



Chapter 2

Developing Applications for the Web: Exploring Differences Between Traditional and World Wide Web Application Development

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Introduction

The use of the Internet, and the World Wide Web in particular, has grown at a phenomenal rate. The Internet, the world's largest computer network, grew from approximately 25,000 connected networks with over 6.6 million computers worldwide in 1996 (Neubarth, 1996) to more than 50,000 networks and 16 million computers today (Conger & Mason, 1998). The fastest growing resource on the Internet is the World Wide Web (hereafter called the Web). Between 1994 and 1996, the Web grew from 100 sites to 100,000 sites housing more than a million Web pages (Neubarth, 1996), and as of January, 1999, an electronic survey of web hosts found over 43 million sites (Network Wizards, 1999). Over 80% of America's Fortune 500 companies have some type of Web presence (*The Economist*, 1997).

The types of applications or sites found on the Web range from something as simple as an individual's personal home page listing favorite teams and movies to sophisticated full-blown organizational information systems such as on-line courses, electronic shopping, and sophisticated database-oriented applications. It is the development of these organizational systems

– whether business, educational, or non-profit – that are of particular interest here. When an organization creates a Web site, that site becomes a major point of contact with a vast number of potential customers. Thus a Web site offers great opportunity, as well as great risk. It is possible for a Web site to expose an organization to a huge new base of potential customers. However, a poorly designed and/or poorly implemented and maintained Web site can tarnish an organization's reputation with that same vast audience.

The ease of developing these sites belies their potential critical nature. Although many people have the ability to put up a Web site, they may not have the skills or knowledge or training to ensure that the site is of the necessary level of quality – in terms of aesthetics, functionality, or security. As was seen with end-user development, organizations should be aware of the need to monitor and control Web development activities to ensure that the organization is not put at risk due to poor decisions made by non-professional developers.

This chapter will examine the nature of Web application development as it is occurring in organizations today. In particular, it will address the *who* and the *how* of Web development and discuss the role of methodologies in the Web development process.

Background

The proliferation and high visibility of Web applications have raised concerns in many organizations. Because a Web site may be the initial contact a potential customer has with the organization, it is important that the information presented be accurate, timely, and reflect the objectives of the organization. However, most Web applications are developed with little or no control and without formalized processes.

The solution to the lack of structure and control in traditional system development environments has been the implementation of formalized system development methodologies. The use of an appropriate development methodology has been considered essential when designing and building computerized information systems. Some specific benefits of following a methodology include the ability to plan and monitor project progress based on the activities specified by the methodology, and the ability to ensure that sequential tasks are completed in the proper order, so that later tasks can build on earlier ones (Bakke, 1998). Another important outcome of methodology use is documentation. Documentation formalizes understandings and agreements regarding the scope and functionality of the system; serves as a communication tool between those involved in the project; and provides a lasting repository of information about the project, which can be particularly

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