Chapter XVI

Multi-Disciplinary Collaboration to Unravel Expert Knowledge:
Designing for Effective Human-Computer Interaction

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Abstract

This chapter introduces project management as a pivotal tool that underpins successful information systems design. It argues that the strength of the human-dimension of human-computer interaction (HCI) is often omitted by system designers. It discusses some of the issues that arise when dealing with a multi-disciplined project team. These include dealing with a non-conventional learning context, the challenge of designing an appropriate learning design and instructional architecture. Furthermore, the authors hope that understanding the underlying principles of effective conflict management throughout the process of systems

design will inform others of a better communication methodology for dealing with difficult behaviour when designing an information system. It is also hoped that this discussion will assist in the understanding of the intricate and interactive relationships that arise between the different elements of HCI.

Introduction

The process of designing computerized information systems involves many different types of design techniques. Instructional designers play an important role in user-centered interface design, capturing and designing appropriate learning content and media selection. There are many examples of projects where the simplest conceptual notion blossomed into a complicated technical nightmare for an educational systems developer. Perhaps it is because of this that systems analysis and design has been called a black art (McKay, Thomas, & Martin, 2004). In some quarters it has become fashionable to follow the so-called principles of user-centered design to focus on the cognitive factors that are involved in human-computer interaction (HCI). A multi-disciplinary collaborative project team was formed to develop an innovative computerized information system for people wishing to find work. This specialized information system was intended to target users who may have experienced some type of challenging event that caused an interruption to their lives, leaving them with low self-esteem and lacking the confidence to find suitable employment.

The typical project management challenges that affected project outcomes included: teasing out the experts' knowledge into everyday language, dealing with difficult people, unexpected changes to the project's focus, awkward authorware tools, and project development hurdles that defy even the most experienced system developer. To illustrate how these influences impacted upon the instructional design process, a case study is presented in this chapter, setting out the principles of instructional design that guided the project. We define instructional design as the professional practice of constructing an appropriate context for a specialized learning context. The development of the pilot information system did not run smoothly and conflict management strategies were required to complete the funded project on time.

The specific objective of this chapter is to reveal the necessity to draw on instructional design principles for taking a fine-grained approach to match the learning context with the target user needs. The common axiom that a one-size-fits-all approach to instructional strategies can be adopted for an information/skill development system, simply is not appropriate when seeking ways to encourage the long-term unemployed back to work. This chapter reveals how difficult it was to implement a sound instructional design framework for an information system in a vocational rehabilitation community. There are many competing issues that converge within this type of recovery-oriented community, including the policies and practice of the existing service providers. Lack of funding for these service providers was a common reason expressed by this group for the current dilemma facing people wishing to return to work after a long absence.

The environmental context for this research project is explained in the background section of this chapter. In this first section, there is clarification of the multi-disciplinary project team roles within the project. In the overview section, we outline the functionality of the

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