

# **INTERNATIONAL UNIVERSITY**

School of Computer Science & Engineering

## **WEB APPLICATION DEVELOPMENT LABORATORY**



### **Lab 01**

#### **Lab 1: HTML & CSS**

Submitted by:

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Lab section: Lab 1

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## 1. Project Overview

Topic: Travel Website – “Explore Vietnam”. The goal is to design and build a multi-page static website (7 pages) demonstrating HTML5 structure, external CSS, media (images/video), iframe, and a full-featured form. The site must be usable, responsive, accessible, and deployed online.

- Key objectives:
- Build a 7–10 page website with clear navigation.
- Use semantic HTML5 tags, internal and external links.
- Include  $\geq 5$  images with alt text, at least one figure/figcaption.
- Embed at least one iframe (Google Maps / YouTube).
- Implement a full form with labels, validation attributes and multiple input types.
- Write external CSS (Flexbox/Grid) with responsiveness and hover/focus states.
- Ensure accessibility (contrast, font size, focus ring) and quality (metadata, favicon, optimization).
- Deploy via GitHub Pages or Netlify and provide a live URL.

## 2. Site Map & Information Architecture

Pages implemented (7 total):

1. /index.html – Home
2. /about.html – About Vietnam
3. /destinations.html – Top Destinations
4. /gallery.html – Photo Gallery
5. /blog.html – Travel Tips & Stories
6. /contact.html – Contact Form
7. /map.html – Google Maps (iframe)

## 3. Tools & Environment

- Editor: Visual Studio Code + Live Server extension
- Version control & hosting: Git + GitHub (GitHub Pages) or Netlify
- Assets: Images (JPG/WebP), favicon
- Validation: W3C HTML & CSS Validators

## 4. Implementation Details

## 4.1 HTML Structure

```
post-1.html    sa-pa.jpg    about.html    blog.html    gallery.html    contact.html    # styles.css    index.htm
↳ about.html > ↳ html
  1  <!DOCTYPE html>
  2  <html lang="en">
  3  <head>
  4    <meta charset="UTF-8">
  5    <meta name="viewport" content="width=device-width, initial-scale=1.0">
  6    <title>About Vietnam | Explore Vietnam</title>
  7    <link rel="stylesheet" href="assets/css/styles.css">
  8  </head>
  9  <body>
10    <header>
11      <h1>Explore Vietnam</h1>
12      <nav>
13        <ul>
14          <li><a href="index.html">Home</a></li>
15          <li><a href="about.html" class="active">About</a></li>
16          <li><a href="destinations.html">Destinations</a></li>
17          <li><a href="gallery.html">Gallery</a></li>
18          <li><a href="blog.html">Blog</a></li>
19          <li><a href="contact.html">Contact</a></li>
20          <li><a href="map.html">Map</a></li>
21        </ul>
22      </nav>
23    </header>
24
25    <main>
26      <section>
27        <h2>Discover the Soul of Vietnam</h2>
28        <p>Vietnam is a country of breathtaking beauty and deep cultural traditions. From the bustling streets of Hanoi to the serene landscapes of Halong Bay, Vietnam's rich history and vibrant culture are evident in every corner. The people are known for their warmth and hospitality, making it a truly welcoming destination for travelers from around the world. Whether you're interested in exploring ancient temples, indulging in delicious street food, or simply relaxing on one of the many beautiful beaches, Vietnam has something to offer everyone. So why wait? Book your trip today and experience the magic of Vietnam for yourself!</p>
29
30        <h3>Culture & People</h3>
31        <p>The Vietnamese are known for their friendliness and resilience. Traditional festivals like Tet (Lunar New Year) and Mid-Autumn Festival are celebrated with great enthusiasm and tradition. The cuisine is a blend of spicy, sour, and sweet flavors, with dishes like pho, banh mi, and spring rolls being some of the most popular. The architecture, from the iconic Ho Chi Minh Mausoleum to the ancient pagodas of Ninh Binh, is a testament to the country's rich history and cultural heritage. Vietnam's natural beauty is also a major draw, with its stunning coastline, lush forests, and majestic mountains providing a backdrop for countless photo opportunities. From the bustling streets of Hanoi to the serene landscapes of Halong Bay, Vietnam's rich history and vibrant culture are evident in every corner. The people are known for their warmth and hospitality, making it a truly welcoming destination for travelers from around the world. Whether you're interested in exploring ancient temples, indulging in delicious street food, or simply relaxing on one of the many beautiful beaches, Vietnam has something to offer everyone. So why wait? Book your trip today and experience the magic of Vietnam for yourself!</p>
32
33        <figure>
34          
35          <figcaption>Vietnamese traditional culture and festivals</figcaption>
36        </figure>
37
38        <h3>Food</h3>
39        <p>Vietnam's cuisine is a blend of spicy, sour, and sweet flavors, with dishes like pho, banh mi, and spring rolls being some of the most popular. The country's natural beauty is also a major draw, with its stunning coastline, lush forests, and majestic mountains providing a backdrop for countless photo opportunities. From the bustling streets of Hanoi to the serene landscapes of Halong Bay, Vietnam's rich history and vibrant culture are evident in every corner. The people are known for their warmth and hospitality, making it a truly welcoming destination for travelers from around the world. Whether you're interested in exploring ancient temples, indulging in delicious street food, or simply relaxing on one of the many beautiful beaches, Vietnam has something to offer everyone. So why wait? Book your trip today and experience the magic of Vietnam for yourself!</p>
40
41        <h3>Accommodation</h3>
42        <p>There are many accommodation options available in Vietnam, ranging from budget hostels to luxury five-star resorts. Some of the most popular destinations for tourists include Hanoi, Ho Chi Minh City, Nha Trang, and Da Nang. Each city offers a unique blend of modern amenities and traditional charm, making it easy for visitors to find a place that suits their needs and preferences. Whether you're looking for a quiet beachside retreat or a bustling urban hub, Vietnam has something to offer everyone. So why wait? Book your trip today and experience the magic of Vietnam for yourself!</p>
43
44        <h3>Transportation</h3>
45        <p>Getting around Vietnam is relatively easy, with a well-developed network of roads, trains, and buses. The capital city, Hanoi, is connected to many other parts of the country via a well-maintained railway system, while major cities like Ho Chi Minh City and Da Nang also have efficient public transportation options. For those who prefer to travel by car, there are many rental agencies available, though it's important to note that driving on the left side of the road can be a challenge for some. Overall, Vietnam's transportation infrastructure is well-suited for both local residents and international tourists, making it easy to explore all that the country has to offer. So why wait? Book your trip today and experience the magic of Vietnam for yourself!</p>
46
47        <h3>Safety</h3>
48        <p>While Vietnam is generally considered a safe destination for tourists, it's always important to exercise caution and follow basic safety guidelines. This includes avoiding crowded areas at night, keeping valuables secure, and being aware of one's surroundings. The country's crime rate is relatively low compared to some other destinations, though it's always a good idea to stay alert and avoid unnecessary risks. Overall, Vietnam is a safe and welcoming destination for tourists, though it's always important to take basic safety precautions. So why wait? Book your trip today and experience the magic of Vietnam for yourself!</p>
49
50        <h3>Conclusion</h3>
51        <p>In conclusion, Vietnam is a truly remarkable destination that offers something for everyone. Whether you're interested in exploring ancient temples, indulging in delicious street food, or simply relaxing on one of the many beautiful beaches, Vietnam has something to offer everyone. The country's rich history and vibrant culture are evident in every corner, from the bustling streets of Hanoi to the serene landscapes of Halong Bay. The people are known for their warmth and hospitality, making it a truly welcoming destination for travelers from around the world. So why wait? Book your trip today and experience the magic of Vietnam for yourself!</p>
52
53    </main>
54
55  </body>
56</html>
```

- Applied semantic layout: <header>, <nav>, <main>, <section>, <article>, <footer>.
  - Global navigation menu repeated on every page for consistency.
  - Internal anchor links used to connect pages; external links open in new tab (rel='noopener').
  - Images include descriptive alt text; one figure with figcaption on About/Gallery.

## 4.2 CSS & Responsive Design

- Single external stylesheet: assets/css/styles.css.
  - Color system via CSS variables; consistent typography.
  - Layout using Flexbox/Grid; responsive breakpoint at ~768px.
  - Interactive states: :hover and :focus for links/buttons.
  - Hero section with full-width background image; page titles styled consistently.

## 4.3 Forms

```
<form style="background-color: #rgb(105, 220, 233);">
  <fieldset>
    <legend>Send us a message</legend>

    <label for="name">Full Name:</label>
    <input type="text" id="name" name="name" required>

    <label for="email">Email:</label>
    <input type="email" id="email" name="email" required>

    <label for="phone">Phone:</label>
    <input type="tel" id="phone" name="phone" pattern="[0-9]{10}">

    <label for="date">Preferred Travel Date:</label>
    <input type="date" id="date" name="date">

    <label for="message">Your Message:</label>
    <textarea id="message" name="message" rows="5"></textarea>

    <input type="submit" value="Send Message">
  </fieldset>
</form>
```

- Contact form fields:
- Text, email, tel, date, select, textarea; optional number/range/color/file as needed.
- Validation attributes: required, pattern, min, max, step.
- Labels associated with all inputs; grouped with `<fieldset> + <legend>`.
- Submit and reset buttons; friendly inline validation messages.

## 4.4 Media & Iframe

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~/Documents/travel-site

- ≥5 images across pages with proper alt text; gallery grid displays optimized images.
- Google Maps iframe embedded on map.html (lazy loading enabled where possible).
- Optional YouTube video iframe on About or Blog page.

## 4.5 Accessibility

- Color contrast verified for text on backgrounds; base font size ≥16px.
- Logical heading hierarchy (H1 → H2 → H3).
- Keyboard navigation supported; visible focus ring for interactive elements.
- Aria-labels used when link text alone is ambiguous.

## 4.6 Optimization & Quality

- Meta viewport, meta description, unique titles per page.
- Favicon included; clean folder structure under assets/.
- Images compressed (JPG/WebP) and sized appropriately.

- Validated with W3C HTML & CSS validators; no critical issues.

## 5. Deployment

Hosting method: GitHub Pages :

]Repository URL: <https://anthanh2704.github.io/AnThanh/travel-site/>

## 6. Testing & Validation

- Manual functional tests:
- All navigation links work on every page.
- Responsive behavior verified on mobile ( $\leq 768\text{px}$ ) and desktop ( $\geq 1200\text{px}$ ).
- Form validation prevents submitting invalid email/phone; required fields enforced.
- Images load quickly; iframes display properly; no mixed-content warnings.

## 7. Rubric Mapping (How Requirements Are Met)

Rubric Item	Evidence in This Project
Structure & number of pages	7 pages implemented; consistent template across all pages.
Navigation & links	Primary nav bar on all pages; internal links verified.
Media & iframe	Gallery with $\geq 5$ images; Google Maps embedded on map.html.
Full-featured form	Contact form includes diverse inputs, labels, validation, and grouping.
CSS & responsive design	External CSS with variables, Flexbox/Grid, breakpoint at 768px.
Accessibility	Alt text, headings order, focus states, adequate contrast.
Code quality & optimization	Clean structure, metadata, favicon, compressed images.
Deployment & documentation	Hosted on github; README + this report provided.
Creativity/design	Cohesive color palette and imagery reflecting Vietnam travel theme.

## 8. AI Usage Log

Describe any AI tools used and how you modified the output.

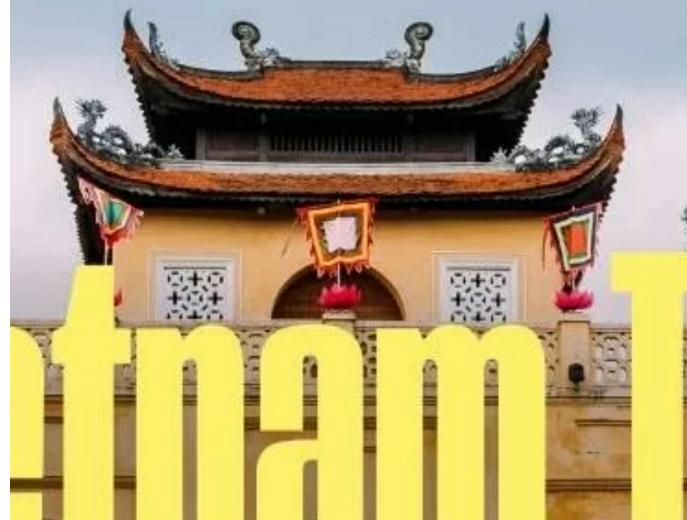
Date	Tool/Model	Prompt / Task	How I Modified / Verified
2025-10-15	ChatGPT (GPT-5 Pro)	Set up NetBeans & Tomcat on macOS	Followed steps, verified paths, adjusted to Tomcat 10.1.47.
2025-10-18	ChatGPT (GPT-5 Pro)	Hero background image CSS	Replaced hero CSS; tested responsiveness; optimized image.
2025-10-22	ChatGPT (GPT-5 Pro)	Center & enlarge gallery title	Added .page-title class and CSS; verified across pages.

## 9. Screenshots (paste below)

- Home page (index.html) – desktop:



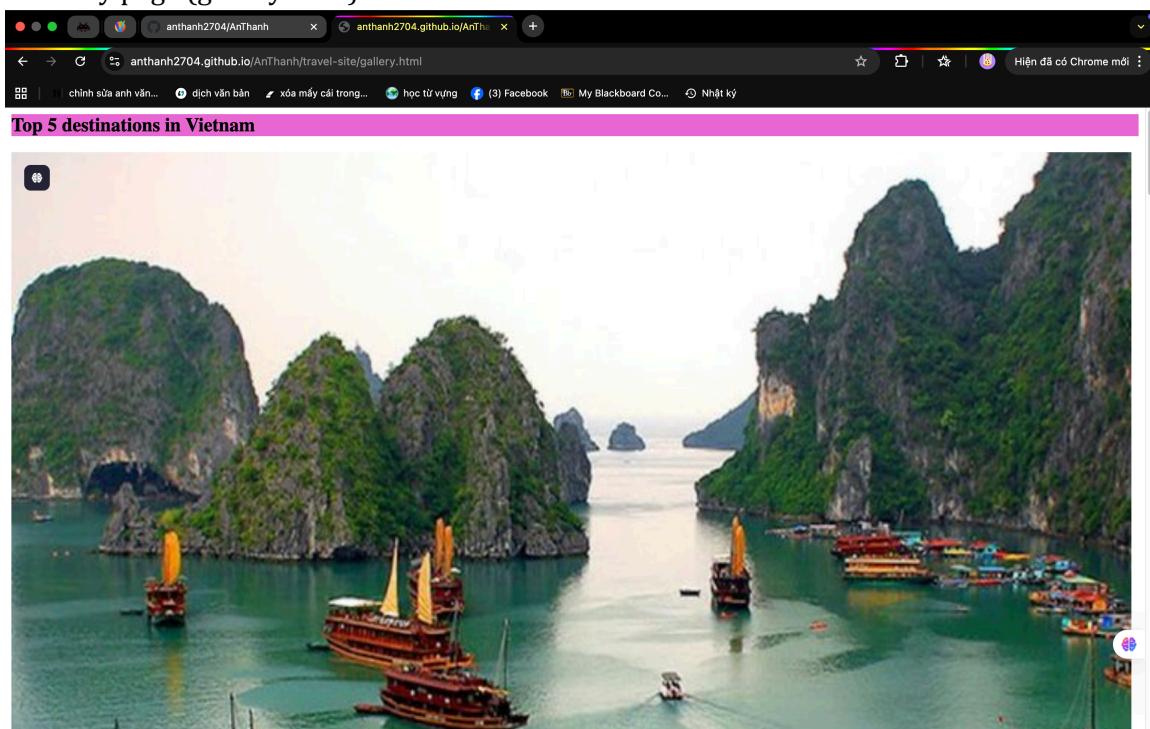
# Explore Vietnam

[Home](#)[About](#)[Destinations](#)[Gallery](#)[Blog](#)[Contact](#)[Map](#)

[anthanh2704.github.io](https://anthanh2704.github.io)

- Home page (index.html) – mobile:

- Gallery page (gallery.html):



- Destinations page (destinations.html):

The screenshot shows a web browser with the title "Top Destinations | Explore Vie" and the URL "anthanh2704.github.io/AnThanh/travel-site/destinations.html". The page features a pink header with the text "Explore Vietnam" and a navigation menu with links to Home, About, Destinations (which is underlined), Gallery, Blog, Contact, and Map. Below the header is a section titled "Must-Visit Destinations" containing three cards:

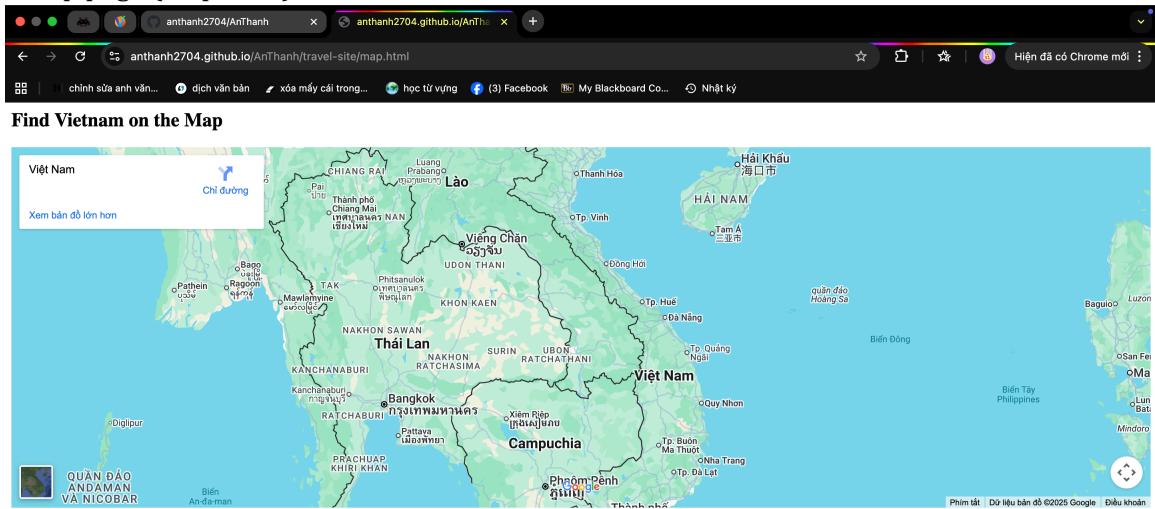
- Ha Long Bay**: Famous for its emerald waters and limestone islands, Ha Long Bay is a UNESCO World Heritage Site.
- Hoi An**: A charming ancient town with lantern-lit streets and rich cultural history.
- Sapa**: Beautiful rice terraces and ethnic minority cultures in the mountains of Northern Vietnam.

At the bottom left, there is a copyright notice: "© 2025 Explore Vietnam." At the bottom center, the URL "https://anthanh2704.github.io/AnThanh/travel-site/destinations.html" is displayed.

- Contact form (contact.html) – with validation:

The screenshot shows a contact form with a pink header containing the title "Contact Us". Below the header, there is a paragraph of address and phone number information. A large text area labeled "Send us a message" is followed by a form with fields for "Full Name", "Email", "Phone", "Preferred Travel Date", and "Your Message". There is also a "Send Message" button.

- Map page (map.html) – iframe visible:



## **Appendix A – Folder Structure**

```
/ (root)
index.html
about.html
destinations.html
gallery.html
blog.html
contact.html
map.html
assets/
  css/styles.css
  img/
  js/main.js
```

## **Appendix B – Future Improvements**

- Add dark/light mode toggle with CSS variables.
- Lazy-load gallery images for performance.
- Add a dedicated blog post page (post-1.html).
- Improve SEO with structured data (JSON-LD).