CSS Exercises

- Be aware of what you did in the CSS exercises and what effect the various CSS had on the elements and which elements styles were applied to.
- Exercise: CSS 1
- Exercise: CSS 2
- Exercise: Story Website - CSS

About CSS

- Adds visual appeal to web page structure.
- Allows for layout
- Customize of how page elements look
- Standardize look of pages throughout a site
- Define attributes for elements
  - colors
  - fonts
  - background
  - size
  - borders
  - margins
  - padding
  - more

CSS Types

- Tag - redefines how a particular tag is displayed
- Compound - a particular named element or tag within that element is displayed. Compound takes precedence over tag.
- Class - a set of attributes which can be applied to any element

Color

- Color is an important design feature and can be used in many different ways
- Colors in CSS can be specified by
  - hexadecimal* codes for amounts of Red, Green, Blue to create colors.
  - approved color words can be used.
- Years ago a web safe palette consisting of 216 colors was developed for the monitors of that time. With new monitors web safe palettes are no longer necessary and millions of colors can be specified for the web.

Hexadecimal* coding

- The code is preceded by #
- The code has two digits to specify the amount of red, followed by two digits for green and two for blue
- FF in hexadecimal is the maximum amount for the color and 00 in hexadecimal is the minimum amount for the color.
  - For example: #FF0000 - means 100% red, no green or blue
- Codes with 3 sets of double digits can be shortened to 3 digits
  - #FF0000 - can be entered as #F00

*Base 16 numbering system
Text Styles

- Text styles can be applied to text elements such as headings, paragraphs, links, lists, etc.
- font-family:
  - specify a family of fonts (similar types of style fonts that the browser will go through to find font on user's computer)
  - Example: Arial, Helvetica, san-serif.
- last font listed should be a generic type of font
  - serif
  - sans-serif
  - monospace
  - cursive

Text Styles (Cont.)

- font-size:
  - For accessibility & usability - it is preferable to not change default font size for your main content!
  - To increase the size of specific elements
  - specify ems or percent
  - 1 em is the size of a character of the parent element.
  - Specify pixels only when needed to maintain a specific layout
  - If not needed to maintain a specific layout allow your audience to use their browser's default font size.

Text Styles (Cont.)

- line-height:
  - best to specify in percentage or em
  - 110 - 120% or 1.1 - 1.2 em provides nice spacing between lines
  - Easier to read
  - Less dense looking text = improved visual appeal
  - Some browsers default to this line-height

- color:
  - specify color code or words

- text-align:
  - left, right, center, justify

- text-decoration:
  - none (use to take away underlines on links)
  - underline (avoid using - readers may think it's a link)
  - Use this to put back underlines for links that another style took away.
  - overline
  - strikethrough

Background

- Can be applied to individual elements
  - Color
  - Image
- Other attributes
  - scrolled - image scrolls with page
    - position can also be specified
  - fixed - image remains in a fixed position and text scrolls over image.
    - position should be specified horizontal (x) and vertical (y) positions.

CSS - Spacing

- CSS can control spacing and layout of elements through the use of
  - Padding - the area around an item and before any borders
  - Border - the area around the padding and before the margins
  - Margin - the area between an item and the items around it
  - Width - the width of a particular item
  - Float - allowing items to float left or right from other elements

CSS – Spacing Example

- Images can be set to
  - repeat - tiling (default)
  - no-repeat - image displays only once
  - repeat-x - image repeats horizontally only
  - repeat-y - image repeats vertically only
- If using a dark image with light font color, change background color as well, so text can be read if background image not loaded
How to Define Styles

- Styles are defined with
  - Selector is what is being styled
    - html tag/code such as h2, p, li, etc.
    - compound is often a division name or other named item and may be followed by an html code.
    - Compound styles begin with a #
    - class are indicated with a period . at the beginning followed by a name
  - Attribute is what we want to change such as color, font-family, etc.
  - Property is what we want set for the attribute such as a specific color or font family.

How to Define Styles (cont)

- Defining styles in code follow this format

```
selector {
attribute: property;
attribute: property;
}
```

Where to Define Styles

- Style sheets
  - One sheet can be applied to a whole site by linking the sheet to each page (or in the non-editable region of a template)
  - Within the head section
    - Good for style used in only one page
    - Good for overriding the style in a style sheet for one page only
  - Using the style tag and HTML
    - OK for single use of a style within one page.
    - Avoid if possible, use class instead

Style Sheets

- Easy to update the entire site
- Best for separating structure & design
- Multiple style sheets defined for different presentations: Projector, Printer, Mobile
- Defined by a style sheet link in the head section
  - Example: `<link href="slidesheetname.css" rel="stylesheet" type="text/css"/>

Head Section

- Within the head section of a particular page
- Styles defined between
  - `<style>`... `</style>`

Applying Styles

- Styles defined as tags or compound are automatically applied.
- To apply class styles
  - Apply the span code
    `<span class="classname"> text text </span>`
  - Use class as a attribute of the tag definition
    - `<h1 class="classname"> text </h1>`
**Cascading Effect**

- Styles applied to items will still be applied to tags that are descended from that item.

**Cascading Effect (Cont)**

Explanation for image on preceding slide

- The body has font family set to Times, serif with the background color set to blue, default black font color. These cascade down to the division.
- The division has the text color set to white which overrides the default black. These cascade down to the paragraph.
- The paragraph has no new styles added, but maintains those cascaded and cascades down to anything within the paragraph.
- Within the paragraph a link has the text color set to red and no underline which overrides the division's white color. So the link has the font family and blue background inherited from the body.

**Cascading Effect (cont)**

Continued Explanation

- A side cascade in the division is a heading which keeps the division's text color as white, but the red background overrides the body's blue background. The font family is inherited from the body. The heading also keeps the default heading size which is larger than the normal font size.

**Other cascades**

- User styles supersede styles within a web page or external style sheet
  - The user can change how a page appears in the user's browser - this is GOOD for accessibility.
- Styles within a web page supersede external styles
  - by convention external CSS file links are listed first
    - if link is listed after styles defined within a page, then external will supersede these styles.
- Last listed style supersede previous styles
  - To avoid this define styles for an element within a section once then edit if changes are needed.

**Don’t double define**

- Do NOT create a new style for an element if one already exists unless you need to override the previous style.
- MODIFY an existing style!

**Navigation & Styles**
### Navigation
- Web navigation usually reflects the organization of the web pages within the site.
- Types of organization & navigation
  - Hierarchy - Groups menus into categories
    - Categories may have subcategories
  - Sequential - Step through page by page
    - Tutorials, stories, news articles
  - Web - All pages have links to all other pages
    - Good for small sites (10 pages or less)

### Mixed Navigation
- Many web pages have more than one type of navigation
- May have hierarchy to go from section to section Then sequential to go from page to page within a section
- Or may have hierarchy that consists of pull down menus making it more of a web organization

### Navigation Accessibility
Navigation should meet accessibility standards.
- Avoid menu words as graphics if possible
  - If must use graphics, be sure to provide appropriate alternative text.
  - Some graphics menus are helpful, but also provide a text method of accessing.
- Wording should be short (1-2 words) and meaningful.
  - “Page 2” is NOT meaningful
  - “About Us” is meaningful
  - Use "Home" to return to 1st page of site

### More accessibility
- If using drop down/slide out navigation, top level items should also be click-able to bring to a link page
  - For people with movement difficulties
- Include Skip Navigation.
  - Create a hidden link to skip the navigation and go directly to content.

### Navigation Tips
- Logo or banner graphic can be a link to return to main page
- Keep main navigation short 5-10 links
- Keep most pages within 2-3 clicks
  - 10 navigation items that lead to pages with 10 additional items that lead to pages with 10 more items allows access 1,000 pages within 3 clicks!
- Don’t bury information
- Don’t be mysterious

### Other navigational aids
- Site maps
  - Generally list all pages within a site.
    - Sometimes alphabetically
    - Sometimes grouped into categories
- Image maps
  - An image that has click-able areas
**CSS - Navigation Lists**

- CSS can be specified to be applied to just the navigation if it's in a division.
- Fancy Footwork with lists
  - Lists generally are vertical listings with either bullets or numbering
  - CSS allows lists to be
    - Horizontal or vertical
    - With or without bullets or numbering
    - With special bullets
    - With padding, borders and margins
    - Appears like buttons.
    - Generally improve visual appeal

**CSS creating buttons**

- Boxes apply to line items `<li>` code
  - Set padding – create size of button
  - Set margins – space between buttons
  - Set decoration to `none` to take away underline
  - Set borders if desired
  - 3D effect
    - Set darker border to 2 adjoining sides
    - Set lighter border to opposite side of darker.
- Apply to whole list `<ul>`
  - Take away indents with margin & padding
  - List `style` set to `none` to take away bullets

**CSS creating buttons -more**

- Vertical - apply to whole list `<ul>`
  - Specify a width
  - Specify a float (left or right)
- Horizontal – apply to line items `<li>`
  - Display set to block
  - Use float to allow each item next to the previous

**CSS & Layout**

- Designing for the Web

**Visual Appeal**

- Visual appeal is an important aspect of a web site
  - Difference between a professional looking site and an amateur looking
  - The audience may see an amateur looking site having less credibility
- Graphic arts principals assist with developing professional looking sites

**Graphic Arts**

- Graphic arts developed on paper – so moving to the web may be difficult for those who have designed on paper with exact placement.
- On the web, it’s difficult to control final output due to differences in
  - Monitor size
  - Browser
  - Screen
  - Resolution
  - User preferences
The web is not paper— it’s better

- A web page should not be designed as if it were a sheet of paper.
  - Accept that you can’t control everything.
  - Allow pages to flow, grow, shrink as needed.
  - For the normal text, don’t force fonts types and pixels on readers.
  - Keep repeating: The web is not paper, the web is not paper, the web is not paper….
- Web allows for
  - flexibility
  - usability
  - accessibility

Site Identity

- Consistent elements create a cohesive look.
  - People know they are still on the same site
- Consider placing a logo and the same banner on all pages
- Use consistent navigation
- Color schemes help unify a site & lead to visual appeal

Color schemes

- For large sites
  - The same color can be used throughout the site OR
  - Different color schemes can be used to differentiate major subsections
  - Be consistent throughout the subsection
- For small sites
  - Use one color scheme
  - Easier and less work

Controlling Width

- Control widths for
  - Use on wide screen/high resolution monitors because of long lines of text may be more difficult to read and are visually unappealing
  - Menus or sidebars that are not meant to take up the full width of the screen
- To control width, place content within a division then specify widths with CSS.
  - width - specifies a width for the item,
  - maxwidth - specifies a maximum width
  - minwidth - specifies a minimum width

Widths

- maxwidth & minwidth are often used together to allow pages that better adjust to the user’s monitor size
- The most common way to specify widths is in pixels, ems or percents.
  - maxwidth & minwidth work better with pixels or ems.
  - percent can be applied to width to allow it to be flexible.

Layout

- Center
  - Specify a width for the element
  - Set left & right margins of the element to automatic
- Floating
  - Specify a width
  - Float left or right
    - If margins no specified on subsequent element, it will create a wrap around effect
    - If margins are specified on subsequent element, it will create a column effect
This is an over simplification of floating
Critical Thinking

- With just the CSS that we’ve covered so far, you can create a plethora of differently styled sites.
- In order to determine what styles are needed for your website, it is crucial to develop and use critical thinking skills.
  - You need to think about what you are doing.

Critical Thinking Process

- As part of critical thinking, we use steps similar to those used in the website development process:
  - Define the problem
  - Determine possible solutions
  - Implement the styles
  - Test to see if it achieves the desired result
  - Make corrections or try a different solution
- IMPORTANT POINT: Think about what you are doing.

More on CSS

- and a look at CSS coding

Planning CSS

- Before beginning to style your page, have a vision in mind
- Create a sketch of how you want the page to look.
- This plan is a guideline to what the page should look like.
- Critical thinking helps me to determine which styles to use.

Understanding Elements

- Anything placed on a web page is an element
  - Text or other items are placed on a web page using an HTML code
- CSS is applied to elements
- If one element is contained within another element, it is called a child element. The containing element is called the parent element.
- Styles cascade from parent to child.

Understanding Elements (cont.)

- Widths, fonts, and other styles that size elements and which set to percentages, reflect percentages of the the parent element
  - Example: If a style is set for ul ul (a list within a list) to be 90%, each subsequent indent is smaller.
  - Styles on this page have a style set for ul ul (which is a list within a list) and has the font-size set to 90%.
    - Each level is 90% of the level above it which is the parent item
    - This is 90% of the parent item.
    - The text gets smaller for each indent
      - 2nd smaller
      - 3rd smaller
      - and so on
      - and so on.
CSS & Accessibility

- Keeping structure & style separate is important for accessibility, so styles could be turned off if need be.
  - Store most styles in a style sheet
- Styles should also meet accessibility guidelines
  - Avoid specifying text-size for main content.
  - Specify other text-size as percent or em
  - Background & foreground text should have high contrast

More Accessibility & Usability

- Restrict the width text content on the page so that on a wide monitor text does not stretch from edge to edge
- Drop down navigation should have the top item click-able leading to a page that has the other navigation
- Structure must be sound
  - Headings act as an outline for your page (H1 is the first heading on a page)
  - Text codes must be applied appropriately

More on Background CSS

- Background colors & tiled images cover the width of an element which may stretch to the width of a parent element unless otherwise changed.
  - Text does not mark the end of an element.
    - Some text is shorter
    - Some text is much longer, but the width of the element is the same

Background Options

- Default for background image is to tile repeating both horizontally and vertically
- Css can set to
  - Tile vertically
  - Tile horizontally
  - No repeat (no tiling)
    - Cover - stretches image to cover background of element.

More Layout CSS

- Using absolute positioning or fixed positioning for all elements on a page can take away from responsive layout
  - (Layouts that gracefully adjust to the viewport) and possibly lose accessibility. Avoid using absolute positioning.
- Setting a fixed position for parts of a page can be helpful.
- Setting a fixed dimension for a division can also be helpful to maintain a layout, but CSS should be set to deal with elements that don't fit into these dimensions

Overflow

- Overflow is set to deal with content that doesn't fit. The options are:
  - Visible - shows all of the content, but extra displays outside of the division.
  - Hidden - crops off any extra content and does not display it.
  - Scroll - places a scroll bar on element to allow the content to be seen by scrolling. (Scroll bar will appear even if not needed)
  - Auto - places a scroll bar only if needed
Displaying CSS

- The way styles display may vary somewhat between browsers.
  - Test pages in several browsers

Nuances of floating

- Although for the most part floating allows elements to be placed to the left or right of subsequent items, that is a simplification.
- What floating really does is take an element out of the normal flow of the document
  - Text and images in the subsequent elements move to the right for element floated left
  - Text and images in the subsequent elements move to the left for element floated right
  - The actual element is behind the floated item
- Use floating with care.