UNIVERSITY OF DIYALA

Web Design and Programming

Lecture 4:
Links and Navigation, Images And Tables

Assoc. Prof.
Ali A. Al-Ani

UNIVERSITY OF DIYALA

Links and Navigation

- A webpage can contain various links that take us directly to other pages and even specific parts of a given page. These links are known as ***hyperlinks***.
- Hyperlinks allow visitors to navigate between Web sites by clicking on ***words***, ***phrases***, and ***images***. Thus we can create hyperlinks using ***text*** or ***images*** available on a webpage.
- A link is specified using XHTML tag **<a>**. This tag is called ***anchor tag*** and anything between the opening ***<a> tag and the closing tag*** becomes part of the link and a user can click that part to reach to the linked document. Following is the simple syntax to use <a> tag

UNIVERSITY OF DIYALA

Links and Navigation

- It's also good practice to use the ***title*** attribute on a link, as this will be displayed in a tooltip (a little bubble that appears stating the title).

  Google

- To create a link to an e-mail address, you need to use the following syntax with the **<a>** element:

  mailto

UNIVERSITY OF DIYALA

Links and Navigation

- When we learn about links, it is also important to learn some of the key concepts regarding structuring our site into folders known as ***directories***, and how we can use ***relative*** URLs to link between pages within our site. Then, we will learn:

  1. ***How to structure the folders on our web site.***
  2. ***How to link between pages of our site.***
  3. ***How to link to specific parts of a page in our site.***
  4. ***How to link to other sites.***

UNIVERSITY OF DIYALA

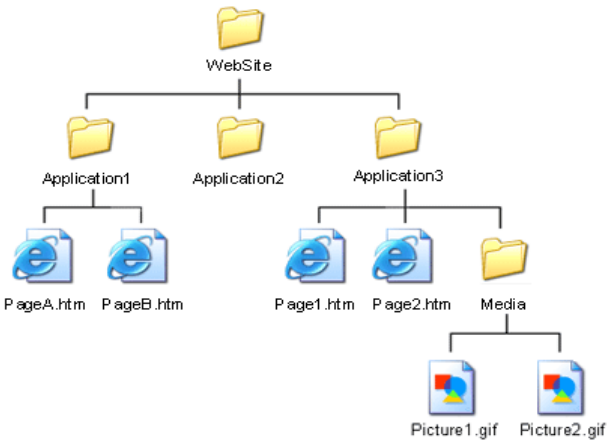
Links and Navigation: Directory Structures

- A directory is simply the name for a folder on a web site. In the same way that our hard drive contains different folders, a web site contains directories.
- In the same way that we probably organize the files on our hard drive into separate folders, it is important to organize the files on our web site into directories so that we can find what we are looking for more easily and keep control of all the files.
- As you can imagine, if all the files used in a web site resided in the same folder, things would get complicated very quickly.

UNIVERSITY OF DIYALA

Links and Navigation: Directory Structures

- ***For example, Figure below*** shows an example directory structure for a ***website***, with separate folders for each section and separate folders for different types of files.
- ***Root folder,***
- ***Subdirectory,***
- ***Parent directory*** *of the* ***subdirectory***.



UNIVERSITY OF DIYALA

Absolute and Relative URLs

- An ***absolute*** URL like contains everything we need to uniquely identify a particular file on the Internet.
- ***For example***, to get the page about this lecture in the college website , you might type in the URL:

  http://www.sciences.uodiyala.edu.iq/uploads/Lectures/Webdesign/Lecture3.pdf
- A ***relative*** URL indicates where the resource is in relation to the current page. For example, imagine you are looking at the lectures file for the of the following college site:

  http://www.sciences.uodiyala.edu.iq/uploads/Lectures

UNIVERSITY OF DIYALA

Absolute and Relative URLs

- Then if we want to add a link to the index pages for each of the subsections: Rather than including the full URL for each page, you can use a relative URL. For example:

  Webdesign/Lecture3.pdf

  Algorithmanalysis/Lecture3.pdf
- This is A lot quicker than having to write out the following:

  http://www.sciences.uodiyala.edu.iq/uploads/Lectures/Webdesign/Lecture3.pdf

  http://www.sciences.uodiyala.edu.iq/uploads/Lectures/Algorithmanalysis/Lecture3.pdf

UNIVERSITY OF DIYALA

Linking to a Page Section

- If we have a long web page, we might want to link to a specific part of that page. We will usually want to do this when the page does not fit in the browser window, and the user might otherwise have to scroll to find the relevant part of the page.
- The destination anchor allows the page author to ***mark specific points in a page that a source link can point to***. Common examples of linking to a specific part of a page that we might have seen used on web pages include:
  1. ***"Back to top" links at the bottom of long pages***
  2. ***A list of contents for a page that takes the user to the relevant section***
  3. ***Links to footnotes or definitions***

UNIVERSITY OF DIYALA

Linking to a Page Section

- To create a destination anchor using the **<a>** element, it must carry an ***id attribute.*** Before we can create links to each section of the page (using the source anchors), we have to add the destination anchors. Here we can see the subheadings of the page, each containing an ***<a> element*** with the ***id attribute*** whose value uniquely identifies that section:

```
<h1>Linking and Navigation</h1>
<h2><a id="URL">URLs</a></h2>
<h2><a id="SourceAnchors">Source Anchors</a></h2>
<h2><a id="DestinationAnchors">Destination Anchors</a></h2>
<h2><a id="Examples">Examples</a></h2>
```

Linking to a Page Section

- With destination anchors in place, it's now possible to add source anchors to link to these sections, like so:

```
<p>This page covers the following topics:
<ul>
<li><a href="#URL">URLs</a></li>
<li><a href="#SourceAnchors">Source Anchors</a></li>
<li><a href="#DestinationAnchors">Destination Anchors</a></li>
<li><a href="#Examples">Examples</a></li>
</ul> </p>
```


UNIVERSITY OF DIYALA

Linking to a Page Section

- If someone wanted to link to a specific part of this page from a different web site, he or she would add the full URL for the page, followed by the hash sign and then the value of the id attribute, like so:

  http://www.example.com/HTML/links.html#SourceAnchors

- The value of a ***name or id attribute*** should be unique within the page, and source anchors should match the case of destination anchors.

UNIVERSITY OF DIYALA

The <a> Element's Other Attributes

- The **<a>** element supports all of the universal attributes, the UI event attributes, and the following attributes:

Accesskey, charset, coords, hreflang, rel, rev, shape, style tabindex, target, type, title, Setting Link Colors using link, alink and vlink

Homework

- For the above attributes specifies their jobs with an example for each.

UNIVERSITY OF DIYALA

Adding Images to Your Site

UNIVERSITY OF DIYALA

Adding Images to Your Site

- Images and graphics can really bring our site to life. but we should be careful when using images on the Web because if we don't prepare images correctly, they can really slow down the speed it takes for a page to load, and slow sites frustrate users.
- So choosing the right format for our images and saving them correctly will help make our site faster and result in happier visitor**.**
- Images are usually added to a site using the ***<img>*** element. It must carry the **src** attribute indicating the source of the image For example:

******

UNIVERSITY OF DIYALA

Adding Images Using the <img> Element

- The ***<img>*** element can carry all of the universal and UI event attributes:

Src, alt, align, border, height, width

hspace, vspace, ismap, usemap, longdesc, name

- The **src** attribute is required to specify the URL of the image to load ***src="url".*** The URL can be an absolute URL or a relative, just like the URLs when linking between pages.
- Images for our site should always reside on our server. It is not good practice to link to images on other sites because if the owner of the other site decides to move that image our users will no longer be able to see the image on our site.

UNIVERSITY OF DIYALA

The alt Attribute

- The ***alt*** attribute is required to specify a text alternative for the image in case the user cannot see the image. it is important that the value of this attribute really describes the image, and two common reasons why images are not visible to users are:

  1. ***Because the browser did not download the file correctly; the file cannot be found.***
  2. ***Because the user has visual impairment that prevents him or her from seeing the image.***

UNIVERSITY OF DIYALA

The height and width Attributes

- The height and width attributes specify the height and width of the image: ***height="120" width="180".*** The values for these attributes are always shown in pixels.
- Specifying the size of the image can help browsers lay out pages faster and more smoothly because they can allocate the correct amount of space to the image and continue to render the rest of the page before the image has finished loading.
- If we reduce the size of the image using the height and width attributes, the user will still have to download the full-sized image, which takes longer than a special small version and uses up more bandwidth.

Using Images as Links

- It's easy to turn an image into a link; rather than putting text between the opening **<a>** element, as we saw in the last chapter, we can place an image inside these tags. Images are often used to create graphical buttons or links to other pages. For example

  *** ***

- Note also that the image in this example is not a very good example of a link, as it does not tell us where the link is going to take us. If we use images as links, you should make it clear what will happen if the user clicks the link.

UNIVERSITY OF DIYALA

Adding Table to Your Site

UNIVERSITY OF DIYALA

Tables

- Tables are commonly used to display all manner of data, such as timetables, financial reports, and sports results. So when we want to display information in rows and columns, we need to use the markup to create a table.
- The names of elements in XHTML refer to the type of markup they contain. So to create a table in XHTML we use the ***<table> element.***
- Inside the ***<table> element***, the table is written out row by row. A row is contained inside a ***<tr> element,*** which stands for table row. And each cell is then written inside the row element using a ***<td> element,*** which stands for table data.

UNIVERSITY OF DIYALA

Tables

- The following is an example of a very basic table :

```
<table border="1">
    <tr>
<td>Row 1, Column 1</td>
<td>Row 1, Column 2</td>
</tr>
    <tr>
<td>Row 2, Column 1</td>
<td>Row 2, Column 2</td>
    </tr>
</table>
```

UNIVERSITY OF DIYALA

Basic Table Elements and Attributes

1. ***The <table> Element Creates a Table:*** The <table> element is the containing element for all tables. It can carry the following attributes:
   1. ***All of the universal attributes.***
   2. ***Basic event attributes for scripting.***

- The ***<table>*** element can also carry the following attributes.

align bgcolor border cellpadding cellspacing

dir frame rules summary width

UNIVERSITY OF DIYALA

Basic Table Elements and Attributes

1. ***The align Attribute:*** the ***align*** attribute is still frequently used with tables. When used with the ***<table>*** element, it indicates whether the table should be aligned to the left (the default), right, or center of the page.
2. ***The bgcolor Attribute:*** **t**he ***bgcolor*** attribute sets the background color for the table. The value of this attribute should be either a six-digit code known as a hex code or a color name. For example ***bgcolor="#rrggbb***"
3. ***The border Attribute:*** If we use the border attribute, a border will be created around both the table and each individual cell.

UNIVERSITY OF DIYALA

Basic Table Elements and Attributes

4. ***The cellpadding Attribute:*** The cellpadding attribute is used to create a gap between the edges of a cell and its contents. As we can imagine, if two cells both contain writing, and there is no gap between the edge of the cells and the writing, the contents can become hard to read. ***cellpadding="5" or cellpadding="2%"***
5. ***The cellspacing Attribute:*** The cellspacing attribute is used to create a space between the borders of each cell. The value for this attribute can be either the amount of space you want to create between the cells in pixels or a percentage value (as a percentage of the width of the table). ***cellspacing="6" or cellspacing="2%"***

UNIVERSITY OF DIYALA

Basic Table Elements and Attributes

6. ***The dir Attribute:*** The dir attribute is supposed to indicate the direction of text that is used in the table. Possible values are ***ltr*** for left to right text and ***rtl*** for right to left (for languages such as Arabic): ***dir="rtl"***
2. ***The <tr> Element Contains Table Rows:*** The <tr> element is used to contain each row in a table. It can carry five attributes. ***Align, bgcolor, char, charoff, valign***
3. ***The <td> and <th> Elements Represent Table Cells:*** Every cell in a table will be represented by either a <***td***> element for cells containing table data or a <***th***> element for cells containing table headings.

UNIVERSITY OF DIYALA

Basic Table Elements and Attributes

- By default the contents of a <***th***> element are usually displayed in a bold font, horizontally aligned in the center of the cell.
- The <***td***> and <***th***> elements can both carry the same set of attributes, each of which applies just to that cell.
- In addition to the universal attributes and the basic event attributes, the <***td***> and <***th***> elements can also carry the following attributes:

abbr align axis bgcolor char charoff colspan

headers height nowrap rowspan scope valign width The abbr Attribute

UNIVERSITY OF DIYALA

The <table> Element's Other Attributes

- Now that we've seen the basics behind creating tables, but there is some more advanced issues, such as the following:

1. ***Splitting a table into three sections: a head, body, and foot Captioning tables***
2. Using the ***rowspan*** and ***colspan*** attributes to make cells stretch over more than one row or column
3. Grouping columns using the <***colgroup***> element Sharing attributes between unrelated columns using the <***col***> element

- ***Homework :*** ***discuss the mentioned issue with example for each.***

UNIVERSITY OF DIYALA

The End