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Moodle Development Plan 2010
Evaluation Report

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Information Sheet

This working paper was written by members of the e-Learning Team at the University of Bath. If you'd like to access other papers, presentations or posters given by the team, see our Online Publications Store. http://opus.bath.ac.uk/view/divisions/elearning.html.

If you have any questions about this paper then please contact the author(s) directly.

Thanks to members of the e-Learning Team at the University of Bath who commented on earlier drafts.

CONTENTS

1   Introduction

This purpose of this paper is to report upon the work that has taken place in relation to the 2010 Moodle Development Plan[1].

The development plan emerged at the end of 2009 in response to feedback received from the academic community. It highlighted a number of projects that were marked for completion during 2010, several of which were informed by the results of the 2009 Moodle Performance Survey[2], where there was a clear and stated requirement for a more reliable, robust and scalable Moodle service during periods of heavy traffic.

Additionally, having first considered the way in which performance gains might best be achieved, the e-Learning team presented a range of additional development projects to members of the Moodle Advisory Group (December 2009). The members of this group were asked to help in the prioritisation of these development projects in order to ensure that wider academic needs in respect of Moodle were being correctly met.

Overall, seven key priorities were identified, falling within the three broad categories of:

- Improving service performance
- Provision of enhanced functionality
- Staff development

2   Improving Service Performance

In October 2009 Moodle experienced a number of performance issues, due primarily to the large amount of data that it had to process – a problem ultimately caused by the sheer volume of activity taking place in Moodle at the beginning of the academic year.

As a result, the 2010 Moodle Development Plan highlighted two key areas as those that would have a positive impact upon these pressures in subsequent years:

- Reducing the Moodle 'log tables' by transferring them to another location
- Moodle housekeeping exercise

Whilst changes to these areas are (at the time of writing this report) imminent, it is important to note that the investigations conducted so far suggest that these modifications will not provide the level of performance gain originally anticipated. Indeed, a closer investigation of the performance issues concluded that greater performance gains could be better achieved through alternative means.

The following sections highlight the changes that have already taken place (or that are imminent), and highlights the work that ultimately lead to the vastly improved performance seen during the beginning of the 2010/11 academic year.

2.1   Reducing Moodle 'log tables'

As stated previously, the 2010 Moodle Development Plan suggested that a reduction in the volume of log tables stored on the live Moodle database would improve performance somewhat. As this was the case, it further recommended that all but one day's worth of logs should be relocated to another location (which would be made accessible through a separate interface).

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[1] http://go.bath.ac.uk/g4hn
[2] http://go.bath.ac.uk/xtfw

Following a number of scoping exercises however, it was decided that retaining only one day's worth of logs on the live database was too drastic a measure given the anticipated performance gains that would result, and that accessing logs from multiple interfaces would ultimately be unsatisfactory for end users.

Instead (on the back of the creation of a Moodle archive service[3]), it is now possible to make the log tables much smaller, simply by removing all entries other than those of the current academic year. Although not yet implemented, Moodle will eventually only keep 365 days worth of logs (automatically pruning older items), whilst the removed log entries will continue to be accessible (via the Moodle archive service), through an interface that is familiar to staff.

2.2 Moodle housekeeping

Although Moodle has been used at Bath since 2006, expired user accounts have never been pruned. Whilst Moodle was performing well (and with a large number of competing priorities to manage), this was never considered an urgent task. Given the performance issues experienced in October 2009 however, it was decided that the removal of thousands of old accounts, from the Moodle users table would be likely to have a positive effect upon service performance.

That said, what may on the face of it appear to be a simple housekeeping exercise, was not without its challenges:

1. A technical issue was identified involving the automatic recreation and enrolment of accounts that were no longer active. Given the complexities of the work required to resolve this issue, it was necessarily delayed until it could be undertaken at a low risk-period (identified as the 2010/11 inter-semester break).

2. Any deletion of 'expired' user accounts will also remove the user data associated with the account (such as discussion contributions, assignment submissions etc.). It was important therefore, that any housekeeping exercise adequately considered the implications of this data loss prior to defining the criteria with which users would be identified for removal.

    The availability of the newly created Moodle archive service will obviously go some way to minimising the impact of this form of housekeeping - ensuring that user data contributions will be retained for six years (albeit in separate installations of Moodle), as per the academic retention schedule.

3. It was noted that significant numbers of duplicate courses were being automatically created within Moodle at different points within the academic year – these served no useful purpose and consequently changes were put in place in order to prevent this from occurring in the future.

It should be pointed out however that the resolution for the first of these items is a short term solution and that more work will need to be done in order to provide a longer term fix.

The completion of these work packages has improved the Moodle user experience for many people, although it is fair to say that the significant performance gains that were apparent at the peak of Moodle activity in October 2010 were ultimately due to other service enhancements (see section 2.3 for details).

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[3] http://moodle-archive.bath.ac.uk/

2.3 Other Improvements

The results of the October 2010 Moodle Performance Survey[4] showed a vastly improved user experience as regards the robustness and responsiveness of the Moodle service. This is particularly gratifying given the significant increase in load that Moodle experienced during October 2010 over the same period the year before.

Given that the range of housekeeping exercises identified in the 2010 development plan had not yet been implemented, the major performance gains reported in the 2010 performance survey can therefore be attributed to other efforts in this area – and in particular, to an adjustment in the technical configuration of the Moodle server (a change that was implemented in the 2009/10 inter-semester break).

3   Provision of Enhanced Functionality

The 2010 Moodle Development Plan identified and prioritised several projects that fall under the category of enhancement provision. The projects have no bearing on the performance of Moodle (unlike those listed in within section 2), however (if successful), their implementation would be expected to improve end-users overall experience of Moodle.

3.1 Single Sign On

At the time of writing the Moodle Development Plan for 2010, Single Sign On (SSO) functionality had already been implemented in a wide range of services. The introduction of SSO for Moodle (implemented in September 2010), not only brought Moodle in line with these applications, but it also ensured that users could move efficiently and smoothly between multiple institutional systems, without having the inconvenience of multiple login requests.

3.2 Development of SOOT

The integration between Moodle and the university's student records system (SAMIS) is designed to automatically create a Moodle space (known as a Moodle course) for every unit that exists in SAMIS. Importantly, this integration also brings through the course memberships for each unit, including not only the students registered on each unit, but also the member of teaching staff responsible for it.

In its current form however, SAMIS enables only one staff member to be listed as a Module Tutor for a unit – a limitation that is in contrast with the way in which Moodle is typically used (where it is common for more than one member of staff to take a teaching role within a unit).

This restriction has been circumvented by the introduction of SOOT - a web application that effectively enables multiple members of staff to be added to SAMIS (albeit as 'Other Tutors'). In turn, the 'Other Tutor' course associations can be automatically pulled out of SAMIS and into Moodle (and potentially, into many other e-tools), giving them teacher access to the relevant Moodle course(s) and ensuring that only one set of memberships need to be managed.

The need to extend SOOT functionality came from a number of directions, including the recent academic restructuring. The planned changes to internal departmental structures led a number of people (such as Directors of Studies) to request access to every Moodle course within specific departments. In order to service these requests (whilst still ensuring that Module Tutors retained control over their course memberships), SOOT was extended to allow the e-Learning Team to send out course access requests to all the units and programmes within a specified Department on behalf of another member of staff. These requests are

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[4] http://opus.bath.ac.uk/22118/

emailed out automatically to the Module Tutor (or nominated representative) for quick and easy approval.

Feedback has been positive to date, however its use has been deliberately limited during the testing phase of development.

3.3 Moodle 2.0 Evaluation

Originally planned for release in the summer of 2010, Moodle 2.0 offers a host of entirely new, or indeed, greatly improved functionality. With this in mind, an early review of the software was planned, in order to review the changes and to explore the impact upon a potential upgrade to Moodle 2.0 upon the academic community at Bath.

Unfortunately however, the final release of this software was subject to a number of delays and was only released at the end of November 2010. We have not therefore been able to conduct an in-depth review the product as yet; however this will no doubt be carried forward into the 2011 Moodle Development Plan.

3.4 Integration with Turnitin

Turnitin is an Internet-based plagiarism detection service which checks for possible plagiarism by comparing submitted work to several databases. As part of a wider e-assessment review conducted by the Head of e-Leaning during 2010, it became clear that several academic colleagues were interested in exploring the advantages of Moodle/Turnitin integration.

There are three competing Moodle/Turnitin integration types available for use at an institutional level, each of which enables student submissions to be easily checked for originality. In choosing an appropriate integration method for Bath it was essential to consider not only the level of user functionality on offer, but the sustainability of the code and its ability to be forward compatible with later versions of Moodle. With this in mind, we elected to evaluate the method that would ultimately be part of the core code for Moodle 2.0.

Whilst we consider this to be the right decision for Bath in the longer term, our initial testing identified problems with the way in which the software integrated with Moodle 1.9.9 (the version that we were using at the time). As this is the case, plans to integrate our installation of Moodle with Turnitin were regrettably put on hold.

Obviously this is disappointing, but should there be any change to the status of the existing code we will reconsider the viability of running pilots during 2010/11, and of course we are keen to review the Moodle 2.0 integration at the earliest opportunity.

4   Staff Development

As part of the institutional e-assessment review, it was decided that the e-Learning staff development programme should be extended to include an increased emphasis on engaging with e-assessment. Whilst efforts in this area were not solely Moodle related, the fact that there are several mechanisms through which assessment opportunities can be offered in Moodle meant that it inevitably featured in our response.

Our efforts to enhance support in this area led us to focus primarily on Moodle's 'Assignment' activity. This activity facilitates online submission and marking of coursework, and had seen a significant increase in levels of use over the same period the year before[5]. It was felt therefore that focussing resources on the Assignment activity would be likely to have the

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[5] http://go.bath.ac.uk/lz3l

greatest impact in terms of Moodle e-assessment and would be most closely aligned with current academic needs.

To this end, the Frequently Asked Questions (FAQs) relating to the Moodle assignment tool were updated and extended[6] whilst a training event (and accompanying Moodle course) was created in order to further support use of this activity.

At the time of writing this report, the training event is being publicised via the Learning and Teaching Enhancement Office website but has yet to staff run, whilst feedback received suggest that the new FAQs appear to have been well received.

Alongside the extended FAQs, a variety of 'How' to guides were produced that covered a range of e-assessment topics – from organising question banks within the quiz activity to making effective use of the grade book facility within Moodle[7].

Finally, a number of papers have been produced by the e-Learning Team that deal with the subject of e-assessment. These are available via Opus and whilst some are generic in terms of context, two of them (Factors to consider for the effective use of the Moodle assignment activity in online submission of work and Future functionality required from an online submission system for student work) relate either directly to Moodle use, or refer to it heavily.

5   Summary

Although the 2010 Moodle Development Plan identified a list of projects and work packages considered to be desirable, the successful completion of each of these items was dependant on a number of factors (some of which were outside of our control).

Each of the items prioritised within the development plan was reviewed at length, however issues such as the late release of Moodle 2 (see section 3.3 for details) and the issues experienced in linking Moodle 1.9.9 with Turnitin (as documented in section 3.4), have impacted upon the successful completion of these projects.

Furthermore, the timescales laid out within the development plan were problematic as they did not take into account other, existing priorities relating to the continued smooth running of the Moodle service.

Nevertheless, the majority of projects have indeed been completed satisfactorily, and those that could not be completed due to factors outside of our control will likely be revisited during 2011.

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[6] http://go.bath.ac.uk/bxs6
[7] http://blogs.bath.ac.uk/elearninghowto/?s=assignment