OIM3690 - Web Technologies

Multimedia and Embedding

Linking

- Linking refers to connecting one webpage to another or to a file on a website or server.

- To create a link to a YouTube video:
  - Copy the URL and paste it in an `<a>` tag.
  - Example:
    ```html
    <a href="https://www.youtube.com/watch?v=dQw4w9WgXcQ">Ed Sheeran - Shape of You</a>
    ```

- To create a link to a file:
  - Specify the path to the file within the href attribute of the `<a>` tag.
  - Examples:
    ```html
    <a href="https://www.w3.org/WAI/ER/tests/xhtml/testfiles/resources/pdf/dummy.pdf">dummy.pdf</a>
    <a href="README.md">README</a>
    ```

Embedding

- Embedding refers to inserting an object within a webpage, allowing the object to appear as part of the page's content.
  - Embedded objects can be positioned and floated using styles.
  - Examples: YouTube videos, interactive maps, and social media posts.
- Tags used for embedding:
  - `<audio>` , `<video>` : new in HTML5
  - `<iframe>` : commonly used for embedding external content
  - `<object>` / `<embed>` : going out of fashion
  - `<canvas>` : used to create dynamic and interactive graphics and animations.
  - `<svg>` : used to create 2D-based vector graphics, such as logos and illustrations.

`<audio>` and `<video>`

- Attributes:
  - `autoplay="autoplay"|autoplay` (starts on page load)
  - `loop="loop"` (plays continuously)
  - `controls="controls"` (displays controls)
  - `src="path/to/file"` (similar to `src` for `<img>`)
  - `height` and `width` (for `<video>` only)
- The end tag `</audio>` / `</video>` is required
- Supported media formats

`<audio>` and `<video>` Examples

- ```html
  <audio autoplay controls src="media/mymusic.mp3">
    Your browser does not support the <code>audio</code> element.
  </audio>
  ```

- ```html
  <video controls muted src="media/kittens.mp4" height="300"></video>
  ```

`<iframe>`

- `<iframe>` is an HTML inline element that represents a nested browsing context.
  - It can be used to embed another HTML page into the current one.
  - It has many security concerns
- Examples:
  - Embedding a web page

    ```
    <iframe src="index.html" frameborder="0" width="800"></iframe>
    ```

  - Embedding YouTube/Vimeo video, Google map, Spotify/SoundCloud playlist
- **Note:** embedding **twitter** and **instagram** content requires a different approach.

`<svg>`

- `<svg>` stands for Scalable Vector Graphics (SVG)
  - It is an XML-based markup language for describing two-dimensional based vector graphics.
  - SVG is, essentially, to graphics what HTML is to text.
  - It is an excellent choice for creating responsive graphics that look good on screens of any size.
- Example: Find the SVG logo of CNN.com.

Two Types of Images - Raster vs. Vector

- **Raster images** are defined using a grid of pixels.
  - `.bmp` , `.png` , `.jpg` , `.gif`
- **Vector images** are defined using algorithms to create shapes and paths.
  - Vector image files contain information about the shapes and paths used to create the image.
  - See the difference: vector-versus-raster.html
- More Resources on SVG:
  - SVG tutorial on MDN
  - SVG examples on W3Schools

Questions?