Blackboard Advisory Committee: Status Report, winter 2007  
JQ Johnson, 1 Feb 2007

Overview
The UO Blackboard course management system is managed by the Library Center for Educational Technologies, in collaboration with UO Information Services. It provides a central location for online course materials and a tool for implementing online components in UO courses. The UO licenses the Blackboard Learning System Enterprise edition from Blackboard, Inc. This note is an update on Blackboard status written for the Blackboard Advisory Committee meeting of 2 Feb 07.

Blackboard usage, Dec-Jan
We concluded fall term without significant incidents and with fairly heavy blackboard use during the last 2 weeks of the term. As planned, we took a day of downtime on Dec 20 for system upgrades.

We have preliminary statistics for winter term that show our typical growth pattern, with slight growth in number of coursesites since fall term (1394 vs 1369, about 2% growth since fall but 15% growth since 1 year ago), and a slight decrease (to 17438) in the total number of students enrolled in courses using blackboard. Overall we’re right on track.

The Blackboard system has experienced fairly consistent continued expansion. The system has grown from one used in about 200 courses per term in 2002 to 950 in spring 2005 to about 1300 courses per term today. We estimate that at least 2/3 of all UO student credit hours now have a Blackboard component.

Some events and activities of note during the past 2 months
Software/hardware upgrades
The upgrades scheduled for Dec 20 were somewhat scaled back from the plans described in my fall status report. We installed the latest Blackboard hotfix, made some performance tweaks to the database, installed building blocks to support podcasting, connections to Google Scholar, and TurnItIn plagiarism detection, and enabled the Visual Text Box Editor. We did not upgrade database to Oracle 10g, install load balancing front ends, or install a building block to support classroom clickers.

The changes that we did make have proven to be reasonably problem free.

The introduction of the VTBE did result in a number of trouble calls from faculty. Many reported problems with it have centered on Mac support. The VTBE has quite limited functionality when used with Safari, and does not allow pasting of images or other media into a text box; with Mac Firefox the VTBE disables access to mathematical equation tools (WebEQ and MathML), which has presented problems for one or two faculty users. Other users have observed that it is no longer easy to copy and paste from Microsoft Word into a text box, at least when using Firefox 2.0 or Internet Explorer 7. We have provided workarounds for this problem, but we expect to continue to see complaints.
Other CET Blackboard activities
In addition to Blackboard upgrades, CET staff have been engaged in a number of Blackboard-related activities. Some highlights include:

- Planning for future upgrades (see below)
- Contract renewal for 2006-07. Our Blackboard license is renewed each March, and due to the size of the license the renewal represents a fairly significant time investment. This year we expect to pay Blackboard $73,685.
- Training activities: CET Consulting continues to be the primary service point for faculty with blackboard questions (call 6-1942). We’re getting lots of business! In addition, JQ taught one Blackboard workshop in January (for Poli Sci GTFs), and expects to teach 2 more during February and March. We’re also ramping up for the summer Academic Affairs IT workshops, several of which have a large blackboard component.

Installation in December of the podcasting building block for blackboard was very opportune, since there is a campus wide “podcasting” group currently investigating support for lecturecasting (recording lectures for student downloading and review). That podcasting group is investigating a variety of technologies to support faculty lecturecasting, and is this term running pilot projects with several UO faculty members who are using the Blackboard podcasting support to publish lectures they record. Primary contact for the podcasting initiatives is JQ Johnson; see also the initiative wiki at [http://libweb.uoregon.edu/tools/wikis/podcasting/](http://libweb.uoregon.edu/tools/wikis/podcasting/).

The TurnItIn blackboard plugin also represents an experiment, in this case being conducted primarily by the Department of Psychology. Several courses in Psychology and elsewhere (including our own Deb Bauer) are using TurnItIn this term to detect or deter plagiarism. Based on faculty feedback, we will probably continue experiments in this area spring term, and may at the next Blackboard meeting raise the question of whether the university should acquire a full license for TurnItIn. Meanwhile, the primary contact for the experiment is Mike Wehr in Psychology.

As noted above, the plan to install a blackboard add-on to support the use of TurningPoint classroom clickers was deferred in December. The software requires that we upgrade our authentication mechanism to LDAP, which we hope to do spring break. However, one faculty member, Deborah Exton, is using the classroom clickers this term without Blackboard integration and planning to gather a group of interested faculty later in the term to explore next steps. Interested faculty should contact her this month.

Tim and JQ have been spending quite a bit of time understanding the technical and legal interactions with other vendors who offer Blackboard-integrated services where part of the data lives on a different site. Examples of such services include WebAssign, ThomsonNow, and sometime soon a new initiative from Blackboard called “Blackboard Beyond.” We want to get a memo of understanding signed with WebAssign about data security and privacy. We currently have declined to install Thomson connections and connections to a web based service offered by TurningPoint (the clicker vendor) due to security concerns. We are also investigating a potentially serious new security concern posed by products such as these. Most of these products create a student login on their own systems, and pass an authenticated login through from Blackboard to the system... However, what happens when the student graduates and the UO reassigns the login ID to a different person? In some cases the new person may have access to the previous student’s work.

Related initiatives
This has been a busy 2 month period, with a large number of new initiatives from a variety of sides that have an impact on the Blackboard system. Among the more significant:
Information Services Task Forces: Don Harris, our CIO, has convened 10 task forces to provide advice on various areas of IT policy. See http://it.uoregon.edu/news/it_taskforce.shtml. Of particular note for its short-term impact on Blackboard is the helpdesk software task force, which Tim Boshart has been serving on. It is likely that the university will standardize on an interdepartmental trouble ticketing and tracking system that will be used by Blackboard to handle student and faculty requests for assistance.

Library activities: several library initiatives have Blackboard components, among them:
- Digital Images task force, which is developing a collection and tools for use of images in teaching
- Digital audio reserve, a new library service which is digitizing audio assets for courses and publishing them in the corresponding blackboard coursesite.
- CET Interactive Media, which last month published a call for proposals for courseware development

Some other initiatives of note include:
- The podcasting group (mentioned above)
- Eportfolio interest group (contact Jonathan Richter or Lori Hager)
- Extended course descriptions website (contact Karen Sprague)

**Plans for the next 12 months**

We have modified our schedule for upgrades substantially, though the dates of scheduled downtime have not changed:

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mar 10, 2007</td>
<td>install Oracle and Linux hotfixes for new daylight savings time rules</td>
</tr>
<tr>
<td>Spring Break 2007</td>
<td>convert from Radius authentication to LDAP [may be postponed until summer] upgrade EITHER to Blackboard 7.1 latest hotfix or Blackboard 7.2 install TurningPoint building block (assumes LDAP) upgrade application servers to Red Hat AS 5.0</td>
</tr>
<tr>
<td>Summer 2007</td>
<td>alternate date for LDAP authentication alternate date for upgrade to Blackboard 7.2 implement load balanced front end system tentative: database server hardware upgrade</td>
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<tr>
<td>Winter Break 2007</td>
<td>complete database server hardware upgrades upgrade database to Oracle 10g</td>
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We anticipate additional downtime as usual each Friday evening 10pm-midnight, and additional downtime Saturdays: Our most recently announced downtime schedule is:

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<tr>
<th>Date</th>
<th>Description</th>
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<tbody>
<tr>
<td>Jan. 6, 2007</td>
<td>before winter term possible date for emergency upgrades only</td>
</tr>
<tr>
<td>Feb. 10, 2007</td>
<td>middle of winter term tentatively scheduled; no major user-visible changes</td>
</tr>
<tr>
<td>Mar. 10, 2007</td>
<td>before last week of classes winter term possible date for emergency downtime only</td>
</tr>
<tr>
<td>Mar. 28, 2007</td>
<td>during spring break see above</td>
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<tr>
<td>Apr. 14, 2007</td>
<td>during spring term tentatively scheduled; no major user-visible changes</td>
</tr>
<tr>
<td>May 12, 2007</td>
<td>middle of spring term tentatively scheduled; no major user-visible changes</td>
</tr>
<tr>
<td>June 9, 2007</td>
<td>before final exams spring term possible date for emergency downtime only</td>
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Possible hardware and software upgrades and new features

The following is a partial list of new features and upgrades we are investigating.

Blackboard 7.2

The next major release of the Blackboard, release 7 application pack 2, has been released and we have tested it on our test server. This release makes major internal architectural changes for increased stability and maintainability, but the externally visible changes are very modest. Among the most visible changes:

- Announcements can automatically generate email to all students in the class
- Additions to the performance dashboard can assist instructors in tracking students and detecting patterns of problems.
- Changes to the discussion board include thread detail, a date range search, discussion board grades included by default, and ability of students to subscribe to a thread (and get email notification whenever a new message is posted to that thread)

LDAP authentication

The Computing Center has been working for several years on a new authentication and authorization service for campus. The system uses the “LDAP” protocol to manage a directory of all UO individuals. We hope to make the Blackboard system the first major UO system to use the LDAP database for authentication, replacing the current Blackboard code that performs authentication using the radius protocol by querying the database of uoregon.edu computer accounts. Moving to LDAP will allow us to retire old and unsupported radius authentication code in the Blackboard system, and will eventually allow us greater flexibility in who gets Blackboard access. In the short run we do not expect this change to have any user-visible impact, but in the long run it implies that authentication might not necessarily require a computing center email account.

We are waiting for Information Services to complete their LDAP implementation, and currently see the odds of enabling LDAP over spring break as being about 50-50.

Turning Point

After converting to LDAP we plan to install a building block from Turning Technologies that provides blackboard integration for their classroom personal response system (clicker) software and hardware. The building block includes a registration system to associate particular clicker IDs with students (needed to allow use of clickers for grading), Blackboard roster downloading to the TurningPoint powerpoint software, and grade uploading to the Blackboard gradebook.

Antiplagiarism software

We are currently looking at TurnItIn, SafeAssignment, and several less well known alternatives. Most of these packages use Blackboard as their primary interface for submitting student papers or testing them for plagiarism. Such software is moderately expensive; a campus license would likely cost $10,000 to $20,000 per year. It currently seems likely that we will continue evaluating antiplagiarism software during spring terms.

Blackboard Beyond

This is a new service from Blackboard, expected to be released during summer 2007. Currently it’s mostly hype, but is basically a hosted (web based) extension of the blackboard services.
attempting to capitalize on Web 2.0. It will probably include a social bookmarking service, and eventually a blog and wiki, plus other services. We expect to evaluate it during summer, and could consider using it as early as September 2007.

Load balancing front ends
During summer 2006 we purchased two additional servers to use as load balancing front end systems, but have not yet placed them in service. The plan is to have user requests to the blackboard system go to these front ends, which would allocate them to application servers based on load. This system replaces the current round robin DNS system in which users randomly connect to one of several application servers, and is designed to make management of the application servers easier. We need to install software on the servers in preparation for installing and testing the load balancing software.

Database server hardware
The database server component of the blackboard system consists of a quad processor linux server housed in the Computing Center. The server was acquired in spring 2003, and so is nearing the end of both its hardware warrantee and its actual useful life. It is also the only non-redundant piece of the Blackboard system, though the highest failure-rate individual components of the server such as disk drives are redundant (using RAID technology). We expect to conduct a “forklift” server replacement at some point. We are presently awaiting advice from Information Services with options for replacing the existing server with current generation hardware in a redundant, or at a minimum a low MTTR, configuration. We expect this upgrade to be quite expensive (possibly more than $100,000), but if funding is available we will be pursuing it for summer 2007 or winter break 2007.

Our current database server runs Oracle 9i, which is not the current version of the Oracle software. Blackboard Inc. We were not able to upgrade to 10g this winter, and now plan to defer 10g upgrade until the forklift upgrade. We believe that this approach is much less risky.

Database cleanup
We are planning to delete quite a bit of old data from the Blackboard database, probably including coursesites that we created for previous terms but that were totally unused. We are also planning to rationalize some coursesite creation procedures. For example, American English Institute currently uses blackboard for its non-credit AEI courses, but our procedures for managing those sites is very ad hoc and needs to be replaced.

Major issues
At our last meeting we identified 2 key strategic issues for the Blackboard system this year:
1. Ensuring hardware availability and timely hardware upgrades, particularly to the database server
2. Providing more open access to the Blackboard system

In addition, and interacting with strategic issue #2, we are concerned about the life cycle of blackboard courses and user IDs, and data security and student information privacy issues.

Hardware upgrades
As noted above, hardware upgrade planning is currently awaiting proposals from Information Services. After we get upgrade proposals and compare with available budget, we expect to approach the Ed Tech Committee for any additional funding needed.
More Open Access

We have not yet made substantial progress on the goal of providing greater access to Blackboard for visitors and other special case individuals.

It is technically feasible to create by hand local blackboard-only accounts, but we do not have any mechanism to manage such accounts. We have used this capability in a few special cases, but do not believe we could scale it to support needs of all faculty.

For account creation, we are currently waiting to see whether LDAP authentication can be implemented this spring, since if so we will base our revised policies on what is doable within the LDAP framework. Once the new Information Services authentication system is in place (which may not occur at the same time LDAP is available) we hope to use a new “Sponsored Account” type to allow special case requests for access. The IS LDAP project pages (http://ccadmin.uoregon.edu/ldap/) describe such accounts as:

Department Sponsored. This category is similar to Associates but the affiliation is not based on membership in an organization, but rather on an individual sponsorship by a department. These affiliates should only be eligible for a limited set of services. Examples include visiting scholars, graduate students working on a grant but not taking classes, and volunteers. This affiliation could also be used in the future to categorize vendors, guest lecturers, and others needing limited duration access to a minimal set of services.

We believe that our Blackboard contract allows us to grant access to such individuals. Note, though, that we must also deal with information licensing and acceptable use issues. It may be that the appropriate forum for those issues is the IT task force on policies.

We are also exploring giving more attention and visibility to guest access. Currently guests can log in by clicking the “preview” button on the login page, or by visiting the (obscure) URL https://blackboard.uoregon.edu/webapps/blackboard/execute/viewCatalog?type=Course. However, individual courses are quite inconsistent as to what material is available to guests. The default is that material in Course Information (usually including a syllabus) is guest accessible, but material in Course Documents and other areas is not. Some instructors completely disable guest access, and there is little consistency as to what materials are placed in guest-accessible content areas. Note that instructors cannot grant guest access to student-specific materials such as discussion boards or the course roster, and should not grant guest access to copyrighted materials they are making available to students based on fair use or TEACH Act exemptions.

A related problem is student and guest access to course materials from previous terms. Currently our policy is to make coursesites unavailable at the end of a term, primarily because students have made it clear that they generally do not want to see old terms listed in their “My Courses” listings. We are considering a change in which the courses themselves would stay available at the end of the term, but the individual student coursesite enrollments would be marked as unavailable. This has several advantages and disadvantages:

ADV: It would preserve the present appearance of My Courses
ADV: It would allow faculty dealing with an incomplete to make individual student coursesite enrollments “available”.
ADV: Old courses would still allow guest access through the blackboard course catalog. This is particularly desirable as a supplement to the current efforts to provide extended course descriptions, since it would mean that course syllabi would often be available to students who wanted to see how closely actual courses matched the course description or how they varied from term to term.
DIS: Students who actually had taken an old course would not be able to access the old course through the blackboard catalog unless they logged out as themselves and logged back in as guests.

Advice from the committee on whether to make this change would be particularly welcome.