

RICHARD WYLES - INNOVATION FOR EDUCATION: OSS AND INFRASTRUCTURE FOR NZS EDUCATION SYSTEM*

Ken Udas

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Abstract

Richard Wyles' contribution to the "OSS and OER in Education Series." In this post, he writes about networking Moodles across multiple institutions, the Mahara ePortfolio and related projects and will be providing some examples of how open source is delivering on the promise of innovation for education.

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The saying goes that necessity is the mother of invention. Innovation is somewhat different, it can be incremental improvements, a new way of using something, or the thinking that underpins radical invention. When it comes to innovation there's two quite distinct drivers. One is the norm in the proprietary software world - that is supplier side innovation. To differentiate a product a supplier will spend on R&D and commercialise and often protect their innovations with patent law. While this model is reasonably efficient in open competitive markets, a significant problem remains in that it largely ignores end-user or demand-side innovation. I say largely because any successful proprietary software vendor, will of course, take demand signals such as customer feedback into account when designing new releases. The problems are that there are time lags, inefficiencies in communication flow and inherent prioritisation of resources that ignores both niche and emergent need (e.g. Does Blackboard have a Maori¹ language pack?). Patents are also designed to limit the diffusion of innovation and thereby protect the competitive advantage that the innovation provides. Problems drive innovation!

Thinking back to 2003 when I first started getting involved in elearning technology, there was a recognised problem in New Zealand's education system. eLearning was very unevenly spread and quite understandably. New Zealand is reasonably large in geographical terms - a little bit larger than Britain. However, the population is small at 4 million people and we're geographically isolated - the distance between Wellington and Sydney is not too far off the distance between London and Moscow. It's a developed Western nation but

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[†]<http://creativecommons.org/licenses/by/2.0/>

¹<http://en.wikipedia.org/wiki/Maori>

unusually the economy is largely reliant on agricultural exports. The education sector is well served with 7 universities, 20 institutes of technology and polytechnics, 3 wananga ² plus many smaller private training companies. Many of the polytechnics are regionally based, serving smaller more rural population centres.

Map depicting LMS market in NZ in 2003



Figure 1

In 2003 there wasn't a lot of eLearning infrastructure. With an initial consortium of 8 institutions, and a modest amount of government funding (given our goals), we started the New Zealand Open Source Virtual Learning Environment³ (NZOSVLE) project. Our first recognisable problem was that this project was going to be very hard to manage without some suitable tools to help. After looking about, finding nothing at that time that solved the problem and thinking our need can't be unique, we came up with the idea of Eduforge⁴. Eduforge delivers the same services as does Sourceforge but with some additional collaboration and communication tools such as project based blogging and wikis. We've endeavoured to support the needs of both technologists and others in the education community that may be less technically focused. Indeed, there are many projects hosted on Eduforge that have little to do with software. Eduforge is an open access environment - it is not aligned to any institution, it is free to use and has projects from throughout the world. Eduforge could be described as an accidental outcome of the NZOSVLE project. We've made some improvements since first launching in February 2004 and we'll keep evolving the platform. As a trivial aside, Eduforge is now hosted at a data centre in Dallas, Texas to reduce latency for users in many parts of the

²<http://en.wikipedia.org/wiki/Wananga>

³<http://pcf4.dec.uwi.edu/viewpaper.php?id=81>

⁴<http://www.eduforge.org/>

world.



Figure 2

In parallel to the work on Eduforge, we needed to start designing the Virtual Learning Environment (VLE). It was vital to establish some core principles to guide our efforts. Firstly, we weren't going to fall into the "not invented here" trap. A Learning Management System (LMS) was a natural starting point to the VLE and there were numerous open source options in varying states of maturity. We would select the most promising and focus our resources there. We would not fork the code because, with limited resources, a New Zealand fork would only prove to be more expensive to maintain over time. We would be good open source "citizens". We were constantly thinking, "will this code get upstream?"

So our selection process included not just the qualities of the architecture and code, important though it is. We were also looking for a good community model to apply our time, energy and resources. Though, of course somewhat dated now, this process was documented: Shortlisting of LMS⁵, Evaluation Part II⁶ (focused on pedagogical aspects) and Technical Evaluation⁷. The process took a full 5 months with Moodle⁸ selected in May 2004.

In hindsight that decision looks relatively easy but at the time there were no clear leaders. Sakai⁹ was only just getting underway, ATutor¹⁰ was brand new, Ilias¹¹ looked interesting as they had made some headway with SCORM¹² compliance but a small user base, and Moodle had a user base of around 350

⁵<https://eduforge.org/docman/view.php/7/7/Shortlisting%20of%20LMS.pdf>

⁶<https://eduforge.org/docman/view.php/7/17/Evaluation%20of%20LMS%20-%20Part%20II.pdf>

⁷<https://eduforge.org/docman/view.php/7/18/LMS%20Technical%20Evaluation%20-%20May04.pdf>

⁸<http://moodle.org/>

⁹<http://sakaiproject.org/>

¹⁰<http://www.atutor.ca/>

¹¹<http://www.ilias.de/ios/index-e.html>

¹²<http://en.wikipedia.org/wiki/SCORM>

installations but no enterprise scale installations. Indeed, without some work, Moodle wouldn't scale to meet our requirements. We weren't at all concerned about ticking boxes on the features list. We wanted a robust architecture and a responsive open community.

That first year saw a huge amount of effort in improving the scalability and security of Moodle with Moodle 1.5 being what I'd describe as the first truly enterprise ready open source LMS. There were nervous moments launching Moodle at the Open Polytechnic of New Zealand¹³, with its 35,000 learners and we were doing a hard cutover from an in-house system and a gnarly legacy student records system complicated matters. I did the classic project manager's trick of being far away in Washington DC on launch day, November 1, 2004.

Since then we've continued to devote development efforts to Moodle, but now much more into the feature-set and interoperability aspects with other components of the VLE. Our recent efforts have been on developing Moodle Networks coming out as standard in 1.8. Moodle Networks allows a networked framework of multiple Moodles where users can roam across, using comprehensive Single sign-on¹⁴ (SSO) and transparent remote enrollments. Administrators at the originating Moodle install can see logs of remote activity. You can also run your Moodle in "Hub" mode where any Moodle install can connect and users roam across. The Moodle Network code includes an XML-RPC¹⁵ call dispatcher that can expose the whole Moodle API to trusted hosts.

Why did we do this? Again it is to solve a problem. As stated above, many of our institutions are relatively small, serving small remote populations. To ensure broad access to educational opportunities, cross institutional networking of delivery solves student access as well as economies of scale for the institution. The power of the network rests at the node - by that I mean each institution can quite easily configure their Moodle to network specific courses and enroll some students but not others. Institution A may provide say viticulture to Institution B students but not C etc etc. Authentication is managed, as it currently is, via each enrolling institution. The power of this flexible framework will take a bit of time to unfold as it takes some time to establish the non-technical arrangements of such a network.

Concurrently, we've been working on a new ePortfolio system. This is a bit of a departure for us because my preference is to build upon existing code-bases than start from scratch. We had been doing some work with Elgg¹⁶ but we got confronted with a design problem in that we couldn't address the requirements of all the stakeholders in an ePortfolio system with the current architectures available. Mahara¹⁷ (Maori for thought or reflection) deals with this by having an Artifact, Views (templates to group artifacts) and Communities framework. The user can set the permissions on which communities can have access to which views. Still early days on this but we're very excited by the potential with Mahara. Multiple institutions are using a shared instance at MyPortfolio.ac.nz¹⁸ and that in itself is very rewarding as that level of collaboration would not have been possible only a year or two ago. You can learn more about Mahara by viewing the documents¹⁹ and we will have a demonstrator up soon. Naturally rich interoperability with Moodle is part of the plan and is currently in development.

Another key part of the VLE is a national network of repositories, both for courseware and research output. This is more recent work but we followed the same successful process when selecting the LMS. The technical review²⁰ pointed to using Fedora²¹ for the OAI-PMH national hub and hosted solution while, with some work, Eprints²² is a good option for ease of deployment at individual institutions. Enhancements we've been making include RSS feeds from Fedora, ratings, add comments, nested collections, a DIY²³

¹³<http://www.openpolytechnic.ac.nz/>

¹⁴http://en.wikipedia.org/wiki/Single_sign-on

¹⁵<http://en.wikipedia.org/wiki/XML-RPC>

¹⁶<http://www.elgg.org/>

¹⁷<https://eduforge.org/projects/mahara/>

¹⁸<http://www.myportfolio.ac.nz/>

¹⁹https://eduforge.org/docman/?group_id=176

²⁰<https://eduforge.org/docman/view.php/131/1062/Repository%20Evaluation%20Document.pdf>

²¹<http://www.fedora.info/>

²²<http://www.eprints.org/>

²³<http://en.wikipedia.org/wiki/DIY>

configuration tool for Eprints, and a SRW/U²⁴ service to be adapted for Fedora which will become the basis of the web front end search on the hub and is adaptable for the likes of FEZ²⁵ and Moodle. I'm probably getting a bit technical here but the idea is to harvest all of NZ's research output and make it more easily accessible. In parallel we want courseware repositories to be accessible to tutors/teachers/ instructional designers with easy federated search at the course set-up level.

With leads me on to our work on open educational resources but that's a whole other story...

In summary, what I'm trying to convey with this post is that we've been quite busy building what amounts to some significant national infrastructure for NZ's education system. I like to think that our innovation is end-user / demand driven which is made possible by working with open source technologies. And because it's open source we can leverage the innovations of others and vice versa.

Our team at Catalyst²⁶, the Flexible Learning Network²⁷, and consortium partners in the education sector such as the Open Polytechnic²⁸ are committed to the open source paradigm. It solves a lot of problems for us. When working with open source solutions, the playing field becomes a lot more level as the aggregation of capital is not such of a factor - ideas and capability become the new currency. And for end-users we can deliver innovations and some fit-for-purpose outcomes not otherwise possible. A small but cogent example is that Moodle now has Maori, Tongan and Samoan language packs - important for our native Pacific Island communities. Which proprietary LMS can boast that?

1.1 Comments

14 Responses to "Innovation for Education - OSS and Infrastructure for NZ's Education System"

1.1.1 1. Ken Udas - March 21st, 2007 at 5:18 pm

Richard, I might as well kick things off. I notice from your 2003 and 2006 (before and after) graphics that the number of LMS deployments grew from 11 in 2003 to 18 in 2006. Do you think that the increased total number of deployments was a consequence of the general growth of online learning globally? That is, do you think that the growth was independent of the New Zealand Open Source Virtual Learning Environment (NZOSVLE) project? Why?

1.1.2 2. richardwyles - March 21st, 2007 at 11:23 pm

Hi Ken. Actually I'm sure the graphics are a little inaccurate - there's more Moodles! The maps represent what is called the 'institute of technology and polytechnic sector' in New Zealand. Certainly there's been global growth in online learning over this time period. The problem we faced was that some were being left behind - a digital divide was quite clear between new Zealand's larger institutions and the smaller regional ones. Even those institutions who were investing tended to stop at the Blackboard Basic edition rather than the full suite.

To answer this properly it's worth quoting from one of our project partners on how the NZOSVLE lowered the barriers to entry. Overall, in the first year or so, we saw the "have-nots" becoming "haves" as they adopted production level LMSs. More recently we're seeing a lot of migration from the likes of Blackboard and WebCT to Moodle.

"Nelson Marlborough Institute of Technology (NMIT) is a regional Polytechnic serving a rapidly growing but widely dispersed population across the top of the South Island. This geographic spread combined with some of the highest levels of employment in the country provides significant challenges for NMIT in maintaining our viability and relevancy. A project was established in 2003 to select and implement a

²⁴http://en.wikipedia.org/wiki/Search/Retrieve_Web_Service

²⁵[http://en.wikipedia.org/wiki/FEZ_\(Software\)](http://en.wikipedia.org/wiki/FEZ_(Software))

²⁶<http://www.catalyst.net.nz/>

²⁷<http://www.flexible.co.nz/>

²⁸<http://www.openpolytechnic.ac.nz/>

commercial Learning Management System to support the flexible access to learning materials. However, up-front costs of hardware, license and local technical support proved too great a barrier in difficult financial times and we lacked experience or confidence in utilising Open Source systems.

The advent of the NZOSVLE project has changed all this. Moodle is a highly functional, stable and relatively intuitive LMS compared to many of the commercial products. An external service provider now hosts our installation of Moodle and the quality of the support available via the NZOSVLE project and the wider Moodle user community has been outstanding. Rather than pay for expensive hardware and license fees, a greater percentage of available funds have been able to be used to establish an internal support team. The Flexible Learning team is now working on a number of online development projects and supporting a growing number of teaching staff as they explore utilising Moodle to enhance their current classroom-based courses.

NMIT looks forward to utilising this and other systems to better meet the learning needs of our communities. Where possible we will continue to support the use and development of Open Source systems in NZ education.”

David Sturrock, Flexible Learning Team Leader, Nelson Marlborough Institute of Technology

1.1.3 3. richardwyles - March 22nd, 2007 at 9:40 pm

Sorry to cross-post comments here but to pick up on the thread we had earlier about interoperability, SOAs etc. then I suspect Patrick and my philosophies are actually quite well aligned. To illustrate, have a look at the conceptual diagrams used in our proposals back in 2003 and then again in 2004:

<https://eduforge.org/docman/view.php/7/1296/NZOSVLE.jpg>²⁹

<https://eduforge.org/docman/view.php/7/462/OSVLEII.jpg>³⁰

While I didn't know the jargon for SOAs back in 2003, the concept of separating out the feature-set was very firmly in our mind. And I think we made some good decisions. I believe that Moodle is a route to the same end. At present Moodle can be described as a cohesive LMS. But the architecture does adhere to good principles of “loose coupling”. I believe Moodle will evolve into a form of ‘LMS operating system’ for want of a better descriptive title. By this I mean there will be a framework using web services communicating with a “core operating system” to achieve very flexible configurations. I haven't caught up with Martin Dougiamas since mid last year but will be in a month's time and the evolution of Moodle is always a topic of discussion!

1.1.4 4. Ken Udas - March 23rd, 2007 at 6:07 am

Richard, thank you for the response relating to the growth of LMS deployments and the role that the NZOSVLE project had in reducing participation barriers for eLearning (particularly in financially fragile institutions). Were there any other outcomes that flowed from the project and the use of OSS?

That is, did you note additional inter-institutional collaboration around other features of eLearning? You referred to the original group of 8 institutions that participated in the NZOSVLE project as a “consortium” which seems to infer collaboration. Is this true, and if so, was the collaboration confined to deploying and maintaining learning technologies? I am probing to see if you saw “secondary” impact on the sector or at least among the participating institutions.

I have a follow-up question already, but will wait for this response first.

1.1.5 5. richardwyles - March 23rd, 2007 at 6:54 pm

It's hard to quantify but certainly, in the same way that if you build a road you will get cars on it, we noticed and were gratified by the upswing in elearning activity due to enabling the foundational infrastructure. Due to this, there has been some significant inter-institutional collaboration however I must qualify that because much of it has been more informal, ad hoc and across middle layers between faculties, eLearning managers, instructional designers etc.

²⁹<https://eduforge.org/docman/view.php/7/1296/NZOSVLE.jpg%20>

³⁰<https://eduforge.org/docman/view.php/7/462/OSVLEII.jpg%20>

So, while there has been a secondary impact, it could be much more so from my viewpoint if there was a more strategic framework to support it. In many ways, our efforts have been very much “bottom up” and I suspect most Chief Executives and Academic Managers are not fully aware of the potential of what we’ve been doing. That’s understandable, the power of Web 2.0 and networked environments are foreign to many people’s working lives (currently!). We are endeavouring to encourage the direction towards more meaningful collaboration with the Moodle Networks project which I’m very excited about. And, while the wheels of bureaucracy naturally turn <http://www.flexible.co.nz>³¹ slowly, the drivers behind networked education and inter-institutional collaboration are inescapable. We will see much more tangible evidence of the evolution of this framework over 2007 and into 2008.

There has been another secondary impact that I’d like to mention, and this is due, in part, to my new business venture, the Flexible Learning Network (<http://www.flexible.co.nz>³²). Working with our technology partners at Catalyst, we’re successfully rolling out OSS infrastructure beyond the education sector. Large sections of the government sector are now adopting Moodle including New Zealand’s Ministry of Social Development, Department of Labour, Inland Revenue Department (tax agency) etc. And we’re seeing signs of inter-organisational collaboration at this level too.

Looking back, and writing these posts, has helped me reflect on what’s been achieved but it still feels like there’s some mountains to climb. We’re still at the early stages really...

1.1.6 6. Ken Udas – March 24th, 2007 at 8:22 am

Richard, now I have two follow-up questions. I will first ask the question that relates to your last comment. How does the Flexible Learning Network fit into the larger free software and education ecosystem? Do you see organizations like the Flexible Learning Network supporting an economic model for the growth and development of particular OSS applications, and does this type of model support the more general development of OSS and/or magnify the impact of OSS in education? Is this model substantively different from the “dot com” support service entities that support many OSS applications like Moodle, Linux, LAMS, etc.

Please, as you are reading along and have a question, do not let me dominate this dialog. Please feel free to post a general comment, question, or provide some feedback.

1.1.7 7. richardwyles - March 24th, 2007 at 3:50 pm

Flexible Learning Network was formed to focus on strategy, learning design, content development, training and coaching. So, with our service streams we are different to the likes of Moodle.com, LAMS Foundation or something like RedHat Linux because we’re focused on good practice use of a range of tools - we’re not tool specific. In fact we have clients that use proprietary applications.

We still work on infrastructure but more in an advisory or project management capacities (and the bigger the project the better ;-). For example, recently we’ve been consulting for a global shipping company which operates out of over 50 countries but has their headquarters in Dubai. They’re in the process of setting up a corporate academy and I’m finding this departure from traditional educational structures interesting. In these types of roles naturally we strongly advise towards the benefits of OSS. Flexible Learning is an associate company of Catalyst IT which is a specialist OSS services company with about 75 programmers all working on open source. Working closely with them is a major point of difference for us. For example, we know that we have really strong expertise in enterprise Moodle, Fedora, Eprints, Mahara and then a whole host of other OSS systems and technologies for any customised developments that can form part of the solution suite. Combined, the two companies can deliver a very comprehensive service offering (sales hat firmly on here ;-)

And in the example above, our work has a natural progression from initial strategic consulting towards design and development of exemplar courses, knowledge transfer to their staff, online coaching of e-tutors

³¹<http://www.flexible.co.nz/>

³²<http://www.flexible.co.nz/>

for the first course roll-outs - in short setting the foundations for a successful venture.

I would also like to add that, consistent with our strong advocacy and work with OSS, is our work and preference towards Open Educational Resources on the content side. It's not always possible because it's the client's prerogative, but the cross-pollination of design methodologies is something we're finding beneficial. Despite the high profile projects from MIT and OUUK we don't see many examples of purpose built OERS (as opposed to 'after the fact' opening) with the goal of ease of editing, extension and reuse. One trend is towards wikis and this is an important element but not the silver bullet. Wiki syntax is still arcane to many and wikis don't deliver all the learning activities teachers and learners expect. I expect a suite of OER tools to soon develop as there's certainly an itch...eXe is an example of this direction

1.1.8 8. Ken Udas - March 25th, 2007 at 6:49 pm

Richard, I want to go in another direction for a minute. I see how the NZOSVLE project reduced barriers to deploying eLearning technology infrastructure (Moodle), which of course is a capacity building activity, but did you see evidence of capacity building in any of the participating institutions in terms of contributing to the open source community? That is, was there evidence that any of the schools learned how to contribute effectively to Moodle or any other OSS project?

I ask this because virtually every institution that is considering adopting an OSS learning management system talks about the potential benefit of modifying the code, which is probably one of the more challenging ways of contributing to a community. Did anybody develop competency and contribute code, documentation, training materials, etc., or at least become active in the forums or take leadership in any other way?

1.1.9 9. richardwyles - March 25th, 2007 at 7:19 pm

Yes, although naturally not in a uniform manner. This appears to be dependent on individuals and the orientation of an institution. Right at the outset, we formed the view that even if you selected the right platform, enhanced the code, provided good documentation, professional development training etc. then there would remain some barriers to entry, perceived or otherwise. The context was that there was little eLearning infrastructure being supported to begin with. For others, they could be supporting say BlackBoard in a hosting sense and while they obviously had an IT department, their skill-sets were not in supporting LAMP or OSS in general let alone contributing code of sufficient quality to the community. There are thankfully some exceptions but this was the general context in the New Zealand setting, remembering that many of our institutions are relatively small.

The solution was to provide economies of scale in hosting and support through a bureau service. We purchased high end hardware and set up an educational web hosting facility. Seven institutions now have their production LMS on a 'common services' infrastructure based in Wellington with disaster recovery systems in Auckland. We're doing a similar thing with the Mahara ePortfolio system and our national network of institutional repositories. So, while some host themselves and have built capacity internally, others opt for a simple turn-key solution.

So, with that, the capacity building and expertise has consolidated around a clever team based at Catalyst IT, which have one of the biggest teams of Moodle expertise and OSS in general, globally. Catalyst has 75 developers specialising in OSS - this provides the level of commercial assurance that senior managers often need to make the switch to OSS.

1.1.10 10. Ken Udas - March 28th, 2007 at 4:44 am

Just as a little follow-up observation, I recall that there was a flurry of activity that followed the NZOSVLE project that I felt was relatively promising. These included the development and sharing of training materials and activities among some of the project partners and that the first NZ Moodle Moot leveraged the growing popularity of Moodle, but perhaps more importantly the growing understanding and acceptance of OSS in the sector.

Also I remember that a school oriented Moodle community was launched called Schooodle (<http://schools.elearning.ac.nz/moodle/>), which seems to have had some impact on the primary and secondary education sector. The project is self described as being “. . .committed to gain wide acceptance of Open Source Initiatives within New Zealand. This site has been created to allow teachers the opportunity to make informed choices on the issues surrounding the creation, maintenance and financing of digital learning environments within schools.”, which suggests that the Moodle focus can be translated into the larger potential of open source and community-based activities.

1.1.11 11. Ken Udas - March 29th, 2007 at 6:38 am

Here is one last question. This is sort of an open question for Richard, but if there is anybody following along with this who is in the know (or has an opinion), please feel free to contribute. In your posting you referred to a “. . .modest amount of government funding (given our goals). . .” relative to the NZOSVLE project. Could you take just a moment to describe the government funding and its impact on the education sector? I am interested in learning a bit more about the potential connections between the government policy, their supporting programmes, and their effectiveness. All in all, would consider the NZ government investment that you referred to as a good investment? If so, what made it a good investment?

1.1.12 12. richardwyles - March 29th, 2007 at 4:46 pm

In 2003, the New Zealand Government established a pool of funding, to be administered by the Tertiary Education Commission (TEC), for eLearning capability development initiatives. This fund was called the e-Learning Collaborative Development Fund (eCDF) and was a contestable fund available to New Zealand tertiary education organisations. I say that our funding was modest given the objectives, because as with many government funding mechanisms anywhere there can be a tendency to spread the allocations as broadly as possible among the various constituencies.

Thank-fully, TEC had a pre-determined viewpoint that OSS was worth exploring further with the objective of increasing the uptake of e-learning. In particular the eCDF sought to encourage a consolidated approach of tertiary education organisations sharing e-learning costs and systems where this is more efficient than individual organisations replicating investment. When reading the terms of reference in the funding documents, it was very obvious to us that OSS was a good fit although we were thinking in that direction anyway.

NZOSVLE was not the only OSS project funded. eXe, which I'm sure Wayne MacKintosh will discuss later. NZOSVLE also worked closely with the Open Source Courseware Initiative in NZ team who were undertaking language pack translations for Moodle. In subsequent rounds, TEC funded the OS Learning Object Repository project, the Open Access Repositories in New Zealand, and the Mahara ePortfolio. Eduforge also came about due to the eCDF. So, OSS has been a very significant theme and I'm forever grateful that TEC created this opportunity to establish OSS as such a large part of the landscape here.

It's inherent with any such fund that some of the dollars get swallowed up in items such as University overheads, ideas that “seemed good at the time” etc. but I'm really happy to say that the overheads for NZOSVLE were kept at a minimum and that we've had a really high success rate with getting quality code upstream into standard releases. For this, and making many of these projects the success they are, BIG thanks to Penny Leach, Martin Langhoff and the rest of the programming team for their massive input, much of it in their own time such has been their passion for what we're doing.

So, a good team was crucial to making it a good investment, having sound project principles, clear goals and vision. These are the things that make for successful projects. There's one other critical element that made a relatively small investment deliver such a wide ranging impact. Good timing, e.g. Sandy Britain and Oleg Liber's work on the pedagogy of LMSs, the options and growing maturity of OSS LMSs, the demand for infrastructure in the sector. . . a worldwide growing interest in OSS for education. Similarly the recent

³³<http://schools.elearning.ac.nz/moodle/>

work on Mahara. I think this is good timing, we need options for OSS ePortfolio systems and I believe what we're trying to do with Mahara will resonate, early days but we're focused on getting the foundations right.

Thanks Ken for the discussion, and of course for the shared vision and many lunchtime walks we had when you were here in New Zealand and we were setting up NZOSVLE and Eduforge. It has been a very rewarding experience working with OSS in education these past four years and I feel we're still at the beginning - there's so much to do!

Cheers Richard Wyles

1.1.13 13. pmasson - March 31st, 2007 at 5:02 pm

Sorry for the late post...

...I hope there is still time to ask a question.

I am very interested in the recent efforts on developing "Moodle Networks." While at SUNY one of our challenges was to provide integration between the LMS and the 40 or so disparate Student Information Systems (I believe that's Student Management Systems in NZ?). Campuses were running Datatel, Sungard Banner, PeopleSoft and even home grown systems. The requirement to us was a single interface where any campus could push student and course information to the LMS to create and populate courses, then provide the SIS with course completion, grades, etc. on the way out. Added to this complexity was that each campus had its own unique ID's for students and faculty and course/section nomenclature. SUNY's legacy LMS evolved to include its own SIS, causing, for example, students who used the system to not only enroll in their own campus and course, but enroll again within the SUNY system's LMS—basically double registration. This obviously caused problems with data integrity between the two systems as students added/dropped, enrolled in the wrong course or sections, etc.

This requirement, a common integration interface across SUNY, was considered a must have, yet we could not find an example of any campus or system that had accomplished this in the U.S. Finally we came across a project out of the UK, SUNIWE (http://www.jisc.ac.uk/whatwedo/programmes/programme_edistributed/suniwe.aspx³⁴), where cross-campus enrollment was being developed with uPortal. Based on the activity between uPortal and Sakai, we initially thought we may have found a solution. Unfortunately the uPortal/Sakai collaboration proved less than we had hoped.

In addition, SUNY's technology decisions were moved out from the LMS and technology groups and made by very senior administration. This group was very uncomfortable with any OSS (this will be the topic of my post) and a commercial provider, Angel, was chosen despite both the technical and university system architectural issues. Angel is now expected to provide (build) this single interface for disparate SIS' or, perhaps this requirement is no longer considered vital.

Can you please provide more information regarding the "Moodle Networks?" How similar are the campuses that will be contributing courses, sharing students, etc. Do they all share an SIS (SMS)—either a single instance or at least the same application, student ID's, course/section ID's.

Thanks, Patrick

1.1.14 14. richardwyles - March 31st, 2007 at 5:55 pm

Hi Patrick, We've got a very similar problem here, lots of disparate SIS. When looking at this seemingly mammoth task, I took a KISS approach which effectively sidelines (perhaps ignores!) the issue. Based on the assumption that students in their institutional LMS have already been authenticated via some means (gnarly SIS or otherwise) we built the authentication federation layer to be between LMSs. Each node of Moodle Networks is enabled to allow students form another node in, down to a student or course level. You can set your Moodle to Hub mode as well which would allow any other node to have a trust relationship with it. Reports are transferred to the host Moodle so that if these subsequently transfer back into a SIS that's accommodated. In essence we're extending the classic SIS-LMS relationship to being SIS-LMS + trusted friends and thereby abstracting away the problem of SIS interoperability.

³⁴http://www.jisc.ac.uk/whatwedo/programmes/programme_edistributed/suniwe.aspx

The network is conceived so that the student's access is through their own institutional gateway - their LMS. naturally, this doesn't solve all the organisational issues such as John Smith wants to take Viticulture 101 from 3rd party provider. These issues can only be solved with cross-credentialing frameworks and all the people issues, but if achieved then Viticulture 101 would be an offering by Institution A (and thereby exist in their SIS) even though it is actually provided by Institution B. We're trying to develop a distributed network system (with low requirements for governance overhead) rather than a hub and spoke model.

While the technology side had a few challenges, relative to moving the hearts and minds, it's the easy part. However, by enabling some possibilities I'm sure some interesting configurations will eventuate and many that we didn't envisage. The inclusion of a pan-institutional learner-driven ePortfolio system (also with federated authentication) adds to the potential of networked learning opportunities.

cheers, Richard