# HTML Tags: Multimedia

## Sesiunea 13 - 03/06/2021

/menti.com\

/code\

# HTML Tags: multimedia

- <img>
- <figure>
- <picture>
- <svg>
- <canvas>
- <video>
- <audio>
- <iframe>

# Multimedia Tags: **‹img›**

<img src="logo.png" alt="Logo" width="50" height="50">

Specific attributes:

- src
- srcset (ref to high res version on supporting devices)
- alt
- width
- height
- crossorigin
- sizes ((max-width: 600px) 200px 50vw)

```
<figure>
    <img src="logo.jpg">
    <figcaption>Logo description</figcaption>
</figure>
```

# Accessibility: **&lt;figure&gt;, &lt;figcaption&gt;**

- **&lt;figure&gt;** represents a self-contained content element, with an optional caption element, **&lt;figcaption&gt;**

- It's referenced as a single unit

- It is not strictly **&lt;img&gt;** related

- think about **&lt;fieldset&gt;**, **&lt;legend&gt;** duo we used in building Forms

- **alt** attribute does NOT have the same role as **&lt;figcaption&gt;** element

```html
<figure>
    <img src="logo.jpg">
    <figcaption>Logo description</figcaption>
</figure>
```

# Multimedia Tags: **<picture>**

```html
<picture>
    <source media="(min-width: 650px)" srcset="assets/purple.jpg">
    <source media="(min-width: 465px)" srcset="assets/white.jpeg">
    <img src="assets/orange.jpg" alt="Flowers">
</picture>
```

About:

- gives more flexibility
- <img> becomes a fallback plan
- can contain 0 or more <source> elements

<source> attributes- select a compatible image that best matches the current layout and capabilities of the display device:

- media
- srcset
- type

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# Multimedia Tags: **‹svg›**

- **svg** - Scalable Vector Graphics
- Used to define graphics for the web
- It's a container that defines a new coordinate system and viewport
- Scales to any size without losing clarity
- Specific attributes for each element
- Has several specific methods (elements&attributes) for drawing paths, boxes, circles, text etc.
- **.svg** (extension) is NOT the same as **‹svg›** HTML element

```
<svg viewBox="0 0 300 100" stroke="red" fill="grey">
    <circle cx="50" cy="50" r="40" />
    <circle cx="150" cy="50" r="4" />

    <!-- an svg can embed ulterior svgs -->
    <svg viewBox="0 0 10 10" x="200" width="100">
        <circle cx="5" cy="5" r="4" />
    </svg>
</svg>
```

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# Multimedia Tags: **‹svg›**

**Elements:**

- <circle>
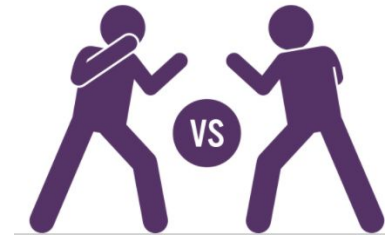- <rect>
- <polygon>

**Attributes:**

- width
- height
- <circle>: cx, cy, r, stroke, stroke-width, fill
- <rect>: x, y, rx, ry, width, height, style (specific)
- <polygon>:points, style (specific)

# Multimedia Tags: ‹canvas›

- Provides a tool for drawing graphics via JS and HTML
- A canvas is a rectangular area on an HTML page
- By default, a canvas has no border and no content
- Good practice to add an id (for ref), width and height
- It can be used for animation, game graphics, data visualization, photo manipulation, real-time video processing
- HTML5 Canvas tutorials: https://www.html5canvastutorials.com/

```html
<canvas id="myCanvas" width="200" height="100"></canvas>
<script>
    var c = document.getElementById("myCanvas");
    var ctx = c.getContext("2d");
    ctx.moveTo(0, 0);
    ctx.lineTo(200, 100);
    ctx.stroke();
</script>
```

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# ‹canvas› vs ‹svg›

**‹canvas›:**

- Rendered px by px. If any of the props will change (e.g position) the entire scene and all of its objects need to be redrawn
- **No support for event handlers**
- Poor text rendering capabilities
- Suited for graphic-intensive games

**‹svg›:**

- Each drawn shape is an object, that the browser will automatically re-render
- **Support for event handlers**
- Best suited for apps with large rendering areas (maps)
- Slow rendering if complex
- Not suited for game apps

# Multimedia Tags: **‹video›**

- Embeds a media player which supports video playback into the documents
- Similar to **<picture>** element
- Limited browser support, better to provide multiple sources

Attributes:

- controls
- poster
- width/height
- autoplay
- muted
- loop
- preload
- src (alternative to <source>)

```
<video controls width="250" poster="assets/two.JPG">
    <source src="assets/oliver.mp4" type="video/mp4">
    <source src="assets/oliver.mp4" type="video/ogg">
    <source src="assets/oliver.mp4" type="video/avi">

    Your browser doesn't support HTML5 video tag.
</video>
```

# Multimedia Tags: **<audio>**

- Used to embed sound content in documents
- Can be used in addition to the **<track>** element (~ **<video>**)

Attributes:

- controls
- autoplay
- muted
- loop
- preload
- src (alternative to <source>)

```
<audio controls>
    <source src="assets/office-ambience.mp3" type="audio/mpeg">
    <source src="assets/office-ambience.ogg" type="audio/ogg">
    Your browser doesn't support HTML5 audio tag.
</audio>
```

# Multimedia Tags: **‹track›**

- Specifies text tracks for media elements

- Used for both **<video>** and **<audio>** elements

- Used to specify subtitles, caption files or other files containing text that should be visible  while media is playing

```
<video play controls width="250" poster="assets/two.JPG">
    <source src="assets/oliver.mp4" type="video/mp4">
    <source src="assets/oliver.mp4" type="video/ogg">
    <source src="assets/oliver.mp4" type="video/avi">

    <track src="subtitles_en.vtt" kind="subtitles" srclang="en" label="English">
    <track src="subtitles_no.vtt" kind="subtitles" srclang="no" label="Norwegian">

    Your browser doesn't support HTML5 video tag.
</video>
```

# Accessibility: <figure>, <figcaption>

```html
<figure>
    <figcaption>An awesome description of the following embedded sound</figcaption>
    <audio controls>
        <source src="assets/office-ambience.mp3" type="audio/mpeg">
        <source src="assets/office-ambience.ogg" type="audio/ogg">
        Your browser doesn't support HTML5 audio tag.
    </audio>
</figure>
```

# Multimedia Tags: <iframe>

- Represents nested browser context (display a web page within a webpage)

- It's an inline frame used to embed another document within the current HTML document

- The iframe can also be used as the target frame for a link

- Each browsing context is a complete document environment, requires increased memory and dedicated computing resources

- There can be used as many iframes as one likes, but it can cause performance issues

- Used to load: maps, youtube videos, other pages etc.

# Multimedia Tags: <iframe>

Attributes:

- src (URL of the page to embed)
- title (accessibility!!)
- width/height
- style
- name

```
<iframe src="https://www.google.com"></iframe>
<iframe title="Inline Frame Example"
    width="300"
    height="200"
    src="https://www.youtube.com/watch?v=4GnVDPD01as">
</iframe>
```

```
X-Frame-Options: DENY
X-Frame-Options: SAMEORIGIN
X-Frame-Options: ALLOW-FROM https://example.com/
```

/Q&A\

# Thank you

Next: HTML Tags: Table