

Introduction to Web Design

Lecture number:

Today's Aim:

- Introduction to Web-designing and how its done.
- Modelling websites in HTML.

Web-sites

- A website is a document comprising of text, images, videos, and links to other websites.
- Websites are usually hosted on web-servers
- Web-server is usually a normal computer listening to port 80 and addressed by an internet IP and/or a domain name
- Example: <http://www.google.com:80>

How are websites made

- Websites are constructed of small HTML blocks called 'Tags'.
- HTML stands for Hyper Text Markup Language.
- HTML is a designing language where we describe a visual design in terms of text.
- Example: `<h1>`This is a very large heading`</h1>` (`<h1>``</h1>` are the tags)

Basic HTML structure

- In building every structure we need to make the skeleton first.
- In a website the skeleton consists of three things:
 - i. The Header
 - ii. The Title
 - iii. The Body

The website Header

- The website header or HTTP header is a few bytes of information exchanged between the web-server and web-browser.
- It contains information about the type of data that is being exchanged and/or any answers to requests made by the client.
- In HTML a header is represented by `<head></head>` tags.

HTML <head> element

- The <head> element may contain vital information called 'meta data' which describes the website in terms of its owner, related keywords, type of document etc.
- The meta elements make it easier for search engines to index(or categorize) the website.
- Example:<meta name="keywords" content="cars,engines,tyres,rims,exhausts"> would describe an automobile related website.

The website title

- The Title describes the current document's title which is displayed in the title bar of the web browser.
- Title is represented by the `<title></title>` tags in HTML.
- Example: `<title>Welcome to Engineerd.NET</title>`

The website body

- It is the actual content of the website.
- Represented by `<body></body>` tags.
- We may change the website's background color, background image, margins, and any events that we want to take place when the website is loaded or closed etc.
- Example: `<body bgcolor="green" leftmargin="5">...content....</body>`

Making a basic website

- A basic website shall be stored as .html or .htm extension.
- We need to write down the code in notepad and then run it in the web-browser.
- The web-browser translates or 'parses' the HTML code.

Making a basic website(2)

- Open windows 'notepad' and write down the following code and save as 'mywebpage.html':

```
<html>
  <head>
    <meta name="owner" content="Qaiser">
    <meta name="location" content="UET Peshawar">
  </head>
  <title>Welcome to my website</title>
  <body bgcolor="black"><h1>Welcome to my
website</h1><hr></body>
</html>
```

Untitled - Notepad

File Edit Format View Help

```
<html>
<head>
  <meta name="owner" content="Qaiser">
  <meta name="location" content="UET Peshawar">
</head>
<title>welcome to my website</title>
<body bgcolor="black"><h1>welcome to my website</h1><hr></body>
</html>
```

Save As

Save in: Desktop

- My Recent Documents
- Desktop
- My Documents
- My Computer
- My Network

- My Documents
- My Computer
- My Network Places
- Alcohol 120%
- Buzan's iMindMap
- eBay
- EVDO BROADBAND PTCL
- Foxit Reader
- Google Desktop
- Launch ConsolidateDirectory.exe
- LightScribe
- Media Player Classic
- Norton Antivirus
- Play Stronghold 2
- Skype

File name: mywebpage.html

Save as type: All Files

Encoding: ANSI

Save Cancel

Making a basic website(3)

- Now browse to that website and double click it (if you have a web-browser like Internet Explorer installed).
- A browser window should open displaying the output of the code.
- This is a basic HTML web-page.



<body>

Welcome to my website <h1>

<head> is invisible

HTML tags and attributes

- Every HTML tag is enclosed in angle brackets '<>'.
 - We must end every HTML tag we can do this by putting a separate tag consisting name of the tag preceded by a forward slash '/' or simply a '/' at the end of the same tag depending on whether it's a container tag or not(container tags consist of some text between the opening and closing tags)
- Examples: <title>Some title</title>(container) or <hr />(non-container)
- Attributes are used for fine tuning the tags by specifying their colors or widths etc.

HTML tags and attributes(2)

- Every tag has its own set of attributes.
- Examples: `<body bgcolor="green" leftmargin="5">` or `` some text``
- General HTML tag syntax:

```
<tag-name attribute="value">..contained text..</tag>
```


Some typical tags

- Some of the most commonly used HTML tags are:
 - i. Headings `<h1>`, `<h2>`, `<h3>` ... `<h6>` (`</hx>`)
 - ii. Font ````
 - iii. Images ``
 - iv. Line break `
`
 - v. Horizontal Rule `<hr>`
 - vi. Hyper links and Anchors

HTML Headings

- HTML headings are bold weighted text.
- Their sizes may vary between six different levels.
- Headings are specified by `<h1>``<h2>``<h3>``<h4>``<h5>` and `<h6>`.
- Container tag, i-e `<h1>Some text</h1>` or `<h2>Some text</h2>` etc.

Headings example

- Check the output for the following HTML code(after providing the skeleton code).

```
<h1>This is a level-1 heading it's the biggest</h1> <br/>
```

```
<h2>This is a level-2 heading </h2><br/>
```

```
<h3>This is a level-3 heading</h3><br/>
```

```
<h4>This is a level-4 heading</h4><br/>
```

```
<h5>This is a level-5 heading</h5><br/>
```

```
<h6>This is a level-6 heading it's the smallest</h6><br/>
```

Headings: Output

This is a level-1 heading it's the biggest

This is a level-2 heading

This is a level-3 heading

This is a level-4 heading

This is a level-5 heading

This is a level-6 heading it's the smallest

Working with text(tag)

- The tag is used to format the text by specifying different text colors, sizes, faces etc.
- It is a container tag so the text to be formatted must fall inside the opening and closing tags.
- Common attributes are 'color' 'face' and 'size'.
- Example: ...Text to be formatted...

Working with text:example

- Observe the output for the following html code:

```
<font face="Verdana, Geneva, sans-serif"
  size="5" color="green">Some</font>
```

```
<font face="Arial, Helvetica, sans-serif"
  size="5" color="red"> Text </font>
```

```
<font face="Comic Sans MS, cursive" size="8"
  color="yellow"> Here </font>
```

Working with text: Output(magnified)

SomeText Here

Working with Images

- An image adds to the vibrance of a webpage.
- We can add images in gif, jpg or png formats.
- The `` tag is used to represent images.
- `` is a non-container tag.
- Typical attributes are: `src`, `alt`, `width`, `height`.

Working with images(2)

- src specifies the source of the image on the computer(we have to specify the complete path if the image is not in the same folder as the web-page).
- alt specifies a piece of text that will be displayed if the image is not available or is yet loading.

Working with Images: Example

- Observe the output for the following HTML code:

```

```

If the web-page is stored on desktop, make sure there is a folder named 'images' on desktop which contain an image file named 'image1.gif'.

Horizontal Rule <hr>

- Used to draw a horizontal line anywhere in the HTML document.
- Typical attributes are color, align and width.
- width can have a value in pixels or in percents of the screen, align is used to for horizontal alignment of the line it can be center, left or right.
- Example: `<hr width="80%" color="green" align="center">`
or `<hr width="800" color="#00FF00" align="right">`

Hyperlinks

- A Hyper link is an image or text which when clicked, opens another web-page, or file.
- It is like a doorway or a portal to another page.
- Hyperlinks are represented by the `<a>` tag and we can specify the link as a value to the 'href' attribute.
- Example: `Click Here`
- The `<a>` tag is a container tag, it can contain text or images, eg ``

Hyperlinks: Example

- The browser applies a default formatting to every hyperlink i-e blue color and underlining, we can override this using css which we'll study later on.
- Try to check the output for the following code:

```
<a href="www.google.com">Visit Google!</a>
```

```
and<a href="www.google.com"></a>
```

When you roll the mouse over a hyperlink, the cursor changes.

Anchors

- An anchor is part of a webpage that can be accessed using a hyperlink.
- Anchors specify locations inside a webpage.
- For-example: <http://www.google.com> refers to the whole webpage whereas <http://www.google.com#anchor1> refers to a point called anchor1 inside the google.com page.
- To specify anchors we simply put the `<a>` tag with the 'name' attribute eg: ``
- Anchors are specifically helpful in lengthy pages like online tutorials/books etc for navigational purposes.

Working with Tables

- We can create tables in HTML, a table is represented by the `<table>` tag and it must contain rows and columns.
- A row is represented by `<tr>` tag and a column by `<td>`.
- We must create a row first and then create the columns inside the row.
- We can specify the border etc in the `<table>` tag.

Working with Tables: Example

```
<table border="1">
<tr>
  <td>Column1</td>
  <td>Column2</td>
  <td>Column3</td>
</tr>
<tr>
  <td>123</td>
  <td>456</td>
  <td>789</td>
</tr>
<tr>
  <td>abc</td>
  <td>def</td>
  <td>ghi</td>
</tr>
</table>
```

Column1	Column2	Column3
123	456	789
abc	def	ghi