

E-Learning Frameworks & Tools: Is it too late? ... the Director's Cut

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AURICLE www.bath.ac.uk/e-learning/auricle.htm

“An invitation to tender for
work under a new JISC ‘e-
learning Frameworks’
programme will see the
emergence of a technical
framework to support the
development of flexible
learning systems for UK HE
and FE.”

Source: JISC Invitation to Tender document for a E-learning Models Desk Study (para 7) in making
reference to the sibling JISC programme E-Learning Technical Framework and Tools.
http://www.jisc.ac.uk/index.cfm?name=funding_elearning_models

“This strand of the e-
Learning Programme
aims to produce a
technical framework
designed to support e-
Learning, and in particular
to provide a **basis for
pedagogic diversity.**”

Source: JISC E-Learning Technical Framework and Tools
http://www.jisc.ac.uk/index.cfm?name=elearning_framework

“... the Information
Environment as it is proposed
here aims to offer the user a
more seamless and less
complex journey to relevant
information and learning
resources.”

Source: JISC Information Environment Development Strategy 2001-2005
http://www.jisc.ac.uk/index.cfm?name=strat_ieds0105_draft2

“... the view that digital
resources are inherently
distributed and will **never
be delivered by a single
service provider.**”

Source: JISC Information Environment Development Strategy 2001-2005
http://www.jisc.ac.uk/index.cfm?name=strat_ieds0105_draft2

Great Stuff ... but ...

Institutional teaching and learning strategies have been written, MLE/VLE investments have already been made, integration with information and records systems has occurred, contracts have been signed, training programmes are designed, faculty and students have already been 'trained', content is already being 'locked-in', reputations are at stake; and everyone has got used to one system.

“ We've built a good relationship with our vendor over a number of years and don't want to disturb that ...”

“... the application of the new technologies is generating a myriad of demands for re-institutionalisation of the university as a far more 'corporate', one might even say concrete, kind of organization ...”

Cornford J (2000) The Virtual University is (paradoxically) the University Made Concrete, <http://virtualsociety.sbs.ox.ac.uk/pick/pick6.htm>

We need e-learning environments which don't assume learning material, content, resources, objects and services have, of necessity, to be embedded within a single monolithic system. Resources & services should be separate from the vehicle(s) which mediate their delivery.

But ... for many at the coalface e-learning has become **their** VLE vendor's product ... and from a central support services perspective the less diversity to support the better.

So how are the vendors responding to this vision of uncoupled, decentralized, or distributed resources and service provision?

“Under the partnership, unique among course management vendors, WebCT users will be able to perform targeted searches across the 10,000 learning objects indexed on MERLOT to create their customized online courses in a timely manner. They will pinpoint **WebCT-ready content** produced by faculty, institutions and publishers, including IMS standards-based learning modules, question databases and quizzes. WebCT users will also be able to easily identify training content designed to help faculty **more effectively use WebCT** e-learning systems. ”

Source: WebCT Press Release (4 Aug 2004)
<http://www.webct.com/service/ViewContent?contentID=22334284>

“The first Blackboard Building Block to be released will be a **portal module** that uses RSS content syndication to aggregate news about and links to the learning resources most recently added to MERLOT. Additionally, a Blackboard Building Block is planned that will enable instructors using the Blackboard Learning System(TM) to search the MERLOT repository directly from the Blackboard interface. From the search results, they can select specific learning resources and embed links to them within their Blackboard course.”

Source: Blackboard Press Release (1 Sep 2004)
<http://www.blackboard.com/about/press/prview.htm?id=608612>

“ As part of Release 2.0 of the Blackboard Content System, institutions can now store and describe learning objects in a central open repository. Through the Blackboard Learning Object Catalog, faculty will be able to locate and import high quality education content for use across course sections, departments and even institutions ... The Learning Object Catalog is intended to facilitate the **sharing of learning resources among members of the Blackboard community**, making it a logical tie-in to the MERLOT initiative.”

Sources: Blackboard Press Releases (17 August 2004)
<http://investor.blackboard.com/phoenix.zhtml?c=177018&q=irgl-newsArticle&ID=604710>
 and (1 Sep 2004) <http://www.blackboard.com/about/press/prview.htm?id=608612>

OK. You've considered uncoupled learning content, material or resources, but what about those monolith breaking services?

“Loosely coupled services, even if they use incompatible system technologies, can be joined together on demand to create composite services, or disassembled just as easily into their functional components. Participants must establish a shared semantic framework to ensure messages retain a consistent meaning across participating services.”

Source: <http://looselycoupled.com/glossary/loose%20coupling>

Services & Loose Coupling



Photograph courtesy of Dewi Williams, <http://dewi.ca/trains/daze/couple2.html>

What's a Web service?

“A Web service is any piece of software that makes itself available over the Internet and uses a standardized XML messaging system ... For example, a client invokes a Web service by sending an XML message, then waits for a corresponding XML response. Because all communication is in XML, Web services are not tied to any one operating system or programming language - Java can talk with Perl; Windows applications can talk with Unix applications.”

Source: <http://webservices.xml.com/pub/a/ws/2002/02/12/webservicefaq.html>

So what's the relationship of services to the future direction of e-learning developments?

JISC, DEST (Australia), Industry Canada, services-based E-Learning Framework

Sample User Agents			
Assignment marking tool	Authoring applications	Library System	Portal
Student Enrolment Portal	Timetabling	VLE / LMS	
Learning Domain Services			
Activity Author	Activity Management	Assessment	Competency
Course Management	Course Validation	Curriculum	Grading
Learning Flow	Marking	Personal Development	Quality Assurance
Reporting	Resource List	Sequencing	Tracking
Workflow			
Common Services			
AV conferencing	Alert	Archiving	Authentication
Authorization	Calendar/ing	Chat	Content Management
Context	DIR	E-mail management	Federated Search
Filing	Format Conversion	Forum	Group
Harvesting	Identifier	Logging	Mapping
Member	Messaging	Metadata Management	Metadata Schema Registry
Packaging	Person	Presence	Rating / Annotation
Receiver	Role	Rules	Scheduling
Search	Service Registry	Terminology	User Preferences
Webboard	Workflow		

Source: JISC-CETIS <http://www.cetis.ac.uk:8080/frameworks>

Portal/Services v VLEs?

“In theory, a portal should sum up all on-line resources of an institution, including the Virtual Learning Environment(s) (VLE) ... Trouble is, many VLEs already have functions that are quite similar to what a portal would provide - usually just not as powerful and as flexible as those of, for example, uPortal ... VLE functions like calendaring, chat, authentication or group management can not easily be taken out of VLE software... Ultimately, the channel idea at the heart of portals ought to be flexible enough to push content in and out of VLEs. Who then gets to publish the user's favourite page that displays all that content is perhaps not so important ...”

Kraan W (2002), CETIS, <http://www.cetis.ac.uk/content/20021126163827>

So how are the vendors going to survive, or flourish, in a monolith breaking services model?

“... leverage Web services to embed e-learning functionality into business applications”

Source: IBM Lotus Learning Management System
<http://www306.ibm.com/software/swnews/swnews.nsf/n/shoy5htzby?OpenDocument&Site=lotus>

“The .NET certification lets our clients know that Isoph Blue functionalities can be easily integrated into existing Web sites, intranets, and Web-enabled applications ...”

Source: <http://www.isoph.com/software.htm>

“Web services made it easy for us to use Isoph Blue as a core component of the portal learning center. Isoph Blue provides the functionalities, and we control how they are presented to our users...”

Source: http://www.charitychannel.com/articles/article_12192.shtml

So far so good ... but ...

“Isoph Blue is generally provided on an **application service provider (ASP)** basis, meaning that **hosting**, technology management, upgrades, and support are included in the pricing ”

Source: <http://www.isoph.com/software.htm>

All very interesting but a bit abstract. What about some concrete examples of the sort of useful things a service model can already do?

“Innovation will come from APIs that support 'unintended consequences' ”

Source: O'Reilly T (2002)
<http://www.oreillynet.com/pub/wig/1707>

Example: All Consuming

The screenshot shows the homepage of 'All Consuming', a website that aggregates book listings from various sources. The main content area features a 'Last Hour' section with several book listings, including 'The Weekend Crafter: Rubber Stamp Carving' by Luann Udell. The listing shows the book's cover, title, author, and price. The website has a clean, organized layout with navigation links at the top and a search bar.

Source: <http://allconsuming.net/>

Example: LibraryLookup Project

The screenshot shows the Amazon.com product page for 'The Weekend Crafter: Rubber Stamp Carving' by Luann Udell. The page displays the book's cover, title, author, and price. A red circle highlights the 'Add to Shopping Cart' button. The page also shows the book's availability, shipping options, and a 'Great Buy' badge. The URL in the browser's address bar is <http://www.amazon.com/dp/0896021111>.

Source: <http://weblog.infoworld.com/udell/stories/2002/12/11/librarylookup.html>

Example: LibraryLookup

The screenshot shows the 'Keene Link' website, which is a combined catalog of the Keene Public Library and Keene State University. The page displays a search result for 'The Weekend Crafter: Rubber Stamp Carving' by Luann Udell. The listing includes the book's title, author, publisher, edition, location, call number, and status. The call number is '745.5.UDELL' and the status is 'DUE 12-14-02'. The website has a simple, functional design with a search bar and navigation links.

Source: <http://weblog.infoworld.com/udell/stories/2002/12/11/librarylookup.html>

Example: *Blinkx*

Highlighting some text in a document or web page makes blinkx narrow its suggestions to the selected text only



Source: <http://www.blinkx.com/overview.php>

My message is that this is exactly the wrong time to be locking in to a swiss-army knife but ...

... key decision makers within institutions may not be receiving the message and may be placing greater emphasis on bringing themselves into line with the enterprise decisions already made by other institutions in their regional or profile groupings.

So I finish with the title of my paper ...

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Is it too late?

AURICLE
www.bath.ac.uk/e-learning/auricle.htm