

LMIS Committee
Learning Management System Recommendation
Final draft - March 7, 2008

Summary

This document is a report to the Faculty Senate from the LMIS Committee giving its recommendation that the Senate, on behalf of the Faculty, resolve to ask for and support the adoption of a new Learning Management System (LMS) at the University of Puget Sound.

Our current LMS is Blackboard, which has been in use since 2003. However, gradual and growing faculty dissatisfaction with Blackboard, its outdated and poor feature set, its general "buginess," poor security and lack of integration with official course enrollment data, and low level of support from the vendor, have brought about the need for an updated or entirely new system. In the Spring of 2005, LMIS began to address the issues with the current Blackboard system and reached a final recommendation at the end of 2007 by approving the recommendation of its sub-committee on Learning Management System Replacement, that we adopt the Learning Management System software called Moodle.

Moodle is one of the main competitors to Blackboard. The product originates from a consortium of schools in Australia and New Zealand and was the first LMS system designed by educators on sound pedagogical principles. Moodle has matured and grown considerably in the last several years and is used in many Colleges and Universities around the world, including many of the American liberal arts colleges peer to us. Moodle has been in active testing now at UPS since January 2006. Nearly a dozen faculty and over three hundred and fifty students are currently using it with great success.

The rest of this document will outline the process that led to this recommendation, including reviewing faculty issues with Blackboard, why it needs to be replaced, what other systems and alternatives were considered, and how the committee chose and tested Moodle, arriving at this recommendation.

Teaching and the Learning Management System

Curricular materials are becoming digital at a greatly increasing pace. Beginning with the adoption of personal computers in the 1980s, and accelerating rapidly in the late 1990s with the adoption of sharing made possible by the world wide web, most scholarly writing is done on computers and shared in digital format.

"Learning Management Systems" came into being as digital supplement to the classroom, as a place to post digital version of syllabi, readings and assignments. Unlike the publicly viewable and searchable space of the world wide web, LMS systems provide the ability to manage enrollment and to post digital materials in a

way compliant with the educational allowances of copyright fair use.

Between 2000 and 2005 almost all institutions of higher education in the United States and Europe adopted LMS software, first for student access to digital materials, but increasingly also as teaching tools in the classroom as "electronic classrooms" with computers projection systems became ubiquitous.

The during this time and since, the LMS has evolved from a simple repository for assignments, papers and the like, to providing grade books and discussion boards along with systems which allow the instructor to create and re-use sophisticated testing and assessment tools to evaluate and give feedback to student performance, allow students to post digital versions of assignments, to present ancillary digital material from textbooks, and much more. As our use of current technology becomes more sophisticated newer ways of using LMS are evolving, especially with the mass adoption of digital audio and video at the consumer level.

For example Foreign Language instructors would like a way to electronically assess speech assignments and to provide an oral feedback. In fact, being able to vocalize feedback to a student may provide a more intimate and personal connection outside of classroom than say email or edited comments on a paper. The same is true of increasing faculty use of video: for foreign language homework, for Music auditions and practice review, for documenting the use of scientific lab instruments. Also, increasingly LMS play an active role in the classroom itself as the focal point for presenting material to the class: teachers use it to bring up web links, show documents, have students take their quizzes in class, record audio exercises, and so forth. They have also adopted many of the tools of the "social software" revolution of web 2.0 with sophisticated forums, wikis, and blogs built into the course structure.

How the LMS will continue to respond to these needs and how these tools will shape education is an open question, but it is clear what qualities a good LMS will need to meet the following criteria.

First, it must be both simple to use and learn, while at the same time have a very rich feature set. This means the makers of the system must include all the features that teachers need, while making it simple to do all the basics. This requires sophisticated interface design specifically for teaching, not just borrowed from some other software use such as document management.

Secondly, in addition to the traditional method of teaching by presenting resources, it must meet the pedagogical needs of an active style of teaching that places emphasis on student participation and multiple learning styles. The focus is shifting from the presentation of fixed resources by faculty to the creation of content by students through guided activities.

Third, it must be highly modular in design, so that it is easy to add new features or

update old ones quickly.

Finally, it must encourage the active participation of teachers and users of the software in the design process of the software. The approach of "communities" of users who support software, especially Open Source software, is quickly replacing the old, monolithic model in which a software company responds to what is best for a few choice customers or itself.

Each of above qualities are present in Moodle to a much higher degree than Blackboard, as we will discuss below.

History of Blackboard at UPS

Blackboard was officially adopted at UPS in 2003, after evaluation by a committee of faculty and OIS representatives. The use of Blackboard first began before this in 2001 when some UPS faculty used free accounts provided by Blackboard hosted on its own servers. These early adopters drove the process for having Blackboard brought into UPS to be hosted on servers owned by the University and managed by the OIS department.

Since its adoption, Blackboard usage has grown rapidly and is now an integral part of instruction, with over 80% of the faculty and nearly all students. The table below shows the extent of this growth through Jan 1, 2008.

| Academic Year | Active users | Total Courses | Active Courses | Total Files |
|---------------------|--------------|---------------|----------------|-------------|
| AY 2003 start | 24 | 213 | 0 | 574 |
| AY 2003-2004 | 1,891 | 348 | 122 | 3,270 |
| AY 2004-2005 | 2,095 | 538 | 349 | 8,901 |
| AY 2005-2006 | 2,518 | 747 | 480 | 19,091 |
| AY 2006-2007 | 2,572 | 900 | 506 | 31,065 |
| AY 2007-2008 ytd | 2,251 | 1,044 | 512 | 44,237 |

Faculty who do not use it are often requested by students to do so in order to make class files, readings, and web links available. Incoming faculty receive information about Blackboard during new faculty orientation; many of them have used Blackboard before at previous schools and expect it to be available.

Blackboard is the single most widely used instructional software at the University. It's importance for teaching is on a par with Cascade and email.

Current Issues with Blackboard

The goal of the adoption of Blackboard was to provide an effective and reliable learning management system. Though Blackboard has proven useful, it has not kept

pace with the demands made on it for teaching, and has proven difficult to support. Many of these issues stem from decisions made by OIS when first agreeing to host and support Blackboard in 2003.

There are several areas of serious concern.

Blackboard has fallen behind in features driven by pedagogical need. Our version of Blackboard has not been significantly upgraded since 2004, and is lacking in many desirable features, an easy-to-use modern interface, and in reliability. Our version is significantly buggy and there are several features in it that faculty cannot or do not use. Also, many of the innovations in web based social software over the last three to four years are missing from it; it is especially lacking in any native support for audio and video, which is now the norm for several disciplines, including music and foreign languages.

Blackboard is not integrated in any way with any UPS database of users or class enrollments. This is the cause of extensive confusion regarding user account creation and class enrollment in Blackboard. It places a high administrative burden on faculty who must deal with the arcane system level tasks of creating, copying, and saving their courses, and manually managing student enrollments. This is the single largest source of errors and support calls.

In addition, there are numerous security issues. All faculty and some staff have the ability to see, alter, or even delete any course from the system, as well as see each others information and change passwords for anyone in the system. There are also significant security risks in not having Blackboard integrated with the network security systems while being publicly accessible from the internet. In fact, it is violation of our policies on this matter. This situation is the result of OIS's low level of resource allocation, first by licensing the Basic version of Blackboard which lacks these features, and secondly through having no dedicated system administrator to manage the process.

Support and training for faculty and students has been an ongoing issue, exaggerated by the administrative burden placed on them to perform course administration tasks which could be automated. Issues such as broken accounts, multiple accounts, lost passwords, disappearing courses, courses losing menus or basic functionality, are not uncommon. A very important support issue is the a majority of faculty use Blackboard in the most limited manner, both because many of the advanced features work poorly, and because OIS does not have the resources to train in and support these functions because its resources are taken up with the problems of most basic functionality.

There is a single point of support failure for Blackboard as well. The OIS Help Desk does not support Blackboard or answer support questions on it. Unlike all other

enterprise level applications it merely passes them onto the Instructional Technology staff. Though formal training was a feature of the introduction of Blackboard faculty wide, the trainer position was eliminated in 2005. In effect, only one OIS staff member does all the support for Blackboard, and that on very part time basis. It is not possible for one person to have all the technical skills needed to perform these tasks. This single point of support failure is a serious problem. All other UPS enterprise software systems have a team of staff supporting them, with skilled support at each level.

The Proposed Solution: Moving to Moodle

In April of 2006, Michael Nanfito, the Directory of Instructional Technology, approached the LMIS Committee to inquire about faculty satisfaction with Blackboard. The committee indicated that were a number of problems with it and put the examination of the Blackboard on the agenda for Fall 2006. Although Michael Nanfito left the University that Summer, Randy Thornton worked with the committee as representative from Instructional Technology during the Fall 2006. The committee formed a sub-committee to investigate and recommend a possible solution.

Blackboard comes in two versions: Basic and Enterprise. A most obvious course of action would be upgrading to the Enterprise version of Blackboard, which contains the tools to solve many of our current issues. However, it costs four times as much as the Basic versions. Our licensing fee for Blackboard in AC 2005-6 was \$9,600 for the Basic version, and is currently over \$14,000. A license for the Enterprise version would have been about \$38,000 then, about \$45,000 now. Norman Imamshah, then head of OIS, indicated clearly that upgrading to the Enterprise version of Blackboard was out of the question financially.

During this time, Blackboard bought out WebCT, its nearest rival, to immediately move from an estimated 50-60% share of the LMS market to a 85-90% share of the market. Blackboard raised our licensing fees nearly 20% that year, and another 20% this year, so we now pay over \$14,300 for the same software and support. The remaining commercial competitors to Blackboard, Desire2Learn and Angel were eliminated from consideration early on for several reasons, including cost, technology that OIS could not support, and a concern that their proprietary, closed nature would lead to some of the same issues as Blackboard.

The committee then did a preliminary evaluation of the two leading Open Source competitors to Blackboard to evaluate: Sakai and Moodle. The committee formed a basic lists of requirements designed to solve the issues with Blackboard:

- How modern and easy to use was the interface, and how rich was the feature set
- How well did it accommodate teaching activities as well as posting resources
- How easily could enrollments be automated and synchronized from Cascade
- How secure was the login and user identification process
- How easy would it be to support and train, especially for faculty used to Blackboard
- How easy would it be to convert the course data from BB to the new system
- How well did it support open standards for course content (e.g. SCORM)

- How modular and flexible was it to add modules and customize
- What was the client base of the product and was it concerned about schools our size
- What was the upfront cost and the support levels needed
- What would be the future direction and stability of the product

Testing of Moodle

The subcommittee choose to first test Moodle, since its technology was easier to install and support since the project did not have the support of those is OIS with the technical skills to manage Sakai.

Moodle stands for Modular Object Oriented Dynamic Learning Environment. It began in 1999 in Australia and is widely popular in higher education in Australia, New Zealand, and in Europe. It is also widely used in K-12 environments because is easy to install and use. However, it can also scale to large sites, such as The Open University in the UK with over 200,000 users. Moodle has been in the process of adoption in the US for the last three to four years. It is especially popular in Liberal Arts colleges peer to UPS. In the last three years colleges such as Carlton, Reed, Lewis and Clark, Macalaster, Earlham, Lafayette have adopted it, as well as larger schools such as Humbolt State, San Francisco State, and UCLA.

The subcommittee began online testing of Moodle in January 2007, with all faculty members of the committee teaching their courses in it. A Moodle server was also installed for the Library to use and test. Moodle addressed each of the above requirements as follows:

Areas of Satisfaction

- It contains a very rich activities tool set with several Web 2.0 technologies (it has especially rich foreign language support)
- It supports both direct database integration and import of enrollments
- It supports LDAP authentication so users can log into it with their UPS network accounts
- It is open source and entirely build around standards (e.g. SCORM)
- It was designed on purpose to be highly modular (which the M in Moodle stands for)
- The great majority of our peer schools that are changing LMS systems are moving to it
- It is being widely adopted by all over the world, and is the leading LMS in Europe

Areas of Challenge (Should we note that these are applicable to any solution?)

- The interface is distinctly different and will require dedicated training for most faculty
- Course data can be converted, but will be a labor intensive process
- As it is open source, there are no licensing fees, but OIS does not have experienced Open Source support staff

Moodle is open source, which means that, although produced by a company that controls the product, all users have access to the sources code. Moodle has a very strong community of users who produce modules and add-ins that work with Moodle,

and distribute them freely to all other Moodle users. Using an open source tool such as Moodle offers us benefits that go beyond the cost and flexibility issues. Being able to be a participant in how this resource is developed and used brings the faculty and even some students into the process. Having this be faculty/student-need driven gives us the greatest chance of success.

Also, the use of open source is now mature and lacks the uncertainty of its stability that may have existed five years ago. It allows us to evaluate and incorporate new modules as they become available. In fact we could become a partner in developing modules which could be used world-wide and credited to us. Randy Bentson and his students have already developed an audio recording module for Moodle. We know many peer colleges using Moodle through our participation in NITLE, which has a very active Moodle Exchange program in which over 80 colleges share information, documentation, experience and support expertise with each other about implementing and using Moodle. Philosophically we are more in tune with using a community driven resource than a commercial product.

How to Make This Move Happen

The adoption of Blackboard in 2003 was driven by the faculty, and so is the current process to find a solution to the current issues with it.

Many of the issues driving this need to adopt a new LMS are rooted in a lack of sufficient support by OIS. Therefore, the upgrading or migrating to a new product such as Moodle are contingent on OIS support at a level that avoids repeating the same problems we are currently having with Blackboard. The TPG has indicated that in the planning for technology at the University that Instructional needs are the number one priority, but to date support for our Learning Management System has not been a priority for OIS. Moodle, or indeed, any successor to Blackboard, must move beyond the part-time support of a single staff member, and be fully supported by a team of OIS staff at the same level of importance and expertise as other UPS enterprise resources such as Cascade and email.

Since the departure of Michael Nanfito as Director of Instructional Technology in July 2006 and Norman Imamshah as head of OIS in Fall of that year, there has been a vacuum of leadership in OIS so that no major decisions have been enacted. With the advent of Molly Tamarkin as CTO this March, major projects such as replacing Blackboard will soon be able to move forward again.

In spite of these absences, the LMS Replacement subcommittee has continued to actively test and use Moodle for classes for over a year. Over 15 faculty and 350 students have used it during this period. This is an already significant investment in using Moodle.

There are several possible courses of action to implement a new system: It would require a slight reassigning of OIS staffing to allow for integrating our database and for the system administration of Moodle, and for basic support through the Help Desk. It could be hosted at UPS or one of several hosting options are available at a reasonable cost. The data conversion of courses is available at a reasonable cost, and needs to be done only once.

Conclusion

The committee believes that Learning Management Systems are no longer options but necessities for teaching in an increasing digital world. They have become the core software platform for classroom teaching for the foreseeable future.

The University is significantly behind peer institutions in its use of and support for its Learning Management System. Almost every comparable peer has migrated off of Blackboard or other proprietary LMS in the past two to three years. . In the competition for students, many of whom now user Learning Management Systems like Moodle in high school, and in the competition for new faculty, many of whom teach with a modern LMS and arrive here expecting one, we are falling significantly behind.

In order to meet the needs of students and faculty we need to respond decisively to this.

The committee therefore recommends that the Senate on behalf of the Faculty support the LMIS committee's decision to move to a new LMS, and to work with the new CTO Molly Tarmakin to make this a priority on her agenda for OIS.

Sincerely....