CMPT 165
Unit 3 – CSS Part 3

May 29th, 2015

CSS Level 1

Style support for:

- **Color** of element text, backgrounds, etc.
- **Font** properties: typeface and emphasis
- **Alignment** of elements (text, images, etc.)
- **Text** formatting: e.g. spacing of words, letters, lines
- **Boxing**: margin, border, padding, and positioning
- **Unique identification**: explained later
- **Generic classification**: explained later

Colors

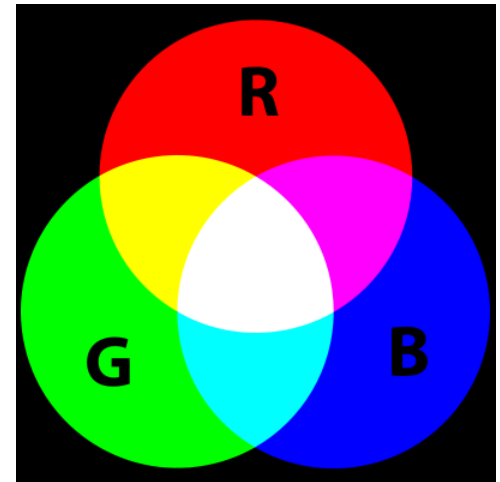17 standard color presets + 123 non-standard ones

- White
- Silver
- Gray
- Black
- Red
- Maroon
- Yellow
- Olive
- Orange

- Lime
- Green
- Aqua
- Teal
- Blue
- Navy
- Fuchsia
- Purple

RGB model

- "Primary colors": <u>R</u>ed + <u>G</u>reen + <u>B</u>lue

- Additive model:

  i.e. Red + Green = Yellow

  Red + Blue = Purple

http://en.wikipedia.org/
wiki/File:AdditiveColor.svg

- System for specifying web colors

- A numerical value reflecting *intensity* ("strength") of a color channel

- Examples
  - 5 is brighter than 0
  - 8 is brighter than 5

- 3 channels → 3 sets of values

- Example: Bright red given by RGB→900

Color specification in CSS

1. Presets: "red", "blue", …

2. Hexadecimal code

   a) 3-byte hexadecimal ➔ 6 digits, e.g. #0000FF

   b) Abbreviated form: 3 (hexadecimal)-digit, e.g. #00F

3. Function notation: rgb(value1,value2,value3)

> **Side note on function notation:**
> **function(input1,input2,input3)=output**

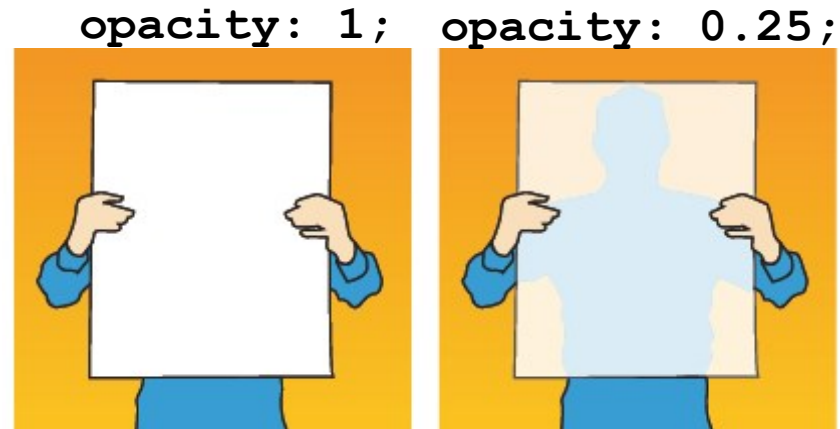Recall: 256 intensity values per channel, e.g.

Brightest red: **rgb(256,0,0);**

Grey: **rgb(128,128,128);**

Brightest red: **rgb(100%,0%,0%);**

Opacity property

- May add transparency to any element
- "Opacity"
  - Amount of light absorption
    - Strength of 0 to 1
    - 1 means 100% absorbed
- Examples:

```
hr {
        border-color: red;
        opacity: 0.5;
}
img {
        opacity: 0.25;
}
```

opacity: 1;   **opacity: 0.25;**

http://www.archive.europapier.com/service/knowhow/testingpaper/visual-characteristics/img/opacity.jpg

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What visual features differentiate between these groups?

Live as if you were to die tomorrow. Learn as if you were to live forever.

Be yourself; everyone else is already taken

You only live once, but if you do it right, once is enough.

Be the change that you wish to see in the world.

Serif

- Dutch word meaning "line"
- Found more often in print, for header
- Claims to improve readability, but no empirical evidence supports the claim

What features are differentiating between these groups?

Serif

San serif   **sans means without in French**

Live as if you were to die tomorrow. Learn as if you were to live forever.

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Fonts

Serif

바탕 (명조)

天
地

ΙΓ³س سس ق قو حح رر

ض ص ٨٥ ٨٨٨ ٨٨٨٨ لإة ٥ ٥ي

لل ل ٥٥٥ ل م ممم م بني

ففف ف كك لك فف ف ككك

San serif

天
地

حُروف أُمَّةٌ من الأُمَمْ مُخا
كلّفون وفيهم مُرسَلُ
i Interpreted by Lebanese **calligrapher** and art critic **Sam**
هم ولهم أسماء من
وعالمُ الحروف أَفْصَحُ ال

Font-specification in CSS

- Various properties: refer to W3c references

```
h1 {
    font-weight: bold;
    font-size: 12pt;
    line-height: 14pt;
    font-family: helvetica;
}

h1 {
    font: bold 12pt/14pt helvetica
}
```

Example font faces

- Serif
  - Specific font-families: "new times roman", "Bodoni" …
- San serif
  - Specific font-families: "arial", "verdana", …
- Fantasy
  - Specific font-families: **Broadway** ALGERIAN
- Cursive: scriptlike
  - Specific font-families: *Bradly Hand ITC,* **Comic San MS**
- Monospace: "mono"=single; typewriter
  - Eg. `courier new MS`

MicroSoft; may not be available on Mac

Windows fonts / **Mac fonts** / *Font family*

Normal style	Bold style
Arial, Arial, Helvetica, *sans-serif*	**Arial, Arial, Helvetica,** *sans-serif*
Arial Black, Arial Black, Gadget, *sans-serif*	**Arial Black, Arial Black, Gadget,** *sans-serif*
Comic Sans MS, Comic Sans MS[5], *cursive*	**Comic Sans MS, Comic Sans MS[5],** *cursive*
Courier New, Courier New, *monospace*	**Courier New, Courier New,** *monospace*
Georgia[1], Georgia, *serif*	**Georgia[1], Georgia,** *serif*
Impact, Impact[5], Charcoal[6], *sans-serif*	**Impact, Impact[5], Charcoal[6], *sans-serif***
Lucida Console, Monaco[5], *monospace*	**Lucida Console, Monaco[5],** *monospace*
Lucida Sans Unicode, Lucida Grande, *sans-serif*	**Lucida Sans Unicode, Lucida Grande,** *sans-serif*
Palatino Linotype, Book Antiqua[3], Palatino, *serif*	**Palatino Linotype, Book Antiqua[3], Palatino,** *serif*
Tahoma, Geneva, *sans-serif*	**Tahoma, Geneva,** *sans-serif*
Times New Roman, Times New Roman, Times, *serif*	**Times New Roman, Times New Roman, Times,** *serif*
Trebuchet MS[1], Trebuchet MS, *sans-serif*	**Trebuchet MS[1], Trebuchet MS,** *sans-serif*
Verdana, Verdana, Geneva, *sans-serif*	**Verdana, Verdana, Geneva,** *sans-serif*
Symbol, Symbol (Symbol[2], Symbol[2])	**Symbol, Symbol (Symbol[2], Symbol[2])**
Webdings, Webdings (Webdings[2], Webdings[2])	**Webdings, Webdings (Webdings[2], Webdings[2])**
Wingdings, Zapf Dingbats (Wingdings[2], Zapf Dingbats[2])	**Wingdings, Zapf Dingbats (Wingdings[2], Zapf Dingbats[2])**
MS Sans Serif[4], Geneva, *sans-serif*	**MS Sans Serif[4], Geneva,** *sans-serif*
MS Serif[4], New York[6], *serif*	**MS Serif[4], New York[6],** *serif*

[1] *Georgia and Trebuchet MS are bundled with Windows 2000/XP and they are also included in the IE font pack (and bundled with other MS applications), so they are quite common in Windows 98 systems.*

[2] *Symbolic fonts are only displayed in Internet Explorer, in other browsers a font substitute is used instead (although the Symbol font does work in Opera and the Webdings works in Safari).*

[3] *Book Antiqua is almost exactly the same font that Palatino Linotype, Palatino Linotype is included in Windows 2000/XP while Book Antiqua was bundled with Windows 98.*

[4] *These fonts are not TrueType fonts but bitmap fonts, so they won't look well when using some font sizes (they are designed for 8, 10, 12, 14, 18 and 24 point sizes at 96 DPI).*

[5] *These fonts work in Safari but only when using the normal font style, and not with bold or italic styles. Comic Sans MS works in bold but not in italic. Other Mac browsers seems to emulate properly the styles not provided by the font (thanks to Christian Fecteau for the tip).*

[6] *These fonts are present in Mac OS X only if Classic is installed (thanks to Julian Gonggrijp for the corrections).*

Font-specification in CSS

- System fonts: already installed on computer

- Newer fonts not necessarily accessible to all

```
body {
font-weight: bold;
font-size: 12pt;
line-height: 14pt;
font-family: "Bodini", "Georgia", "Times", serif;
}
```

Specific family-names   Generic

Other font properties

Weight:

`lighter, 100, 200, 300, 400` (same as `normal`)`, 500, 600, 700` (same as `bold`)`, 800, 900, bolder`

Text-decoration:

`underline, overline, line-through`

Text-transform:

`capitalize, lowercase, uppercase`

FYI: Tags for formatting in markup

```
<p><b>Bold Text</b></p>

<p><em>Emphasized Text</em></p>

<p><strong>Strong Text</strong></p>

<p><i>Italic Text</i></p>

<p><del>strikethrough Text</del></p>

<p><code>Computer Code Text</code></p>

<p>X<sup>superscript</sup></p>

<p>Y<sub>subscript</sub></p>
```

Bold Text

Emphasized Text

Strong Text

Italic Text

~~strikethrough Text~~

Computer Code Text

$X^{superscript}$

$Y_{subscript}$

$a^2+b^2=c^2$ $y_1 = x^2$

Demo

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```
text-align: { center | justify | left | right  }
```

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Spacing

```
p {
    letter-spacing: 0.5em;
    word-spacing: 2em;
    line-height: 1.5;
    text-align: center;
}
```

Demo

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Sizes/Lengths

- Units of measurement:

  - in, cm, mm

  - px (pixel) = picture element

  - em: element (relative to the current height font)

  - ex: element (relative to x-height)

  - pt (point): 1 pt = 1/72 of 1in

  - pc (pica): 1 pc= 12 pt

  - …

2em Padding   1em Padding   0.5em Padding

Commonly used in typography (typesetting and design)

Sizes/Lengths specification

```
p {
font: bold 12pt/14pt
helvetica;
}

h1 {
font-weight: bold;
font-size: 2em;
line-height: 2.5em;
font-family: helvetica;
}
```
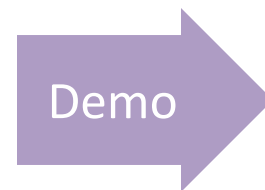
Demo

Margin, padding, border

Content - Content of the box, where text and images appear

Margin - Clears an area <u>outside the border</u>; transparent

Border - A border that goes around the padding and content

Padding - Clears an area <u>around the content</u>; transparent

This is content.

Demo

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Recap of the week

- 3 ways for style specification
- Color specification:
  - RGB model
  - 3 ways to color specification
    - Words
    - hexadecimal color codes
    - Function-based
- Styling multiple selectors + properties simultaneously

CSS: multiple selectors + properties

```
h1, h2, h3 {
  text-align: center;
 }
```

```
p, h1, h2, h3, h4, h5, h6 {
   color: red;
}
```

```
p, h1, h2, h3 {
  text-align: center;
  color: red;
 }
```

```
body {
  font: bold 12pt/14pt helvetica;
}
```

Questions?

SFU   SIMON FRASER UNIVERSITY

Lab exercise 3

- Posted
- 3 parts!