CSE 3002
INTERNET AND WEB PROGRAMMING

Module:2
Iframe , Media Elements, Image Map

1. HTML iframes

- The iframe element embeds another HTML document within the existing one.
- It has local attribute: **src, srcdoc, name, width, height, sandbox, seamless**.
- The sandbox and seamless attributes are new in HTML5.

Syntax

<iframe src="*url*" title="*description*">

Iframes Attributes

- An iframe with a name attribute value of myframe is created. This creates a browsing context called myframe.
- Then this browsing context is used in the target attribute of other elements-specifically, a, form, button, input, and base.
- a element to create a pair of hyperlinks which will load the URLs specified in their href attributes into the iframe.
- The width and height attributes specify the size in pixels. The src attribute specifies a URL that should be loaded and displayed in the iframe initially.
- The srcdoc attribute allows you to define an HTML document to display inline.
- The seamless attribute sets the browser to display the iframe as if they were an integral part of the main HTML document.
- Otherwise a border is applied by default and a scrollbar is present if the content is larger than the width and height attributes.

Iframes Attributes

Sr.No	ATTRIBUTE & DESCRIPTION
1	**Src -** This attribute is used to give the file name that should be loaded in the frame. Its value can be any URL. For example, src = "/html/top_frame.htm" will load an HTML file available in html directory.
2	**Name -** This attribute allows you to give a name to a frame. It is used to indicate which frame a document should be loaded into. This is especially important when you want to create links in one frame that load pages into an another frame, in which case the second frame needs a name to identify itself as the target of the link.
3	**Frameborder -** This attribute specifies whether or not the borders of that frame are shown; it overrides the value given in the frameborder attribute on the <frameset> tag if one is given, and this can take values either 1 (yes) or 0 (no).
4	**Marginwidth -** This attribute allows you to specify the width of the space between the left and right of the frame's borders and the frame's content. The value is given in pixels. For example marginwidth = "10".
5	**Marginheight -** This attribute allows you to specify the height of the space between the top and bottom of the frame's borders and its contents. The value is given in pixels. For example marginheight = "10".
6	**Height -** This attribute specifies the height of <iframe>
7	**Scrolling -** This attribute controls the appearance of the scrollbars that appear on the frame. This takes values either "yes", "no" or "auto". For example scrolling = "no" means it should not have scroll bars.
8	**Longdesc -** This attribute allows you to provide a link to another page containing a long description of the contents of the frame. For example longdesc = "framedescription.htm"
9	**Width -** This attribute specifies the width of <iframe>.

Setting Width and Height of an iFrame

- Use the height and width attributes to specify the size of the iframe.

Syntax:

```
<iframe src="example.htm" height="200" width="300" title="Iframe Example"></iframe>
```

- The style attribute and use the CSS height and width properties

Syntax:

```
<iframe src=" example.htm " style="height:200px;width:300px;" title="Iframe Example"></iframe>
```

Refer Demo

Iframe - Remove the Border

- By default, an iframe has a border around it
- To remove the border, add the style attribute and use the CSS border property:

Syntax:

```
<iframe src=“example.htm" style="border: none;" title="Iframe Example"></iframe>
```

- With CSS, you can also change the size, style and color of the iframe's border

Syntax:

```
<iframe src=“example.htm" style="border:2px solid red;" title="Iframe Example"></iframe>
```

Refer Demo

Iframe - Target for a Link

- An iframe can be used as the target frame for a link.
- The target attribute of the link must refer to the name attribute of the iframe:

Example

```
<iframe src="demo_iframe.htm" name="iframe_a" title="Iframe Example"></iframe>

<p><a href="https://www.examples.com" target="iframe_a">W3Schools.com</a></p>
```

iframe sandbox

- The sandbox attribute applies restrictions to the HTML document. When the attribute is applied with no value, like this:

```
<iframe sandbox  name="myframe" width="300" height="100">
```

  The following are disabled:
  - scripts
  - forms
  - plugins
  - links that target other browsing contexts

- You can enable individual features by defining values for the sandbox attribute, like this:

```
<iframe sandbox="allow-forms" name="myframe" width="300" height="100">
```

2. Media Elements - Audio

- The HTML <audio> element is used to play an audio file on a web page.
- The controls attribute adds audio controls, like play, pause, and volume.
- The <source> element allows you to specify alternative audio files which the browser may choose from. The browser will use the first recognized format.
- The text between the <audio> and </audio> tags will only be displayed in browsers that do not support the <audio> element.
- Additional Methods, Properties, and Events are available in link

Example of Inserting Audio Using objectElement

Tag	Description
<audio>	Defines sound content
<source>	Defines multiple media resources for media elements, such as <video> and <audio>

```
<!DOCTYPE html>
<html>
 <head>
<title>Example of Inserting Audio Using object Element</title>
 </head>
<body>
  <object data="../your.mp3" width="200px"  height="50px"></object>
  <object data="../your.ogg" width="200px" height="50px"></object>
 </body>
</html>
```

3. Media Elements - Video

- The video element is used to embed video content into a web page.
- To show a video in HTML, use the **<video>** element
- The controls attribute adds video controls, like play, pause, and volume.
- It is a good idea to always include width and height attributes. If height and width are not set, the page might flicker while the video loads.
- The **<source>** element allows you to specify alternative video files which the browser may choose from. The browser will use the first recognized format.
- The text between the **<video>** and **</video>** tags will only be displayed in browsers that do not support the <video> element.

Attribute & Syntax for video element

Attribute	Description
autoplay	start playing the video when loaded.
preload	load the video in advance.
controls	The browser will not display controls unless this attribute is present.
loop	tells the browser to repeat the video.
poster	Specifies an image to display when the video data is being loaded.
height	Sets the height of the video.
width	Sets the width of the video.
muted	the video will be muted initially.
src	Sets the video to display.

```
<video width="320" height="240" autoplay>
  <source src="movie.mp4" type="video/mp4">
  Your browser does not support the video tag.
</video>
```

Additional Features

- Setting the Video Size for video element
- Preloading the Video for video element
- Video format for video element
- Displaying a Placeholder Image for video element

Refer Demo

4. Image Map

- The basic idea behind an image map is that you combine two different components:
  - ☐ A map of defined linked areas
  - ☐ An image

HTML Elements Used to Create Image Maps

There are three HTML elements used to create image maps:

img: specifies the location of the image to be included in the map.
map: is used to create the map of clickable areas.
area: is used within the map element to define the clickable areas.

Image Map Creation Steps

☐Determine the size of our image

☐Create a map to overlay the image

☐Define the coordinates for the map shapes

☐Put it all together

- The HTML **<map>** tag defines an image map. An image map is an image with clickable areas. The areas are defined with one or more **<area>** tags.

<Image>

- The image is inserted using the <img> tag. The only difference from other images is that you must add a **usemap** attribute

```
<img src="workplace.jpg" alt="Workplace" usemap="#workmap">
```

- The **usemap** value starts with a hash tag # followed by the name of the image map, and is used to create a relationship between the image and the image map.

Image Map & Areas

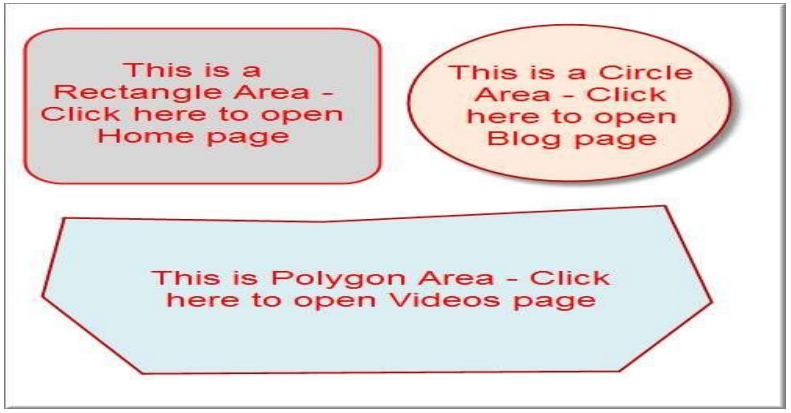
- The <map> element is used to create an image map, and is linked to the image by using the required name attribute:

<map name="workmap">

- The name attribute must have the same value as the **<img>'s usemap** attribute
- define the shape of the clickable area, and you can choose one of these values:

Areas Shape

- rect - defines a rectangular region
- circle - defines a circular region
- poly - defines a polygonal region
- default - defines the entire region



Define the coordinates for the map shapes

The coordinates outlining the selectable area.

- When shape="polygon", this should be set to a list of "x, y" pairs separated by commas (i.e., shape="polygon" coords="x1, y1, x2, y2, x3, y3, ...").
- When shape="rectangle", this should be set to left, top, right, bottom.
- When shape="circle", this should be set to centerX, centerY, radius.

Create a map to overlay the image

href

- The URL of the hyperlink, if specified. If it is omitted, then the <area> will not represent a hyperlink.

shape

- The shape of the <area>. Can be set to default to select the entire image (no coords attribute necessary), circle or circ for a circle, rectangle or rect for a rectangle, and polygon or poly for a polygonal area specified by corner points.

Alt

The alternate text to display if images are not supported. This is only necessary if href is also set on the <area>.

Refer Demo