Web Programming

HTML - Media Embedding and Table

Multi-Page handling

To create a multiple pages in the website:

1. Add the hyperlinks in file
2. Put the file name of the destination page in the `href`

Let's Imagine

We are working on a project, the requirements are:

1. Website must have 2 pages: Home and Picture
2. Home and Picture pages must be connected

Solution: add <u>navigation</u> in each page to go to each file

Let's try! Home Page (index.html)

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title></title>
</head>
<body>
    <main>
        <nav>
            <a href="index.html">Home</a>
            <a href="picture.html">Picture</a>
        </nav>
        <h1>
            Home Page
        </h1>
    </main>
</body>
</html>
```

Picture page (picture.html)

```html
<nav>
    <a href="index.html">Home</a>
    <a href="picture.html">Picture</a>
</nav>
<h1>
    Picture Page
</h1>
```

Result

[Home](#) [Picture](#)　　　　　　[Home](#) [Picture](#)

Home Page　　Picture Page

Image

To embed image into HTML page, we could use `<img>` tag

- Single tag, no need to close
- Attributes:
    - `src` : Point the location / source of image
    - `alt` : If the picture has error, this is shown as text

Let's download an image

Method 1 (static image):

1. Download image (e.g. flower) and give it a name (remember the name)
2. Put the image in same folder as HTML file
3. Put the image name in the `src` attribute

Method 2 (online image):

1. Get online image from URL
2. Put the link in the `src` attribute

Try it

```html
<img src="flower.jpg" alt="Flower" width="100" height="100">
<img src="rose.jpg" alt="An image of rose">
<p>
    <img
    src="https://www.w3schools.com/images/w3schools_green.jpg"
    alt="Example of online image">
</p>
```


An image of rose

Figure and Caption

```html
<h4>This is a random image</h4>
<figure>
  <img src="https://picsum.photos/100"
  alt="Random Image from the Internet"
  style="width:20%">
  <figcaption>Fig.1 - Random Image Online.</figcaption>
</figure>
```
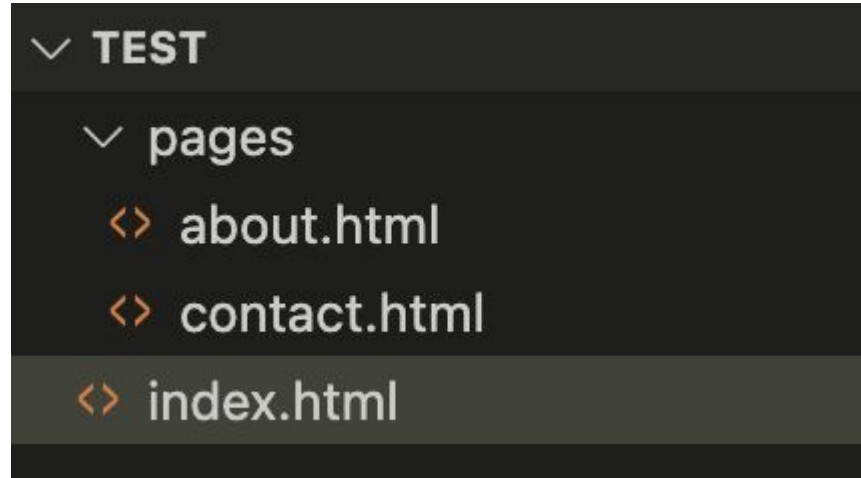
Result

This is a random image

Fig.1 - Random Image Online.

Relative and Absolute URL

Look at the image below

Relative URL

URL with location "relative" to **current location**

In **index.html**:
```
<a href="pages/about.html">About</a>
<a href="pages/contact.html">Contact</a>
```

In **about.html**:
```
<a href="index.html">Back to Home</a>
```

Add the content and see what happened

Absolute URL

URL with an absolute location, starting **from the source (usually disk, e.g. C:)**

In **index.html**:

```
<a href="C:\Users\HTML\pages\about.html">About</a>
<a href="C:\Users\HTML\pages\contact.html">Contact</a>
```

In **about.html**:

```
<a href="C:\Users\HTML\index.html">Back to Home</a>
```

Using image as link

It is super simple to use image as link, just put the image tag between anchor tag.

```
<a href="https://puis.president.ac.id">
    <img src="/path/to/image"/>
</a>
```

Picture

- More flexible
- Could use more than one image based on the size of screen by using `media` attribute

Download Images and Try this. Change resolution of screen

```html
<picture>
    <source media="(min-width: 650px)" srcset="yourimage.jpg">
    <source media="(min-width: 450px)" srcset="anotherimage.jpg">
    <img src="pichu.jpg" alt="Fallback Image" style="width: auto;"/>
</picture>
```

Video

To add a video in HTML:

- use the `<video>` tag
- Put `<source>` tag inside `<video>`.

Attributes:

- `autoplay`
- `controls`
- `preload`
- `width`
- `height`

Check: https://www.w3schools.com/tags/tag_video.asp

Video Example

```
<video width="320" height="240" controls autoplay>
    <source
    src="https://storage.googleapis.com/gtv-videos-bucket/sample/BigBuckBunny.mp4"
     type="video/mp4"/>

    Not supported
 </video>
```

Audio

To add an audio in HTML page:

- use the `<audio>` tag
- Put `<source>` tag inside `<audio>` tag

Attributes:

– `autoplay`
– `controls`
– `preload`

Check: https://www.w3schools.com/tags/tag_audio.asp

Audio Example

```html
<audio controls autoplay>
    <source
    src="http://www.sousound.com/music/healing/healing_01.mp3"
    type="audio/mp3"/>
</audio>
```

Subtitles?!

Yes we could add subtitles if we have the subtitle file in .vtt format

Use `<track>` tag inside the video / audio. The attributes:

Attribute	Value	Description
default	default	Specifies that the track is to be enabled if the user's preferences do not indicate that another track would be more appropriate
kind	captions chapters descriptions metadata subtitles	Specifies the kind of text track
label	*text*	Specifies the title of the text track
src	*URL*	Required. Specifies the URL of the track file
srclang	*language_code*	Specifies the language of the track text data (required if kind="subtitles")

But

We have to put the file on a local web server to make it run, so we'll save this for later

Table

To create table in HTML use:

<table>, <tr>, <td>, <th>

```
<table>
    <tr>
        <td>Row 1: Col 1</td>
        <td>Row 1: Col 2</td>
        <td>Row 1: Col 3</td>
        <td>Row 1: Col 4</td>
        <td>Row 1: Col 5</td>
    </tr>
    <tr>
        <td>Row 2: Col 1</td>
        <td>Row 2: Col 2</td>
        <td>Row 2: Col 3</td>
        <td>Row 2: Col 4</td>
        <td>Row 2: Col 5</td>
    </tr>
</table>
```

Row 1: Col 1 Row 1: Col 2 Row 1: Col 3 Row 1: Col 4 Row 1: Col 5
Row 2: Col 1 Row 2: Col 2 Row 2: Col 3 Row 2: Col 4 Row 2: Col 5

Table with header

```
<table>
    <tr>
        <th>Header 1</th>
        <th>Header 2</th>
        <th>Header 3</th>
        <th>Header 4</th>
        <th>Header 5</th>
    </tr>
    <tr>
        <td>Row 1: Col 1</td>
        <td>Row 1: Col 2</td>
        <td>Row 1: Col 3</td>
        <td>Row 1: Col 4</td>
        <td>Row 1: Col 5</td>
    </tr>
</table>
```

Header 1	Header 2	Header 3	Header 4	Header 5
Row 1: Col 1	Row 1: Col 2	Row 1: Col 3	Row 1: Col 4	Row 1: Col 5

Alternatives

Table semantics in HTML:

- `<thead>`
- `<tbody>`
- `<tfoot>`

Using these tags, if the table is long, then the header and footer will be printed on the next pages.

```html
<table>
    <thead>
        <tr>
            <th>Student ID</th>
            <th>Student Name</th>
            <th>Major</th>
            <th>Score</th>
        </tr>
    </thead>
    <tbody>
        <tr>
            <td>001202200001</td>
            <td>John Doe</td>
            <td>Informatics</td>
            <td>90</td>
        </tr>
        <tr>
            <td>001202200002</td>
            <td>Jane Doe</td>
            <td>Informatics</td>
            <td>80</td>
        </tr>
    </tbody>
    <tfoot>
        <tr>
            <td></td>
            <td></td>
            <td>Sum</td>
            <td>170</td>
        </tr>
    </tfoot>
</table>
```

Student ID	Student Name	Major	Score
001202200001	John Doe	Informatics	90
001202200002	Jane Doe	Informatics	80
		Sum	170

Merging cells

Use `colspan` or `rowspan` attributes with the length or range to merge in numbers

```html
<table>
    <tr>
        <td rowspan="2">Row 1 and Row 2: Col 1</td>
        <td colspan="2">Row 1: Col 2 and 3</td>
        <td>Row 1: Col 4</td>
        <td>Row 1: Col 5</td>
    </tr>
    <tr>
        <td>Row 2: Col 2</td>
        <td>Row 2: Col 3</td>
        <td>Row 2: Col 4</td>
        <td>Row 2: Col 5</td>
    </tr>
</table>
```

Row 1 and Row 2: Col 1	Row 1: Col 2 and 3		Row 1: Col 4	Row 1: Col 5
	Row 2: Col 2	Row 2: Col 3	Row 2: Col 4	Row 2: Col 5

Where's the border?

- No Border by default
- Use `<style>` tag to give border (sneak peek to CSS)
- Put the code below <u>inside</u> the `<head>` tag

```
<style>
    table, tr, td {
        border: 1px solid black;
    }
</style>
```

Row 1 and Row 2: Col 1	Row 1: Col 2 and 3		Row 1: Col 4	Row 1: Col 5
	Row 2: Col 2	Row 2: Col 3	Row 2: Col 4	Row 2: Col 5

A sneak peek to CSS

- Notice we could add border using `<style>`, put inside the `<head>` tag
- Other ways to add style is by using attribute `style` in the HTML tags and using separate files (we'll talk about it in the future)

Important! Before we continue

Best practice:

add **id** and/or **name** as attribute in HTML tags especially if we want to differentiate them.

As an example

```
<span id="myText">A Simple Text</span>
<p name="myParagraph">A Simple Paragraph</p>
```

We will see the benefits of using this later ;)

Exercise

Create the script for this table

- Define the colspan correctly
- Define the rowspan correctly

References

https://www.w3schools.com/html/html5_audio.asp

https://www.w3schools.com/html/html5_video.asp

https://picsum.photos/

https://www.w3schools.com/tags/tag_track.asp

https://www.w3schools.com/html/html_tables.asp

https://developer.mozilla.org/en-US/docs/Web/HTML/Element/table