Font and Text Size

- Users can set fonts and text sizes in their browsers to satisfy their own unique levels of personal comfort.
- Your goal as a designer is not to fight users' preferences, but to ensure readability of your information.
- "Serif" fonts have tiny cross lines at the ends of unattached lines, like this "Times Roman".
- "Sans serif" means literally "without serif," like this "Arial".
- The solution is to specify relative, rather than absolute, fonts and font sizes.

- Specifying relative fonts allows the user to resize text, while at the same time keeping your text in the same proportions you intended.
- Set relative font and font size in your HTML code:
  `<font face="sans serif" size="H2">`
  `<font face="Verdana, Arial, Helvetica" size="-1">`

Font and Text Size

- Specifying absolute fonts prevents users from making your page's text larger if they need to see it more clearly, or smaller if they think it's too big.
- Code for absolute font and font size would look like this:
  `<font face="helvetica" size="18pt">`

Graphics Turned Off

- Users can turn off graphics in their browser settings.
- They may do so to decrease download times or they may be using assistive technologies, such as screen readers for the visually impaired, which cannot interpret graphical elements.

Always Use ALT Tags

- To accommodate users who turn off graphics, be sure to include an ALT (Alternative Text Tag) for all graphical elements. The general rule when using images on a Web page is to provide an ALT attribute in the image code that provides the same information the visual user sees.
- Image:
  `<img src="txonline.jpg" alt="Texas Online">`
Always Use ALT Tags

- NOTE: If you have a logo which represents your organization on the page, it is not enough to just say ALT="TX Online logo." Such a tag would "pass" various accessibility tests, but this tag is not providing an "equivalent experience."
- Animated image:
  - (Refresh your screen to view the animation.)
- Animated image source code:
  `<IMG SRC ="pubsbook.gif" ALT="animated book flips through pages">`

Page order

- Users do not read Web sites in a linear fashion, as they do with printed books.
- Most jump from place to place via hyperlinks, following their own interests and skipping anything that strikes them as superfluous.
- As the Web author, you can provide clear, logical pathways to your information, but you can’t and shouldn’t try to force users to follow one specific path.

Monitor Size

- Most monitors are set to a default of 640 x 480 dpi. The user can change this setting, but most don’t or don’t realize they can.
  - To accommodate the greatest number of users, design your page to a maximum width of 640 pixels.
- The buffer (the offset) between the outer edge of the browser window and its contents varies from browser to browser.
  - Horizontal offsets range from 8 to 10 pixels.
- Height is less important than width because the user can scroll down the page -- if they know how and if they realize there is more information further down the window.
- Always avoid the need for horizontal scrolling.
- Also avoid telling users to set their monitors to a specific resolution for best viewing.

Browsers and Platforms

- Your Web page design will look very different when viewed on various browsers running on various computers (platforms).
  - Test your pages by opening them in a variety of browsers (Netscape and Internet Explorer are the two most popular Internet browsers).
  - Also, try viewing your pages on different platforms (i.e., Mac vs. PC).
  - Go a step further and try viewing your pages on WebTV, a Palm handheld, or with a screen reader for the visually impaired.
- Not all browsers support all features. To find which browsers support java, frames, plug-ins, style sheets, etc., go to [Webmonkey’s browser reference](#).

Controlling Download Time

- After content, download time may be your greatest concern as a Web page designer.
- The average time individuals are willing to wait for a page to download is only 8 seconds, no matter how stunning your design or how useful your information.
- If you want your site to appeal to most people:
  - Use text instead of graphics whenever possible.
  - Limit the number of graphics, in order to decrease download time.
Controlling Download Time

- Optimize your graphics. Even one seemingly small graphic can have a large file size.
- Re-use the same graphics from page to page.
- Keep tables simple. Tables generate large amounts of HTML code, which may cause slow downloads.
- Keep all file sizes small. Limit the entire byte size per HTML page (including text, images and ALL code) to 40K or less.
- If your page makes sense without an item, leave it off.
- Always consider the limitations of various browsers, hardware platforms, and bandwidth.

Controlling Appearance

- Using tables to control the appearance of your pages
  - HTML tags for creating tables were originally developed for presenting tabular data.
  - Tables, however, can generate excess code, which often results in slower download times. To minimize table code,
    - use tables only when they are necessary;
    - keep the number of rows, columns, and cells to a minimum;
    - avoid nesting tables within tables.
  - Something to keep in mind: browsers render tables only after the entire contents have been downloaded.
    - The standard tags for describing a table are <table>, <tr>, and <td>.
  - The standard tags for describing a table are <table>, <tr>, and <td>.
    - Each row is defined by <tr> tags, and data cells are indicated by the <td> tag.

Using Style Sheets

- By using style sheets, you control the layout and typography of your Web pages by specifying point sizes (relative and absolute), page margins, leading (space between lines), indents, borders and text background colors.
- Style sheets can reduce coding and improve download time.
  - For example, to make all of the Level 2 headings in your document red by using HTML, you must put a <font> tag in each heading tag.
    - &lt;h2&gt;&lt;font color="red">Heading&lt;/font&gt;&lt;/h2&gt;
- Using only HTML markup, you must repeat the font tags for every Level 2 heading in your document.
- If you have twenty Level 2 headings in your document, you must insert twenty <font> tags into your document.
- If you want to change your red headings to green, you must make the change in twenty separate places.
Using Style Sheets

- To make all Level 2 headings red by using a style sheet, you can define all your headings in one place at one time. Making a change is easier because there is less coding in the document:
  
  ```css
  h2 {color: red;}
  ```

- Style sheets can be applied to multiple pages.
- Cascading Style Sheets (CSS) allow you to apply additional or special styles to pages that already use an existing style sheet.

Unfortunately, not all browsers support style sheets. Be sure to check your pages with the style sheets turned off to ensure they are readable and usable (even if less visually appealing) by browsers that do not support style sheets or users who deactivate them.

Using a Web-safe Palette

- To ensure that most users see your colors as you intend them, use "Web-safe" colors when creating graphics for your site or when selecting colors for your text, link, and backgrounds.
- There are a total of 216 colors which are supported by both PCs and Macs.
- The easiest way to recognize Web-safe colors is by their hexadecimal RGB code.
  - Every color is specified this way: #RRGGBB.
  - The "#" indicates hexadecimal data.

There are three pairs of hex digits that indicate the amount of red, green, and blue in the final color.

- Examples of Web-safe colors: #009933, #FFCC66, #CC33FF.
- Examples of non-safe colors: #109833, #FFC396, #CC33F0.

The Web-safe color palette:

![Web-safe color palette]

Other Color Tips

- Use white backgrounds for the fastest download times
- Make text black to contrast best with a white or light background
- Keep colors to a minimum to load faster
- Remember that background colors don't always print (white text on a black background may print as nothing)
- Do not use color alone to convey information.
Keeping Your Site Simple

• The key to effective Web site design is simplicity.
• The best Web sites create a satisfying user experience.
• Information is easy to find.

Keeping Your Site Simple

• Provide simple, clear instructions for interactive features.
  – When you include interactive features on your site, provide easy-to-follow instructions near them.
  – Avoid jargon or complicated explanations.
  – Stick to standard conventions.
• Users learn how the Web works by visiting many sites.
• They expect to see the same familiar conventions wherever they go.

Some Common Conventions

• Underlined, blue text means “hyperlink.”
  – Avoid underlined or blue text for anything but hyperlinks.
  – Expect that many users may miss your links if you put links in another color or remove underlines.
  – Ideally, your links should show visitors where they have been by turning a different color (usually purple) after they have followed it.
• Navigation cues are located on the top and/or left of every page, with the same links arrayed at the bottom.

Some Common Conventions

• Navigation to and from anywhere within your site is available on every page.
• Include links to pages above and below the current level, pages related to the current page, and the home page.
  – Don’t strand your visitor, and don’t provide links to unfinished parts of your site.
  – Don’t direct the user to the back button on the browser; the menu bar is an opportunity for your visitor to leave.

Use Drop-down Menus Sparingly

• Drop-down menus do have their advantages.
• Drop-down menus:
  – conserve screen space;
  – prevent users from entering erroneous data, since they only show legal choices; and
  – they are a standard widget, so most users know how to operate them.
Use Drop-down Menus Sparingly

- To maximize effectiveness of drop-down menus on your site, avoid the following designs:
  - Interacting menus, where the options in one menu change when users select something from another menu on the same page.
  - Very long menus that require scrolling make it impossible for users to see all their choices at one glance.
  - Menus of state abbreviations, such as for U.S. mailing addresses.
  - Menus of data well known to users, such as the month and year of their birth.

Add Effective Search Functions

- More than half of Web users rely on search engines to navigate pages.
- To maximize the usefulness of a search function, label it clearly with instructions.
- Test your search function thoroughly to see that it gives accurate and fast results.

Fill-in Forms

- Fill-in forms (surveys, online order forms, feedback, comment forms, online tests, etc.) make your Web pages interactive by collecting information from users.
- To make online forms accessible to everyone,
  - provide contact information so that users can contact you with problems or request the form in an alternative format;
  - provide coding to associate text labels with their form controls;

- do not use graphical buttons. If you do, use ALT text that describes the function;
  - `<IMG SRC="Submit.gif" ALT="Submit Button">`
  - `<IMG SRC="Reset.gif" ALT="Clear Form">`
  - specify a logical tab order with "tabindex" attribute;
  - use the "for" attribute in the `<label>` element to associate the label with its form controls.
- If you cannot make a form accessible, you should include an alternate form which can be downloaded, scanned, or printed if necessary, and mailed or e-mailed -- or list a phone number to call someone for assistance.

Frames

- Many Web designers use frames to improve navigability.
  - Navigation buttons, logos, instructions or copyright information are placed in a static frame (usually at the top or left side of the page), and are visible at all times.
  - A second frame displays content, which changes when the navigation buttons in the static frame are selected.
- Updating your site's navigation menu or logo (or any element in your static frame) is easy with frames because you need to make the change in only one place.
Not All Users Like Frames

- Before you design your site using frames, consider some common complaints:
  - Users cannot bookmark individual pages within a framed site.
  - When users print a page on a framed site, they must be sure the cursor is in the frame they wish to print.
  - Many users find navigation within a framed site confusing.
  - Search engines encounter problems with frames.
  - Not all browsers support frames.
  - Users can become “trapped” in a frame set.

Not All Frames Meet ADA Accessibility

- If you decide to use frames, be sure to provide a way to make your pages accessible to people who use assistive technologies, like screen readers.
  - Provide a No-Frames alternative. Make sure the No-Frames link is the first link in the frame with the initial focus.
    \(<A HREF="contents.html">No Frames.</A>\)
  - Include a NOFRAMES element at the end of each FRAMESET.
    \(<NOFRAMES><A HREF="contents.html" title="site contents">Go to the Contents page.</A></NOFRAMES>\)
  - Provide a title for all frames.
    \(<FRAME SRC="main.htm" title="Contents Page">\)
  - Do not include an image directly in a frame – put it in an HTML document.
  - Describe the layout and purpose of frames and how multiple frames relate to each other.

Splash Screens

- Most designers enjoy creating splash screens; it's one of their few opportunities to go all out and control every aspect of a page's "look."
- Let your audience determine whether or not you should add a splash screen.
- If your visitors are high-end users with an interest in graphic design or technology, go ahead and create a nifty splash page.

Flash

- Flash lowers usability because it breaks with the Web's fundamental interaction style.
- Other usability problems include:
  - The "Back" button does not work.
  - Link colors don’t work, making it difficult to track navigation.
  - The "Make text bigger/smaller" button does not work.
  - Flash reduces accessibility for users with disabilities.
  - The "Find in page" feature does not work.
  - Animated text is harder to read for users who lack fluency in the local language.

JavaScript and Applets

- JavaScript is not consistently supported across browsers and browser versions.
- Some users turn off JavaScript because of security concerns.
JavaScript and Applets

- To ensure that JavaScript or other applets on your Web pages are accessible to everyone, be sure to:
  - provide alternative presentations of content for each script and applet that conveys information;
  - provide alternative mechanisms for each script and applet that performs an important function, other than presentation of information;
  - if an applet requires user interaction that cannot be duplicated in an alternative format, make the applet directly accessible;
  - provide a mechanism for the user to freeze all moving or blinking objects, particularly those that contain text.

Dynamic HTML (DHTML)

- Dynamic HTML is used to:
  - create interactive and multimedia-rich documents,
  - dynamically update content,
  - change the appearance of content,
  - hide, show, and animate content, and
  - display content with more design flexibility and accuracy through the use of Cascading Style Sheets (CSS).

- Unfortunately, the two leading browser makers, Netscape and Microsoft, currently have different implementations of DHTML in their fourth-generation browsers.

Summary

- In Web design, form follows function.
- Here's what the top 100 Web sites have in common (www.grokdotcom.com/kiss.htm):
  - fast download times
  - few graphics
  - little, if any, multimedia
  - no frames
  - similar navigation systems
  - high contrast text with lots of white space
  - most links in traditional blue underlined text
  - no background imagery
  - very few obvious JavaScripts
  - no DHTML
  - no splash pages
  - solid database-powered back end

That's All Folks!