

LMS Advisory Panel – Recommendations

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Executive Summary

A panel of UD faculty, administrators and technology support staff met during fall 2007, to make recommendations on the choice of a future Learning Management System (LMS) for the University of Dayton. The panel considered data gathered from several sources in a strategic planning process that focused on discerning academic program needs, faculty perspectives and information technology consequences associated with adopting a new LMS. Recommendations of the panel are described in detail below and are summarized here. Firstly the panel urges administration and Udit to consider the LMS as an enterprise-level critical academic technology. In considering the choice of LMS amongst commercial and open source options, the panel recommends the selection of Sakai VLE. To ensure success in implementing this LMS, additional staff will be required in the form of a software developer and an instructional designer. The LMS advisory panel also makes recommendations on the support options, implementation timeline and evaluation of the Sakai implementation at UD.

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Introduction

A Learning Management System (LMS) is a server software application that supports the Web-based delivery of course content and fosters learning between members of a class through a variety of communication and pedagogical approaches. For enhancing traditional face-to-face courses or for delivery of completely online distance learning courses, LMS's are critically important as an electronic component of the learning environment. Their importance as enterprise-level education tools was recently recognized with an Educause 2006 Catalyst Award.

In 2003, UD adopted the WebCT Campus Edition platform as its centrally-supported LMS. At the time, the two leading LMS providers were Blackboard and WebCT. Through the use of instructor-led, Web-assisted and face-to-face training, the E-Learning Lab has prepared approximately 300 faculty to deliver over 700 Web-assisted or distance learning courses utilizing WebCT in the fall of 2007. Similar adoption rates have been seen at other institutions around the world.

Since 2003, two other commercial LMS systems have become increasingly popular. Desire2Learn is commonly used at multiple-campus institutions (school systems) and Angel is a popular choice for small institutions that have heavily invested in Microsoft systems architecture. Several open source LMS's have also been developed and has gained increasing popularity. These open source systems, initially developed by a collegiate institution, grow stronger by the creation of a development community. Higher education looks favorably on open source applications because of its potential cost-savings, customization possibilities and adherence to open standards (such as system interoperability). The most popular open source LMS's are Sakai and Moodle. For a large enterprise installation, of the two, Sakai is the most logical choice.

In 2006, U.S. Secretary of Education Margaret Spellings announced her action plan to make higher education in the U.S. more accessible, affordable, and accountable. A large part of that plan targets the accountability of higher education. In the period leading up to this report, several institutions, including UD has taken an interest in electronic portfolio (E-Portfolio) applications, as a way to assess program outcomes and allow students to document their undergraduate education. UD is currently holding tentative strategic discussions at the dean-level about the benefits and challenges of integrating an E-Portfolio into the curriculum. Blackboard has developed a portfolio tool to work within its Learning System framework, and the Open Source Portfolio (OSP) works in the Sakai framework. UD is currently pursuing pilot implementations of an E-Portfolio using OSP and Sakai.

In fall of 2005, Blackboard and WebCT announced that they were merging. This merger between the number 1 and 2 market leaders created an environment where Blackboard had an overwhelming market share. On the heels of the completion of the merger, Blackboard filed a patent infringement lawsuit against competitor Desire2Learn based on US Patent #6,988,138. The validity of this patent is vigorously being challenged by several IT organizations. As a consequence of the merger, Blackboard has begun streamlining its product offerings, and has announced the phased-out support of WebCT CE 4.1 (the version used by UD) by January 2009.

Beginning in fall 2005, UDiT began investigating options for the future UD LMS. This began with market and product assessments. By summer 2006, UDiT selected Blackboard Learning System CE 6 (formerly WebCT CE 6) and Sakai 2.3 for on-campus testing for suitability for supporting our academic programs and for integration within our IT infrastructure. The two test systems were used as a “sandbox” for faculty to experiment with and to support staff development. The faculty were also involved in focus interviews in fall 2006 as to their needs and current uses of WebCT. A complimentary study was made of the tools selected by all faculty within the WebCT server – to determine what functionality is required of a new LMS. Results are attached to this report in the appendices.

In fall 2007, the Sakai test server was used to house pilot implementations of an E-Portfolio with OSP and to deliver an entire course with the LMS portion of Sakai. Faculty and students were surveyed as to their reactions and feedback. Results are attached to this report in the appendices.

During the fall of 2007, an LMS Advisory Panel was assembled comprised of key faculty and administrators that are important users of WebCT and tasked with making a recommendation on the choice of a future UD LMS. The panel also contained voices from UDiT to ensure the system selected could be supported by UDiT. Recommendations by the panel are given below and come following reflection on the data gathered in the earlier stages of the strategic planning process described above, an assessment of future needs of academic programs and by deliberation on the merits of different LMS systems available to UD.

Panel Members

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Definition of the UD LMS

Contribution of LMS to UD Mission

The LMS Advisory Panel recognizes that the LMS provides a virtual learning environment that should support the university mission...

"... Founded in the Marianist tradition, the University is committed to a vision of a distinctive educational community. As Marianist, the University focuses on educating the whole person in and through a community that supports and challenges all who become a part of it. The University forms an educational community thriving on collaboration by people from diverse backgrounds with different skills who come together for common purposes. The University as Marianist challenges all its members to become servant-leaders who connect scholarship and learning with leadership and service. ..."

Excerpt from the University of Dayton Mission Statement.

The LMS contributes to the university mission by providing a means for educators and students to build a community of learners where they can collaborate and share meaning through the connection of scholarship with leadership and service. The LMS should be a robust mechanism for sharing course content and building community in a virtual setting that mirrors the excellence we seek from our traditional face-to-face academic programs and learning environments. For faculty and students, this virtual environment must be easy to use, reliable and contributes towards creating engagement and fostering academic excellence.

Meeting Academic Needs

The LMS Advisory Panel strongly advocates that the UD LMS must be a "best of breed" learning application that meets the following requirements and needs:

- Supports the delivery of face-to-face and distance learning courses.
- Is capable of scaling-up to meet the needs of growing programs.
- Has an established track record of excellence at other institutions.
- Has longevity (application code and updates are on regular release schedule).
- Enables a flexible and rich set of pedagogical approaches.
- Delivers an easy-to-use intuitive interface while providing the horsepower needed for select programs with a need for higher-end features.
- Can host student-built electronic portfolios that focus on learning-centered approaches. Such a system should offer the functionality and extensibility UD anticipates using in the future.
- Provides architecture for extracting assessment data for program evaluation.

- Provides a strong set of tools that foster social interactions (discussions, Wikis, blogs etc.).
- Contains tools that allow sharing of course materials (handouts, readings, assignments etc.).
- Displays easy-to see announcements on the course home page.
- Clearly displays recent updates from instructors and students.
- Allows easy upload and download of assignments for submission and grading.
- Uses a standards-compliant user interface accessible using Section 508 standards.
- Provides a flexible but powerful student testing mechanism that includes different levels of security (including IP-restricted delivery or proctored testing).
- Provides tracking tools to monitor student use of online materials.
- Provides a built-in calendar that automatically updates with due dates etc.
- Allows students to view their grades online, and instructors to download grades locally.
- Does not hinder the learning or teaching process.
- Provides adequate and straightforward mechanisms for importing content from existing courses.
- Course Migration is straightforward and does not introduce problems for faculty or students.
- Is backed by a strong external support mechanism (e.g. commercial help lines etc.).
- Is extensible with the addition of new tools. A desirable goal is to have the LMS enable synchronous course delivery in the future.
- UDiT must be capable of supporting the application and its integration with other university systems.

Recommendations

The LMS Advisory Panel makes the following recommendations:

1. The LMS should be considered by the administration and UDiT to be an enterprise-level system that critically-supports the university mission. With strategic growth anticipated in select programs, including graduate programs and online programs and courses (graduate, undergraduate and continuing education), this importance is anticipated to grow. This recognition should shape the decision-making process regarding resource allocation and support of the LMS infrastructure and implementation.

2. The future LMS system for UD should be Sakai VLE (Option 3). The rationale for selecting Sakai are as follows:
 - a. Sakai aligns well with the UD mission in terms of its focus on building community through best practices in technology adoption.
 - b. Sakai would meet the academic needs identified by the panel (see “Meeting Academic Needs” above).
 - c. Sakai’s open architecture will enable an increasing number of academic tools to be available for our academic programs – especially those with increasing needs for E-Learning (such as graduate distance learning).
 - d. The growth of the Sakai platform, its tools and affiliated partnerships (e.g. book publishers) is well aligned with the current and future academic needs of UD.
 - e. Sakai provides a strong electronic portfolio built-in that can be highly customized to the academic needs of individual programs.
 - f. Sakai provides the flexibility for form-creation and customization increasingly required by academic programs.
 - g. The open database and file-access architecture of Sakai offers great promise for meeting the increased demands for reporting and analysis of learning outcomes for academic programs and accreditation bodies.
 - h. Implementing Sakai promises to bring long-term cost savings to UD.
 - i. Sakai will offer greater flexibility for integration into a portal/ERP solution.
3. The E-Learning Lab needs additional staff (or staff time) dedicated to supporting the LMS. The panel recognizes that if there is a decision to move forward with an E-Portfolio implementation the staffing needs would be made more complicated. However, the current scope of LMS operations and the work necessary to fully implement a new LMS will need additional staff time. The panel identifies a strong need for two positions:
 - a. Software Developer – Required initially for systems integration (e.g. authentication and security services, student information system integration etc.). In the long term, they would be necessary for customizations, such as the integration of the LMS into a campus-wide portal.
 - b. Instructional Designer – To help academic units and their faculty create courses for delivery within the LMS. In particular this is necessary for distance learning courses that require a consistent look and feel, and uses best practices to support learning.

4. Because of the critical enterprise-status of the LMS, and the lack of rigorous support mechanisms for Sakai within its community, the advisory panel recommends that UDiT solicits the services of a technical systems-level support provider (see appendix) during the implementation of Sakai and become members of the Sakai Foundation.
5. Continue supporting WebCT CE 4.1-hosted courses throughout the duration of the new LMS implementation until such time that all WebCT courses have been converted. To prevent support problems and higher costs, a deadline needs to be set for the complete shutdown of CE 4.1. The anticipated date would be December 2009.
6. Establish checkpoints during the implementation of the new LMS to evaluate progress, quality of work, and whether the LMS is meeting expectations. Appropriate assessment mechanisms and metrics need to be designed for this evaluation process.
7. The new LMS should be a high priority for integration into any future UD portal. Course listings and accessibility to the courses should be a seamless part of the portal experience, and single-sign-on should ease student accessibility.

Tentative Adoption Timeline

Winter 2008

- Hardware and software acquisition and installation
- Promotion of new system and communication to faculty/staff of migration strategy
- Selection of first group of users to have courses migrated (by invitation)
- Formation of LMS priorities committee to help develop Support and usage policy for new LMS
- Development of training mechanisms and resources

Summer 2008

- Training for faculty and students (ongoing)
- QA testing on system
- Phase 1 conversions of existing WebCT users/courses (for fall implementation)
- End of WebCT training seminars

Fall 2008

- Phase 2 conversions of existing WebCT users/courses
- Support of Courses from phase 1 migration
- Survey of faculty/student users

Winter 2009

- Phase 3 conversions of existing WebCT users/courses
- Begin Planning for SIS/ERP integration

Summer 2009

- Phase 4 conversions of existing WebCT users/courses
- Assessment of 2 prior semesters and recommendations

Fall 2009

- Phase 5 Conversion of remaining WebCT courses/users
- Finalization of post-migration LMS strategic plan

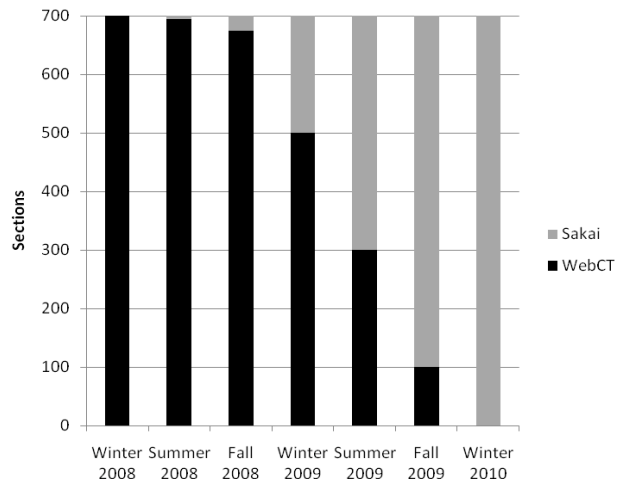


Figure 1: Tentative Course Migration Schedule