Unit-1.2

Graphics: Introduction, How to work efficiently with the images in web pages, image maps, GIF animation, adding multimedia, data collection with html forms textbox, password, list box, combo box, text area, tools for building web page front page

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HTML Images

- Images can improve the design and the appearance of a web page.
- The HTML <img> tag is used to embed an image in a web page.
- Images are not technically inserted into a web page; images are linked to web pages. The <img> tag creates a holding space for the referenced image.
- The <img> tag is empty, it contains attributes only, and does not have a closing tag.
- The <img> tag has two required attributes:
  - src - Specifies the path to the image
  - alt - Specifies an alternate text for the image if the user cannot view it due to slow connection, an error the src attribute.

- Note: When a web page loads, it is the browser, at that moment, that gets the image from a web server and inserts it into the page. Therefore, make sure that the image actually stays in the same spot in relation to the web page, otherwise your visitors will get a broken link icon. The broken link icon and the alt text are shown if the browser cannot find the image.

Image Size - Width and Height

- You can use the style attribute to specify the width and height of an image.
- **Example: <img src="img_girl.jpg" alt="Girl in a jacket" width="500" height="600">**
- The width and height attributes always define the width and height of the image in pixels.

- We can also use style tag to specify width and height. It is suggested to use the style attribute. It prevents styles sheets from changing the size of images.
- **Example: <img src="html5.gif" alt="HTML5 Icon" style="width:128px;height:128px;">**

Images in Another Folder

- If you have your images in a sub-folder, you must include the folder name in the src attribute:
- **Example: <img src="/images/html5.gif" alt="HTML5 Icon" style="width:128px;height:128px;">**

Images on Another Server/Website

- Some web sites point to an image on another server.To do so, specify an absolute (full) URL in the src attribute:
- **Example: <img src="https://www.hyys.com/images/open.jpg" alt="hyys.com">**

Image as a Link

- To use an image as a link, put the <img> tag inside the <a> tag:

- **Example: **
 <img src="smiley.gif" alt="HTML tutorial" style="width:42px;height:42px;">

Image Floating

- Use the CSS float property to let the image float to the right of a text:

Example: <p><img src="smiley.gif" alt="Smiley face" style="float:right;width:42px;height:42px;">//image floats towards right

Output: A paragraph with a floating image. A paragraph with a floating image. A paragraph with a floating image.

Image Maps

- 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.
- The idea behind an image map is that you should be able to perform different actions depending on where in the image you click.
- To create an image map you need an image, and some HTML code that describes the clickable areas.
  - The image is inserted using the <img> tag. The only difference from other images is that you must add a usemap attribute:
  - **Example:** <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.
- You can use any image as an image map.
- Create Image Map then add a <map> element.
- The <map> element is used to create an image map, and is linked to the image by using the required name attribute:

```
<img src="workplace.jpg" alt="Workplace"
usemap="#workmap" width="400" height="379">

<map name="workmap">
```

- Note: The name attribute must have the same value as the <img>'s usemap attribute

- Add the clickable areas.
- A clickable area is defined using an <area> element.
- You must define the shape of the clickable area, and you can choose one of these values:
- rect - defines a rectangular region
- circle - defines a circular region
- poly - defines a polygonal region
- default - defines the entire region
- You must also define some coordinates to be able to place the clickable area onto the image.

```
<!DOCTYPE html>
<html>
<body>

<h2>Image Maps</h2>
<p>Click on the computer to go to a new page
and read more about the topic:</p>

<img src="workplace.jpg" alt="Workplace"
usemap="#workmap" width="400" height="379">

<map name="workmap">
  <area shape="rect" coords="34,44,270,350"
alt="Computer" href="computer.htm">
</map>

</body>
</html>
```

So, the coordinates 34,44 is located 34 pixels from the left margin and 44 pixels from the top. The coordinates 270,350 is located 270 pixels from the left margin and 350 pixels from the top. Now we have enough data to create a clickable rectangular area.This is the area that becomes clickable and will send the user to the page "computer.htm".

- To add a circle area, first locate the coordinates of the center of the circle.
- Then specify the radius of the circle.
- Now you have enough data to create a clickable circular area.

```html
<map name="workmap">
  <area shape="circle" coords="337,300,44" alt="Cup of coffee" href="coffee.htm">
</map>
```

- Shape="poly"
- The shape="poly" contains several coordinate points, which creates formed with straight lines (a polygon).
- This can be used to create any shape
- We have to find the x and y coordinates for all edges of the shape.
- The coordinates come in pairs, one for the x-axis and one for the y-axis.

```html
<map name="foodmap">
  <area shape="poly"
coords="140,121,181,116,204,160,204,222,191,270,140,329,85,355,58,352,37,322,40,259
,103,161,128,147" alt="Croissant" href="croissant.htm">
</map>
```

GIF Animation

- HTML allows animated GIFs:

```
<!DOCTYPE html>
<html>
<body>
<h2>Animated Images</h2>
<p>HTML allows moving images:</p>
<img src="programming.gif"
alt="Computer man"
style="width:48px;height:48px;">
</body>
</html>
```

Animated Images

HTML allows moving images:

HTML Multimedia

- Multimedia comes in many different formats. It can be almost anything you can hear or see, like images, music, sound, videos, records, films, animations, and more.
- Web pages often contain multimedia elements of different types and formats.
- Multimedia elements (like audio or video) are stored in media files.
- The most common way to discover the type of a file, is to look at the file extension.
- Multimedia files have formats and different extensions like: .wav, .mp3, .mp4, .mpg, .wmv, and .avi.
- Common Video Formats: The MP4, WebM, and Ogg formats are supported by HTML.The MP4 format is recommended by YouTube.
- Common Audio Formats: .wav, .mp3, .wma etc are some of the audio formats.

HTML Video

- The HTML <video> element is used to show a video on 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.

HTML Video

HTML <video> Autoplay

- To start a video automatically, use the autoplay attribute:
  Example: <video width="320" height="240" autoplay>
- Add muted after autoplay to let your video start playing automatically (but muted):
  Example: <video width="320" height="240" autoplay muted>

```
<!DOCTYPE html>
<html>
<body>

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

</body>
</html>
```

HTML Youtube Video

- The easiest way to play videos in HTML, is to use YouTube.
- We can play YouTube videos in the web page.
- YouTube will display an id (like tgbNymZ7vqY), when you save (or play) a video.
- You can use this id, and refer to your video in the HTML code.
- To play your video on a web page, do the following:
- Upload the video to YouTube
  - Take a note of the video id
  - Define an <iframe> element in your web page
  - Let the src attribute point to the video URL
  - Use the width and height attributes to specify the dimension of the player
  - Add any other parameters to the URL (see below)

```
<iframe width="420" height="345" src="https://www.youtube.com/embed/tgbNymZ7vqY"></iframe>
```

HTML Youtube Video

- You can let your video start playing automatically when a user visits the page, by adding autoplay=1 to the YouTube URL. However, automatically starting a video is annoying for your visitors.
- Add mute=1 after autoplay=1 to let your video start playing automatically (but muted).

```html
<iframe width="420" height="345" src="https://www.youtube.com/embed/tgbNymZ7vqY?autoplay=1&mute=1"></iframe>
```

- Add loop=1 to let your video loop forever.
- Value 0 (default): The video will play only once and Value 1 will loop the video forever.

```html
<iframe width="420" height="345" src="https://www.youtube.com/embed/tgbNymZ7vqY?playlist=tgbNymZ7vqY&loop=1"></iframe>
```

- Add controls=0 to not display controls in the video player.
- Value 0: Player controls does not display and Value 1 (default): Player controls display.

```html
<iframe width="420" height="345" src="https://www.youtube.com/embed/tgbNymZ7vqY?controls=0"></iframe>
```

HTML Audio

- The HTML <audio> element is used to play an audio file on a web page.
- To play an audio file in HTML, use the <audio> element.
- 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.
- To start an audio file automatically, use the autoplay attribute
- Example: <audio controls autoplay>
- Add muted after autoplay to let your audio file start playing automatically (but muted):
- Example: <audio controls autoplay muted>

HTML Audio

```html
<!DOCTYPE html>
<html>
<body>

<audio controls>
  <source src="horse.ogg" type="audio/ogg">
  <source src="horse.mp3" type="audio/mpeg">
Your browser does not support the audio
element.
</audio>

</body>
</html>
```