Chapter 2.9
Web Design and E–Commerce

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ABSTRACT

Computers and the Internet are now pervasive and essential parts of our lives: we use them at work and at home to gather information, for entertainment, and, increasingly, to do business. The Internet allows people to chat with others from all over the world, to follow the news from every continent, and conveniently to shop online at home or at the office. This book chapter covers two important and related concepts: Web design and e-commerce. The section on Web design starts with the overall picture of the Internet, history, Web authoring tools, design rules as well as introducing some research findings on Web design. E-commerce is introduced with definitions, technological acceptance model, online payment methods, online marketing and future developments.

INTRODUCTION

E-mail, the net, weblogs, instant messaging, text messaging, spiders, bots, MUDs, flashmob, VOIP. The World Wide Web has transformed our lives with its deluge of instantaneous information. The rapidity of adoption of the Internet by consumers is phenomenal. Within less than a decade, Internet usage has gone from a small, highly specialized segment of scientists and computer enthusiasts to a consumer mass market. Recent surveys suggest that about 60% US population browse the Web on a regular basis (Brown and Sellen, 1). Its impact on legal and cultural norms is pervasive: Congress is currently debating the "Regulatory Status of Broadband," and the Recording Industry Association of America has recently sued ordinary users of illegally shared copyrighted music. The rest of the world, especially the non-English-speaking world, is rapidly catching up with the Internet usage of the US business and consumer markets.

The Internet has not only transformed our access to information and entertainment, it has

also revolutionized our way of doing business. All business transactions first require a flow of communication, and so there is an essential interaction between the informational and commercial transactions. Therefore, because Web design and e-commerce are so closely related, we cover both topics in this chapter, reviewing research in Web design and e-commerce and highlighting issues and problems.

WEB DESIGN ESSENTIALS

Web design is complex because it functions to facilitate the interface between humans and computers, and to organize information so that the objectives of the Web designer are met. There are key elements to the communication that the designer cannot control. For example, the impact of Web design is affected by the size of monitors, by the browser, the video card, the screen settings, etc., all of which determine the appearance of the Web page. On the Web, what you see is what you get, but not what others get.

Nonetheless, over the years, some basic design rules for Web sites have emerged, along with some notable experts, including Jakob Nielsen and the UK design firm, Spooks. For example, according to Nielsen, "the design elements should always be the same, but the way they are composed should be different because the sites are doing different things. If you think about cars, all cars have the accelerator to the right of the brake pedal. This doesn't mean that all cars are identical, but the basic elements you need to operate the device follow some conventions." So, a logo should always appear in the top left corner and hypertext links should be underlined in blue.

One compelling element for Web design is the role of time in people's behavior. People will abandon a Web site if they get lost or if the site is difficult to navigate. They will not waste time trying to learn an interface. Fast-loading pages make Web surfers happy. People do not have the patience to wait minutes for a page to load. The practical guide on the speed of Web loading is 30 seconds. Other people suggest that if we hold our breath and wait until we need to gasp for air, that period of time is the longest delay that Web surfers can tolerate. In order to build a fast-loading Web page, reduce the amount of data and the size of the graphics.

Design Elements

- *Presentation:* A Web site's presentation consists of text, animations, images and links as well as audio/video elements. The *Homepage* of a Web site is like a cover of a magazine. It is the place to convey the important basic message to Web users. It is important to keep content to a minimum on the home page so that users do not need to scroll several pages to view it. Therefore, it is better to chunk information and use meaningful links to display the major components of a Web site.
- *Navigation:* Navigation refers to the text and graphic links between pages that indicate sequencing between Web pages. Navigation facilitates movement from one Web page to another Web page, and so plays a crucial role in getting site visitors to view more than just the home page. If navigation choices are unclear, visitors may quickly leave to visit other sites which are just a click away.
- *Visual Appeal:* Visual appeal defines the aesthetics of a Web site. The colors, text styles and graphics create its overall visual impression. It is very difficult to create a Web site that is both effective functionally and aesthetically pleasing. The field of Web design has mainly focused on the technical and functional aspects of the construction of Web sites. We need models that weigh the analysis of the visual and aesthetic aspects against the functional and technical aspects of Web design (Thorlacius, 2002).

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