Chapter XV
Project Management and Web Software Engineering

Daniel M. Brandon
Christian Brothers University, USA

ABSTRACT

The process involved with the development of Web applications is significantly different from the process of developing applications on older traditional platforms. This is a difference not only in technologies but in the overall business process and associated methodology, in other words the project management. Web applications generally manage content and not just data, and many Web applications are document centric versus data centric. In addition, there are many more people involved in the definition, design, development, testing, usage, and approval for Web applications. The pace of business life is much quicker today than in the past, thus Web applications need to be deployed much quicker than earlier IT applications and they need to be engineered for more flexibility and adaptability in terms of changing requirements, changing content, changing presentation, and perhaps mass user customization. In addition, security concerns are more prevalent in Web applications since the end users are outside as well as inside the corporate virtual perimeter. Web applications can serve a global audience and thus there are more diverse stakeholders for these applications. Issues such as language, culture, time zones, weights and measures, currency, and international standards need to be considered. This chapter examines the project management issues involved with Web applications.

INTRODUCTION

In this chapter we will discuss the key issues involved with project management for developing Web applications. These issues revolve around the fact that Web applications have many and possibly globally diverse stakeholders operating in a “security challenged world” whose expectations are for “better/cheaper/faster” software. We start out by discussing the project management discipline, and then the relationship between this discipline and the software engineering discipline. Then we
consider how both of these disciplines combined can successfully address the opportunities, issues, and problems of modern Web application development including the internationalization and security aspects.

THE PROJECT MANAGEMENT DISCIPLINE

A number of professional organizations have developed around the world to foster the project management discipline (Morris, 2001). These organizations have recognized that there is a distinct skill set necessary for successful project managers, and the organizations are devoted to assisting their members develop, improve, and keep current with these skills [Boyatzis, 1982; Caupin, 1998]. The Project Management Institute (PMI) is the largest of these organizations in the world, but other major international organizations are the Association for Project Management (APM), British Standard Institute (BSI), Engineering Advancement Association (ENAA) of Japan, Australian Institute of Project Management, and the International Project Management Association (IPMA).

Each of these organizations has developed a set of project management standards as has the ISO (International Organization for Standards) with its ISO 10006 “Guide to Quality in Project Management.” For comparative purposes the size in words of these various project management standards are (Crawford, 2004):

- PMBOK – 56,000
- APM BoK – 13,000
- IPMA ICB – 10,000
- ENAA P2M – 36,000

The APM has developed a Body of Knowledge (BoK) of Project Management Competencies. The APM Body of Knowledge identifies 40 key competencies grouped as:

- **Project management**: Covering the key elements that differentiate projects from general management;
- **Organizations and people**: Detailing the main qualitative skills of a Project Manager;
- **Techniques and procedures**: Details the quantitative methods;
- **General management**: Covers industry specific concepts.

The APM Body of Knowledge also provides a focal point for many of the programs run by the APM including their Certification Program which assesses a person’s competence in managing a project; the Course Accreditation Program which reviews training courses run by both commercial private training companies and higher education institutes, and the Project Management Capability Test which assesses a person’s knowledge in the APM Body of Knowledge. The British Standards Institute publishes the Guide to Project Management (BS6079). This Standard has been adopted by both the British government and industry and establishes commonly accepted terminology. The stated objectives of BS 6079 are to provide guidance to:

- **General managers**: To enable them to provide proper support for project managers and their teams;
- **Project managers**: To improve their ability to manage their projects;
- **Project support staff**: To help them understand project management issues and solutions thereto;
- **Educators and trainers**: To help them understand the project management environment and the context in which project management methods are deployed.

The International Project Management Association is a federation of national project management associations of several European countries.
Related Content

Development and Evaluation of a Methodology for Developing Marketing Websites
Tomayess Issa, Martin West and Andrew Turk (2010). Integrating Usability Engineering for Designing the Web Experience: Methodologies and Principles (pp. 103-123).
www.igi-global.com/chapter/development-evaluation-methodology-developing-marketing/40495?camid=4v1a

Measures for Cloud Computing Effectiveness Assessment
www.igi-global.com/chapter/measures-for-cloud-computing-effectiveness-assessment/140804?camid=4v1a

The Methodology of Search Log Analysis
www.igi-global.com/chapter/methodology-search-log-analysis/21998?camid=4v1a

Semantic Clustering of Web Documents: An Ontology based Approach Using Swarm Intelligence
www.igi-global.com/article/semantic-clustering-web-documents/75122?camid=4v1a