Chapter XVII

Putting Course Management Systems Behind Us

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Abstract

The course management systems developed in the mid-to-late 90s helped get instructors online and partially automated course administration services in ways that saved time and effort. But the course administration function is not central to the deeper problems of providing more universal access to learning and making learning more effective. Furthermore, service-oriented architectures are starting to dominate the information technology infrastructure landscape. This chapter discusses the author’s personal history with developing a course management system and speculates how the functionality needed to support online learning is being taken apart and might be put back together.

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Introduction

This chapter is about why universities once needed what are now called course management systems but do not anymore. It is about why and how they will be replaced by something more in line with modern technology and more germane to the goal of effective learning. It is about building technology to solve the right problems and it is about my own story, which is where I will start.

A Personal Story

In 1995, the United States had a problem with calculus instruction. Students were failing in droves, an emotional debate was raging over “traditional” versus “reform” calculus (Wilson, 1997), and everyone was tired of thick and boring textbooks.

A colleague suggested a solution. Why not use the Web? With the Web, we could personalize instruction so that students could learn at their own pace, so that students could see examples relevant to their own interests, and so that instruction could follow both traditional and reform approaches. We could deliver calculus to working parents who couldn’t come to campus and to students who couldn’t function before noon. We could realize the vision that would later be described by Wayne Hodgins (2002) as being able to get “just the right stuff to just the right person at just the right time and place in just the right way” (p. 64).

The idea was compelling. We soon found ourselves with funding to create a totally online first-term calculus course and, incidentally, to build the technology needed to make it work. And it was wonderful technology that we built (Bogley, Dorbolo, Robson, & Sechrest, 1996, 1997; Bogley & Robson, 1996). It was database-backed. We had a “quiz tool” with a sophisticated tree structure that allowed arbitrary levels of grouping among several different question types and that included randomization at each level. Our system allowed authors to create hyperlinks that would branch to different pages depending on the value of quiz scores. We had an engine that managed a special type of activity where one student’s work would be shipped off to another student for comment and further work. We had a fully featured grade book. We had user types with different administrative privileges. We had a bulletin board and a place from which the instructor could send e-mail to class members. We even tried (without
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