Diagram:



5. PROJECT PLANNING & SCHEDULING

5.1 Project Planning

Product Backlog, Sprint Schedule, and Estimation:

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	Dataset Preparation	USN-1	As a user, I want cleaned UNESCO dataset so that I can analyse accurate information.	5	High	Team Leader
Sprint-1	Backend Setup (Flask)	USN-2	As a developer, I want to integrate Flask backend to serve dashboard pages.	5	High	Team Leader
Sprint-1	Dashboard Design	USN-3	As a user, I want an interactive dashboard showing country-wise site counts.	10	High	Team Leader
Sprint-2	Regional Analysis	USN-4	As a user, I want region-wise comparison of heritage sites.	8	High	Team Leader
Sprint-2	Category Analysis	USN-5	As a user, I want category-wise distribution (Cultural, Natural, Mixed).	4	Medium	Team Leader
Sprint-2	Danger Status Analysis	USN-6	As a user, I want to see sites in danger vs not in danger.	8	High	Team Leader
Sprint-3	Map Visualization	USN-7	As a user, I want a world map showing heritage site distribution.	6	High	Team Leader
Sprint-3	Year-wise Trend Analysis	USN-8	As a user, I want inscription trends over years.	4	Medium	Team Leader
Sprint-3	Web Integration	USN-9	As a user, I want the dashboard embedded in a responsive website.	10	High	Team Leader

Project Tracker, Velocity & Burndown Chart:

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	20	5 Days	03 Feb 2026	07 Feb 2026	20	07 Feb 2026
Sprint-2	20	5 Days	08 Feb 2026	12 Feb 2026	20	12 Feb 2026
Sprint-3	20	5 Days	13 Feb 2026	17 Feb 2026	20	17 Feb 2026

Velocity:

Velocity per Sprint: = 20 Story Points

Average Velocity: $(20 + 20 + 20) \div 3 = 20$

Velocity per Day: Team Velocity = 20 points per sprint

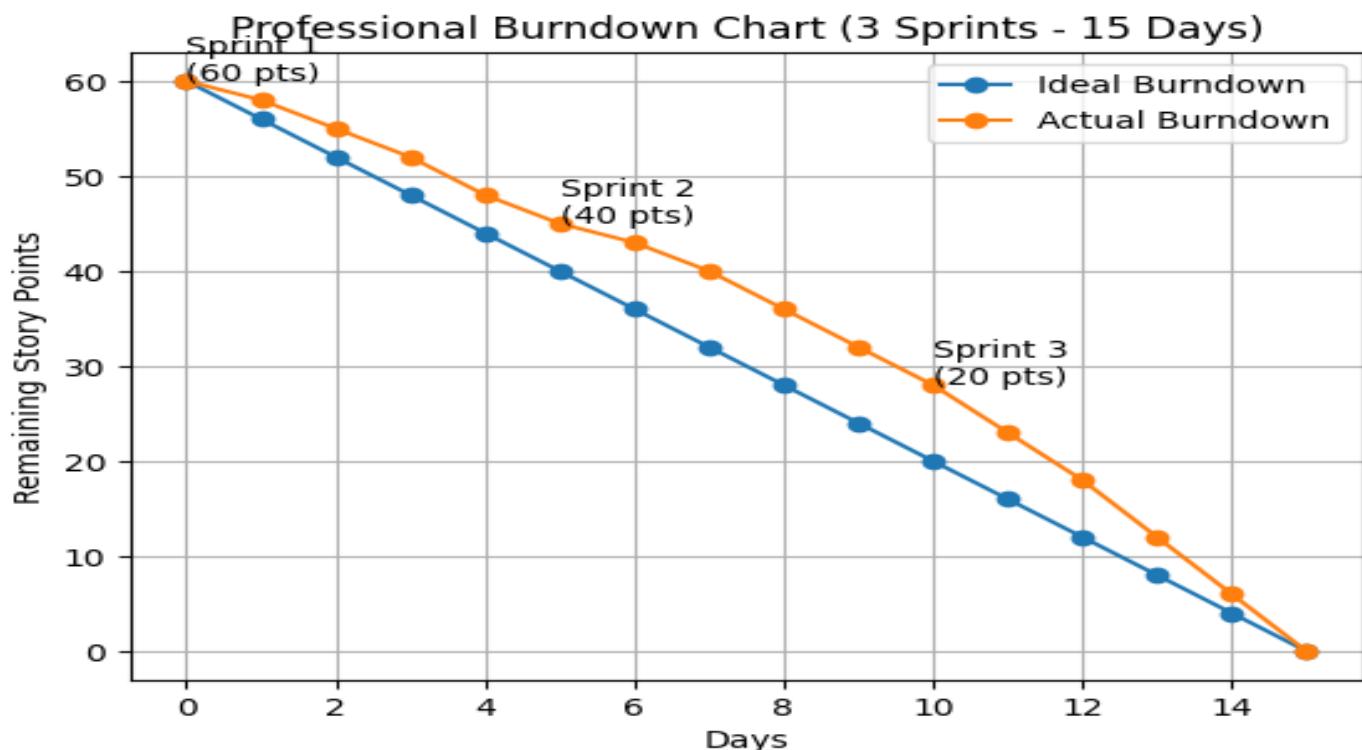
Each sprint = 5 days

$20 \div 5 = 4$

Average Velocity = 4 story points per day

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.



6. FUNCTIONAL AND PERFORMANCE TESTING

6.1 Performance Testing

Model Performance Testing:

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

S.No.	Parameter	Screenshot / Values
1.	Data Rendered	<p>whc-sites(tangibles)-2021 ... 15 fields 1155 rows</p> <p>Data visualized using 6 interactive charts and 2 maps in the dashboard.</p>

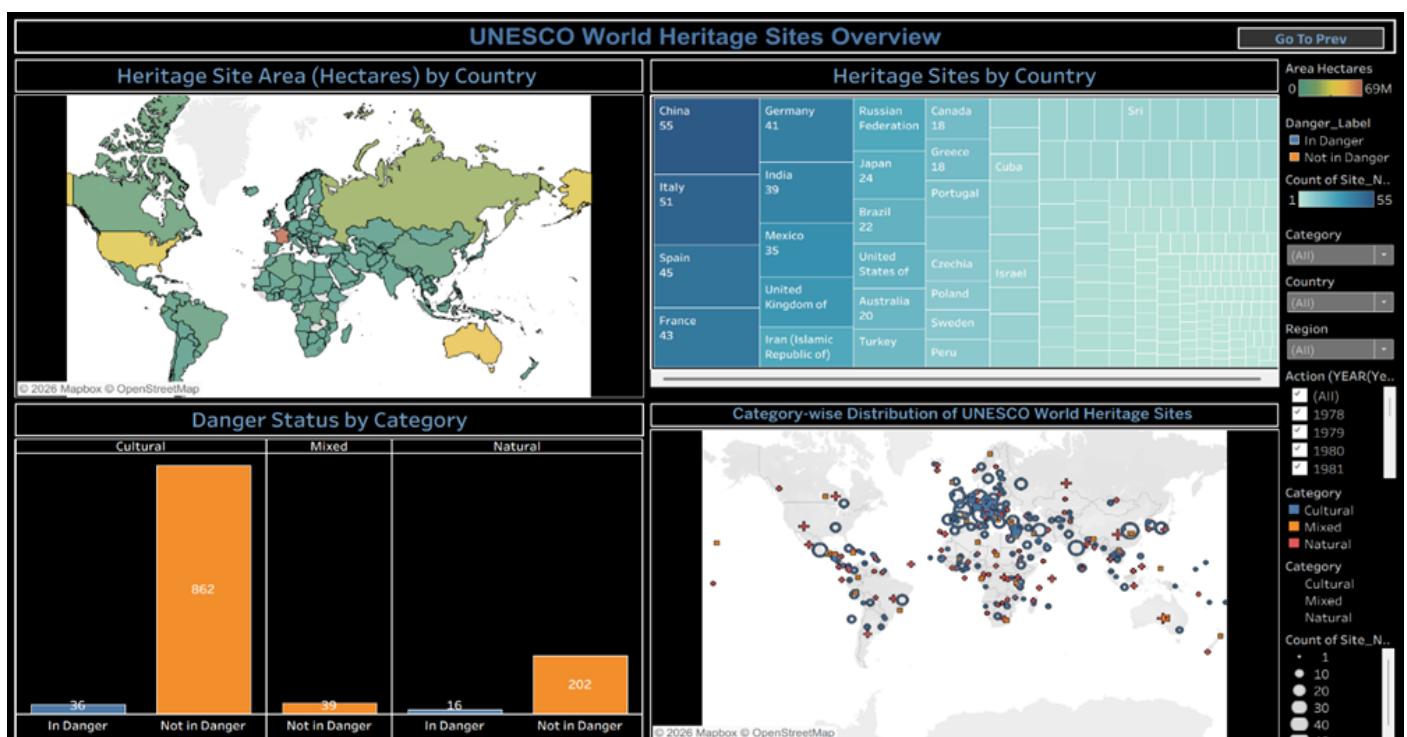
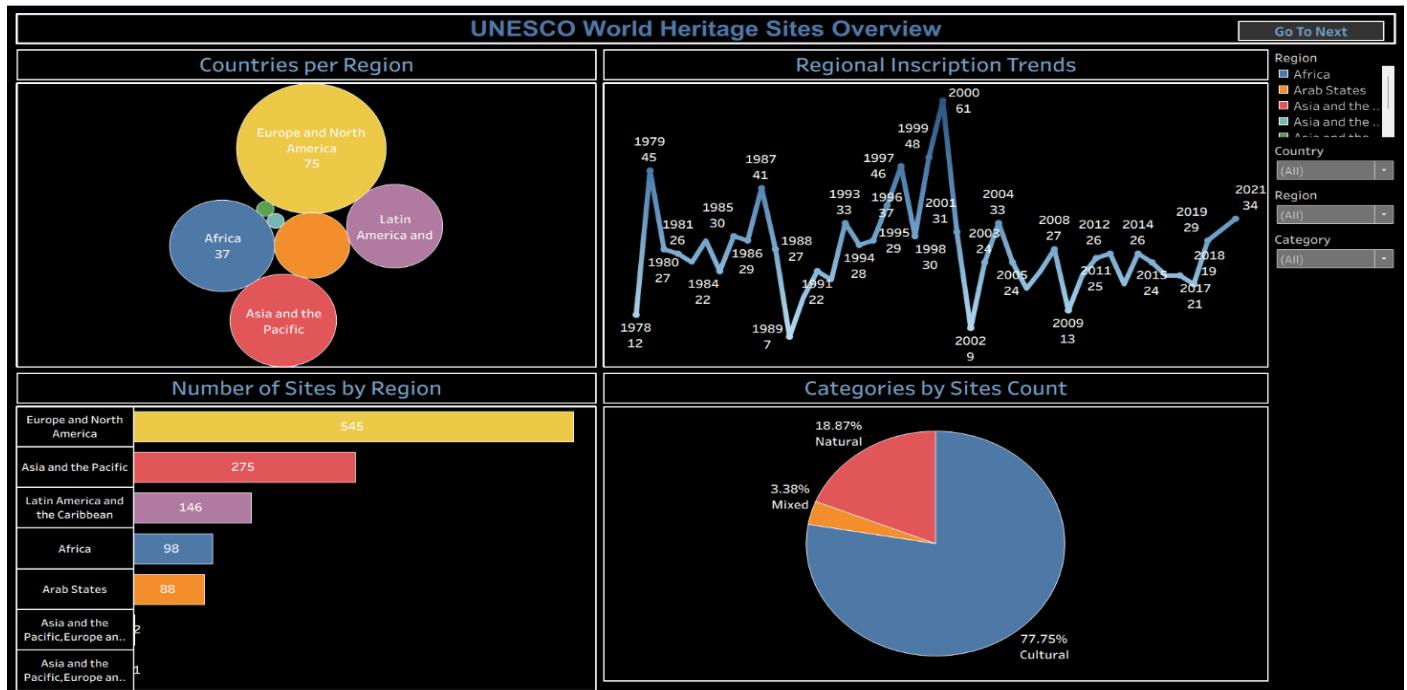
2.	Data Preprocessing	<ul style="list-style-type: none"> Renamed dataset to “UNESCO World Heritage Sites” Renamed columns for clarity: <ul style="list-style-type: none"> name → Site_Name country name → Country date_inscribed → Year_Inscribed danger → Danger_Status category_long → Category Cleaned column headers using Data Interpreter Fixed data types: <ul style="list-style-type: none"> Site_Name → String (Text) Country → String (Text) Region → String (Text) Category → String (Text) Year_Inscribed → Integer (Number) Danger_Status → Number(Whole) Area_Hectares → Number (Decimal)
3.	Utilization of Filters	<p>Created Filters:</p> <ul style="list-style-type: none"> Region Filter Country Filter Category Filter Year (Action Filter) Interactive navigation (Go to Next / Previous dashboard)
4.	Calculation fields Used	<p>Created Filters:</p> <ul style="list-style-type: none"> Danger_Label Site_Status Transboundary_Label Data_End_Status
5.	Dashboard design	<p>No of Visualizations / Graphs – 8</p> <p>Dashboard_Page1:</p> <ul style="list-style-type: none"> Countries per Region (Bubble Chart) Regional Inscription Trends (Line Chart) Number of Sites by Region (Horizontal Bar Chart) Categories by Sites Count (Pie Chart) <p>Dashboard_Page2:</p> <ul style="list-style-type: none"> Heritage Site Area(Hectares) by Country (Map) Heritage Sites by Country (Tree map) Danger Status by Category (Side-By-Side Bar Chart) Category-Wise Distribution of UNESCO World Heritage Sites (Symbol Map)
6	Story Design	<p>No of Visualizations / Graphs -8</p> <p>Stories Created:</p> <ul style="list-style-type: none"> Countries per Region (Bubble Chart) Regional Inscription Trends (Line Chart) Number of Sites by Region (Horizontal Bar Chart) Categories by Sites Count (Pie Chart) Heritage Site Area(Hectares) by Country (Map) Heritage Sites by Country (Tree map)

- Danger Status by Category (Side-By-Side Bar Chart)
- Category-Wise Distribution of UNESCO World Heritage Sites (Symbol Map)

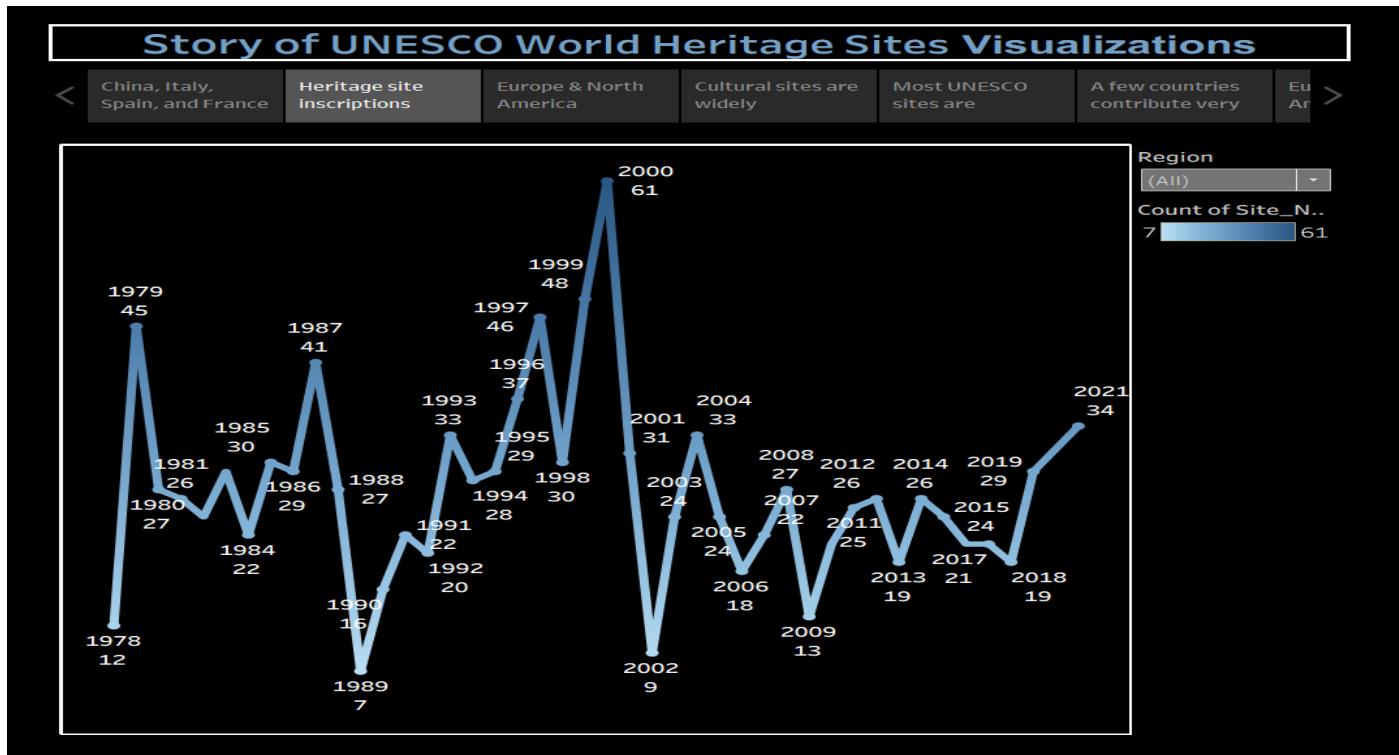
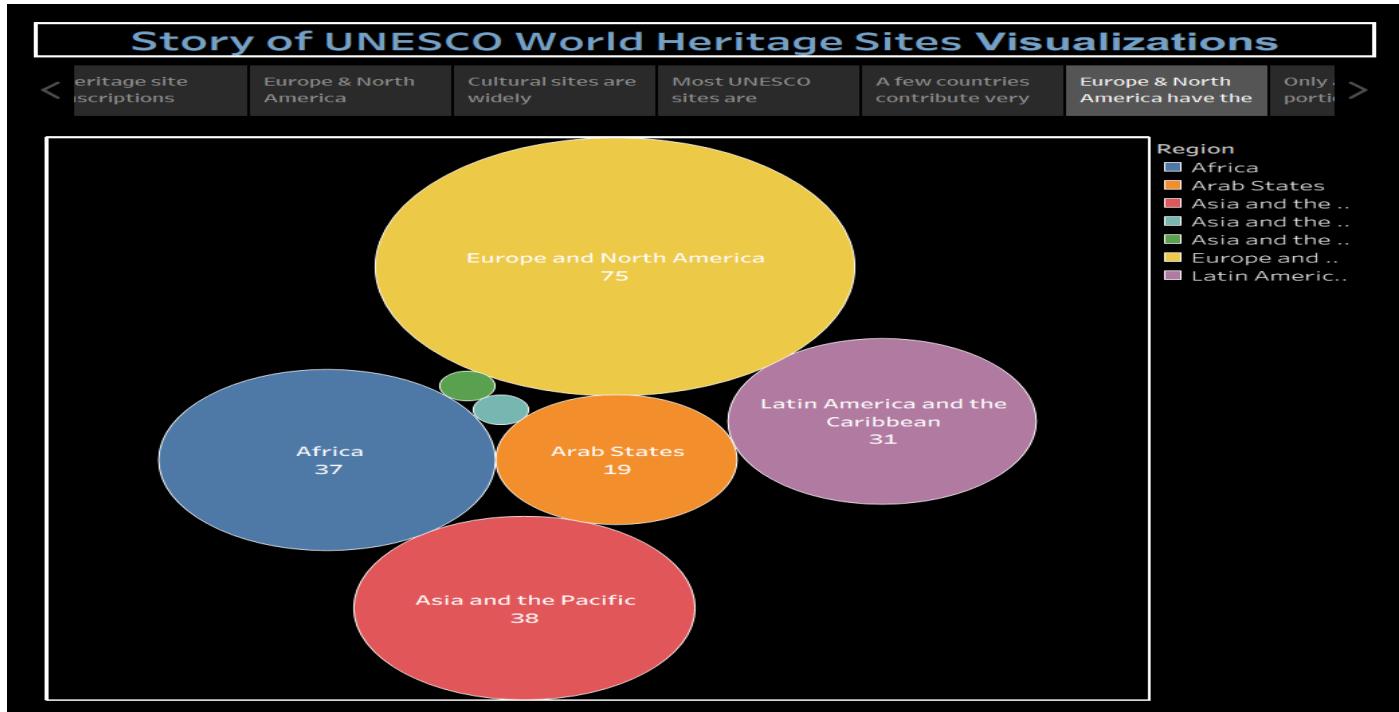
7. RESULTS

7.1 Output Screenshots

Dashboard Screenshots:



Story Screenshots:



Story of UNESCO World Heritage Sites Visualizations

< China, Italy, Spain, and France

Heritage site inscriptions

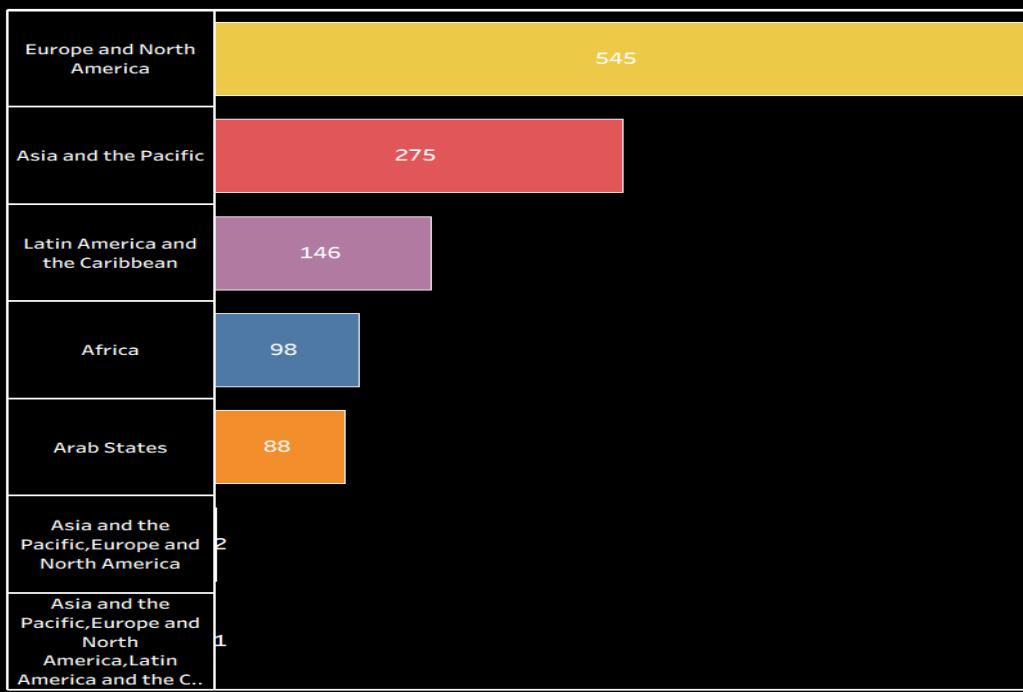
Europe & North America

Cultural sites are widely

Most UNESCO sites are

A few countries contribute very

> Eu Ar



Region

(All) ▾

Region

- Africa
- Arab States
- Asia and the ..
- Asia and the ..
- Asia and the ..
- Europe and ..
- Latin Americ..

Story of UNESCO World Heritage Sites Visualizations

< China, Italy, Spain, and France

Heritage site inscriptions

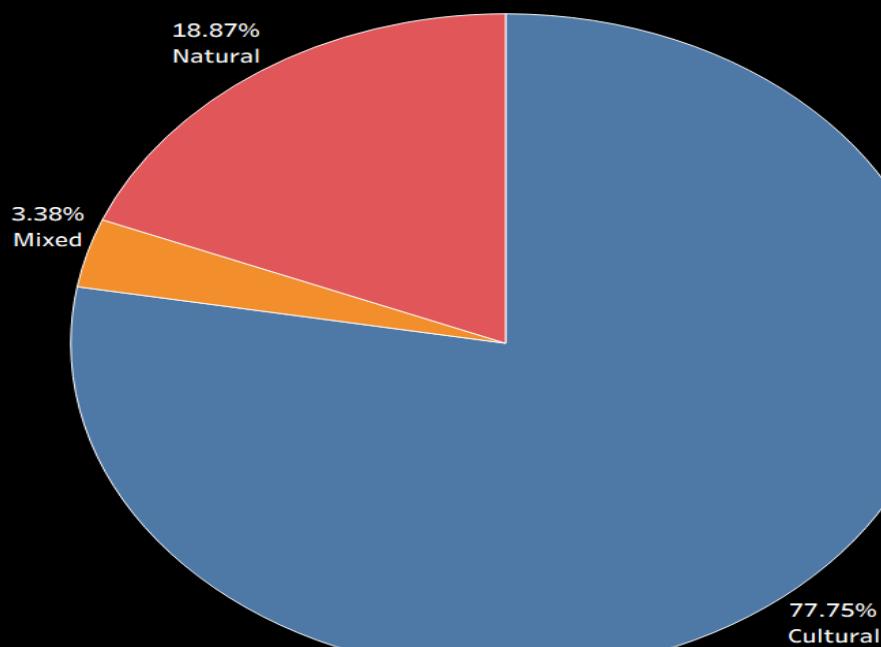
Europe & North America

Cultural sites are widely

Most UNESCO sites are

A few countries contribute very

> Eu Ar



Action (YEAR(Ye..

(All) ▾

Region

(All) ▾

Category

- Cultural
- Mixed
- Natural

Story of UNESCO World Heritage Sites Visualizations

< China, Italy, Spain, and France

Heritage site inscriptions

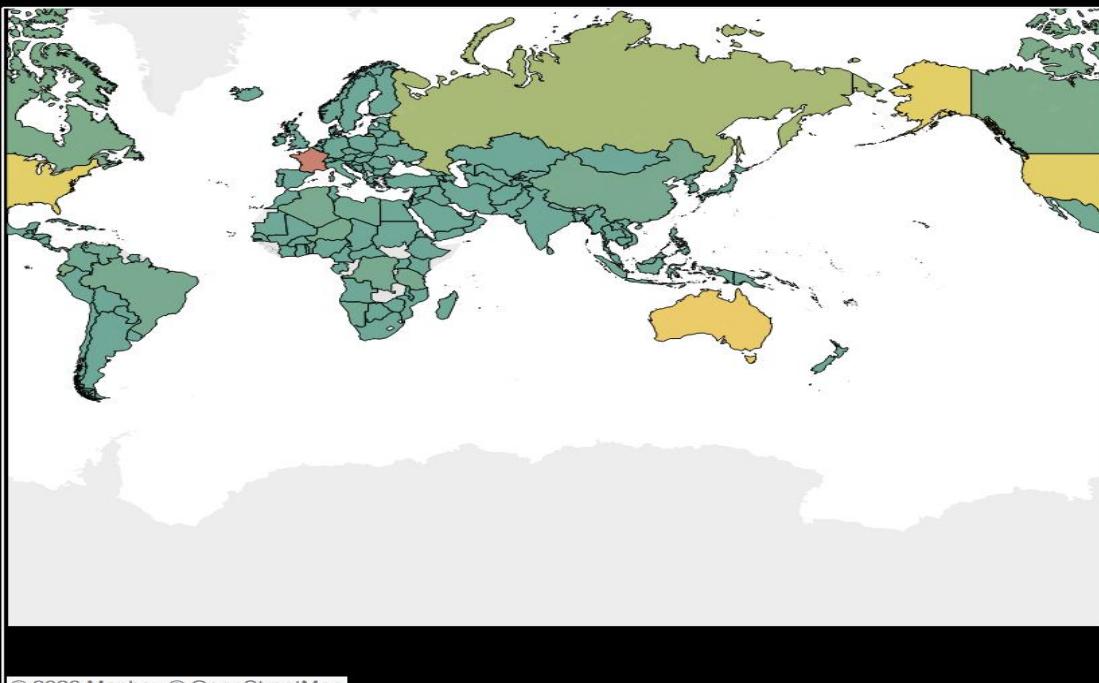
Europe & North America

Cultural sites are widely

Most UNESCO sites are

A few countries contribute very

> Eu Ar



Story of UNESCO World Heritage Sites Visualizations

< China, Italy, Spain, and France

Heritage site inscriptions

Europe & North America

Cultural sites are widely

Most UNESCO sites are

A few countries contribute very

> Eu Ar



Story of UNESCO World Heritage Sites Visualizations



Europe & North America

Cultural sites are widely

Most UNESCO sites are

A few countries contribute very

Europe & North America have the

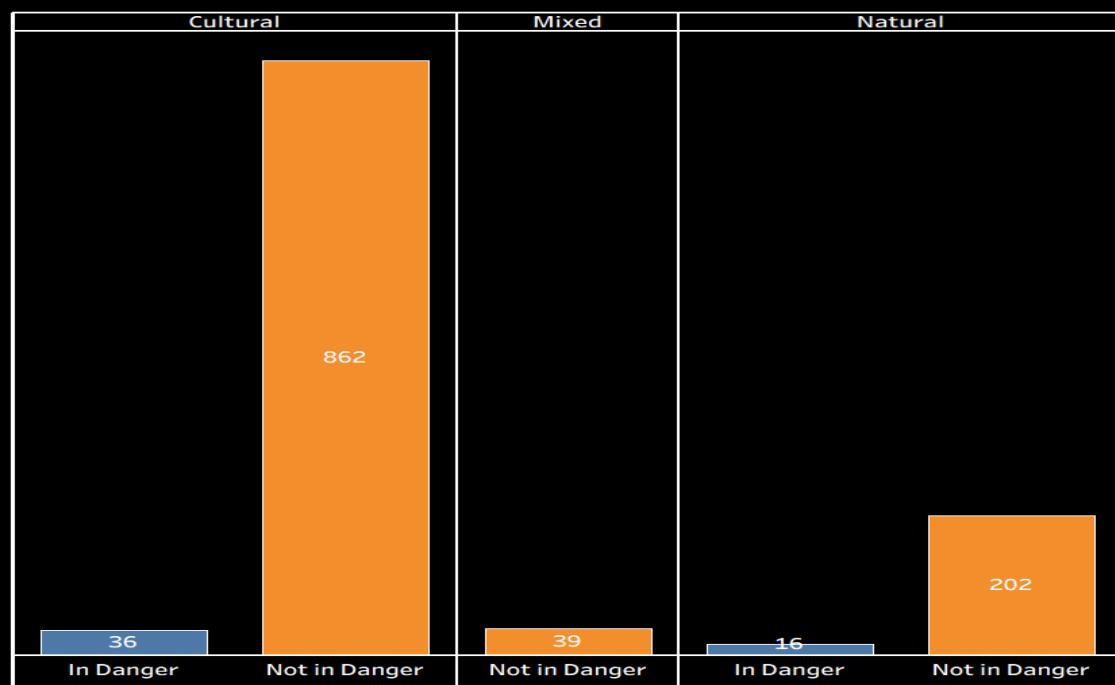
Only a small portion of sites



Cultural

Mixed

Natural



Region

- (All)
- Africa
- Arab States
- Asia and th...
- Asia and th...
- Asia and th...
- Europe an...
- Latin Amer...

Country

- (All)

Danger_Label

- In Danger
- Not in Danger

Story of UNESCO World Heritage Sites Visualizations



China, Italy, Spain, and France

Heritage site inscriptions

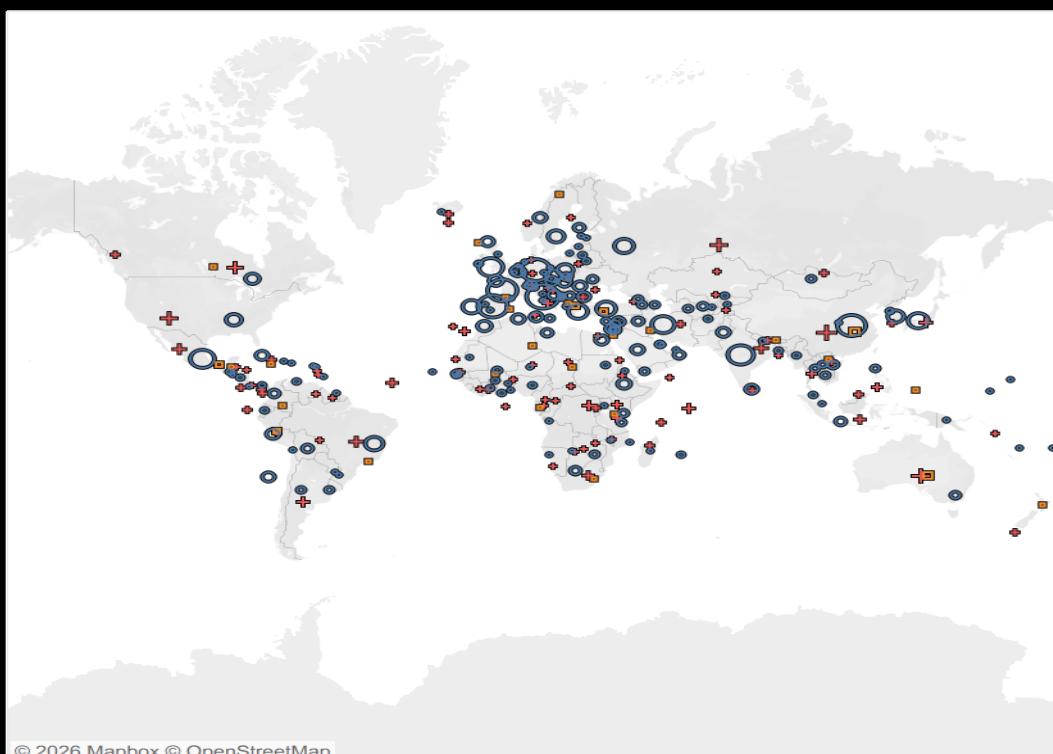
Europe & North America

Cultural sites are widely

Most UNESCO sites are

A few countries contribute very

Eu Ar

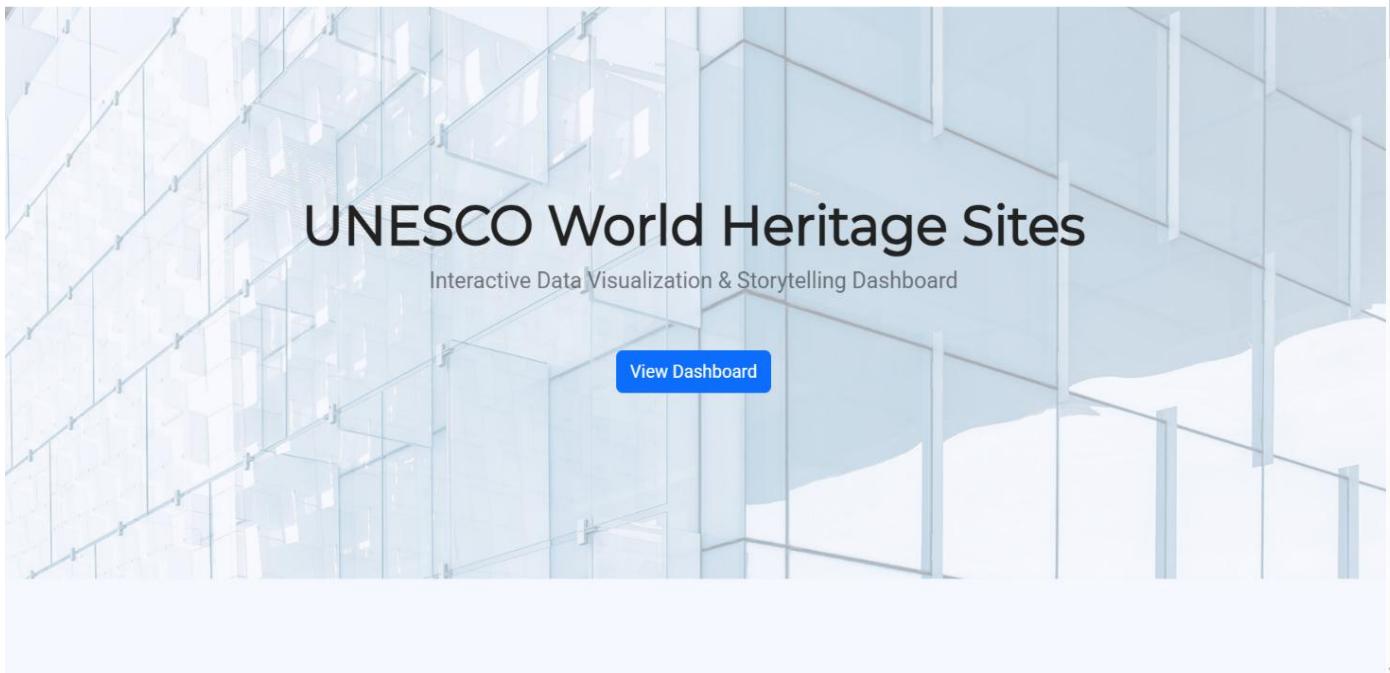


© 2026 Mapbox © OpenStreetMap

Web Page Screenshots:

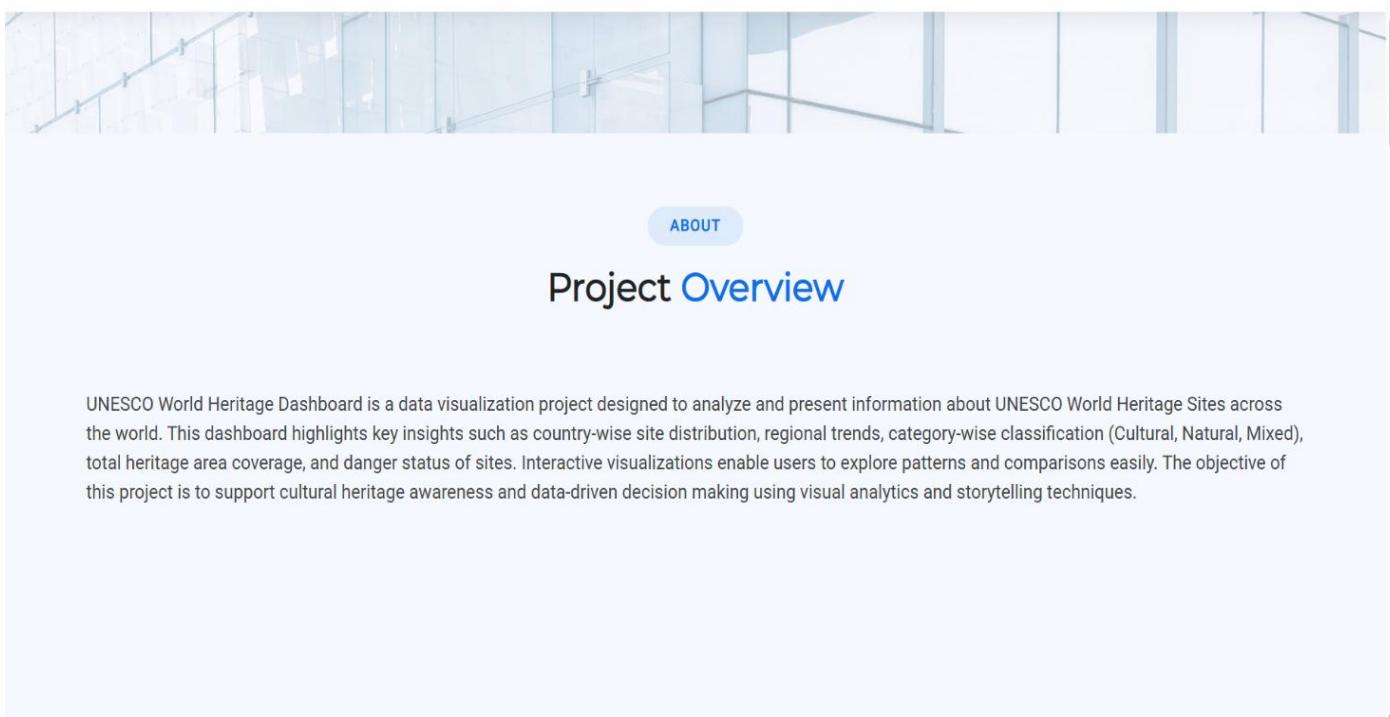
Analysis

[Home](#) [About](#) [Dashboard](#) [Story](#) [Team](#)



Analysis

[Home](#) [About](#) [Dashboard](#) [Story](#) [Team](#)

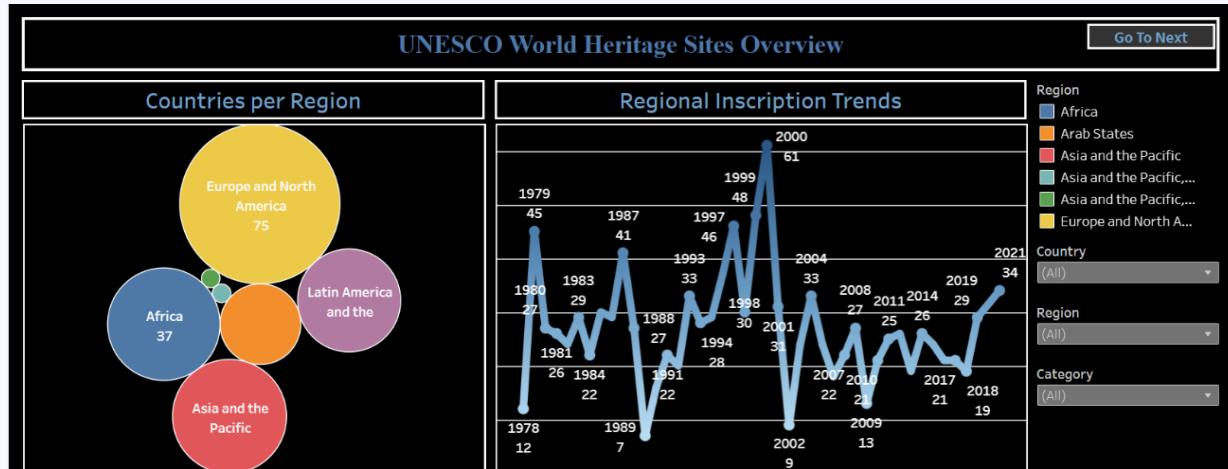


Analysis

[Home](#) [About](#) [Dashboard](#) [Story](#) [Team](#)

DASHBOARD

Interactive Visual Analysis



Analysis

[Home](#) [About](#) [Dashboard](#) [Story](#) [Team](#)

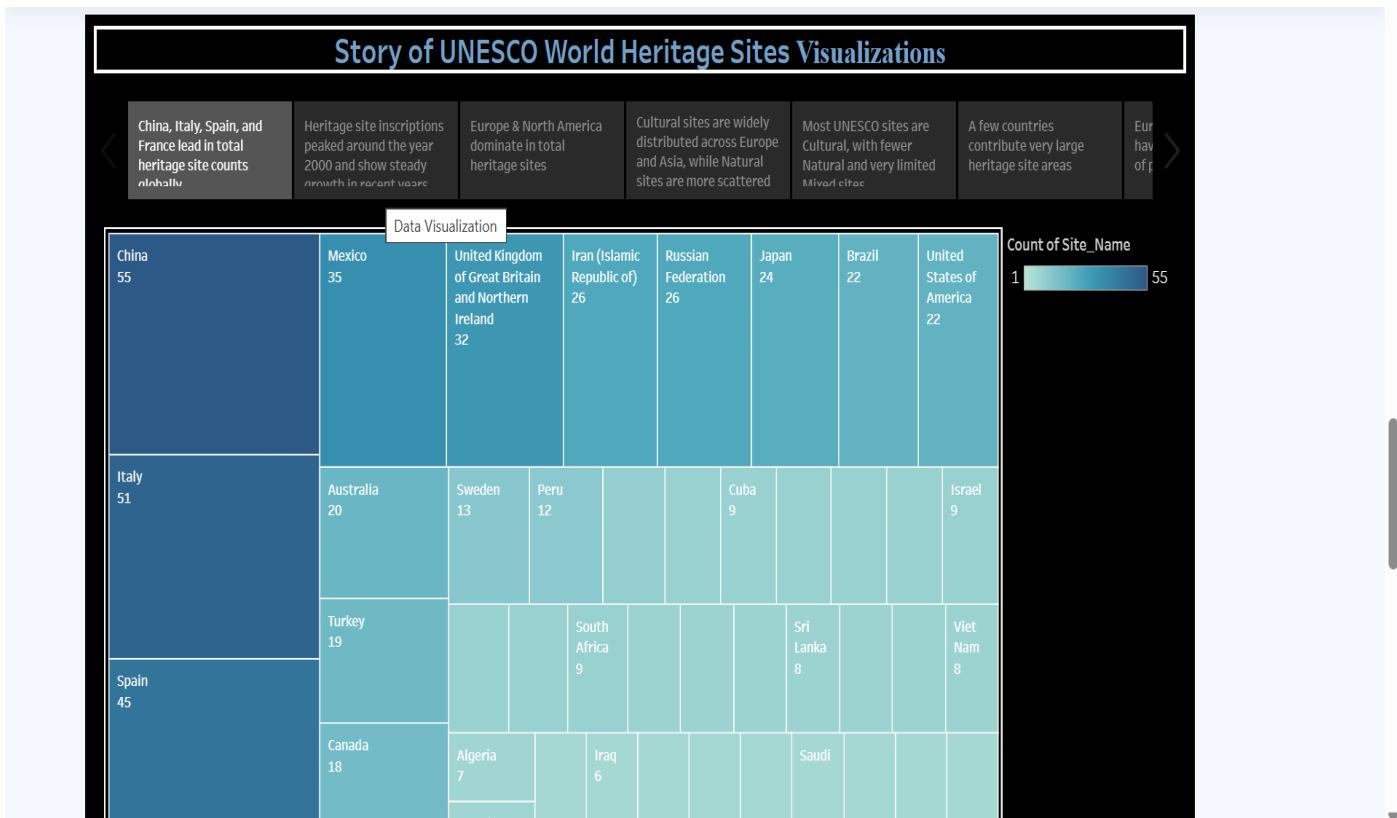
DATA STORY

Dashboard Insights



Analysis

[Home](#) [About](#) [Dashboard](#) [Story](#) [Team](#)



Analysis

[Home](#) [About](#) [Dashboard](#) [Story](#) [Team](#)

TEAM

Project Team Members

Satya Venkata Murali Gutala

Team Leader

B. Tech – Electronics & Communication Technology

Sri Vasavi Engineering College

Sreeja Gavara

Team Member

B. Tech – Computer Science Engineering

Sri Vasavi Engineering College

The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows a project structure for "UNESCO WORLD HERITAGE SITES" with "static" and "templates" folders, and files "index.html" and "app.py".
- Editor:** The "app.py" file is open, displaying Python code for a Flask application:

```
from flask import Flask, render_template
app= Flask(__name__)

@app.route('/')
def home():
    return render_template("index.html")

if __name__=='__main__':
    app.run(debug=True)
```

The terminal tab is active, showing the command prompt at "PS E:\UNESCO World Heritage Sites>". The status bar at the bottom indicates "Ln 13, Col 24" and "Python 3.13.3".

The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows a project structure for "UNESCO World Heritage Sites" with "static" and "templates" folders, and files "index.html" and "app.py".
- Editor:** The "index.html" file is open, displaying HTML code for a header section:

```
<html lang="en">
<body class="index-page">
  <!-- ===== HEADER ===== -->
  <header id="header" class="header sticky-top">
    <div class="branding">
      <div class="container d-flex justify-content-between align-items-center">
        <h1 class="sitename">Analysis</h1>

        <nav id="navmenu" class="navmenu">
          <ul>
            <li><a href="#hero" class="active">Home</a></li>
            <li><a href="#about">About</a></li>
            <li><a href="#dashboard">Dashboard</a></li>
            <li><a href="#story">Story</a></li>
            <li><a href="#team">Team</a></li>
          </ul>
          <i class="mobile-nav-toggle d-xl-none bi bi-list"></i>
        </nav>
      </div>
    </div>
  </header>
```

The terminal tab is active, showing the command prompt at "PS E:\UNESCO World Heritage Sites>". The status bar at the bottom indicates "Ln 98, Col 1801" and "HTML 3.13.3".

8. ADVANTAGES & DISADVANTAGES

Advantages:

- Provides clear visual understanding of UNESCO World Heritage data.
- Interactive dashboard with filters (Region, Country, Category, Year).
- Easy comparison of regions and countries.
- Helps identify trends and patterns over time.
- Integrated with web application using Flask for accessibility.
- Useful for academic research and data analysis.

Disadvantages:

- Depends on the accuracy of the dataset.
- Static dataset (2021) – not real-time updated.
- Limited advanced predictive analytics.
- Performance may reduce with very large datasets.

9. CONCLUSION

The UNESCO World Heritage Sites Dashboard successfully visualizes global heritage data in an interactive and meaningful way. The project demonstrates how data preprocessing, visualization, and web integration can transform raw data into actionable insights. It helps users understand site distribution, regional trends, and danger status effectively. Overall, the project achieves its objective of providing a clear analytical view of UNESCO heritage data.

10. FUTURE SCOPE

- Integrate real-time updated UNESCO dataset.
- Add predictive analysis using Machine Learning.
- Include tourism statistics and visitor data.
- Add advanced analytics such as growth forecasting.
- Improve UI/UX design and performance optimization.
- Deploy the project on cloud for global accessibility.
- Add user authentication and report download features.

11. APPENDIX

Source Code

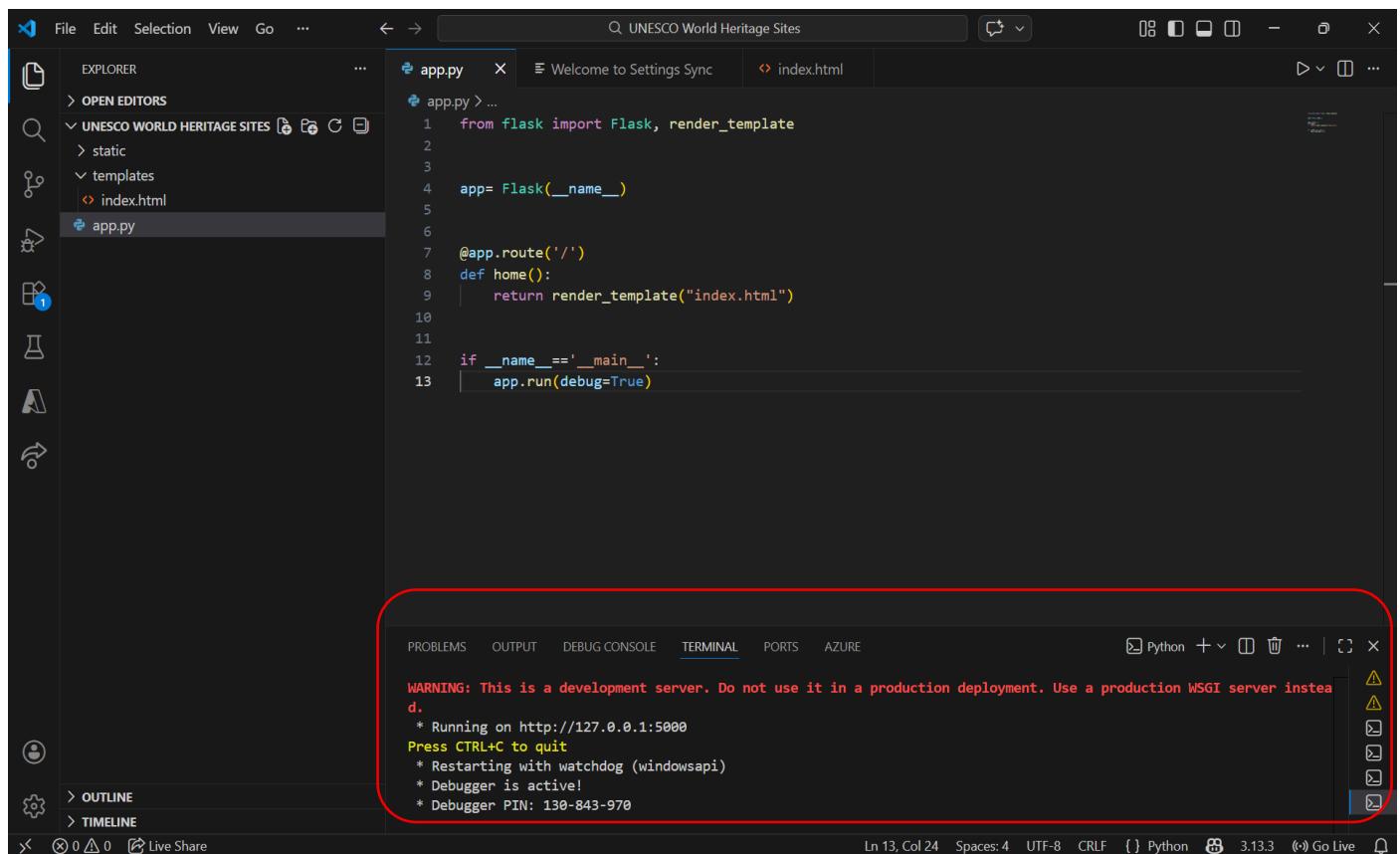
app.py code:

```
from flask import Flask, render_template

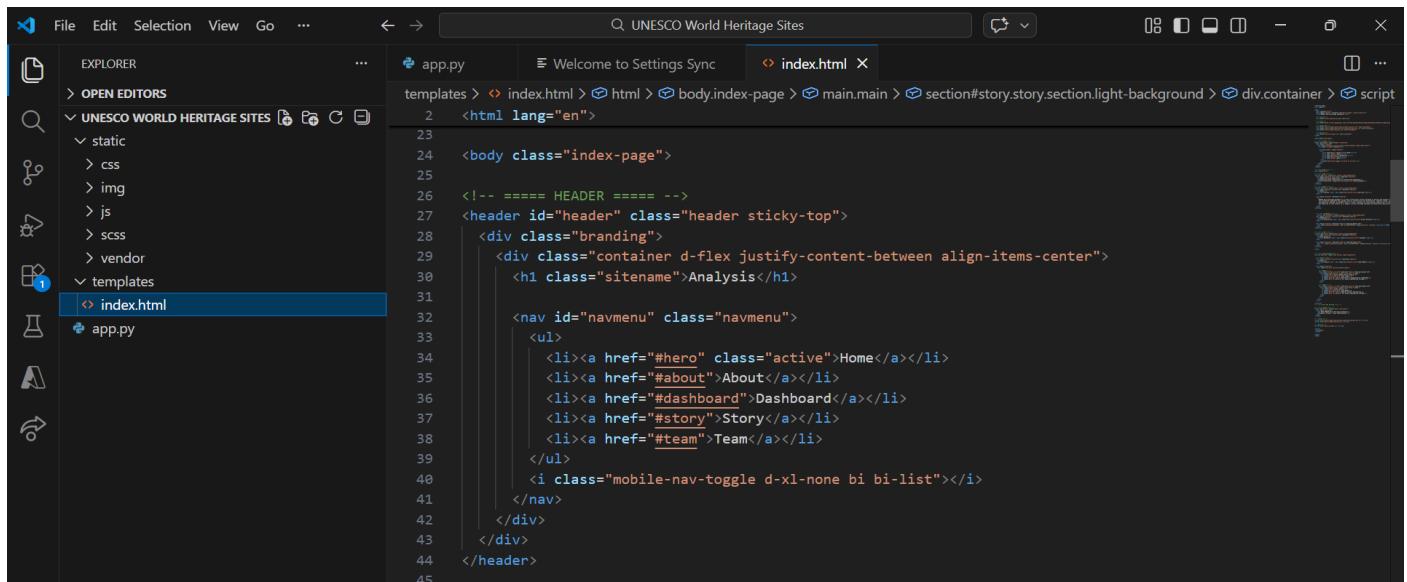
app= Flask(__name__)

@app.route('/')
def home():
    return render_template("index.html")

if __name__=='__main__':
    app.run(debug=True)
```



index.html code:



```
2 <html lang="en">
3
4 <body class="index-page">
5
6 <!-- ===== HEADER ===== -->
7 <header id="header" class="header sticky-top">
8   <div class="branding">
9     <div class="container d-flex justify-content-between align-items-center">
10       <h1 class="sitename">Analysis</h1>
11
12       <nav id="navmenu" class="navmenu">
13         <ul>
14           <li><a href="#hero" class="active">Home</a></li>
15           <li><a href="#about">About</a></li>
16           <li><a href="#dashboard">Dashboard</a></li>
17           <li><a href="#story">Story</a></li>
18           <li><a href="#team">Team</a></li>
19         </ul>
20         <i class="mobile-nav-toggle d-xl-none bi bi-list"></i>
21       </nav>
22     </div>
23   </div>
24 </header>
```

Tableau Public Links:

Dashboard Link:

https://public.tableau.com/views/UNESCO_World_Heritage_Sites/UNESCOWorldHeritageDashboard1?:language=en-US&publish=yes&:sid=&:redirect=auth&:display_count=n&:origin=viz_share_link

Story Link:

https://public.tableau.com/shared/MDXG24GH3?:display_count=n&:origin=viz_share_link

Dataset Link:

<https://drive.google.com/file/d/1RNibftZqlvQTd8h3eNRtcMJzYV4Q91uv/view?usp=sharing>

GitHub link:

<https://github.com/MuraliGutala/UNESCO-World-Heritage-Dashboard.git>

Project Demo Link:

<https://drive.google.com/file/d/1VzWaqlQ6VR8gY6mHByrWISkOGy35Umqg/view?usp=sharing>

