# Issues surrounding course content migration: Blackboard to Moodle

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## ABSTRACT

Cost benefits and a maturing of Open Source technology is driving a move within educational organisations to consider shifting their Managed Learning Environments from commercially available systems. This will have a significant impact on the staff both in terms of time to convert and time to learn the new system. For those who use the features of the existing system, the ability to import existing material easily into the new environment could have a significant effect in the successful implementation of the change.

This paper looks at the transition from Blackboard to Moodle through the use of three case studies.

### Keywords

Managed Learning Environments, Blackboard, Moodle, Learning objects

## 1. INTRODUCTION

A Managed Learning Environment (MLE) is a form of content management system in which the prime content is teaching material. Wikipedia (2005) defines an MLE as "a software system designed to facilitate teachers in the management of online educational courses for their students.". The type of services provided by an MLE can include access control, learning or teaching content, communication tools, and administration of users. Blackboard, WebCT and Moodle are examples of MLEs.

For a variety of reasons organisations that have adopted commercial MLEs are considering or have considered alternatives to their existing systems. McMillin and Munro (2004) discuss the considerations made at Dublin City University for a WebCT to Moodle migration. Amongst some of the reasons discussed were cost, "vendor lock-in" where the institute was "dependent on a particular VLE vendor for its products and services, had very limited subsequent flexibility", and "constrained them to its inherent pedagogical model", which in the case of WebCT was an American/Canadian pedagogical paradigm.

Munoz and Duzer (2005) conducted a Blackboard/Moodle satisfaction survey in order to see if "free software can satisfactorily meet the needs of students, faculty, and instructional technologists for online teaching and learning?".From a student perspective 35.7% prefered Moodle, 21.4% Blackboard and 42.9% had no preference.

In New Zealand the Ministry of Education (2004) released an Interim Tertiary e-Learning Framework and stated that "Interoperability standards are required in order to develop the networked education system described in the e-learning vision – an environment in which digital tools and resources can be accessed and shared across the whole system". This emphasises the need of MLE's to interoperate. Projects based on the this framework such as the Open Source Courseware Initiative New Zealand (OSCINZ) (eLearnz, 2005) have adopted Moodle as the MLE of choice.

To allow content to be imported into and transferred out of a MLE a package of files needs to be created, which is essentially a meta-data file that conforms to a recognised standard, and the individual content files. In the case of Blackboard, the package created is based on the IMS Learning Object Package specification, which is then imported into Moodle.

This paper will briefly compare the features of

**Table 1: A list of Blackboard vs Moodle features relevant to import/export (from Edutools)**

| Blackboard exported areas | Moodle imported areas |
|---|---|
| Content: Course Information | Lessons |
| Content: Course Documents | Resources, Course files |
| Content: Assignments/Exams | Assignments |
| Content: Books | Unknown |
| Content: External Links | Unknown |
| Announcements | Unknown |
| Calendar | Unknown |
| Collaboration Sessions | Chats |
| Discussion Board | Forums |
| Glossary | Glossaries |
| Gradebook | Possible under the Quizzes |
| Groups | Unknown |
| Course Settings | Metacourse: No, Users: Course, Logs: No, User Files:Yes |
| Staff Information | Unknown |
| Tasks | Unknown |

Blackboard and Moodle relevant to transferring content, and then discuss the results of three case studies that were used to determine the ability of Moodle to accept content from Blackboard.

## 2. FEATURE COMPARISON

EduTools(2005), provides a web based tool that compares selected MLEs, and gives a detailed comparative analysis. For the purposes of this paper the relevant areas that impact on the export/import process are listed in Table 1

The no category area indicates import areas of Moodle that did not have a corresponding Blackboard export area

In both MLE's the various areas for import/export were user selectable, and when importing into Moodle areas have the option of including user supplied data.

## 3. CASE STUDY 1: MANUAL COURSE CREATION

In order to understand how Moodle handles content, it is useful to show how it is added manually. In this experiment Blackboard was not involved. A new course was created and the content was added under the premise that this was the only MLE used.

The content added to Moodle was done in two ways. The first consisted of static content which in itself was broken down into 3 types.

The static content, which was the bulk of the course material, consisted of;

· Atomic structured -PPT, DOC, PDF, HTML

· Composite file – HTML with supporting media files, non archived.

· Archived content – A ZIP file was created with arbitrary course content added. An HTML file with supporting media is an example.

The second area was the online services. These were initiated by the "lecturer" and the students contributed the content from there on. The services involved were.

· Communications – BBS(message board, announcements), forums, web based email

· Assessments – quizzes, grade-books

Findings showed that there were no issues with the manual submission of the course content other than it consumed considerable time. Some of the content, especially the HTML content proved to be challenging.

## 4. CASE STUDY 2: IMPORTING SPECIFIC CONTENT FROM BLACKBOARD INTO MOODLE

In this scenario, the ability to take a specific content fragment in Blackboard and import this into Moodle is investigated. According to Moodle developers notes, Moodle version 1.4.1 is capable of successfully importing the following areas;

- Course Name/Title
- Forum Topics
- Course Documents
- Assignments
- External Links

In this experiment the course in Blackboard contained content, while in Moodle the course was created but had no existing content. Most of the content used in this experiment was static content. The dynamic portion was mainly student contributed content within the forums. Given that there was only a successful transfer with the static portion of the forum student contribution presented a new test.

The size of the Learning Object (LO) package was about 20MB and Moodle had no issues handling a file of this size.

The Moodle restore service presented a few issues before the process could begin.

- Moodle is written in the open source language PHP:Hypertext Preprocessor (PHP). It was found that both the stable and the development release of Moodle do not work successfully with PHP 5.0 or higher. This was attributed to the XSLT/XSL modules where PHP4 uses the XSLT and PHP5 uses just XSL. A small translation/interface script was needed and was added to the Blackboard restore script to enable the process to start.
- It was found that the header of the converted manifest file is being written incorrectly. This could be attributed to the PHP5/XSL installation. As a result there will always be an error during the restore process. The restore script was adjusted to accommodate this error so that the process could continue.

Moodle eventually loaded up the LO package in the selected course without reporting any errors. When the course was viewed there were some of the content sections showing bad HTML formatting. The content documents were missing and the forum did not show any topics or the student contribution.

The findings suggest the content placed into Blackboard might have to be introduced in a specific manner in-order for Moodle to place it into the correct sections. The topic versus content did not match up correctly as a result of this.

## 5. CASE STUDY 3: IMPORTING A COURSE FROM BLACKBOARD INTO MOODLE

In this third case study, a complete course, with announcements, bulletin board, and other content was imported into Moodle. The entire course was contained in Blackboard, and there was not prior course or content within Moodle.. An archive of the course was made in Blackboard, which includes every possible content item relating to the course.

The archived LO package was then imported into Moodle. The issues and results were similar to those found in Case Study 2, excluding the errors relating to the changes to made to the actual script files.

## 6. CONCLUSION

The findings of case study 2 and 3 indicate that importing a Blackboard course in Moodle is still incomplete, and indeed Moodle (2005) recognises the shortfall. Moodle Version 1.5 which is part of the development branch was used in this analysis, and as such shortfalls and issues are to be expected. It was found that the LO package import facility does not function correctly in the stable release (Moodle Version 1.4).

Findings further indicate that there are implications for organisations considering the shift from commercial Blackboard to the Open Source Moodle particularly where Blackboard has been used in sophisticated ways.

Partial or full imports using the LO package do not produce reliable results and should be used with caution at the present time. This implies staff will need to modify course content should they need to migrate content from Blackboard to Moodle.

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