Web Technologies - I

Document-specific technologies

Outline

Introduction

- Different technologies available for Web development.
- A Web application has three components:
  - Client
  - Server
  - Communication mechanism between a client and a server (protocols)
- Web technologies can be classified as:
  - Client-side technologies
  - Server-side technologies

Document-specific technologies

- These technologies deal with the content formatting, layout and inter-relationship between various information units
- Few of these technologies are:
  - Hypertext Markup Language (HTML)
  - Cascading Style Sheets (CSS)
  - extensible Markup Language (XML)

Introduction

- CSS is an extension to HTML that allows styling of Web pages.
- Style includes formatting of text elements (fonts, colors, weights etc.) and their positioning.
- Inclusion of formatting elements makes HTML documents messy
- CSS allows to separate the style or layout from content.
- It makes the Web development manageable.
- Two approaches of using style sheets:
  - Embedded into the Web pages
  - Separate style sheet files
- We will focus on separate style sheets

Creating style sheet file

Creating and linking style sheets

- A CSS can be defined as a separate file
- Helps in defining the layout of the page in one place
- Can easily change the look
- Can define font, font sizes and related attributes
- Position the layout
- CSS works on version 4 browsers or newer
- Create a separate file with extension .css ('mystyle.css').
- In the header section(<head></head>) of the HTML document, link the CSS with the page as:

```
<link href="mystyle.css" rel="stylesheet" type="text/css">
```

Selectors I

- Selectors are the names given to different styles
- Style definition specifies the selector's behaviour (font, size, positioning)
- A reference is made to selectors in the main HTML document
- Three types of selectors:
- HTML selectors
  - Used to define styles associated to HTML tags
- Class selectors
  - Used to define styles that can be used without redefining plain HTML tags.
- ID selectors
  - Used to define styles relating to objects with a unique ID (most often layers)

HTML Selector

General syntax for defining an HTML tag is:

HTMLSelector {Property:Value;}
where HTMLSelector is the tag name i.e., B (bold), P (para) etc.

Example:

Define Heading level 1, with font color gray, font family Helvetica, left align
h1{ color: Gray; font-family:helvetica; text-align:center;}

HTML Selector-defining link styles

Hyperlink style

```
a:link {color: #FF0000} /* unvisited link */
a:visited {color: #00FF00} /* visited link */
a:hover {color: #FF00FF} /* mouse over link */
a:active {color: #0000FF} /* selected link */
```

- similarly, we can define styles for paragraph, table, body, bold etc. tags

Class Selector

- Class selectors are used when you want to define a style that does not redefine an HTML tag entirely.
- General syntax for class selector is:

```
.ClassName {Property:Value;}
```

Example:

```
.sitetitle {font-family:helvetica; font-size:16px; color:red}
<div class="sitetitle">Working with CSS</divclass>
```

- *Do NOT start a class name with a number!*
- Two tags which are used with class selectors:
  - SPAN is an "inline-tag" in HTML, i.e., no line breaks before or after the use of it
  - DIV is a "block tag", i.e., line breaks are inserted to make a block of content

ID Selector

- It is used when one wants to associate a style to a particular object with the given ID
- Syntax for ID selector is:
  #IDName {Property:Value;}
- Example:
  #sitetitle {font-family:helvetica; color:red}
  <h1 id="sitetitle">Working with CSS</h1>

Grouped Selectors

- Certain elements, classes, or ID can be grouped together if they have common properties:
  Example:
  All heading should be green
  h1, h2, h3{color: green;}

Property types

CSS properties can be divided into following types:

- Background
- Text
- Font
- Border
- Margin
- Positioning
- Classification
- Dimension
- Generated Content
- List and Marker
- Outlines
- Padding
- Table
- Pseudo-classes
- Pseudo-elements

Background

- Provides control of background of different elements
- **background-attachment**: Sets whether a background image is fixed or scrolls with the rest of the page
  - values: scroll | fixed
- **background-color**: Sets the background color of an element
  - values: color-rgb | color-hex | color-name | transparent
- **background-image**: Sets an image as the background
  - values: url(URL)

Text

- Text properties define the appearance of text
- **color** Sets the color of a text
  - values: color name (red), a rgb value (rgb(255,0,0)), or a hex number (#ff0000).
- **text-align**: Aligns the text in an element
  - values:left | right | center | justify
- **text-decoration**: Adds decoration to text
  - values: none | underline | overline | line-through | blink

Borders

- border properties define the borders around an element
- border: sets all of the properties for the four borders in a single declaration
  - values: border-width | border-style | border-color
  - example:

```
.content{border: thin dotted #00FF00;}
<div class="content">This is the main content block </div>
```

References:

1. Please refer to the given CSS2 reference for further details.
2. http://www.w3schools.com/css/default.asp
3. http://www.echoecho.com/cssintroduction.htm