

## 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 (Microsoft's XP) dominates personal computer market. Similarly, only two Web site browsers are favored by the vast majority of users. More than ninety percent of users have their monitors set to 1024x768, 800x600 or 1280x1024 pixel resolution. And while most users at work have high-speed Internet access, many home users still connect using dial-up.

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 Web site.

# 4:1 Design for Common Browsers

Relative Importance:



Strength of Evidence:



**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 Web site is done using the most popular browsers.

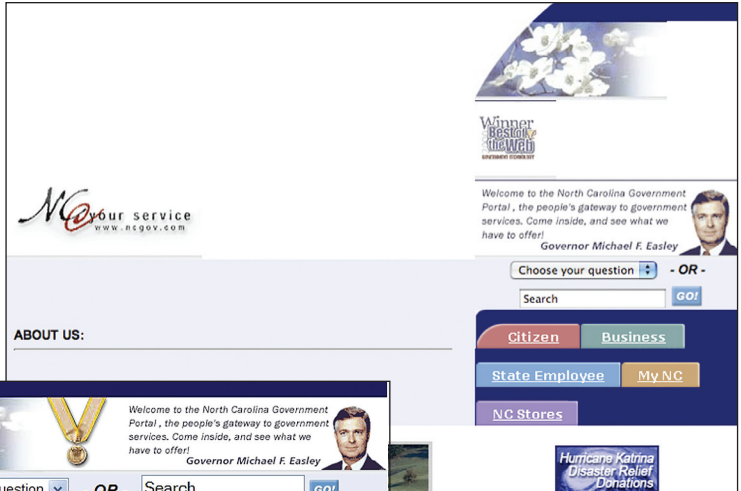
Sources of information about the most commonly used browsers:

- <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:**

This site, when rendered on a Macintosh, falls apart (right). The website should display properly on all platforms, as it does below when rendered on a PC.



See page xxii for detailed descriptions of the rating scales

## 4:2 Account for Browser Differences

Relative Importance:

1 2 3 4 0

Strength of Evidence:

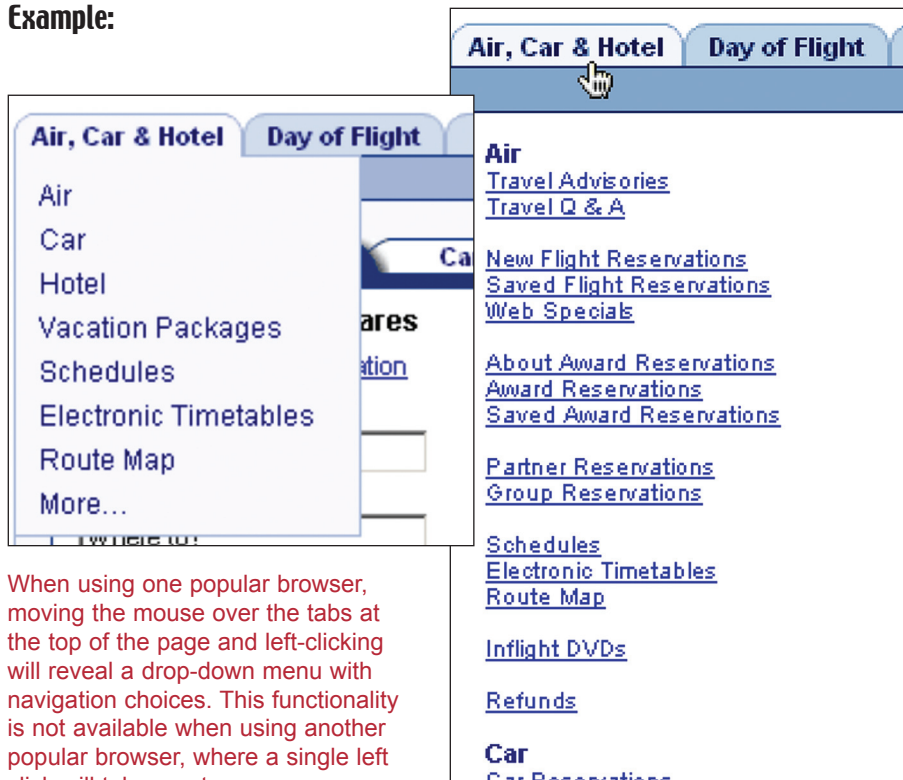
1 2 0 0 0

**Guideline:** Do not assume that all users will have the same browser features, and will have set the same defaults.

**Comments:** Users with visual impairments tend to select larger fonts, and some users may turn off backgrounds, use fewer colors, or overrides font. The designer should find out what settings most users are using, and specify on the Web site 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.'

## 4:3 Design for Popular Operating Systems

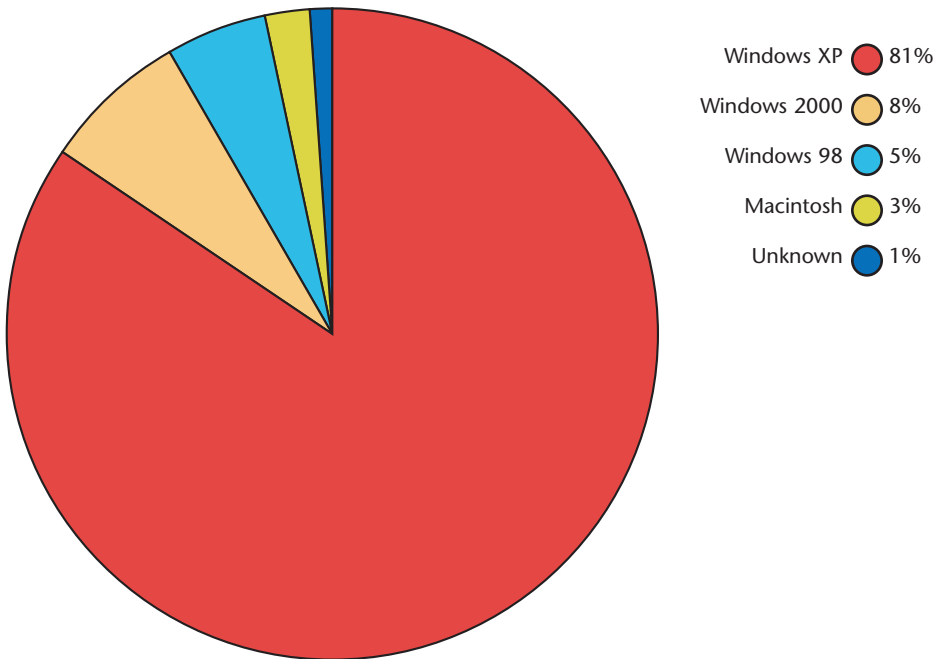
**Guideline:** Design the Web site so it will work well with the most popular operating systems.

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

Currently, the most popular operating system is Microsoft's Windows XP which has over 80 of the market share. The second is Windows 2000 (eight percent), then Windows 98 (five percent), and the Macintosh (three percent). Designers should consult one of the several sources that maintain current figures to help ensure that they are designing to accommodate as many users as possible.

**Sources:** www.thecounter.com., 2006; Jupitermedia Corporation, 2003.

**Example:**



**Most popular operating systems, as reported by the counter.com, for June 2006.**

**Relative Importance:**

1 2 3 4 ○

**Strength of Evidence:**

1 2 ○ ○ ○

## 4:4 Design for User's Typical Connection Speed

**Guideline:** Design for the connection speed of most users.

**Relative Importance:**

1 2 3 4 0

**Strength of Evidence:**

1 2 0 0 0

**Comments:** At work in the United States, at least eighty-nine percent of users have high speed access, while less than eleven percent are using fifty-six K (or slower) modems. At home, more than two-thirds of users have high speed access. These figures are continually changing. Designers should consult one of the several sources that maintain current figures.

**Sources:** Nielsen/NetRatings, 2006; 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 1024x768 pixels.

**Relative Importance:**

1 2 3 0 0

**Strength of Evidence:**

1 2 0 0 0






**Comments:** Designers should attempt to accommodate ninety-five percent of all users. As of June 2006, 56% of users have their screen resolution set at 1024x768. By designing for 1024x768, designers will accommodate this most common resolution, as well as those at any higher resolution. Ensure that all testing of Web sites is done using the most common screen resolutions.

**Sources:** www.thecounter.com., 2006; Evans, 1998; Jupitermedia Corporation, 2003.

**Example:**

### Resolution Stats

Thu Jun 1 00:01:02 2006 - Wed Jun 7 14:58:01 2006 6.6 Days

1024x768		13014406	(56%)
800x600		4053231	(17%)
1280x1024		3978242	(17%)
Unknown		839963	(3%)
1152x864		813277	(3%)
1600x1200		168204	(0%)
640x480		63251	(0%)