IDEA GROUP PUBLISHING
701 E. Chocolate Avenue, Suite 200, Hershey PA 17033-1240, USA
Tel: 717/533-8845; Fax 717/533-8661; URL-http://www.idea-group.com
ITB8560

Chapter 8

A Matter of Necessity: Implementing Web-Based Subject Administration

Paul Darbyshire
Victoria University of Technology, Australia

Andrew Wenn
Victoria University of Technology, Australia

Introduction

The WWW is a resource of enormous potential for education. The use of this resource for presentation of learning materials is well documented (Alexander 1996; Darbyshire and Wenn 1996; Freeman 1997), but the Web can also provide versatility and be of great benefit to subject administrators. By exploiting the Web's distributed nature and platform independence, a subject administrator can provide better service to students and at the same time increase the flexibility and efficiency with which some of the more mundane administration tasks are performed.

In this chapter, we describe the design and development of a Web Based Learning Administration (WBLA) system initially developed to complement work we began on Web Based Learning (Darbyshire and Wenn 1996a). This project became a matter of necessity because of the multi-campus nature of our university. In the background section, information is given on subject management, Web based administration, Victoria University of Technology and a survey of similar work undertaken by others. A development framework and a model are then discussed. The details of the architecture of the of the WBLA system project we are building and security are discussed in the next section. A detailed description of the system is given and related to the model previously presented. Some responses to a trial of the system are given

This chapter appears in the book, *Managing Web-Enabled Technologies in Organizations: A Global Perspective* edited by Mehdi Khosrowpour.

and future enhancements we envisage are presented in the final section.

Background

Computers have been used in education for some time now. Indeed, even prior to the widespread introduction of personal computers into the classroom in the early 1980s, academics have been using computers in a variety of ways to complement teaching. Traditionally, delivery of a university subject involves two components, *teaching* and *management*.

The teaching component of a subject includes all matters related to the preparation and delivery of the educational material, while the management component includes all other nonteaching aspects. These include: maintaining records, preparing exams and assignments, collecting assignment for marking, marking assignments and communicating with students. Efforts to use computers to supplement/ replace teaching have been labelled with terms including: Computer Aided Instruction (CAI); Computer Managed Instruction (CMI); Computer Aided Learning (CAL); on-line teaching and learning and more recently Web Based Learning (WBL) (Darbyshire and Wenn, 1998). The use of computers to aid in the management tasks associated with subjects has been termed Computer Managed Learning (CML).

Subject Management

Computer Managed Learning is "the application where the computer does not have an instructional role and where the function of the computer is in the control, administration and testing of the learning process" (Stanford and Cook, 1987). Computer Mediated Communication (CMC) is the term used to denote those computer functions responsible for the facilitation of communication between instructor and student(s), or student and student(s). Some of the management functions mentioned above such as assignment submission cross the boundaries between CML and CMC (Byrnes and Lo, 1994). Computer Mediated Communication can incorporate assignment submission (Kaye, 1989), but when combined with other elements such as maintaining records, then the system is in the domain of both CML and CMC (Byrnes and Lo, 1994).

Since all aspects of managing a subject mentioned above are important, we use the term *Subject Management* to represent the functions belonging to both CML and CMC. Subject management tasks are normally transparent to the student and it is essential that they be performed in as an efficient manner as possible for the smooth functioning of a subject. If these functions are performed inefficiently, the inefficiencies become immediately obvious to the students and can detract from the learning process.