Web Programming

Module Code- K72T001M07

ICT in NVQ Level-05

Ministry of Youth Affairs & Skills Development

Vocational Training Authority of Sri lanka

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What is Web Programming ?

- Necessary source code to create a Web site.

- It refers to writing the HTML pages.

- Web pages also contain JavaScript, and any Web site that provides access

- to databases or any processing for the user requires additional programs

- that run in the Web server.

- Web server processing is programmed in Java, PHP, Perl and other languages. See JavaScript, Java, PHP, Perl,

- Web authoring software and application server.

Learning Outcomes

1. Create static & dynamic web pages.

2. Develop web pages using scripting languages.

3. Insert multimedia contents to web sites / pages.

4. Develop form based interactive web pages.

5. Manipulating records using database connectivity.

6. Role of web server.

7. Install , configure & maintain web server.

8. Publishing a web site.

Topic   Web contents development – 1 (HTML)

- Understand & Explain the Outline of HTML
- Identify HTML basic Tags

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What is HTML?

The first publicly available description of HTML was a document called "HTML Tags", first mentioned on the Internet by Berners-Lee in late 1991.

World Wide Web Consortium (W3C) is the standard organization which controls most of the standards used in the Web.

Versions of HTML

The **versions** of HTML that has been approved are,

- HTML 1.0
- HTML 2.0
- HTML 3.2
- HTML 4
- HTML 4.1
- XHTML 1.0 (Extensible HTML)

HTML ?

- HTML is a language for describing web pages.

- HTML stands for **H**yper **T**ext **M**arkup **L**anguage

- HTML is not a programming language, it is a **markup language**

- A markup language is a set of **markup tags**

- HTML uses **markup tags** to describe web pages

HTML Tags

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  E.g. : <title> My first HTML document </title>

Document-level Tags of a Typical HTML Document

Document tags define the overall structure of a HTML document.

HTML document include the following document tags:

The document type tag
Starts with <!DOCTYPE …

Head , Body Tag

The HTML tag

Delimited by<html> and </html> tags

The head section

Delimited by <head> and </head> tags

- – Document title

- – Meta tags

- – Style section

- – Script section

Body section -Delimited by <body>,</body> tags

Paragraphs and Lines

Paragraphs

- Delimited by <p> and </p> tags.
- Paragraphs in HTML act much like the paragraphs in a word processor.
- HTML automatically adds an extra blank line before and after a paragraph.

Headings:

- Standard HTML tags allow six levels of headings, <h1> through <h6>.
- As the heading number increases, the heading gets smaller.

Manual Line Break

Uses the line break tag **
** or **
**

Inserts a line break into a page before the paragraph break.

 moves to the next line of text and is identified by the web browser much like pressing the Enter key when working with a word processor.

HTML Text Formatting

HTML uses tags like <b> and <i> for formatting output, like bold or italic text.

These HTML tags are called formatting tags (look at the bottom of this page for a complete reference).

Remark   Often <strong> renders as <b>, and <em> renders as <i>.

HTML Text Formatting

However, there is a difference in the meaning of these tags:

<b> or <i> defines bold or italic text only.

<strong> or <em> means that you want the text to be rendered in a way that the user understands as "important".

Today, all major browsers render strong as bold and em as italics.

However, if a browser one day wants to make a text highlighted with the strong feature, it might be cursive for example and not bold!

HTML Lists

- Lists are usually indented and may be displayed with a blank line before and after the list.

- Different types of lists are as follows:

  - Ordered lists

  - Unordered lists

  - Definition lists

HTML Ordered Lists

An ordered list starts with the <ol> tag. Each list item starts with the <li> tag.

The list items are marked with numbers.

```
<ol>
<li>Coffee</li>
<li>Milk</li>
</ol>
```

HTML Unordered Lists

An unordered list starts with the <ul> tag. Each list item starts with the <li> tag.

The list items are marked with bullets (typically small black circles).

Coffee

Milk

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HTML Definition Lists

A definition list is a list of items, with a description of each item.

The <dl> tag defines a definition list.

The <dl> tag is used in conjunction with <dt> (defines the item in the list) and <dd> (describes the item in the list):

```
<dl>
<dt>Coffee</dt>
<dd>- black hot drink</dd>
<dt>Milk</dt>
<dd>- white cold drink</dd>
</dl>
```

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Fonts

The HTML <font> Tag Should NOT be Used

The <font> tag is deprecated in HTML 4, and removed from HTML5.

The World Wide Web Consortium (W3C) has removed the <font> tag from its recommendations.

In HTML 4, style sheets (CSS) should be used to define the layout and display properties for many HTML elements.

Fonts

The example below shows how the HTML could look by using the <font> tag:

Example

```
<p>
    <font size="5" face="arial" color="red">
    This paragraph is in Arial, size 5, and in red text color.
    </font>
    </p>

    <p>
    <font size="3" face="verdana" color="blue">
    This paragraph is in Verdana, size 3, and in blue text color.
    </font>
    </p>
```

Images

- In HTML, images are defined with the <img> tag.

- The <img> tag is empty, which means that it contains attributes only, and has no closing tag.

- To display an image on a page, you need to use the src attribute. Src stands for "source". The value of the src attribute is the URL of the image you want to display.

Syntax for defining an image:

Tables

- Tables can be used to display tabular data, align elements in a form, or provide entire document layout structure.

- Tables are defined with the <table> tag.

- A table is divided into rows (with the <tr> tag), and each row is divided into data cells (with the <td> tag). td stands for "table data," and holds the content of a data cell.

- A <td> tag can contain text, links, images, lists, forms, other tables, etc.

Creating a HTML Table

- A table is created using the table tag **<table>**.

- Each row is created using the row tag **<tr>**. Each cell within a row is created using the **<td>** tag.

- <table >
  <tr>
  <td>Row 1, cell 1</td>
  <td>Row 1, cell 2</td>
  </tr>
  </table>

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Formatting a Table

Attributes used for formatting a table are:

- Table width

- Table borders

- Table alignment

- Header and caption

- Width/height of a row/column

- Background colors

- Spanning columns and rows

HTML Table Headers

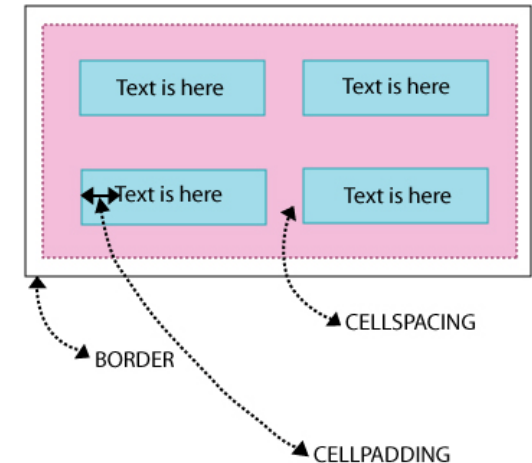Header information in a table are defined with the <th> tag.

All major browsers display the text in the <th> element as bold and centered.

```
<table border="1">
    <tr>
    <th>Header 1</th>
    <th>Header 2</th>
    </tr>
    <tr>
    <td>row 1, cell 1</td>
    <td>row 1, cell 2</td>
    </tr>
    <tr>
    <td>row 2, cell 1</td>
    <td>row 2, cell 2</td>
    </tr>
</table>
```

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Cell Spacing and Padding

- **Cell padding** is the distance between a cell's content and its border.

- This is controlled with the <table> tag's cellpadding attribute and can be specified in pixels and percentages.

- **Cell Spacing** is the distance between cells (i.e. the distance between a cell's border and neighboring elements' boundaries)

- This is controlled with the cellspacing attribute and can be specified in pixels and percentages

HTML Paragraphs

Paragraphs are defined with the <p> tag.

Example

<p>This is a paragraph</p>
<p>This is another paragraph</p>

HTML Link

The HTML code for a link is simple. It looks like this:

Link text

The href attribute specifies the destination of a link.

Example

Visit Vocational Training Authority of Sri Lanka Web Site

HTML Forms

HTML forms are used to pass data to a server.

A form can contain input elements like text fields, checkboxes, radio buttons, submit buttons and more. A form can also contain select lists,textarea, fieldset, legend, and label elements.

The <form> tag is used to create an HTML form:

<div align="center">

<form>

.

input elements

.

</form>

</div>

HTML Forms - The Input Element

- The most important form element is the <input> element.

- The <input> element is used to select user information.

- An <input> element can vary in many ways, depending on the type attribute. An <input> element can be of type text field, checkbox, password, radio button, submit button, and more.

- The most common input types are described below.

Text Fields

- \<input type="text"> defines a one-line input field that a user can enter text into:

- \<form>
  First name: \<input type="text" name="firstname">\
  Last name: \<input type="text" name="lastname">
  \</form>

Password Field

- <input type="password"> defines a password field:

- <form>
  Password: <input type="password" name="pwd">
  </form>

- Note: The characters in a password field are masked (shown as asterisks or circles).

Radio Buttons

- <input type="radio"> defines a radio button. Radio buttons let a user select ONLY ONE of a limited number of choices:

- <form>
<input type="radio" name="sex" value="male">Male
<input type="radio" name="sex" value="female">Female
</form>

Checkboxes

- <input type="checkbox"> defines a checkbox. Checkboxes let a user select ZERO or MORE options of a limited number of choices.

- <form>
  <input type="checkbox" name="vehicle" value="Bike">I have a bike
  <input type="checkbox" name="vehicle" value="Car">I have a car
  </form>

Submit Button

- <input type="submit"> defines a submit button.

- A submit button is used to send form data to a server. The data is sent to the page specified in the form's action attribute. The file defined in the action attribute usually does something with the received input:

    - <form name="input" action="html_form_action.asp" method="get">
      Username: <input type="text" name="user">
      <input type="submit" value="Submit">
      </form>

The HTML frame Element

The <frame> tag defines one particular window (frame) within a frameset.In the example below we have a frameset with two columns.

The first column is set to 25% of the width of the browser window. The second column is set to 75% of the width of the browser window. The document "frame_a.htm" is put into the first column, and the document "frame_b.htm" is put into the second column:

<frameset cols="25%,75%">

<frame src="frame_a.htm" />

 <frame src="frame_b.htm" />

</frameset>

Iframe - Set Height and Width

The height and width attributes are used to specify the height and width of the iframe.

The attribute values are specified in pixels by default, but they can also be in percent (like "80%").

Example

<iframe src="demo_iframe.htm" width="200" height="200"></iframe>

Iframe - Remove the Border

- The frameborder attribute specifies whether or not to display a border around the iframe.

- Set the attribute value to "0" to remove the border:

  Example

- <iframe src="demo_iframe.htm" frameborder="0"></iframe>

HTML Colors

- Colors are displayed combining RED, GREEN, and BLUE light.

- HTML colors are defined using a hexadecimal notation (HEX) for the combination of Red, Green, and Blue color values (RGB).

- The lowest value that can be given to one of the light sources is 0 (in HEX: 00). The highest value is 255 (in HEX: FF).

- HEX values are specified as 3 pairs of two-digit numbers, starting with a # sign.

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Keywords

- HTML – Hyper Text Markup Language

- CSS – Cascade Style Sheet

- Web Server

- Web Site

- Web Page

- Form

- Frame

Summary

- HTML is the universal markup language for the Web.

- HTML lets you format text, add graphics, create links, input forms, frames and tables, etc.,

- And save it all in a text file that any browser can read and display.

Questions

1. What are meta tags used for?

2. What are the purpose of following html tags
   2. <TABLE>
   3. <HR>
   4. <DIV>
   5. <OL>

3. What does an HTML tag do?

4. A few lines in an HTML paragraph are to be formatted differently from the rest of the lines. Which tag will assist in this?

Reference

- http://www.w3schools.com/html
- http://en.wikipedia.org/wiki/HTML
- http://www.htmldog.com/guides/html