

10. Describe the difference between a relative and an absolute reference. When should each be used?
11. What are the advantages of using the new HTML5 semantic elements? Disadvantages?
12. Are you allowed to use more than one `<heading>` element in a web page? Why or why not?
13. How are the `<main>`, `<section>`, and `<article>` elements related? Be sure to describe the semantic role for each of these elements.
14. How does the `<figure>` element differ from the `<img>` element? In what situations does it make sense to use or not use `<figure>`?

### 3.7.3 Hands-On Projects

Hands-on practice projects are provided at the end of most chapters throughout this textbook and relate the content matter back to a few overarching examples: an art store, a travel website, a stock portfolio application, an analytics dashboard, a book catalog, and a movie browser. Not every chapter includes each example. These projects come with images, databases, and other files. The starting files can be found at the GitHub repository for the book: <https://github.com/funwebdev-3rd-ed>. The finished versions are available for instructors from the Pearson site for the book. Larger versions of the figures for these three projects are included with the starting files.

#### PROJECT 1: Simple Single Page

DIFFICULTY LEVEL: Beginner

##### Overview

This project requires the creation of a simple web page from scratch. The final result should look similar to that shown in Figure 3.32.

##### Instructions

1. Create a new file named `ch03-proj01.html` in the editor of your choice.
2. Start by adding the basic HTML structure as shown in Figure 3.9.
3. In the body, add the tags and content as shown in Figure 3.32. The image is named `<cover-small.jpg>`. Wrap it in an `a` element whose `href` is set to `cover-large.jpg` (so when the user clicks on the smaller image, she will see a larger version of the image).
4. For the “Learn More” link, set its `href` to <http://www.funwebdev.com>.

##### Guidance and Testing

1. Test your page in a browser and see if it looks similar to that in Figure 3.32.
2. Check if clicking on the book image requests the larger version.
3. Validate the page by either using a built-in tool in your editor, or pasting the HTML into <http://validator.w3.org> or <https://html5.validator.nu> and ensure that it displays a message that indicates it contains no errors.



FIGURE 3.32 Completed Project 1

## PROJECT 2: Using Semantic Elements

DIFFICULTY LEVEL: Beginner

### Overview

In this project you will be augmenting the provided page to use semantic HTML5 tags.

### Instructions

1. Examine `ch03-proj02.html` in a browser and then in the editor of your choice. In this project the look of your page will remain relatively unchanged from how it looks at the start as shown in Figure 3.33.
2. Reflect on why adding semantic markup is a worthwhile endeavor, even if the final, rendered page looks identical.
3. Replace and supplement generic HTML tags like `<div>` with semantic tags like `<article>`, `<nav>`, or `<footer>` (for example). Some parts make sense to wrap inside a tag such as `<section>` or `<figure>`. Figure 3.33 indicates which semantic tags you should use.

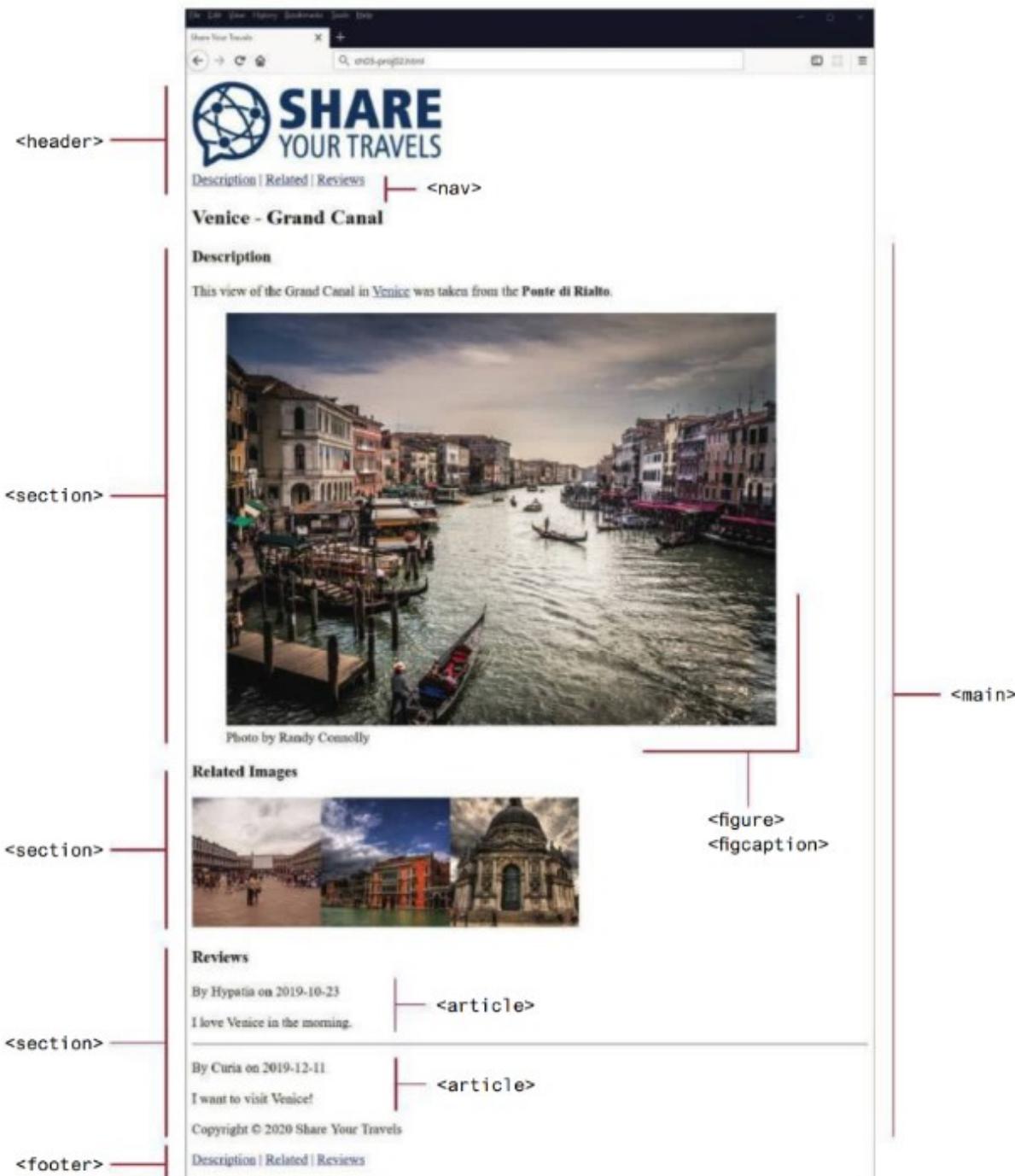


FIGURE 3.33 Completed Project 2

#### Guidance and Testing

1. Test your page side by side with the original in a browser to make sure it looks similar.

### PROJECT 3: HTML Site

DIFFICULTY LEVEL: Intermediate

#### Overview

This project is the first step in the creation of an art store website. Unlike the previous exercises, your task is to create an HTML page from scratch based on the image in Figure 3.34.

#### Instructions

1. Create ch03-proj3.html. The `<body>` should contain just seven `<img>` elements. The file `gallery-header.jpg` appears in the header of the page and then the six square images for each of the six galleries appear in the main section of the page.
2. Wrap each of the six square gallery images in a link to their respective page (e.g., `gallery1.png` to `gallery1.html`).
3. Create the six gallery pages. The content for each gallery page can be found in the `information.txt` file. Wrap the address information in an `<address>` element and make the link a working link to the correct page. Make the address and the highlights separate sections. The four highlight images for each gallery have the gallery name in the filename.
4. Make the image (`gallery-thin.png`) in the header of each gallery page a link back to the main `ch03-proj3.html` page.
5. In the information file, the latitude and longitude of each gallery is provided. These numbers can be used to accurately show the gallery on a map. Later in the book, you will learn how to do so directly via JavaScript. For now, you will simply add a link in the following format:

`https://maps.google.com/?q=LAT,LON`

where LAT and LON will be replaced with the latitude and longitude numbers from the information file.

#### Guidance and Testing

1. To remove spaces between smaller square museum images, put all the markup for those museum images and links on a single line. Remember that the browser interprets returns and tabs as white space.
2. Display `ch03-proj3.html` in a browser and test each of the links. Verify the map links work correctly.

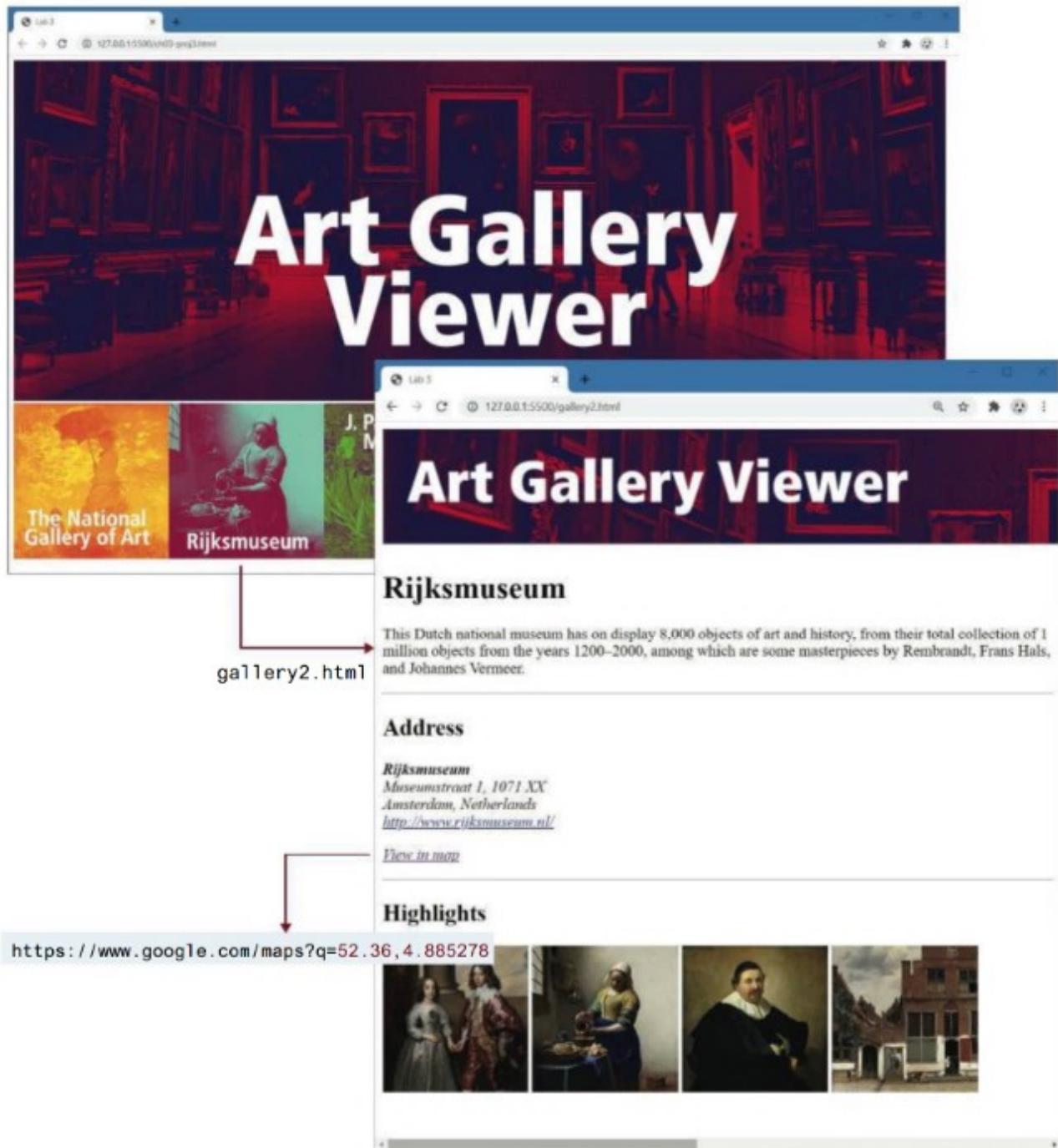


FIGURE 3.34 Completed Project 3