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Development of a New University-Wide Course Management System

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INTRODUCTION

Distance learning is no longer a conceptual discussion, a buzzword, or a show-and-tell demonstration in a computer trade show. It is a multi-billion-dollar business moving its way up to the top of universities' lists of priorities. University and college administrators are now convinced that the Web and the Internet can and will change their traditional teaching practices into a semi-virtual and virtual operation. This is the arrival of a new paradigm where students and instructors make fewer trips to campuses to receive or deliver lectures.

A variety of computer tools and environments have been commercially developed and are being used to deliver distance learning content. Course management systems or course authoring tools are among the names used to refer to such software environments. Today there is a large selection of course management software packages on the market. This has created much debate over what brand of course management system a university should choose. Is WebCT better than Topclass? How does Domino Lotus compare to WebCT and BlackBoard? Many institutions have tried to compare and contrast different course management systems in order to make a decision. While some institutions have elected to use one or more off-the-shelf course management systems, others have developed their own software.

The selection or development of the "right" course management system for an educational institution is probably one of the most difficult decisions that information technology administrators have to make. It is not like deciding on the selection of Netscape versus Internet Explorer or WordPerfect versus Microsoft Word. It is substantially more complicated due to the fact that a course management environment should function as an enterprise system, able to link to or include many services and resources already in place in the university. This includes student registration, course offering catalogs, computing account IDs, personal Web servers, student information systems, and library resources, as well as file servers. Failure to link with these resources will create an expensive, difficult-to-use, and resource-intensive course management environment. A well-designed course management system should include or share resources with the existing services. Many information technology administrators may not yet understand the importance of a well-designed course management system, and often they have deployed systems without understanding the conceptual framework behind them, or defining the functional and technical requirements of the university.

This case study examines the development and implementation of the Oncourse project at Indiana University (Oncourse, 1999). Oncourse was designed, beta tested, and implemented at Indiana University Purdue University Indianapolis (IUPUI), a 28,000-student campus, and is currently in use at all eight campuses of Indiana University — serving around 100,000 students and 45,000 courses.

CASE QUESTIONS

- How does an institution decide whether or not to build or buy a university-wide distance learning system?
- Who is responsible for designing new distance learning technology systems within the university setting?
- What are the functional and technical requirements for a course management system that are necessary to support the teaching and learning needs of distance learning initiatives?

CASE NARRATIVE

Background

Founded in 1969, Indiana University Purdue University Indianapolis (IUPUI) is recognized as a leader in urban higher education, and is Indiana's third largest and most comprehensive university with more than 180 degree programs in 21 academic units. IUPUI has the largest weekend college in the nation. More than 3,200 students are enrolled in integrated credit classes on Friday nights, Saturdays and Sundays. One of the most sophisticated electronic libraries in the nation serves the IUPUI campus, offering cutting-edge information storage, retrieval, and distribution via technology.

Distance learning has been one of the top IUPUI university-wide initiatives. For the last 15 years, IUPUI has been actively involved in distance education using various print, video, and television networks to deliver course content. In 1996, IUPUI created an internal research laboratory called WebLab. The purpose of WebLab was to help the university respond to the technological opportunities presented by the Internet and World Wide Web. The WebLab is headed by a director holding a faculty position in the School of Engineering and Technology, and is staffed with research engineers and academic research fellows.

Assessing the Options

In 1997, the Community Learning Network, the university department responsible for continuing education and distance education, requested assistance from the WebLab to explore Internet-based solutions for distance education. At that time, WebLab conducted a study to evaluate off-the-shelf products and determine if the commercial products could meet current and emerging distance learning requirements. In 1997, a dozen course management systems were commercially available on the market. The WebLab study analyzed several off-the-shelf software packages that were available at that time, and provided an assessment of each product's limitations.

Generally, WebLab found that commercial course management programs were designed as stand-alone systems and were not capable of easy integration with the university legacy system and/or Student Information Systems. Due to the lack of integration capability with the university database system, manual creation of course accounts would have cost

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