CX010-2.5-3-AWP Advanced Web Programming

HTML

Topic & Structure of The Lesson

- Introduction to HTML
- Semantic HTML5
- Audio & Video
- Graphics
- Device Access
- HTML5 Simplicity

Learning Outcomes

- **At the end of this topic, you should be able to**
  - Understand the components of an HTML5 document.
  - Use basic HTML5 elements.

HTML Document Structure

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>

</body>
</html>
```

Introduction to HTML5

- HTML5 is the new standard for HTML.

- HTML5 is still a work in progress, but most modern browsers have some HTML5 support.

- HTML5 is a cooperation between the World Wide Web Consortium (W3C) and the Web Hypertext Application Technology Working Group (WHATWG).

What's Introduced/ Improved in HTML5?

- Semantics

- Audio & Video

- Graphics
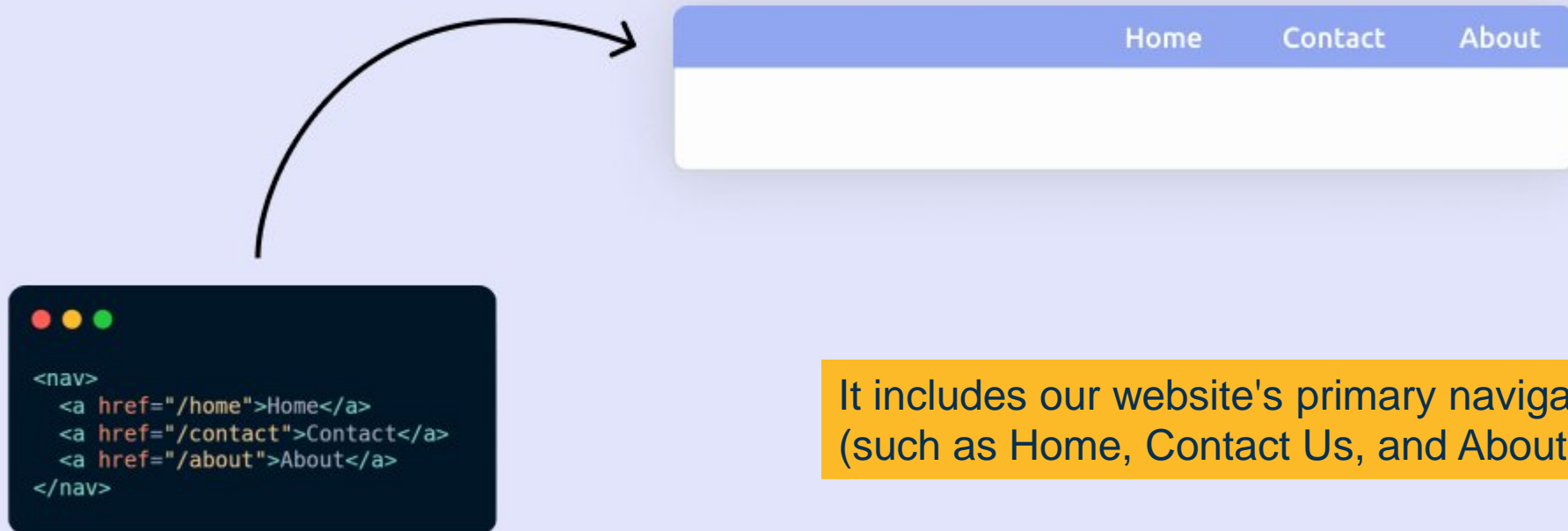
- Device Access

- HTML5 Simplicity

Semantics

- Semantic elements = elements with a meaning.

- Examples of non-semantic elements: <div> and <span> - Tells nothing about its content.

- Examples of semantic elements: <form>, <table>, and <article> - Clearly defines its content.

HTML Semantic Tags

Some Useful HTML Semantic Tags And How To Use Them

```
<nav>              <article>          <mark>
<header>           <section>          <time>
<figure>           <details>          <summary>
<figcaption>       <aside>            <footer>
<main>
```
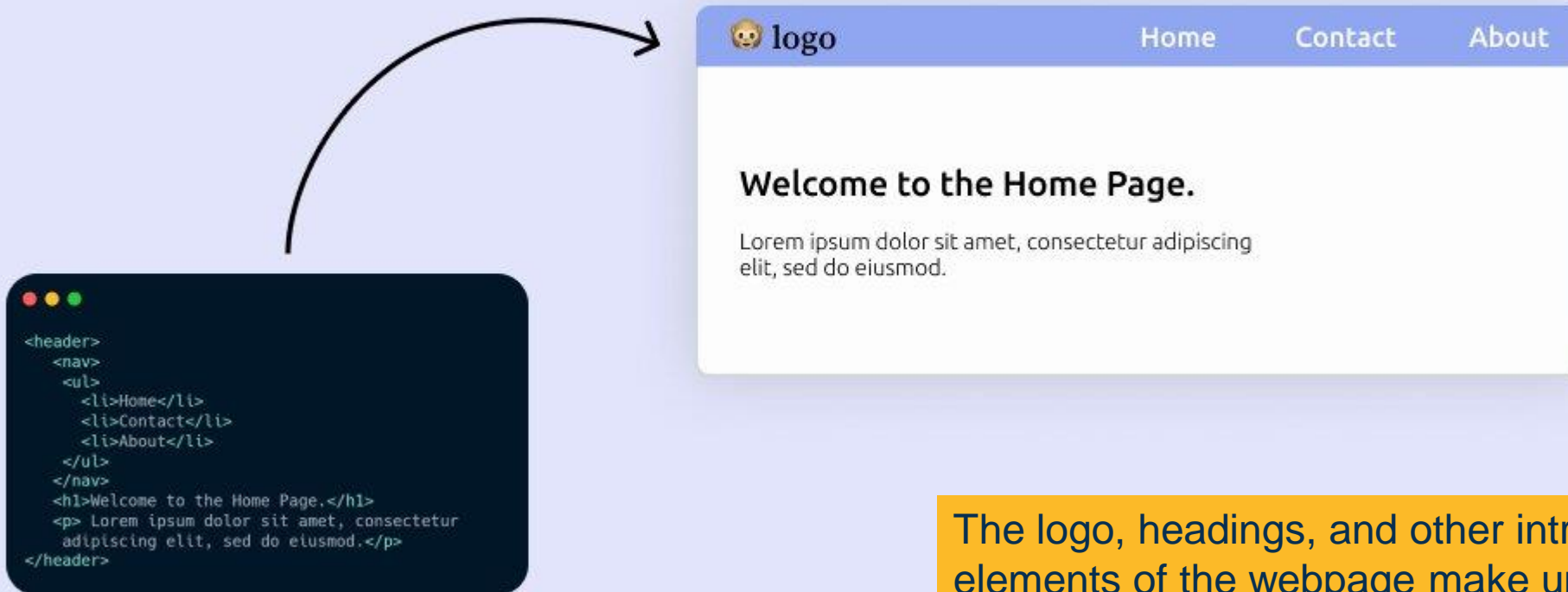
<nav>

```
<nav>
  <a href="/home">Home</a>
  <a href="/contact">Contact</a>
  <a href="/about">About</a>
</nav>
```

Home   Contact   About

It includes our website's primary navigation links (such as Home, Contact Us, and About)

<header>


```
<header>
    <nav>
     <ul>
       <li>Home</li>
       <li>Contact</li>
       <li>About</li>
     </ul>
    </nav>
    <h1>Welcome to the Home Page.</h1>
    <p> Lorem ipsum dolor sit amet, consectetur
     adipiscing elit, sed do eiusmod.</p>
</header>
```
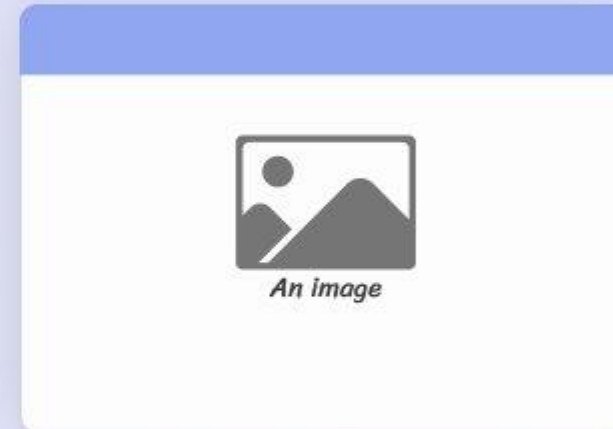
The logo, headings, and other introductory elements of the webpage make up this section.

<figure>

It includes illustrations, code examples, and images.

To add a caption, we can just use the <figcaption> tag also.

```
<figure>
    <img src="./img/image.png" alt="image">
    <figcaption> An image </figcaption>
</figure>
```

An image

<figcaption> tag simply puts a caption to the image specified.

<main>


```
<main>
  <h1>Welcome to Dev Blog</h1>
  <p>Web dev and design.</p>

  <article>
    <h2>HTML</h2>
    <p>Lorem ipsum dolor sit amet, consectetur adipiscing
elit, sed do eiusmod.</p>
  </article>

  <article>
    <h2>CSS</h2>
    <p>Lorem ipsum dolor sit amet, consectetur adipiscing
elit, sed do eiusmod.</p>
  </article>

  <article>
    <h2>JavaScript</h2>
    <p>Lorem ipsum dolor sit amet, consectetur adipiscing
elit, sed do eiusmod.</p>
  </article>
</main>
```

Welcome to Dev Blog
Web dev and design.

HTML
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod.

CSS
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod.

JavaScript
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod.

This is the body (all the necessary content) of our page. It's important to keep in mind that a document should only have one <main> tag.

<section> and <article>

```
<section>
  <h1>Welcome to Dev Blog</h1>

  <article>
    <h2>HTML</h2>
    <p>
      Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod.
    </p>
  </article>

  <article>
    <h2>JavaScript</h2>
    <p>
      Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod.
    </p>
  </article>

</section>
```

Welcome to Dev Blog

HTML
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod.

JavaScript
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod.

A section tag is used to group content together, whereas an article tag is a standalone element that can be placed anywhere on our page, such as in a blog post.

<mark>


```
<p> Lorem ipsum dolor sit amet, <mark> consectetur </mark>
adipiscing elit, sed do eiusmod. <p>
```

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod.

It is used to highlight text in a paragraph.

<details> and <summary>


```
<details>
  <summary>What is CSS?</summary>
  <p>It makes our webpage look good. 🪄</p>
</details>
```

Input
▶ What is CSS?

Output
▼ What is CSS?
   It makes our webpage look good. 🪄

It'll create a toggle lists
When you click on them, they reveal a hidden text.
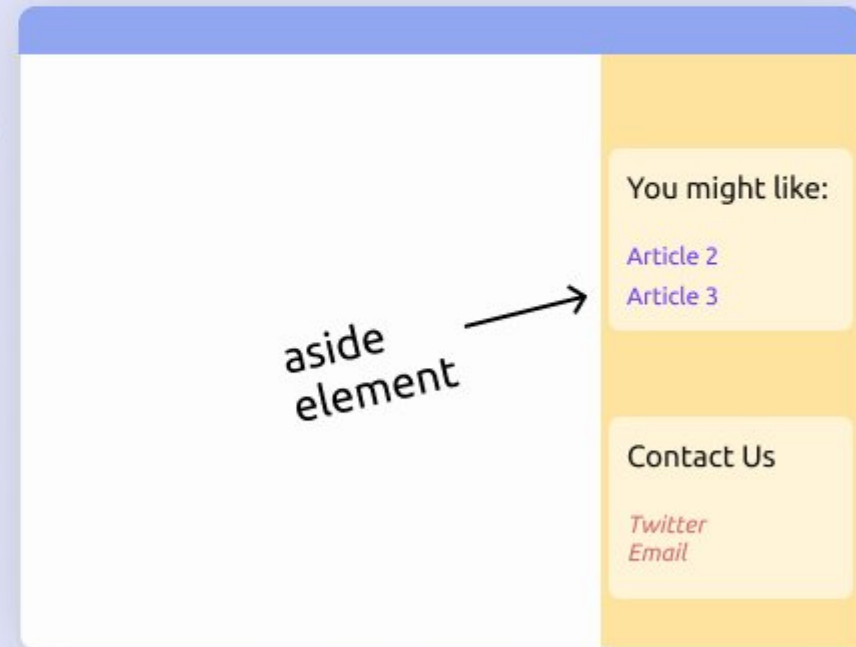
<aside>

You've probably seen a sidebar on a blog site with related articles or contact information. It all comes under the aside tag.

```
<aside>
  <section>
    <h2>You might like:</h2>
    <p>Article 2</p>
    <p>Article 3</p>
  </section>
  <section>

    <h2>Contact Us</h2>
    <a href="twitter.com">Twitter</a>
    <a href="gmail.com">Email</a>
  </section>
</aside>
```

You might like:

Article 2
Article 3

aside element

Contact Us

Twitter
Email

<footer>

A footer is located at the bottom of a webpage. It typically contains copyright information, contact information, and some site navigation.

```
<footer>
  <p> © Copyright 2021 </p>
  <i class="fab fa-twitter"></i>
  <i class="fab fa-envelope"></i>
  <i class="fab fa-instagram"></i>
</footer>
```

Home   Blog   About

© Copyright 2021

Audio and Video

Tag	Description
<audio>	Defines sound content
<source>	Defines multiple media resources for media elements (<video>, <audio> and <picture>)
<track>	Defines text tracks for media elements (<video> and <audio>)
<video>	Defines a video or movie

Graphics

Tag	Description
<img>	Defines an image
<map>	Defines a client-side image map
<area>	Defines an area inside an image map
<canvas>	Used to draw graphics, on the fly, via scripting (usually JavaScript)
<picture>	Defines a container for multiple image resources
<svg>	Defines a container for SVG graphics

HTML5 Mobile Device Access

- URI Schemes:
  - Making a Call   `<a href="tel:+6038885566">` Call Me Now! `</a>`
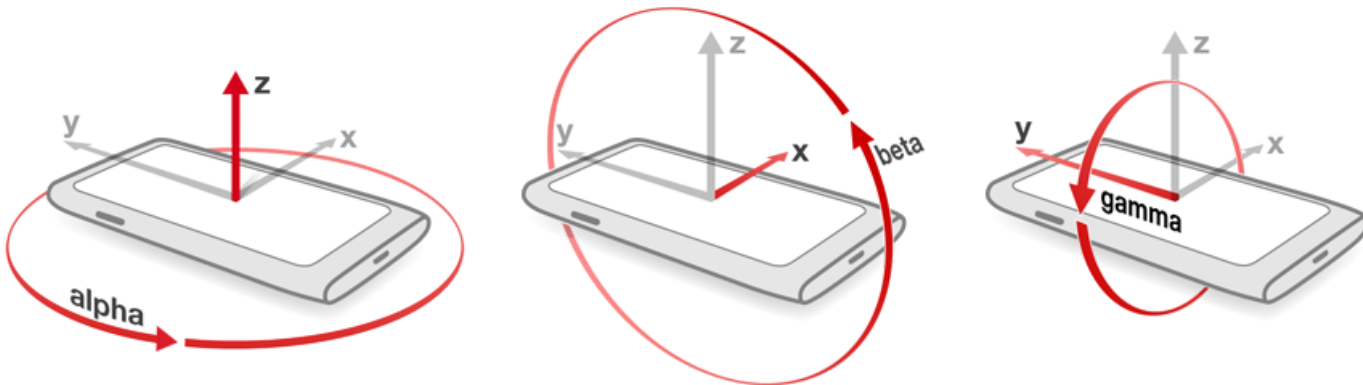 - Send a SMS   `<a href="sms:+60166788585?body=O%20Hai">`Text me! `</a>`
- Geolocation API
- Device Orientation Events

The Simplicity of HTML5

- Doctype:
  - Opportunities to simplify come right at the beginning of your HTML file. Instead of something like this:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"

"http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
```

becomes

```
<!DOCTYPE html>
```

The Simplicity of HTML5

- Character encoding
  - We can shorten this:

```
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8"/>
```

  becomes

```
<meta charset="UTF-8"/>
```

The Simplicity of HTML5

- Script/ Style default types

```
<script type="text/javascript">var x=1;</script>
<style type="text/css">body{ margin:0 }</style>
```

becomes

```
<script>var x=1;</script>
<style>body{ margin:0 }</style>
```

Can these HTML produce the same interface layout?

```
<header>
Page title
</header>

<nav>
Page links
</nav>

<article> Blog entry #1
</article>
<article> Blog entry #2
</article>

<section class="thoughts">
Random thoughts
</section>

<footer> copyright </footer>
```

```
<div class="header">
Page title
</div>

<div class="navigation">
Page links
</div>

<div class="article"> Blog
entry #1 </div>
<div class="article"> Blog
entry #2 </div>

<div class="thoughts">
Random thoughts
</div>

<div class="footer"> copyright
</div>
```

Summary of Main Teaching Points

- Semantic HTML5
- Audio & Video
- Graphics
- Device Access
- HTML5 Simplicity

Q & A