

CASCADING STYLE SHEETS (CSS)

### STYLES IN HTML AND CSS

- CSS Cascading Style Sheets used to control presentation / appearance of web page content:
  - Fonts, Colours, Backgrounds, Borders...
  - Layout of content on a page (positioning / sizing...)
  - Some aspects of interaction with elements

### **CONTENT AND PRESENTATION**

- Cascading Stylesheets (CSS) have been designed to separate the content and presentation of a web document
- Q What are the benefits of doing this?

### STYLE IS SPECIFIED WITH STYLE RULES

- A style rule has
  - selector
  - set of declarations
- The selector associates the style rule with an HTML element

- declaration has two parts:
  - a property and a value

```
selector {
  property: value;
  property: value;
  property: value;
  property: value;
}
```

```
h1 {
   color: red;
   border: thin groove;
   text-align:center;
}
p {
   margin-left: 10%;
   border: ridge;
   background-color: #ee8822;
}
```

### WHERE TO SPECIFY STYLE

- External style sheets in a file referenced from the
   link> element
- Internal style sheets
   specified in a <style> element
   inside the <head> element
- Inline using the style attribute of elements

```
p {color: red;
    line-height: 14pt;}
```

```
<style type="text/css">
p {color: red;
   line-height: 14pt;}
</style>
```

### **EXTERNAL STYLESHEETS**

- Styles can be declared in separate files: external stylesheets.
- - rel specifies the type of link being used
  - href specifies a hyperlink to the stylesheet file
  - type specifies the MIME / IMT type of the data
  - text/css specifies "cascading style sheets" text

### TYPES OF SELECTOR: "SIMPLE" SELECTORS

One or more element names (separated by commas), followed by property-value pairs e.g.

```
h1 { font-family: arial;
      color: blue; }
ul, ol { font-family: verdana;
      color: red; }
```

### **CONTEXTUAL SELECTORS**

Descendants of a parent element

e.g. ol li

Refers to elements that occur anywhere inside an ol list (including in lists that are inside the list)

#### Child selectors

p > ol

Refers to elements that are contained directly in a element ( and are not inside some other element that is inside a element )

### **CLASS SELECTORS**

- A class style definition may be applied to selected instances of elements using the class attribute, e.g.
   class="fred">...
- Declare the class in a rule either
  - applied to an element-specific class e.g.
     h1.fred
- Or
  - applied to any element with that class attribute value = generic / anonymous, e.g.

.fred

### **ELEMENT-SPECIFIC CLASSES**

```
Classes - Microsoft Internet Explorer
<head>
                                            File Edit View Favorites Tools Help
 <style type="text/css" >
  h1.fred {
                                            A Simple Heading
   color: #eeebd2;
   background-color: #d8a29b;
                                           some text some text some text some text
                                           some text some text some text
   border: thin groove #9baab2;
</style>
</head>
<body>
 <h1 class="fred">A Simple Heading</h1>
 some text . . . some text
</body>
```

### GENERIC (ANONYMOUS) CLASSES

```
<head>
 <style type="text/css">
                                    Anonymous classes - Microsoft Intern... 💶 🗆 🗙
                                       Edit View Favorites Tools Help
  .fred {
   color: #eeebd2;
                                     A Simple Heading
   background-color: #d8a29b;
   border: thin groove #9baab2;
 </style>
</head>
<body>
 <h1 class="fred">A Simple Heading</h1>
 some text . . . some text
</body>
```

### **ID SELECTORS**

```
<head>
<style type="text/css" >
#oranges {color:orange;
   background-color: gray;
   width:4em;}
</style>
</head>
<body>
<l
 Apples
 Oranges
 Bananas
</body>
```

Classes can specify styles of multiple elements

 IDs specify the style of a single element

- Apples
- Oranges
- Bananas

### PROPERTIES AND VALUES

#### **Fonts**

- font-family: <family name> [<generic family>]
- font-style: normal|italic|oblique
- font-weight: normal|bold|bolder|lighter
- font-size: small|medium|large|smaller|larger

#### Backgrounds and colours for text

- color: <value>
- background-color: <value>|transparent
- background-image: URL|none

### USING FONT-FAMILY

 Some properties, e.g. font-family, can be given multiple, alternative values

```
body {
    font-family: Verdana, Arial, sans-serif;
}
h1 {
    color: maroon;
    background-color: #99ffff;
    border: 2px solid #ff0000;
    text-align: center;
}

p. the every location above:
```

#### In the example above:

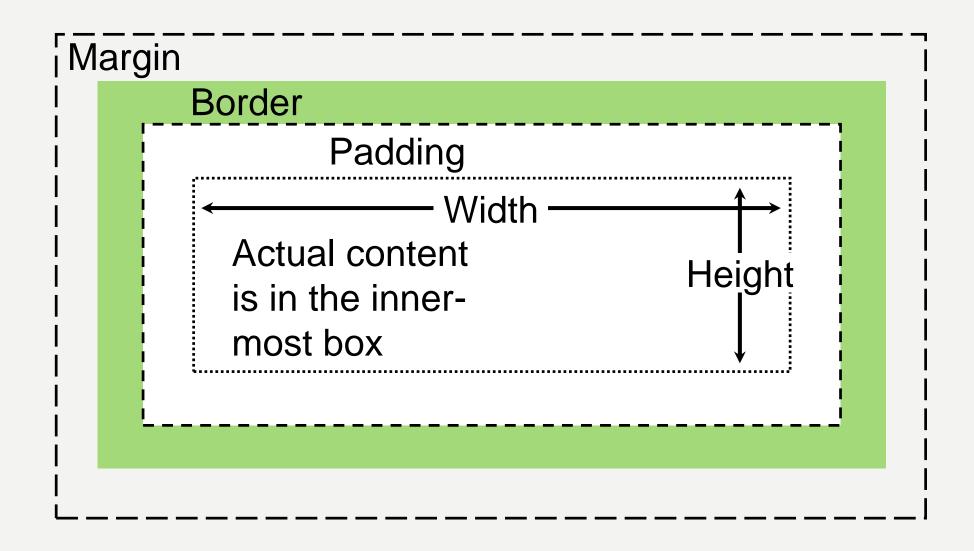
- The browser first looks for the Verdana font
- If this is not on the system, it looks for the Arial font
- Last resort: the browser uses a generic sans-serif font

### PROPERTIES AND VALUES CONT.

#### **Text**

- text-decoration:
   none|underline|overline|line-through
- text-transformation:
   none|capitalize|uppercase|lowercase
- text-align: left|right|center|justify
- text-indent: length|percentage

### BOX MODEL: CAN BE APPLIED TO ANY ELEMENT



### PROPERTIES AND VALUES CONT.: BOXES

- margin, margin-top, margin-right, margin-left,
   margin-bottom: width e.g. 5px or 5% (of element)
- padding: as with margin
- border: width style colour
- border-width, border-top-width, border-rightwidth, border-bottom-width, border-left-width: thin|thick|medium or width units
- border-color: red|blue|etc.. or hex or rgb values
- border-style:none|dotted|dashed|solid|double| groove|ridge|inset|outset
- border-color and border-style have top/right/ bottom/left variants like border-width
- See next slide for units

### SIZE UNITS FOR WIDTH

```
width: value in px, em, %
 px = pixels e.g. 4px
  em refers to font size
  (if 12pt then 1 em = 12pt)
  Ipt = 1/72 inch
  %: refers to percentage of entire box width
```

# SHORTHAND FOR BOX WIDTHS OF BORDER, MARGIN, PADDING

 I value e.g. margin: 10px; - all edges 2 values e.g. border-width: 10px 15px; = top+bottom left+right • 3 values e.g. padding: 4px 8px 10px ; = top left+right bottom • 4 values e.g. border: 2px 4px 6px 8px; = top right bottom left (i.e. clockwise from top)

### LIST STYLES

• The bullets or counters can be controlled with

```
list-style-type: disc | circle |
square | decimal | lower-alpha | upper-
alpha | lower-roman | upper-roman
```

To use your own image for the bullet/marker:

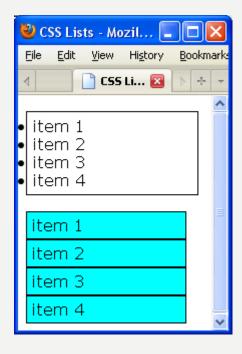
```
list-style-image: url("filename.ext");
```

To remove bullets or counters entirely:

```
list-style: none;
```

```
#withBullets {
    border: 1px solid black;
    width: 10em;
    padding: 5px;}
#noBullets {
    list-style: none;
    background-color: cyan;
    margin: 0;
    width: 10em;
    padding: 0;}
#noBullets li {
  border: 1px solid black; padding: 4px}
item 1
    item 2
    item 3
    item 4
item 1
    item 2
    item 3
    item 4
```

### LISTS IN CSS



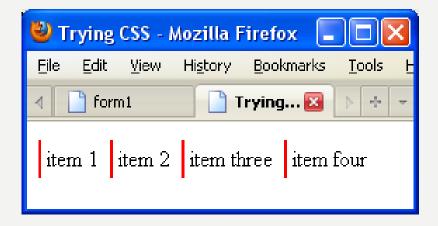
Can use CSS to remove bullets and style items

### **INLINE LISTS**

```
ul {padding-left: 0;}
ul li{
  border-left: 2px solid red;
padding : 4px;
list-style : none;
display : inline;}
 <l
    item 1
    item 2
    item three
    item four
```

- Lists are normally vertically orientated
- In CSS you can make them horizontal "inline" by setting

display: inline



### MENU LISTS WITH HYPERLINKS

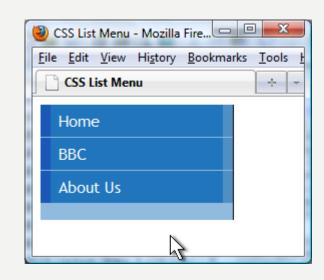
```
<nav id="menu">
 <u1>
  <a href="#">Home</a>
  <a href="http://www.bbc.co.uk">BBC</a>
 <a href="#">About Us</a>
                                            CSS List Menu - Mozilla Fire...
File Edit View History Bookmarks Tools
                                             CSS List Menu
</nav>
                                             Home
                                             BBC
               Set up the space for the menu
 #menu {
                                             About Us
 width: 12em;
border-right: 1px solid #000;
padding: 0 0 1em 0;
 font-family: 'Trebuchet MS', Arial, sans-serif;
background-color: #90bade;
 color: #333; /* #333 is the same as #333333 */
```

### CSS LIST MENU CONT.

```
#menu ul {
                        Remove bullets
list-style: none;
                        and margins
margin: 0;
padding: 0;
                        from the list
border: none;
#menu li {
border-bottom: 1px solid #90bade;
margin: 0;
         #menu li a {
         display: block;
         padding: 5px 5px 5px 0.5em;
         border-left: 10px solid #1958b7;
         border-right: 10px solid #508fc4;
         background-color: #2175bc;
```

color: #ffffff;

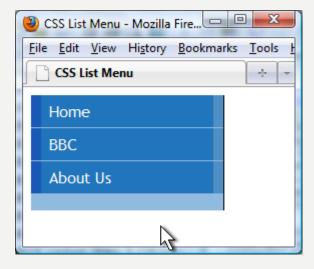
text-decoration: none;



 Style the hyperlinks

```
#menu {
width: 12em;
border-right: Ipx solid #000;
padding: 0 0 1 em 0;
font-family: 'Trebuchet MS', Arial, sans-serif;
background-color: #90bade;
color: #333;
#menu ul {
list-style: none;
margin: 0;
padding: 0; border: none;
#menu li {
border-bottom: Ipx solid #90bade; margin: 0;
#menu li a {
display: block;
padding: 5px 5px 5px 0.5em;
border-left: 10px solid #1958b7;
border-right: 10px solid #508fc4;
background-color: #2175bc;
color: #fff;
text-decoration: none;
```

## THE RESULTING MENU



### **CSS EVENT PSEUDO-CLASSES**

- Can use CSS code to detect mouse events
  - Alter appearance of images, layers, position, visibility etc
- Useful application: dynamic menus
- See previous for creating the menu

### LINK APPEARANCE PSEUDO-CLASSES

```
Not visited
a:link {color : blue;}
Visited
a:visited {color : #ff00ff;}
Mouse over
a:hover {color: red;}
Being clicked
a:active {color: red;}
```

Note :hover and :active work on other elements

### **MOUSE EVENTS**

- Detect mouse over event from user selection of hyperlink to highlight menu "button" (not just text)
- →Alter the colour of the block around the list item when the mouse is over it (the hyperlink)

```
#menu li a:hover {
   border-left: 10px solid #1c64d1;
   border-right: 10px solid #5ba3e0;
   background-color: #2586d7;
   color: #fff;
  }
```

→Add this code to previous to obtain the effect

### GETTING HELP WITH CSS

## w3schools.com

http://www.w3schools.com/css/css\_intro.asp

Also see chapters 7, 8 and 9 of the book Beginning HTML and CSS