Hardware and Software

Designers are rarely free to do whatever comes

to mind. Just as designers consider their users' needs for specific information, they must also consider any constraints imposed on them by their users' hardware, software, and speed of connection to the Internet. Today, a single operating system dominates the personal computer market. Similarly, only two website browsers are favored by the vast majority of users. More than ninety percent of users have their monitor resolutions set to 800x600 or 1024x768 pixels. And while most users at work have high-speed Internet access, most users at home connect at dial-up (56K or less) speeds.

Within the constraints of available time, money, and resources, it is usually impossible to design for all users. Therefore, identify the hardware and software used by your primary and secondary audiences and design to maximize the effectiveness of your website.

4:1 Design for Common Browsers

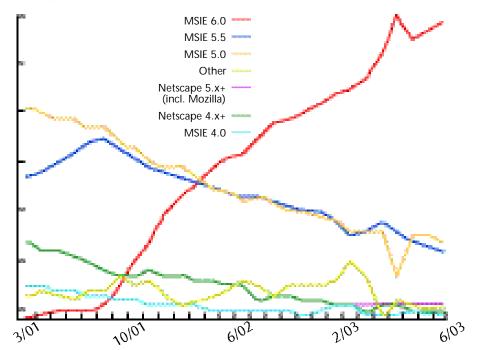**Guideline:** Design, develop and test for the most common browsers.

Comments: Designers should attempt to accommodate ninety-five percent of all users. Ensure that all testing of a website is done using the most popular browsers.

Sources of information about the most commonly used browsers:
- http://www.google.com/press/zeitgeist.html
- http://www.thecounter.com/stats

Sources: Evans, 1998; Jupitermedia Corporation, 2003; Morrell, et al., 2002; Nielsen, 1996b.

Example:

MSIE 6.0
MSIE 5.5
MSIE 5.0
Other
Netscape 5.x+ (incl. Mozilla)
Netscape 4.x+
MSIE 4.0

3/01 10/01 6/02 2/03 6/03

Web Browsers Used To Access Google
March 2001 – June 2003

4:2 Account for Browser Differences

Guideline: Do not assume that all users will have the same browser features, and will have set the same defaults.
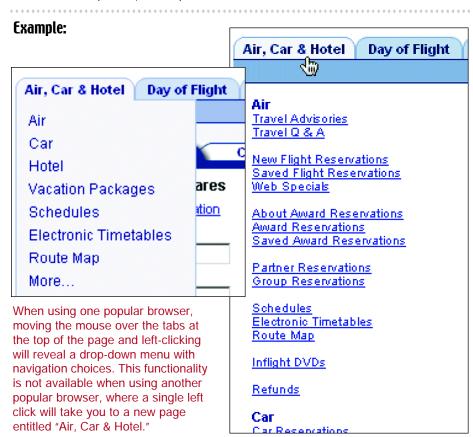
Comments: Visually impaired users tend to select larger fonts, and some users may turn off backgrounds, use fewer colors, or use font overrides. The designer should find out what settings most users are using, and specify on the website exactly what assumptions were made about the browser settings.

Sources: Evans, 1998; Levine, 1996.

Example:

When using one popular browser, moving the mouse over the tabs at the top of the page and left-clicking will reveal a drop-down menu with navigation choices. This functionality is not available when using another popular browser, where a single left click will take you to a new page entitled "Air, Car & Hotel."

See page xxi for detailed descriptions of the rating scales
①②③④○

Hardware and Software

4:3 Design for Popular Operating Systems

Guideline: Design the website so it will work well with the most popular operating systems.

Relative Importance:
①②③④○
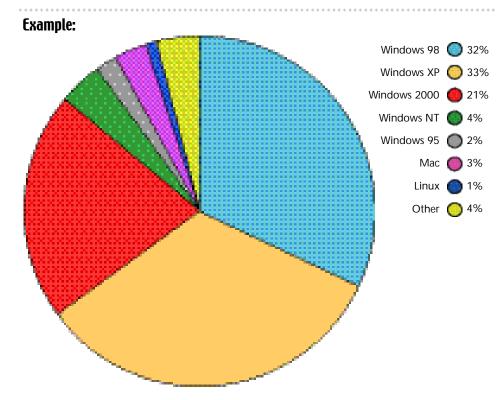
Strength of Evidence:
①②○○○

Comments: Designers should attempt to accommodate ninety-five percent of all users. Ensure that all testing of a website is done using the most common operating systems.

Sources: Jupitermedia Corporation, 2003.

Example:

Operating System	Percentage
Windows 98	32%
Windows XP	33%
Windows 2000	21%
Windows NT	4%
Windows 95	2%
Mac	3%
Linux	1%
Other	4%

Operating Systems Used To Access Google
June 2003

4:4 Design for User's Typical Connection Speed

Guideline: Design for the connection speed of most users.

Relative Importance:
①②③④○

Strength of Evidence:
①②○○○

Comments: At work, more than two-thirds of users have high speed access and thirty-four percent are using 56K (or slower) modems. At home, more than one-third of users have high speed access. These figures are continually changing—designers should consult one of the several sources that maintain up-to-date figures.

Sources: Forrester Research, 2001; Nielsen, 1999a; Web Site Optimization, 2003.

4:5 Design for Commonly Used Screen Resolutions

Guideline: Design for monitors with the screen resolution set at 800x600 pixels.

Relative Importance:
①②○○○

Strength of Evidence:
①②○○○

Comments: Designers should attempt to accommodate ninety-five percent of all users. As of 2003, nearly half of users have their screen resolution set at 800x600. By designing for 800x600, designers will accommodate this most common resolution, as well as those at any higher resolution. Ensure that all testing of websites is done using the most common screen resolutions.

Sources: Evans, 1998; Jupitermedia Corporation, 2003.

Example:

Screen Resolution	Apr 02	July 02	Oct 02	Jan 03	May 03
1152x864 or greater	6% of users	7%	7%	7%	7%
1024x768	35% of users	37%	38%	40%	41%
800x600	51% of users	49%	49%	46%	46%
640x480 or less	3% of users	3%	2%	2%	2%
Other or Unknown	5% of users	4%	4%	5%	4%

See page xxi for detailed descriptions of the rating scales
①②③④○