

Dirk Herr-Hoyman on uPortal and Moodle Integration

Publisher's Note: The University of Wisconsin-Madison team developed the Moodle tool interoperability demonstration for Alit-Lab 2005 20-22 June 2005 in Sheffield UK.

Participants included: [University of California] "Berkeley, Blackboard, Indiana University, Questionmark, Sakai, Sun Microsystems, University of Michigan, University of Wisconsin - Madison, and WebCT." The Sakai Educational Partners Program is not an IMS member; the "Sakai" effort was done as a University of Michigan Sakai Project; Sakai partners, except those employed by universities members of IMS, do not yet have access to the code or documentation or implicit draft specification from this effort.

Because of the experience with Moodle and the implementation of Web Services (XML, SOAP and WS-Security) and his broad knowledge of learning management systems, I asked Dirk Herr-Hoyman to describe how uPortal could be integrated with Moodle. The University of Wisconsin is also implementing uPortal as their enterprise portal and now have extensive knowledge of integration. Here is Dirk's reply, reproduced with his permission:

Here's my thoughts on doing WSRP for Moodle, to be used within uPortal.¹

The 1st question is how much of the user experience do you want to be "within uPortal"? The answer here can vary from "just a course name and link" to "the entire Moodle user experience".

My answer, and the one we've been using in the UW-Madison from the beginning (in 2000) is "just a course name and a link". A more sophisticated version would have:

- Course name/link
- Number of new forum postings
- Assignment due today indicator

The concept here is that the portal shows the high level details and what has recently changed. That's where I come from on where a portal is useful. As a student or teacher, you can at a glance see if there is something important you need to look at.

From there, the user will "go into the course" in Moodle, or more generally in whatever eLearning platform is being used. This would either open a new window or replace the current one. What I would NOT do is try to use some small region from within the Portal for doing something within Moodle, why reinvent that wheel?

Note that Moodle has a pretty good email out of discussion forum, and this often is

¹ E-mail, Herr-Hoyman to Farmer, "Moodle as WSRP or RSS producer for uPortal consumption," 16 August 2005, 4:08PM.

used in conjunction with one's desktop email client. This would not be part of the portal interaction, except possibly thru an email web client.

With this approach, I could see using either WSRP or RSS.

In both cases, there is a consuming service on the portal, this needs to read in the relevant bits from the XML and push them out via the appropriate portal module/channel/portlet. There is but a single request and response for the actual data. Behind the scenes, a query goes out from the portal to Moodle, this includes the user identity and some SSO token (schemes can vary). If we use WSRP, then it's WS-Security based. If it's RSS, you'd need some common AuthN, like CAS (there could be others here).

On the Moodle side, it's a matter of setting up either a WSRP or RSS producer. These would not normally be part of the user experience, this would be a URL that is meant to be used only by the remote consumer. This would have as a primary argument the user identity (which needs to be harmonized) and would look up all the courses this user is enrolled in. It would return:

- Course name
- User role within course
- URL to course
- Other info such as number of new forum postings

While there is more that could be returned, this is a minimal set. A data schema would need to be defined, the names and legal values. This is not hard, I would leverage the IMS Enterprise for this schema, though this is not sufficient for all the features in the "Other info".²

To do RSS in Moodle is simpler, as the infrastructure is already there (both from existing Moodle features and from PHP). If SSO was already in place, this would be the choice.³

For a pure Web Service, WSRP would be the choice. Security now should be done by way of WS-Security, though this could also leverage some existing SSO. Implementing this in PHP would require PHP 5 and even then it's not for sure. At some point PHP will implement the entire WS, so this is a matter of either rolling up ones sleeves or waiting. A 2nd implementation choice would be to run a Java based WSRP producers, such as WSRP4J, in a servlet that is setting beside the Moodle PHP server. We have done this with Axis. This is a bit more work and won't perform as well, but I don't think performance is the gotcha here.⁴

² This is consistent with the common services of the UK Joint Information Systems Committee's e-Learning framework. The e-Learning framework is being renamed since it also serves the research community.

³ The ESUP-Portail project in France has implemented JA-SIG's CAS (Common Authentication Service) in Moodle. CAS was developed by Yale University and is now supported by JA-SIG. ESUP-Portail has adopted the Moodle learning system.

⁴ The uPortal version 3.0 team is contributing to the WSRP4J project. It is likely WSRP4J will better meet these needs—the producer and consumer code is being separated—and perform better when this

If I were to do this and budget were an issue, I'd go for an RSS implementation with the feature set I've described.

Costs will depend on the staff doing the implementation. Assuming some degree of experience with the relevant technologies, this looks like a 1 person-month development project. A bit more for the WSRP, though not more than 2 months. More time for QA, depending on the criterion for success. Implementation costs will depend on the target site, their SIS and whether they emit IMS enterprise or whatnot, their SSO approach.

As comparison, we did the IMS Tools Interoperability development in 1 person-week. This had data going both ways. We didn't do this for "production", it's proof-of-concept.

--Dirk

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development has been contributed to WSRP4J. The team is receiving guidance from Rich Thompson, Chair of the OASIS WSRP Technical Committee and Julie MacNaught, WSRP4J committer.