Chapter XII

Distributed Web-Based Assignment Management

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There is an ever-increasing use of computers and applications used by educators for delivering course material. The term '*courseware*' has been applied to the comprehensive software available to manage many aspects of the delivery process. Until recently, the main thrust of such software has been towards the delivery process and the incorporation of educational material. However, subject management is also an important task carried out by the subject coordinator, and the role it plays in the overall course delivery process should not be underestimated. Although the subject administrative tasks are usually transparent to some degree, if they are performed inefficiently, they become immediately obvious and in the worst case can distract students and staff from the learning process. An instructional system must be backed up by an efficient subject administration system.

One administrative task that can consume much of a subject coordinator's time is assignment management. Assignment management involves collection, date stamping, redistribution to tutors for marking, collation of results, and return of assignments to students. Many such computerized systems have been previously developed, but due to the nature of the infrastructure they were designed for, their use has been awkward and they are not easily transferred from system to system. With the development of the Web since the early 1990s, we now have a 'standard' platform used by education and the general community that allows us to build platform independent systems to implement assignment management functionality. Such software provides tangible benefits to both students and subject coordinators.

The issue of assignment management and submission of student assignments is important to subject coordinators involved in the process. A search through some of the popular *Search Engines* on the Internet (conducted 4/14/99), for the simple string "*Assignment Submission*", revealed quite a number of Web pages with instructors detailing assignment submission procedures to students. Some of the submission procedures involved physical submission, but the vast majority detailed electronic submission procedures. The results of the search engine hits can be seen in Table 1.

Table 1: Search engine hits for assignment submission

Search Engine	Number of Hits
Northern Lights Search	1,769
Alta Vista	1,531
Excite	1,030
Hot Bot	1,010
Infoseek	547
Yahoo	488

This paper discusses assignment management and, in particular, describes in detail the structure and functioning of a Web-based assignment management system, designed for use at Victoria University of Technology which runs many multi-campus subjects. This system provides the functionality for a Web-based 'assignment box' and provides access to this assignment box to authorized staff from any standard Web browser.

BACKGROUND

The delivery of a university subject to a student population involves more than a one-way dissemination of information. It includes the input and feedback from a number of assessable tasks throughout the semester. Regardless of what material is taught, or the mechanism used to deliver such material, the written assignment still remains the basic unit of assessment for the vast majority of educators. As such, the assignment management process becomes an important administrative task performed by a subject coordinator. A breakdown in this process can lead to lost assignments, ungraded or late work and accusations of mismanagement by both sides.

Subject administrative tasks such as assignment management have traditionally been performed manually by the subject coordinator. Occasionally the responsibility for subject management may be delegated to the departmental office, providing a central point of collection and drop-off to students. Effectively managing the tasks associated with collection, distribution, marking, recording and returning assignments takes a great deal of the instructors' time, and more recently, computer based methods have been employed to aid in such tasks. The use of computers to aid in administrative tasks associated with subjects has been termed Computer Managed Learning (CML). Byrnes *et al* (1995), identifies assignment management as one of the components which should be included in a reasonable CML system.

Computer Managed Learning is defined as "*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). The administrative task of assignment management crosses the boundary between CML and CMC (Byrnes and Lo, 1996). 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, 1996).

There have been a number of notable CML initiatives over the past few years that address the assignment submission process. These include:

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