FINAL REPORT

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

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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

• Highlighting endangered sites

• Comparing cultural vs natural sites
• Using filters to allow users to explore their interests
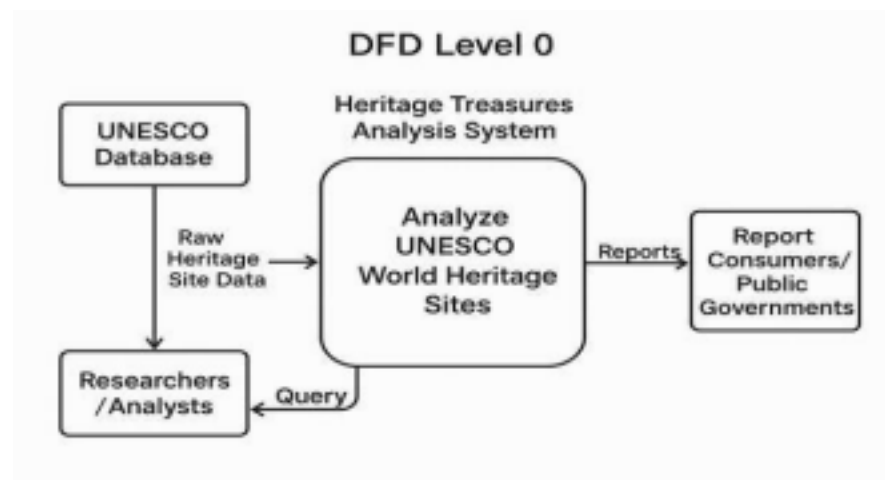
3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map

Stage	Action	Tool		n 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

• **Data Source:**

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.
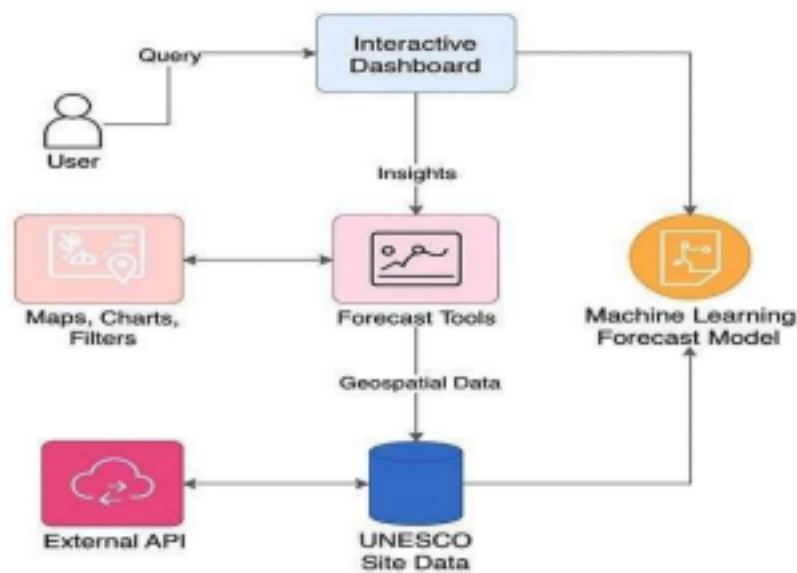
4.2 Proposed Solution

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

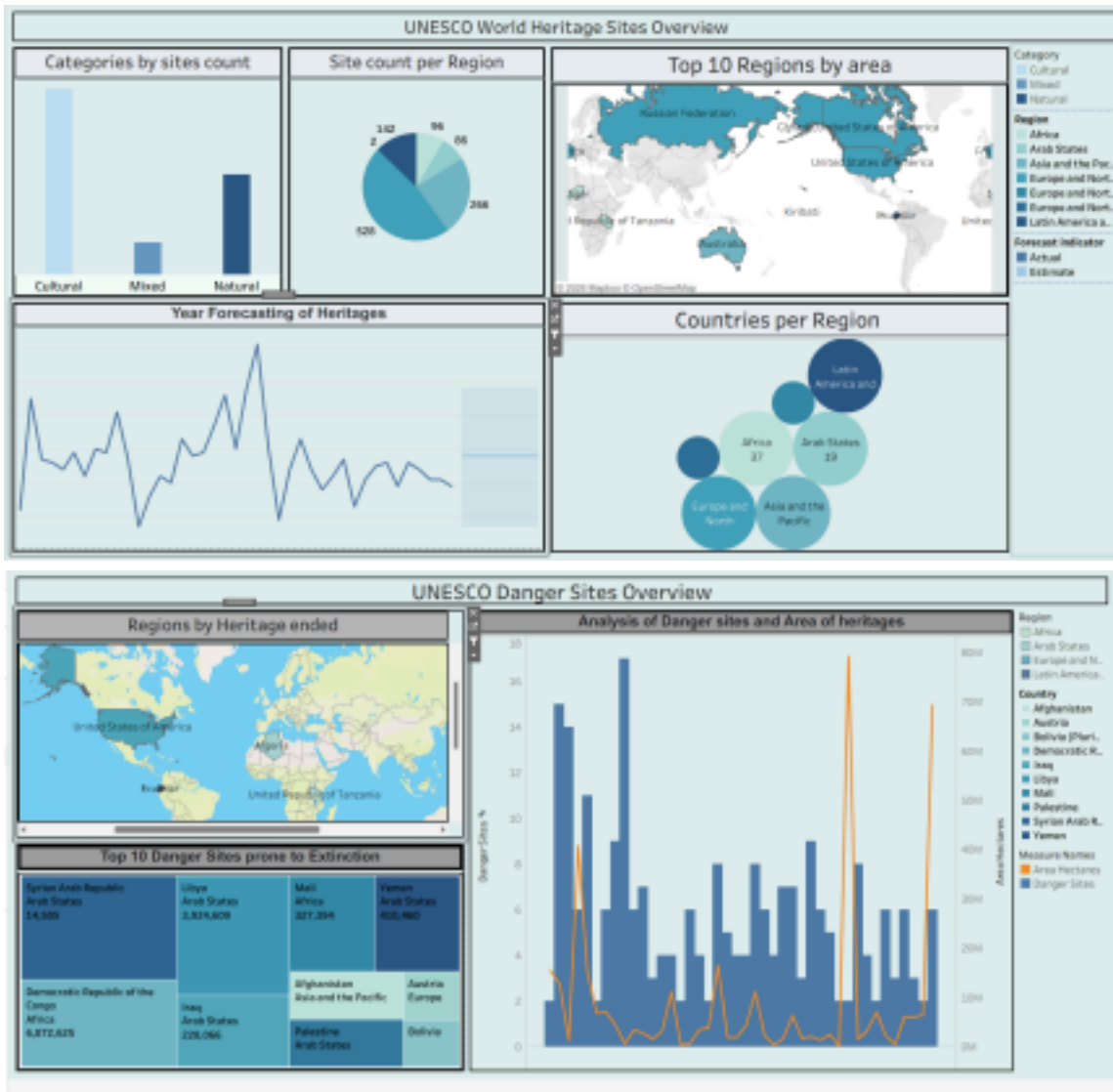 6 Documentation and Report Writing

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

UNESCO World Heritage Sites Overview

UNESCO Danger Sites Overview

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

11. APPENDIX

Source Code:

```html
<!DOCTYPE html>

<html lang="en">



<head>

 <meta charset="utf-8">

 <meta content="width=device-width, initial-scale=1.0"
name="viewport">

 <title>UNESCO Heritage Treasures</title>

 <meta name="description" content="">

 <meta name="keywords" content="">



 <!-- Favicons -->

 <link href="static/img/favicon.png" rel="icon">
```

```html
  <link href="static/img/apple-touch-icon.png"
rel="apple-touch-icon">



  <!-- Fonts -->

  <link href="https://fonts.googleapis.com" rel="preconnect">

  <link href="https://fonts.gstatic.com" rel="preconnect"
crossorigin>

  <link
href="https://fonts.googleapis.com/css2?family=Open+Sans:ital,wght@
0,300;0,400;0,500;0,600;0,700;0,800;1,300;1,400;1,500;1,600;1,700;1
,800&family=Poppins:ital,wght@0,100;0,200;0,300;0,400;0,500;0,600;0
,700;0,800;0,900;1,100;1,200;1,300;1,400;1,500;1,600;1,700;1,800;1,
900&family=Jost:ital,wght@0,100;0,200;0,300;0,400;0,500;0,600;0,700
;0,800;0,900;1,100;1,200;1,300;1,400;1,500;1,600;1,700;1,800;1,900&
display=swap" rel="stylesheet">
  <!-- Vendor CSS Files -->

  <link href="static/vendor/bootstrap/css/bootstrap.min.css"
rel="stylesheet">

  <link href="static/vendor/bootstrap-icons/bootstrap-icons.css"
rel="stylesheet">

  <link href="static/vendor/aos/aos.css" rel="stylesheet">

  <link href="static/vendor/glightbox/css/glightbox.min.css"
rel="stylesheet">

  <link href="static/vendor/swiper/swiper-bundle.min.css"
rel="stylesheet">



  <!-- Main CSS File -->

  <link href="static/css/main.css" rel="stylesheet">
```

```html
  <!-- ======================================================
* Template Name: Arsha

 * Template URL:
https://bootstrapmade.com/arsha-free-bootstrap-html-template-corpor
ate/

 * Updated: Feb 22 2025 with Bootstrap v5.3.3

 * Author: BootstrapMade.com

 * License: https://bootstrapmade.com/license/

 ====================================================== -->

</head>


<body class="index-page">
 <header id="header" class="header d-flex align-items-center
fixed-top">

 <div class="container-fluid container-xl position-relative
d-flex align-items-center">



 <a href="index.html" class="logo d-flex align-items-center
me-auto">

 <!-- Uncomment the line below if you also wish to use an image
logo -->

 <!-- <img src="static/img/logo.webp" alt=""> -->  <h1

class="sitename">Data Analysis</h1>

 </a>


 <nav id="navmenu" class="navmenu">
```

```html
  <ul>

  <li><a href="#hero" class="active">Home</a></li>  <li><a

href="#about">About</a></li>

  <li><a href="#services">Dashboard</a></li>  <li><a

href="#portfolio">Story</a></li>  <li><a

href="#team">Team</a></li>

  <li><a href="#contact">Contact</a></li>  </ul>

  <i class="mobile-nav-toggle d-xl-none bi bi-list"></i>

</nav>

  </div>

  </header>


  <main class="main">


  <!-- Hero Section -->

  <section id="hero" class="hero section dark-background">


  <div class="container">

  <div class="row gy-4">

  <div class="col-lg-6 order-2 order-lg-1 d-flex

flex-column justify-content-center" data-aos="zoom-out">

  <h1>Heritage Treasures: An In-Depth Analysis of UNESCO World

Heritage</h1>

  <p>Exploring Global Heritage Through Data-Driven Insights

and Visualization</p>
```

```html
      <div class="d-flex">

      <a href="#about" class="btn-get-started">Get Started</a>

      </div>

      </div>

      <div class="col-lg-6 order-1 order-lg-2 hero-img"
data-aos="zoom-out" data-aos-delay="200">

      <img src="static\img\img1.png" class="img-fluid animated"
alt="">

      </div>
      </div>

      </div>



      </section><!-- /Hero Section -->



      <!-- Clients Section -->

      <section id="clients" class="clients section light-background">



<div class="container" data-aos="zoom-in">



      <div class="swiper init-swiper">

      <script type="application/json" class="swiper-config">  {

      "loop": true,

      "speed": 600,

      "autoplay": {

      "delay": 5000

      },
```

```
    "slidesPerView": "auto",

    "pagination": {

    "el": ".swiper-pagination",

    "type": "bullets",

    "clickable": true

    },

    "breakpoints": {
    "320": {

    "slidesPerView": 2,   "spaceBetween":

40   },

    "480": {

    "slidesPerView": 3,   "spaceBetween":

60   },

    "640": {

    "slidesPerView": 4,   "spaceBetween":

80   },

    "992": {

    "slidesPerView": 5,   "spaceBetween":

120   },

    "1200": {

    "slidesPerView": 6,   "spaceBetween":

120   }

    }

    }

  </script>
```

```html
      </div>
      </div>


    </section><!-- /Clients Section -->



    <!-- About Section -->

    <section id="about" class="about section">



    <!-- Section Title -->

    <div class="container section-title" data-aos="fade-up">

<h2>About Us</h2>

    </div><!-- End Section Title -->



    <div class="container">



    <div class="row gy-4">



    <div class="col-lg-6 content" data-aos="fade-up"
    data-aos-delay="100">

    <p>

    The WHC-Sites-2019 dataset is a structured dataset containing
    detailed information about all properties inscribed on the UNESCO
    World Heritage List up to 2019. It includes key attributes such as
    site name, country (State Party), UNESCO region, year of
    inscription, and classification category (Cultural, Natural, or
    Mixed). These variables enable comprehensive temporal and
    geographic analysis, allowing researchers to track inscription
    trends over time, compare regional distributions, and evaluate the
```

```html
          dominance of certain countries in heritage representation. The
          dataset also incorporates UNESCO's ten selection criteria, which
          define the cultural and natural significance of each site, making
          it possible to perform deeper categorical and criteria-based
          analysis.

        </p>

      </div>



      <div class="col-lg-6" data-aos="fade-up"
data-aos-delay="200">

        <p>From a data analytics perspective, the WHC-Sites-2019 dataset
        is well-suited for visualization and dashboard development using
        Tableau. It enables analysis of growth trends, regional
        distribution, category breakdown, and conservation status. By
        transforming heritage records into structured data, the dataset
        supports interactive maps and charts that reveal meaningful global
        patterns. </p>

        <a href="#" class="read-more"><span>Read More</span><i class="bi
bi-arrow-right"></i></a>

      </div>



    </div>



  </div>



</section><!-- /About Section -->




<!-- Services Section -->
```

```html
<section id="services" class="services section
light-background">

<!-- Section Title -->

<div class="container section-title" data-aos="fade-up">

<h2>Dashboard</h2>

<p>Global Heritage Insights at a Glance</p>

</div><!-- End Section Title -->



<!-- Section Title -->

<div>

<div class='tableauPlaceholder' id='viz1771137633682'
style='position: relative'><noscript><a href='#'><img alt='UNESCO
World Heritage Sites Overview '
src='https:&#47;&#47;public.tableau.com&#47;static&#47;images&#47;D
a&#47;Dashboard1_17711375215740&#47;Dashboard1&#47;1_rss.png'
style='border: none' /></a></noscript><object class='tableauViz'
style='display:none;'><param name='host_url'
value='https%3A%2F%2Fpublic.tableau.com%2F' /> <param
name='embed_code_version' value='3' /> <param name='site_root'
value='' /><param name='name'
value='Dashboard1_17711375215740&#47;Dashboard1' /><param
name='tabs' value='no' /><param name='toolbar' value='yes' /><param
name='static_image'
value='https:&#47;&#47;public.tableau.com&#47;static&#47;images&#47
;Da&#47;Dashboard1_17711375215740&#47;Dashboard1&#47;1.png' />
<param name='animate_transition' value='yes' /><param
name='display_static_image' value='yes' /><param
name='display_spinner' value='yes' /><param name='display_overlay'
value='yes' /><param name='display_count' value='yes' /><param
name='language' value='en-US' /></object></div>
<script type='text/javascript'> var divElement =
document.getElementById('viz1771137633682'); var vizElement =
```

```
divElement.getElementsByTagName('object')[0];  if (
divElement.offsetWidth > 800 ) {
vizElement.style.width='1620px';vizElement.style.minHeight='587px';
vizElement.style.maxHeight='887px';vizElement.style.height=(divElem
ent.offsetWidth*0.75)+'px';} else if ( divElement.offsetWidth > 500
) {
vizElement.style.width='1620px';vizElement.style.minHeight='587px';
vizElement.style.maxHeight='887px';vizElement.style.height=(divElem
ent.offsetWidth*0.75)+'px';} else {
vizElement.style.width='100%';vizElement.style.height='1777px';}
var scriptElement = document.createElement('script');
scriptElement.src =
 'https://public.tableau.com/javascripts/api/viz_v1.js';
vizElement.parentNode.insertBefore(scriptElement, vizElement);
</script>

 </div>

 <div>

 <div class='tableauPlaceholder' id='viz1771137705365'
style='position: relative'><noscript><a href='#'><img alt='UNESCO
Danger Sites Overview '
src='https:&#47;&#47;public.tableau.com&#47;static&#47;images&#47;D
a&#47;Dashboard2_17711375801440&#47;Dashboard2&#47;1_rss.png'
style='border: none' /></a></noscript><object class='tableauViz'
style='display:none;'><param name='host_url'
value='https%3A%2F%2Fpublic.tableau.com%2F' /> <param
name='embed_code_version' value='3' /> <param name='site_root'
value='' /><param name='name'
value='Dashboard2_17711375801440&#47;Dashboard2' /><param
name='tabs' value='no' /><param name='toolbar' value='yes' /><param
name='static_image'
value='https:&#47;&#47;public.tableau.com&#47;static&#47;images&#47
;Da&#47;Dashboard2_17711375801440&#47;Dashboard2&#47;1.png' />
<param name='animate_transition' value='yes' /><param
name='display_static_image' value='yes' /><param
name='display_spinner' value='yes' /><param name='display_overlay'
```

```html
value='yes' /><param name='display_count' value='yes' /><param
name='language' value='en-US' /></object></div>
<script type='text/javascript'> var divElement =
document.getElementById('viz1771137705365'); var vizElement =
divElement.getElementsByTagName('object')[0];
vizElement.style.minWidth='220px';vizElement.style.maxWidth='1650px
';vizElement.style.width='100%';vizElement.style.minHeight='587px'
;
vizElement.style.maxHeight='787px';vizElement.style.height=(divElem
ent.offsetWidth*0.75)+'px'; var scriptElement =
document.createElement('script');
scriptElement.src =
'https://public.tableau.com/javascripts/api/viz_v1.js';
vizElement.parentNode.insertBefore(scriptElement, vizElement);
</script>

  </div>


  </section><!-- /Services Section -->


  <!-- Portfolio Section -->

  <section id="portfolio" class="portfolio section">


  <!-- Section Title -->

  <div class="container section-title" data-aos="fade-up">

<h2>Story</h2>

  <p>A Data-Driven Journey Through World Heritage</p>

</div><!-- End Section Title -->


  <div class="container">
```

```
 <div class='tableauPlaceholder' id='viz1771139362447'
style='position: relative'><noscript><a href='#'><img alt='My Story
'
src='https:&#47;&#47;public.tableau.com&#47;static&#47;images&#47;S
t&#47;Story_17711393050610&#47;Story1&#47;1_rss.png' style='border:
none' /></a></noscript><object class='tableauViz'
style='display:none;'><param name='host_url'
value='https%3A%2F%2Fpublic.tableau.com%2F' /> <param
name='embed_code_version' value='3' /> <param name='site_root'
value='' /><param name='name'
value='Story_17711393050610&#47;Story1' /><param name='tabs'
value='no' /><param name='toolbar' value='yes' /><param
name='static_image'
value='https:&#47;&#47;public.tableau.com&#47;static&#47;images&#47
;St&#47;Story_17711393050610&#47;Story1&#47;1.png' /> <param
name='animate_transition' value='yes' /><param
name='display_static_image' value='yes' /><param
name='display_spinner' value='yes' /><param name='display_overlay'
value='yes' /><param name='display_count' value='yes' /><param
name='language' value='en-US' /></object></div>
<script type='text/javascript'> var divElement =
document.getElementById('viz1771139362447'); var vizElement =
divElement.getElementsByTagName('object')[0];
vizElement.style.width='100%';vizElement.style.height=(divElement.o
ffsetWidth*0.75)+'px'; var scriptElement =
document.createElement('script');
scriptElement.src =
 'https://public.tableau.com/javascripts/api/viz_v1.js';
vizElement.parentNode.insertBefore(scriptElement, vizElement);
</script>


 </div><!-- End Portfolio Container -->
```

```html
          </div>


        </div>
      </section><!-- /Portfolio Section -->



      <!-- Team Section -->

      <section id="team" class="team section">



        <!-- Section Title -->

        <div class="container section-title" data-aos="fade-up">

<h2>Team</h2>

          <p>Group of 3 Team Members</p>

        </div><!-- End Section Title -->



        <div class="container">



          <div class="row gy-4">



            <div class="col-lg-6" data-aos="fade-up"
data-aos-delay="100">

            <div class="team-member d-flex align-items-start">

              <div class="pic"><img
src="static\img\person\person-f-1.webp.jpeg" class="img-fluid"
alt=""></div>

              <div class="member-info">
```

```html
      <h4>Siri Chandana Upadhyayula</h4>  <span>Team
Member 1</span>

  <p>B.Tech, Dept.of CSM, VIEW College</p>  </div>

  </div>

  </div><!-- End Team Member -->



  <div class="col-lg-6" data-aos="fade-up"
data-aos-delay="200">

  <div class="team-member d-flex align-items-start">

  <div class="pic"><img
src="static\img\person\person-f-3.webp.jpg" class="img-fluid"
alt=""></div>

  <div class="member-info">

  <h4>Mounika Ganga Nagamani Konathala</h4>  <span>Team
Member 2</span>

  <p>B.Tech, Dept.of ECE, VIEW College</p>

  </div>

  </div>

  </div><!-- End Team Member -->



  <div class="col-lg-6" data-aos="fade-up"
data-aos-delay="300">

  <div class="team-member d-flex align-items-start">

  <div class="pic"><img
src="static\img\person\person-f-2.webp.jpeg" class="img-fluid"
alt=""></div>
```

```html
<div class="member-info">

<h4>Bhavana Vanapalli</h4>

<span>Team Member 3</span>
<p>B.Tech, Dept.of ECE, VIEW College</p>  </div>

</div>

</div><!-- End Team Member -->



<!-- Contact Section -->

<section id="contact" class="contact section">



<!-- Section Title -->

<div class="container section-title" data-aos="fade-up">

<h2>Contact</h2>

</div><!-- End Section Title -->



<div class="container" data-aos="fade-up"
data-aos-delay="100">



<div class="row gy-4">



<div class="col-lg-5">



<div class="info-wrap">

<div class="info-item d-flex" data-aos="fade-up"
data-aos-delay="200">
```

```html
<i class="bi bi-geo-alt flex-shrink-0"></i>   <div>

<h3>Address</h3>
<p>10-28, Pallapu Veedhi,
Munagapaka,Visakhapatnam-531033</p>

</div>

</div><!-- End Info Item -->



<div class="info-item d-flex" data-aos="fade-up"
data-aos-delay="300">

<i class="bi bi-telephone flex-shrink-0"></i>   <div>

<h3>Call Us</h3>

<p>+91 8328202769</p>

</div>

</div><!-- End Info Item -->



<div class="info-item d-flex" data-aos="fade-up"
data-aos-delay="400">

<i class="bi bi-envelope flex-shrink-0"></i>   <div>

<h3>Email Us</h3>

<p>mounikakonathala4@gmail.com</p>   </div>

</div><!-- End Info Item -->

</div>

</div>



</div>
</div>
```

```html
    </section><!-- /Contact Section -->


  </footer>


  <!-- Scroll Top -->

  <a href="#" id="scroll-top" class="scroll-top d-flex
align-items-center justify-content-center"><i class="bi
bi-arrow-up-short"></i></a>


  <!-- Preloader -->

  <div id="preloader"></div>


  <!-- Vendor JS Files -->
  <script
src="static/vendor/bootstrap/js/bootstrap.bundle.min.js"></script>

  <script    src="static/vendor/php-email-form/validate.js"></script>

  <script src="static/vendor/aos/aos.js"></script>

  <script
src="static/vendor/glightbox/js/glightbox.min.js"></script>

  <script src="static/vendor/swiper/swiper-bundle.min.js"></script>

  <script
src="static/vendor/waypoints/noframework.waypoints.js"></script>

  <script
src="static/vendor/imagesloaded/imagesloaded.pkgd.min.js"></script>

  <script
```

```
      src="static/vendor/isotope-layout/isotope.pkgd.min.js"></script>


    <!-- Main JS File -->

    <script src="static/js/main.js"></script>


</body>


</html>
```

App.py 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, port=1212)

Dataset Link

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

GitHub Link:

https://github.com/mounikakonathala11/Heritage-Treasures-An-In-Depth-Analysis-of-UNESCO-W
orld-Heritage