Chapter XIII
Outsourcing Issues in Web Development

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ABSTRACT

This chapter addresses issues, alternatives, and best practices that apply when outsourcing Web development. The chapter’s primary objective is to provide a concise overview of key concepts and best practices for practitioners and students, as well as other audiences. First, we introduce and motivate the chapter, provide background, and present three key ideas that are expanded and developed in the two subsequent sections. The first describes four steps to help executives and upper management address strategic issues and decisions in outsourcing. The second describes four more steps to help managers, team leaders, and development teams address more tactical issues. We conclude with future trends and implications, and a summary of the best practices.

INTRODUCTION

Outsourcing is the use of external companies to perform services, rather than using internal staff. According to a 2003 survey of chief information officers (CIOs), 70% of companies outsource some IT function or application (CIO Insight, 2003). Offshoring is the use of staff in other countries, and is often associated with India, China, and the former Soviet Union. Forrester Research estimates that 277,000 computer jobs and a similar number of management and operations jobs in the United
States will move offshore by 2010 (Engardio, 2003). An ACM Task Force (Aspray, Mayadas, & Vardi, 2006) estimates that each year 2-3% of IT jobs in the United States are offshored, but that many more IT jobs are lost and created each year. Furthermore, the task force notes that it is very difficult to predict such changes accurately, particularly since many of the studies are produced or supported by organizations with a vested interest in the outcomes (e.g., American Electronics Association, 2004; Behravesh and Klein, 2004; Farrell, 2003; Vogel & Connelly, 2005).

This chapter’s primary objective is to provide a concise overview of key concepts and best practices for practitioners and students, as well as other audiences. The chapter emphasizes Web applications and includes examples from outsourced Web development projects the authors have led, overseen, and reviewed. However, many of these approaches and issues apply to many sorts of outsourced development work.

To outsource Web development more effectively, organizations should focus on three key ideas, which we expand and develop below. First, structure projects in short iterations, so that there are multiple opportunities to find and correct problems; in words attributed to Tom Peters, “test fast, fail fast, adjust fast.” Second, recognize that “the major problems of our work are not so much technological as sociological” (DeMarco & Lister, 1999, p. 4, original emphasis); in other words, the major benefits and risks are tied to people and relationships rather than to tools. Third, match the structure of the development team to the desired structure of the system. This relationship, first described by Conway (1968), is particularly important in outsourcing relationships, where it can be more difficult to restructure the project.

Throughout the chapter, we use examples distilled from a variety of outsourced Web development projects the authors have led, overseen, or reviewed. SPC (“Software Product Company”) had invested significant resources to develop a powerful and flexible software engine to perform data processing operations. SPC planned to use the software engine in a series of Web-based applications, customized to specific domains, so that customers could take advantage of the engine’s capabilities without the expertise and effort needed to configure it. Thus, the Web-based applications have complex databases and interactions with the software engine. SPC decided to consider outsourcing the development of these Web-based applications, for reasons discussed below.

The following section provides essential background. We then describe four steps to help executives and upper management address strategic issues and decisions in outsourcing. Next, we describe four more steps to help managers, team leaders, and development teams address more tactical issues. We conclude with future trends and implications, and a summary of the best practices. We provide a multidisciplinary perspective, since outsourcing involves a variety of disciplines, including business, software development, psychology, and sociology. Outsourcing, especially offshore outsourcing, can be controversial; we present a balanced view of the benefits and risks, based on experience.

**BACKGROUND**

In this chapter, **client** is the organization that is deciding if and how to use outsourcing in a Web development project, **provider** is the organization performing the outsourced work, **joint team** includes everyone at the client and provider responsible for building the project, and **stakeholder** is anyone with a significant interest in the project, including upper management, other business functions such as sales, and, of course, target end users.

**Distributed** development is when the team is at multiple locations, and **global** development is when the team is in multiple countries. Outsourcing and offshoring have inspired other related
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