Chapter I

What is Different about Web and Software Projects?

Abstract

The objective of this chapter is threefold. First is to introduce new terminology that relates specifically to hypertext, the model the Web is based upon. Second, it provides an overview of differences between Web and software development with respect to their development processes, technologies, quality factors, and measures. Third, it discusses the differences between Web effort estimation and software effort estimation.

Introduction

The Web was originally conceived in 1989 as an environment for the sharing of information (e.g., research reports, databases, user manuals) with geographically
dispersed individuals. The information itself was stored on different remote servers and was retrieved by means of a single user interface (Web browser). The information consisted primarily of text documents interlinked using a hypertext metaphor (Offutt, 2002).

Since its inception, the Web has morphed into an environment used as a carrier for the deployment of many different types of applications. Such applications range from small-scale information-dissemination-like applications, typically developed by writers and artists, to large-scale commercial, enterprise-planning and -scheduling, collaborative-work applications, developed by multidisciplinary teams of people with diverse skills and backgrounds using cutting-edge technologies (Gellersen & Gaedke, 1997; Ginige & Murugesan, 2001; Offutt, 2002). Many of the Web applications currently in use are fully functional systems that provide business-to-customer and business-to-business e-commerce, and numerous services to numerous users (Offutt).

The massive increased use of the Web to provide a carrier platform for commercial applications has been motivated by several key factors, such as the following:

- The possible increase of an organisation’s competitive position
- The opportunity for small organisations to project a corporate presence in the same way as larger organisations (Taylor, McWilliam, Forsyth, & Wade, 2002)
- Industries such as travel and hospitality, manufacturing, banking, education, and government utilising Web-based applications to improve and increase their operations (Ginige & Murugesan, 2001)
- The development of corporate intranet Web applications for use within the boundaries of an organisation

The seemingly insatiable appetite for Web applications reaching into areas of communication and commerce makes it one of the leading and most important branches of the software industry to date (Offutt, 2002).

The World Wide Web (or simply Web) is the best known example of hypertext. The concept of hypertext was described by Conklin (1987, p. 1) as follows (see Figure 1): “windows on the screen are associated with objects in a database, and links are provided between these objects, both graphically (as labelled tokens) and in the database (as pointers).”

A collection of objects stored in a database is typically called a hyperdocument. When the objects are pure text, the hyperdocument is called hypertext; otherwise, objects that also include graphics, digitised speech, audio recordings, pictures, animation, film clips, and so forth are generally referred to as hypermedia, though these terms are often used interchangeably. Hypertext can also be described as a web of
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