

Breaking Down Barriers Between Learning Systems

Charles Severance
University of Michigan
School of Information
Presented to: Open University
Milton Keynes, UK
December 14, 2007

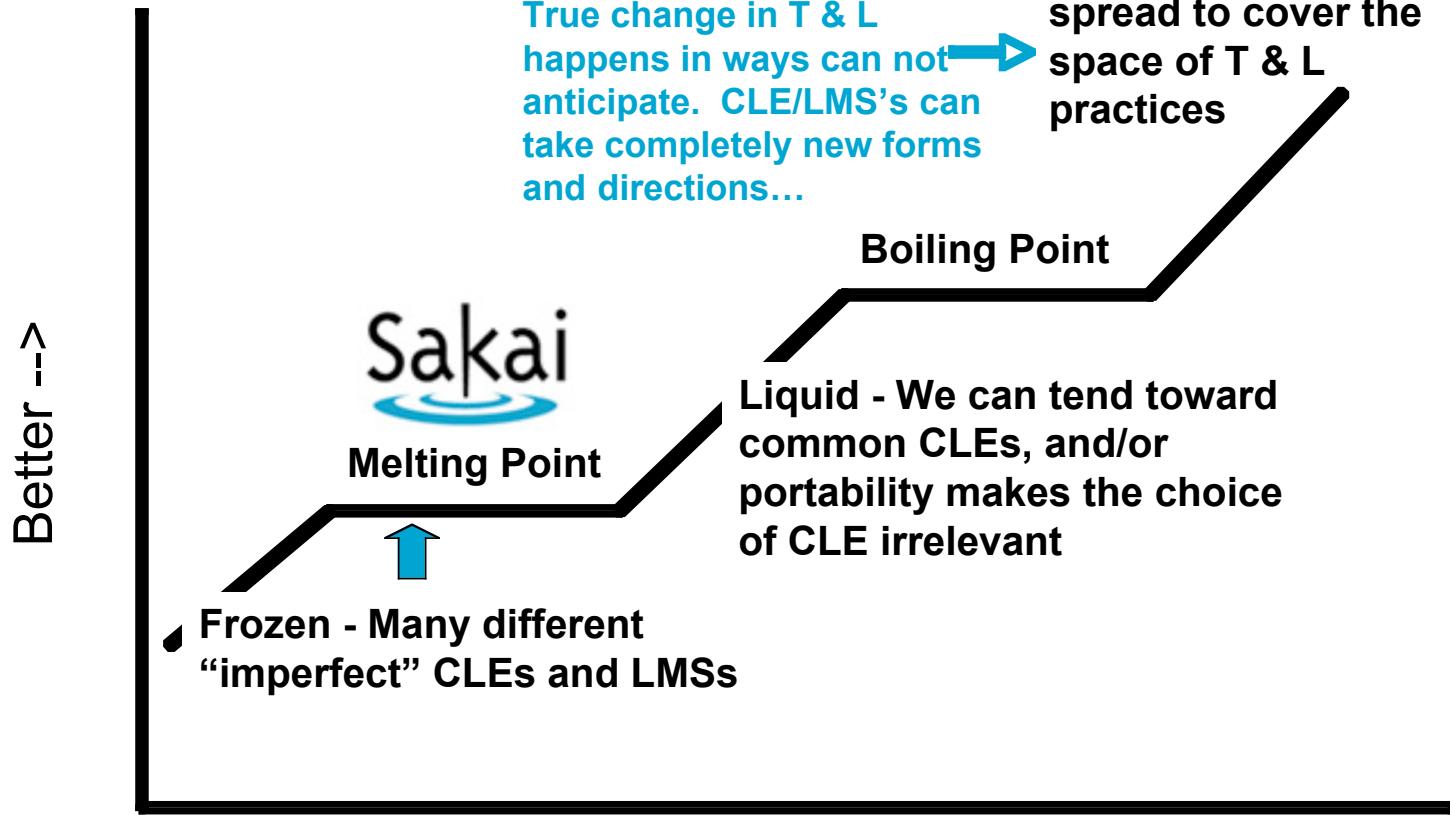
Outline

- Setting the stage
- Standards
- UM SiteMaker and IMS TI
- Campus Project - Catelonia
- What I would like to see happen
- What I am planning on doing myself

Idea Fragments..

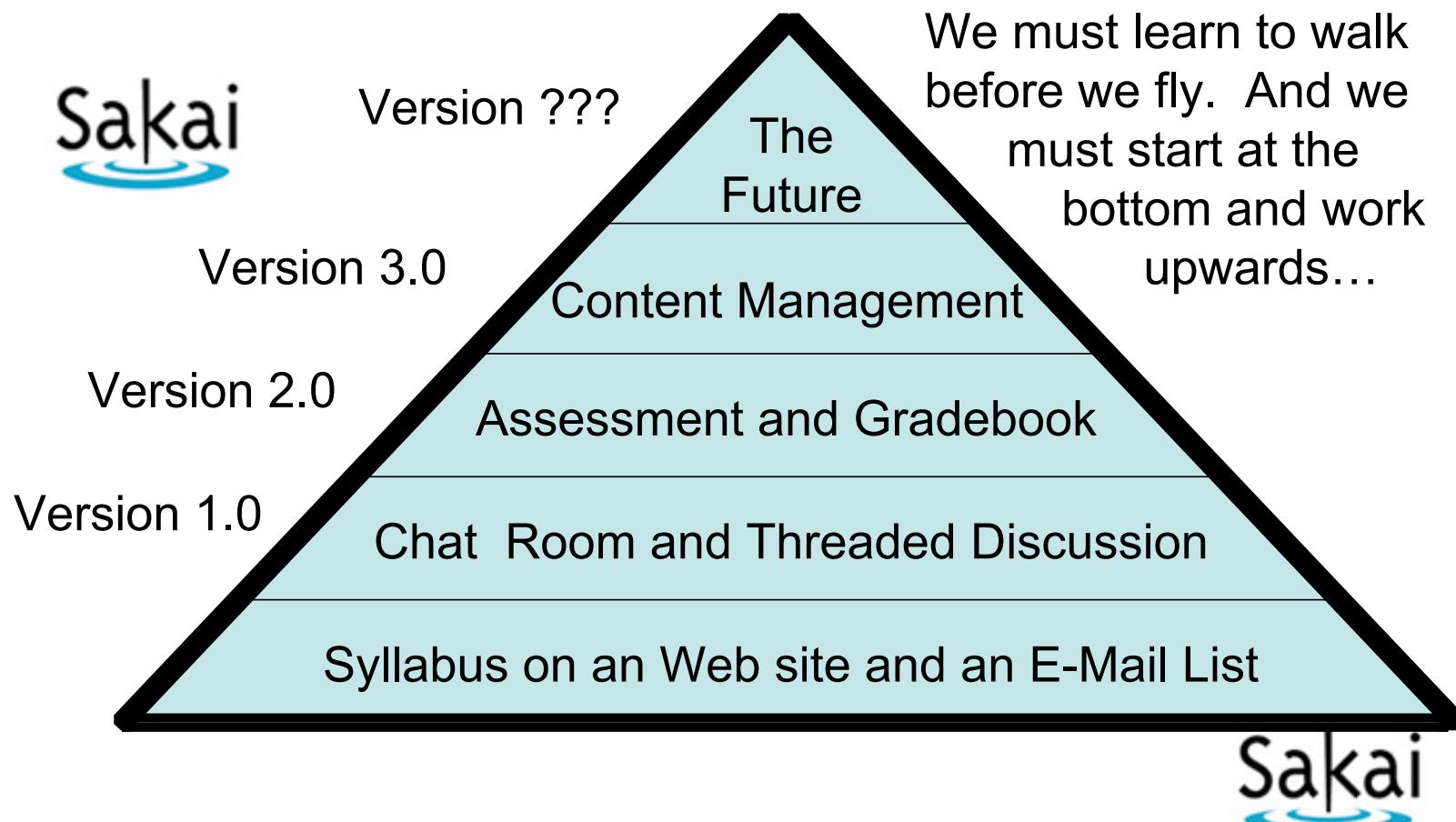
- During the last three years...
- I focused on building a product and community
- I was exposed to many ways different ways of approaching teaching and learning which I often ignored because I did not have time to think
- Now that I am just a teacher, I am taking time to explore those various ideas and try to make sense of them

Latent Heat of CLE Innovation



December 2004 - Phoenix Arizona

Chuck's Hierarchy of T & L Needs



December 2004 - Phoenix Arizona

Market circa 2004

- People purchased commercial LMS systems or wrote their own

Market circa 2007

- Some organizations choose to adopt an open source LMS
- The market is still divided into stovepipes
- Consolidation has happened - reducing market diversity - both for commercial and open source

To Do List (2007)

- Real Data Portability
- Real Application Portability

To Do List...

- Transform Teaching and Learning
 - Life Long Teaching and Learning
 - Personalize Teaching and Learning
 - Open Educational Resources
 - Learning contexts around OER's



“I certainly don’t see the VLE or LMS continuing in the form that they currently are, where you have a monolithic application with lots and lots of different tools presented to teachers and students. You very quickly come to the limits of any tool that you use. The answer is to abandon the tool you have been using and to swap in another tool. Now I can see a situation where you extend this from a single tool to all of the tools of an LMS. I can see a situation where the VLE or LMS actually shrinks to a container into which you plug these learning tools”.

(Booth, 2007)

Functionality Mashup Future - Learning



Standards to break
down stovepipes

Background in Standards

- Open Software Foundation (OSF) (1989-90)
- UNIX International (1990)
- IEEE POSIX
 - IEEE P1003.0 / ISO BS ISO/IEC TR 14252 (1990-1997) - Guide to an Open System Environment Reference Model
 - Vice Chair POSIX (1992-1996)
- IEEE Standards Advisory Board
- IEEE Computer Magazine - Column Editor 1994-1998
- IEEE LTSC - (2001 - 2002)
- IMS
 - Technical Board coChair 2005-2007
 - IMS Tool Interoperability WG - 2005 - 2007
 - IMS Common Cartridge WG - 2006
- JSR-286 (Portlet V2.0) (2006-2007)





Conflict and Consensus: The Role of Standards

Charles Severance, Michigan State University

Sometime in the future we will all look back at January 1998 and laugh about the current conflicts in the technology industry. A hindsight perspective inevitably generates a few chuckles, but it also allows us to recognize that conflict is essential to innovation. Conflict energizes the entire process. If there were no conflict (over market shares, protocols, pricing structures, formats, programming languages, platforms, or standards) innovation would almost certainly stagnate.

While conflict ensures that technology will continue to change and grow stronger, it also ensures a certain forced honesty. As one organization "invades" the turf of another—especially when it comes to standards activities—we get to see the cards held in the hands of the players. It usually takes a few years, however, before we're able to smile at all the poker faces.

THE PAST

While we certainly need to practice laughing about these conflicts, we must



As one organization "invades" the turf of another, we get to see the cards held in the hands of the players.

try to remember how serious these conflicts seemed during their time. One of the most serious technology wars began with IBM mainframes reigning supreme over all challengers. In the mid-to-late 80s, Unix systems powered by fast RISC processors began to invade the IBM glass houses. Innovative risk-taking organizations tentatively deployed Unix.

Like all great conflicts, there were a great many fans cheering or booing as each skirmish was played out. And within the Unix field itself there were many battles. Versions of AT&T Unix and BSD Unix waged war for shares of the marketplace. Instead of continuing the battles head to head—a course of action that could have crippled all par-

ties involved—the vendors eventually decided to work together, forming the Open Software Foundation (OSF). While nearly all of the Unix vendors joined OSF, not everyone wanted to join. Those abstaining from OSF formed Unix International.

Instead of reducing the intensity of the battles, however, formalizing the conflicts served to increase it. Instead of small wars between individual companies, there were now two Unix superpowers. The fight for the control of the operating system of the future was on. The major battle of the Unix wars—I call it Unix War I—was the Motif versus Open Look conflict, a multiyear conflict about the shape of some buttons and whether or not the outlines of windows should have a 3D look.

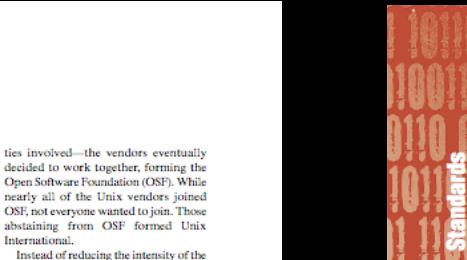
Don't laugh. This was really serious business and kept many software developers on the sidelines for several years, waiting for one or the other of the technologies to win.

At the time, the two combatants were so engrossed in launching press releases at each other that they failed to notice that Microsoft was developing a graphical interface and application suite that ran on the slowly Intel processors. Instead of focusing on the deployment of a low-cost PC-based desktop with good applications, the Unix vendors waged war over the \$40,000 workstation market that was about to become much less significant. By the time they stopped fighting and began to work together, the battle for the desktop operating system was over without a single shot being fired.

Interestingly, though, by the end of the warfare both sides adopted the best features from each other. Standards organizations like IEEE Posix and X/Open continuously produced standards that broadened the "least common denominator" between different Unix versions.

Because of cross-pollination—due to competition and intense standards development—Unix emerged as the most completely specified multivendor computing environment ever produced. The Unix-based standards have had some impact on all remaining viable operating systems, including MVS, VMS, Unix, and NT.

Editor: Charles Severance, Michigan State University, Department of Computer Science, 1338 Engineering Bldg., East Lansing, MI 48824; voice (517) 353-2268; fax (517) 355-7516; crs@egr.msu.edu; <http://www.egr.msu.edu/~crs>



IEEE 754: An Interview with William Kahan



I think that it is nice to have at least one example—and the floating-point standard is one—where sleaze did not triumph.

hired him as a consultant to help design the arithmetic for the 8087 processor.

As a result, he had a hand in the birth of the IEEE 754 specification for floating-point computations.

—Charles Severance

THE BEGINNING

Charles Severance: When Intel hired you as a consultant in 1976, what did they want you to do?

William Kahan: The folks at Intel decided that they wanted really good arithmetic. The DEC VAX was really not that bad, so my reasoning went: Why not copy the VAX? Intel wanted the best arithmetic, so Palmer and I got together to think about what the best arithmetic should be. One of the things Palmer told me was that Intel anticipated selling these coprocessors in very large numbers. The best arithmetic was what was best for a large market, which subsequently started to frighten Silicon Valley because of

rumors that Intel was building floating point on a single chip, the i8087. And when they heard rumors of what was going to be on that chip, they were aghast.

CS: Out of this thinking grew IEEE 754?

WK: People have said from time to time (as a joke) that the other Silicon Valley companies got worried and joined the IEEE 754 working group. I realized at this first meeting that the members of the committee were very serious. CDC didn't bother to attend that meeting in November 1977 because it was a microprocessor committee—they had no idea that microprocessors would mean anything at all. Cray felt the same way. IBM was only there in an observer capacity—they knew microprocessors were coming but they couldn't say much.

CS: What were the meetings like?

WK: One of my friends said that attending one of these meetings was like a visit to the Grand Canyon: just awesome. In the usual standards meeting everybody wants to grandfather in his own product. I think that it is nice to have at least one example—and the floating-point standard is one—where sleaze did not triumph. Cray, CDC, and IBM could have weighed in, if they wanted to, and destroyed the whole thing. But CDC and Cray must have thought, "Microprocessors. Why worry?"

CS: What happened next?

WK: After the first meeting, I went back to Intel and asked to participate in the standards effort. Then Jerome Kuman, Harold Stone, and I prepared a draft document of the Intel specification in the format of an IEEE standard and brought it back to an IEEE 754 meeting.

CS: Were there any complications?

WK: I got Palmer's verbal permission to disclose the specifications for the non-transcendental functions on the chip, but not the specification for the architecture. I could describe the precision, exponent ranges, special values, and storage formats. I could also disclose some of the reasoning behind the decisions. We didn't say a word about the i8087's transcendental functions—I had to bite my tongue. [Commonly used transcendental functions include sine, cosine, loga-

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Standards

Grab the Chance to Work on the Leading Edge

Charles Severance, Michigan State University

Each year I make a point to impress on my students the importance of standards to their career. I really want to cultivate in these young engineers a strong desire to participate in standards, because I myself have benefited so much from the experience.

Through my standards work, I have had a chance to travel and meet some of the sharpest engineers in the world. So I tell my students that by far the most important reason for an engineer to participate in standards is personal growth. The opportunities for networking and learning are endless.

The classic reason to attend standards meetings is to represent your organization when its technology is directly involved. But standards-setting is not simply about winning battles; it is about building consensus. To thrive in this environment, an engineer must be able to argue for a position on the basis of technical merit alone.

Even if your organization is not involved in the standards at hand, attending and participating in standards meetings is an excellent way to track emerging technologies. When I attended Posix meetings, I would spend a great deal of time outside the meetings talking about technology and future trends.

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The possibilities for career growth through involvement in standards are endless.

With the information I learned at each meeting, I was able to come back to my job with new perspectives on the technical problems I was facing. At times, my staff thought I had a crystal ball on the future, though I always told them I was just a lucky guesser.

Another benefit of participation in standards is achieving a more global perspective. Engineers from all over the world participate in standards-setting. Joining others in the work of forging an international consensus is an excellent way to develop a global awareness. And there may even be a chance to travel internationally.

To be frank, the cost of standards attendance is significant. Michigan State University spent about \$8,000 a year so that I could attend Posix. But the value to my career at MSU has been immeasurable. Without ever having to change jobs, I've been able to maintain career growth.

TO FIND OUT MORE

To find out more about how to get involved, start at the IEEE Web site, <http://www.standards.ieee.org>. Or explore the American National Standards Institute (<http://www.ansi.org>), the Internet Engineering Task Force (<http://www.ietf.org>), and the International Standards Organization (<http://www.iso.org>) sites.

Note that Web pages devoted to a working group are designed for use by the working group, not necessarily for the casual surfer. Poke around for the meeting announcements. If you have a question, don't hesitate to send an e-mail to the chair. Chairs are always glad to have new people attending the meetings. Some larger groups—IEEE 802 and IETF, for example—offer orientation sessions.

TIPS FOR SUCCESS

Standards meetings are not like conferences. Unless you get involved, you won't learn and you won't interact with anyone. Unless you have some role and some work to do, the meetings will become extremely boring. Here are a few tips to build your interest.

First, volunteer to take notes or minutes. The secretary role is my favorite. You don't have to fully understand what's going on, and taking minutes forces you to learn at least some of the material.

Volunteered to review material, such as draft documents. Even if you are starting out, your input is valuable to these groups. These draft documents are supposed to be written so that an engineer in the field can understand them. If you can't understand them, there is a good chance the material is not written well.

Finally, acquire some understanding in the topic area before you go to the meeting. Don't expect to be offered a tutorial. Conversations at standards meetings are narrowly defined and very deep.

Standards groups often find themselves working close to the edge of known technology. To arrive there, you need to have a strong focus. If the first group you attend is not working on something that interests you, move on.

But if you are willing to get involved, the networking, learning, and mentoring opportunities are endless. And the travel is not bad either. ♦

May 1998

88

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Standards

OSI Retrospect and Prospect

Jerry Foley, Epcos Corporation
Charles Severance, Michigan State University

How did the OSI folks view TCP/IP at the beginning?

We saw a fundamental difference in scope. To us, OSI was an international system of standards to provide complete support for cooperating, interconnected computer systems. TCP/IP was viewed as a data-communications networking system. OSI was predicated on attaining error-free performance using an international mix of underlying transmission services—including some of very low quality. TCP/IP was perceived to be based on the higher quality US transmission capabilities. Most important, TCP/IP was viewed as a US Defense Department system that would therefore not be acceptable in international work.

Why did OSI gain such strong support?

The then-new information systems networking technology was being developed as proprietary systems and so was not interoperable. Confidentially, there was a demand for standards to facilitate cooperating processes independent of platforms. Large users and computer manufacturers supported the demand with resources. Initially, it was the US, the UK, and European countries that supplied enough highly qualified technical people to give OSI momentum. Participation then snowballed because no company or country that wanted a major role in information processing could stay away.

What were the barriers to acceptance?

OSI penetrated too deeply in too many vendors' proprietary interests. This kept the vendors from giving their full support to OSI in the area of delivering OSI to customers on their systems.

While many people think that OSI was too late, this is overemphasized as a barrier. In 1984, full OSI implementations were networked in a demonstration by the multivendor MAP consortium. At that time, the Internet had not yet become the de facto worldwide network.

However, this does not mean that the ANSI and ISO administrative structures were particularly quick, either. These groups were organized to produce blue-ribbon standards. Their operating procedures required multiple approval cycles, and most committee communications and balloting had to be done by reg-



Enough time passed to talk openly about the myths and reality regarding the ISO OSI networking efforts and how they relate to TCP/IP.

and we continued the work in our home offices and labs. The first ISO OSI meeting brought about 40 people to Washington, D.C.; we all fit in one room. Later, meetings were held concurrently in Vienna, Paris, and London to accommodate all the delegates. Representatives of 17 countries eventually made up ISO. Delegates came from industry, government agencies, universities, and consultants under contract to governments. One or more ISO OSI technical groups would be meeting somewhere in the world on more than 40 out of the 52 weeks of the year, frequently with overlapping meetings.

Were OSI committee members aware of ARPANet, SNA, DECNet, and others?

Yes, many US OSI people were also developers of these systems, users, or had continuing liaisons with the respective organizations. They ensured the OSI groups' awareness of these other network technologies.

September 1997

123

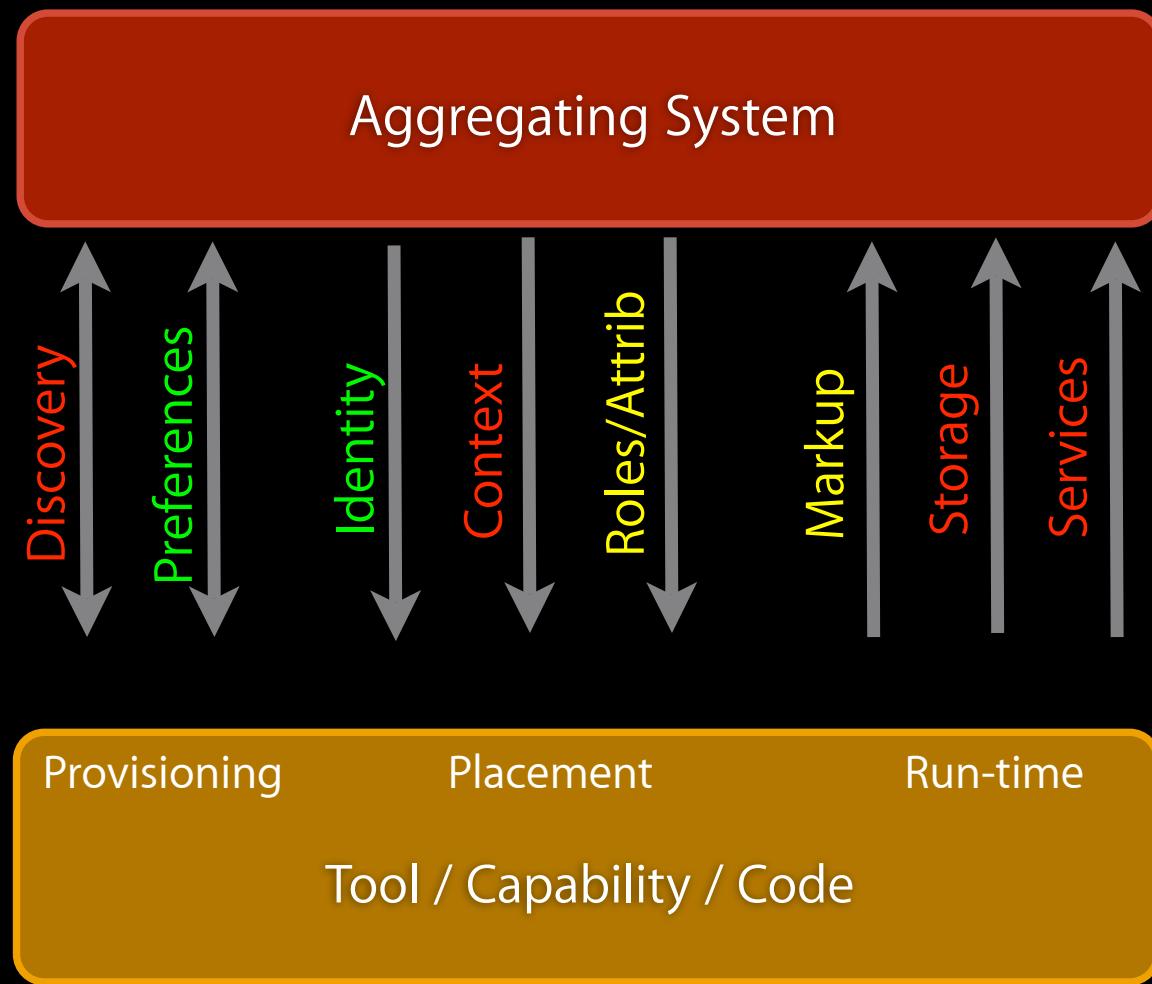
Two standards...

- IMS Common Cartridge - Data Mashup
 - Many data formats
- IMS Tool Interoperability - Functionality Mashup
 - Provisioning and run-time for tools
 - Much more work is needed on both

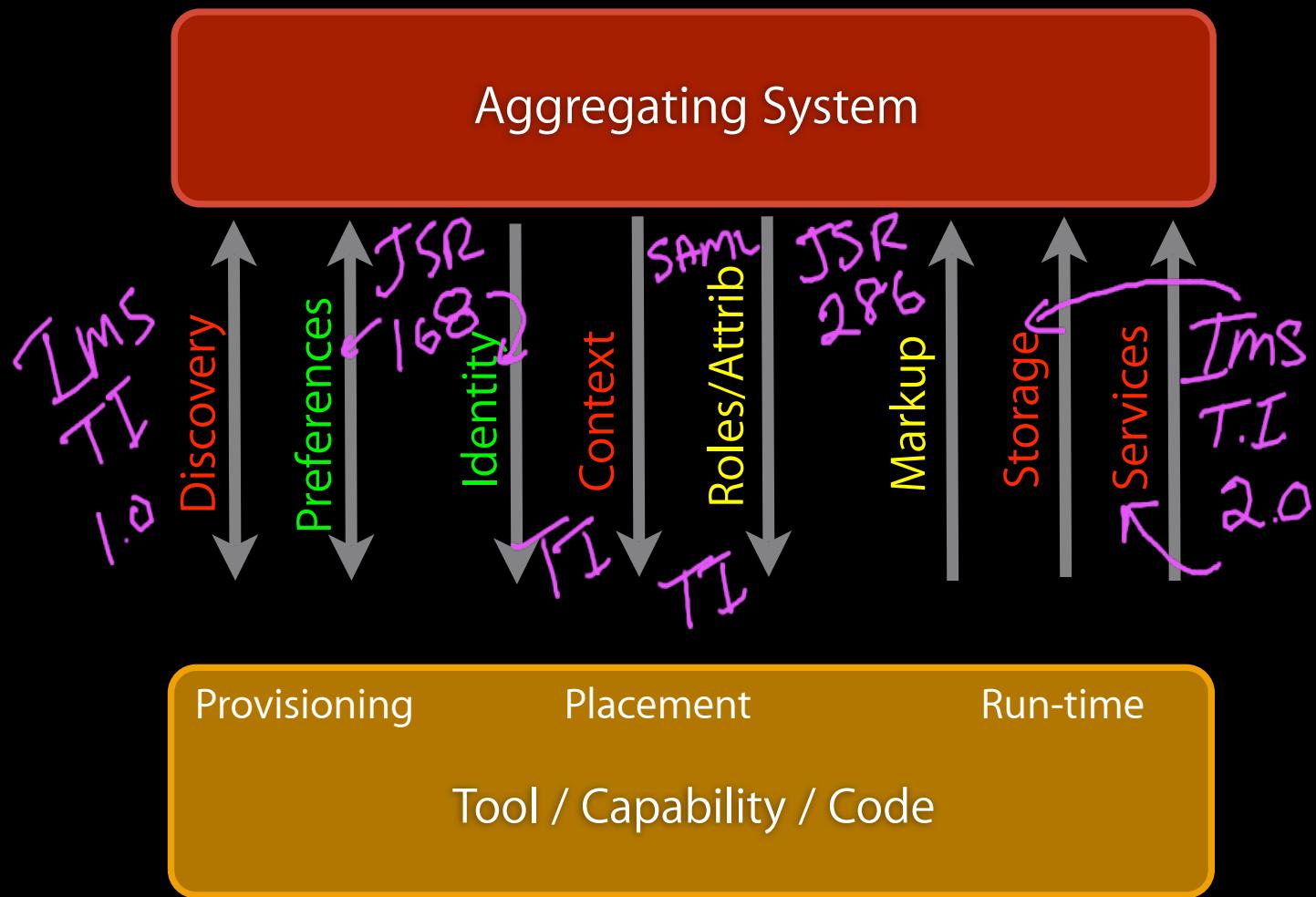
Standards lesson

- If a standard is not suitable for the task at hand - fix it - don't ignore it
- I learn this the hard way over and over

Functionality Mashup Technical Needs

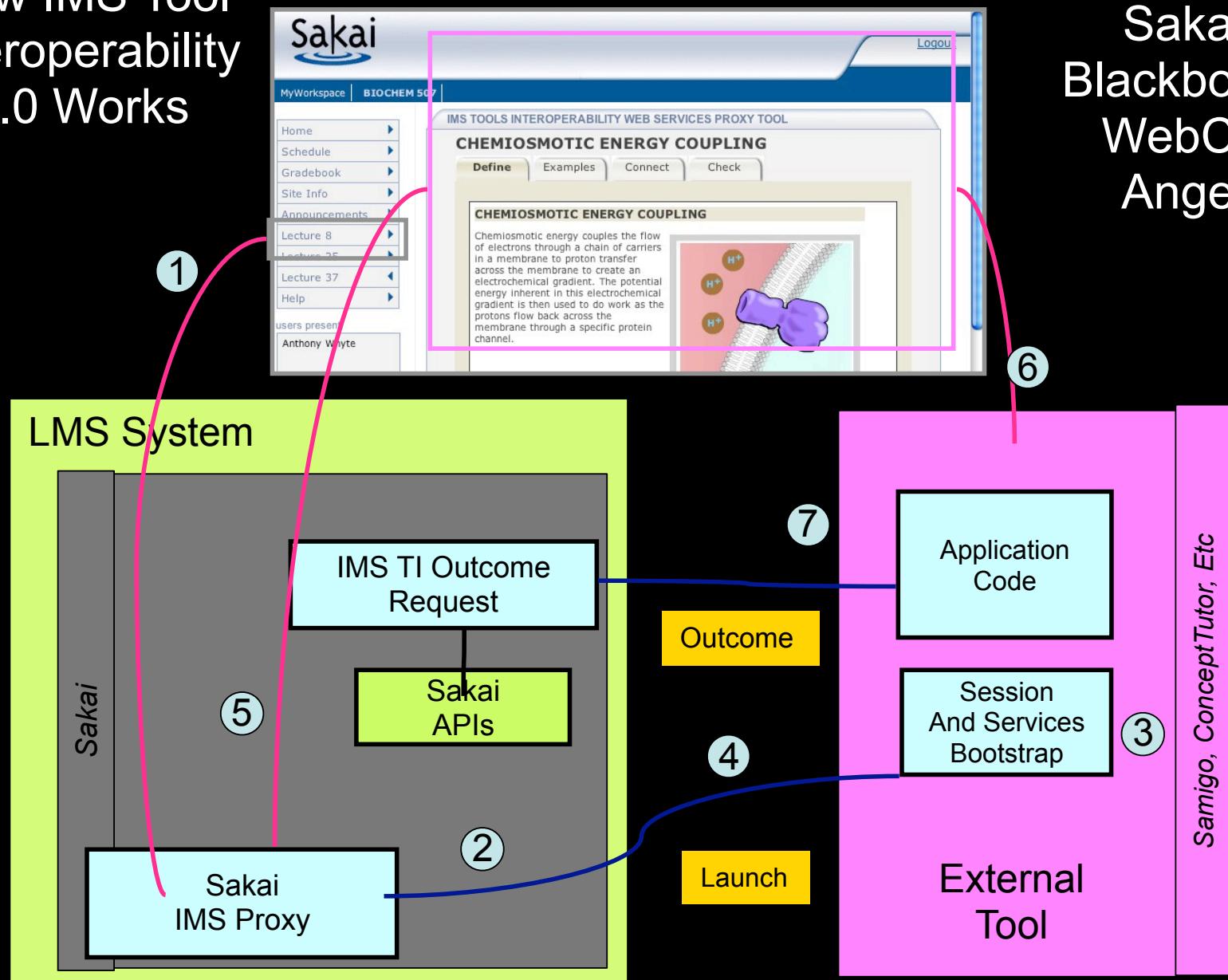


Functionality Mashup Technical Needs



How IMS Tool Interoperability 1.0 Works

Sakai
Blackboard
WebCT
Angel



Pluto Portal

http://localhost:8090/pluto/portal//IMS%20Tool%20Interoperability/_pm0x3in Google

Sakai Collab Source Bugs Confluence Pluto S:8080 PDA uP3 Desiderata GVideo IMSTI DNS Devbox Gmail Band

APACHE PLUTO

Navigation:

IMS Tool Interoperability (JSR-168)

Add Merge Fields Permissions

Calendar by Week

View Calendar by Week

Apr 15, 2007

< Previous Week

Printable Version

Earlier

Sun 15	Mon 16	Tue 17	Wed 18	Thu 19	Fri 20
8 AM					
9 AM					
10 AM					
11 AM					
12 PM					
1 PM					
2 PM					

Logout

http://localhost:8080/portal/pda/b3ab...69-ed4a-4fbf-00be-b2caeb596370/target

Sakai Collab Source Bugs Confluence Pluto up3 S:8080 PDA uP3 Desiderata

Sites > IMS TI Testing > IMSTI (?)

Tool List

Log Out

OXIDATIVE PHOSPHORYLATION

Define Examples Connect Check

OXIDATIVE PHOSPHORYLATION

The enzymatic phosphorylation of ADP to ATP coupled to electron transfer from a substrate to molecular oxygen. Oxidative phosphorylation has the following attributes:

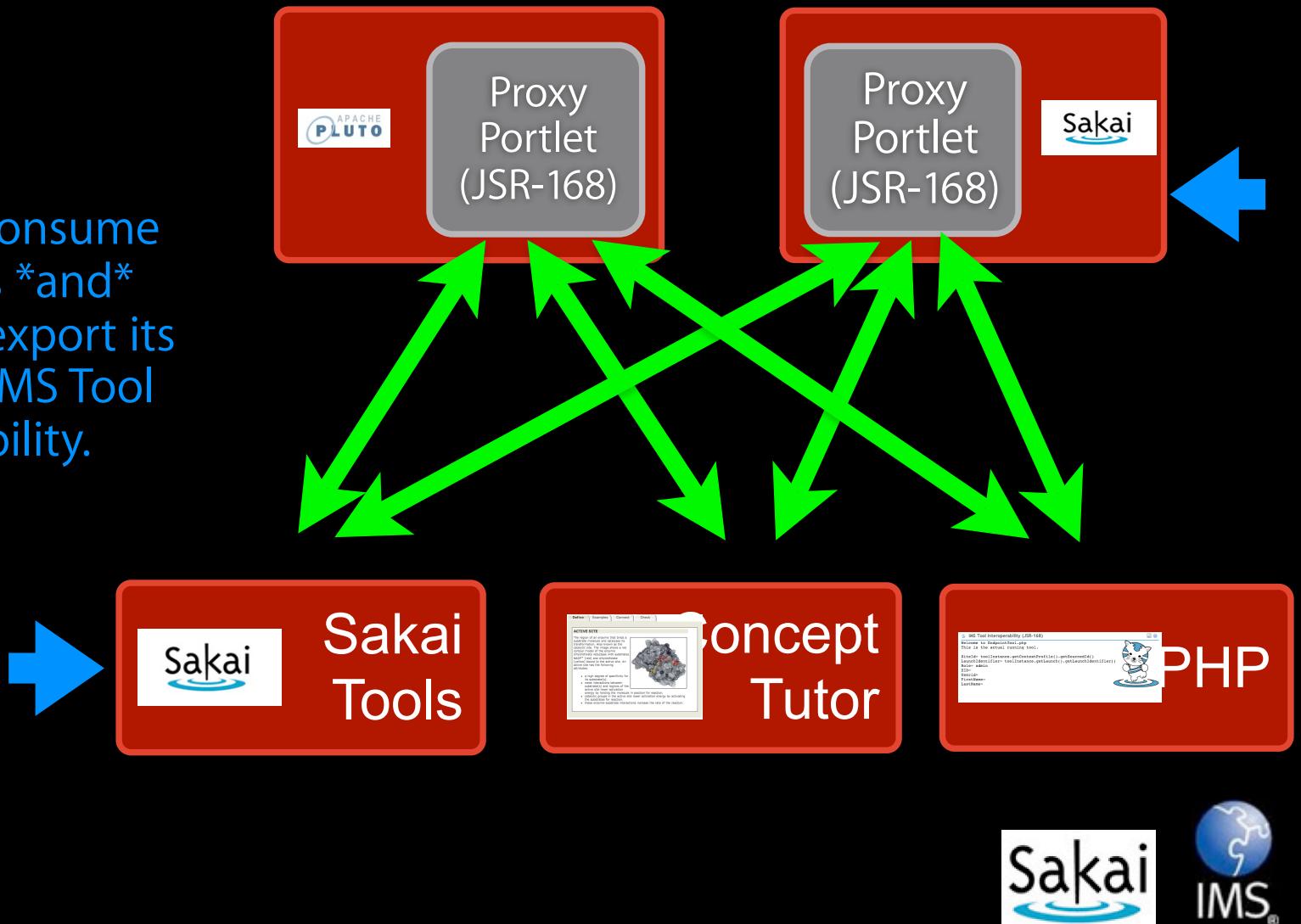
mitochondrial oxidative phosphorylation

- occurs in the mitochondrion (and some other compartments)
- electrons are passed down the electron-transfer chain
- redox reactions of the electron-transfer chain move protons to the intermembrane space
- phosphorylation of ADP is coupled to re-entry of protons into the matrix through the enzyme ATP synthase

Close Window



Sakai can consume
IMS TI tools *and*
produce / export its
tools over IMS Tool
Interoperability.



A Sakai calendar can be shown in a portal using this approach.

Pluto Portal

http://localhost:8090/pluto/portal//IMS%20Tool%20Interoperability/_pm0x3in Google

Sakai Collab Source Bugs Confluence Pluto S:8080 PDA uP3 Desiderata GVideo IMSTI DNS Devbox Gmail Band

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Sakai Collab Source Bugs Confluence Pluto up3 S:8080 PDA uP3 Desiderata

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Close Window



IMS TI - 2.5 Years After Sheffield 2005

- Still demoware
- Chicken-and-egg problem
 - With no consumers - there is no motivation to build producers
 - With no producers there is no reason to deliver consumers
 - No purchasers require the spec
- No Shipping product in any LMS - not even Sakai
- IMS TI 1.0 uses SOAP - Pretty much Java Only
- Sakai community uses Sakai-Only LinkTool because it is simple, easy, and REST and a good PHP example comes with it

Looking Forward IMS Tool Interoperability

- IMS Tool Interoperability 1.0 Extensions based on use
 - REST and SOAP-Lite Bindings
 - Security Function and Configuration Extensions
 - Outcome Request schema - IMS TI 1.1
- IMS Learning Tool Interoperability 2.0
 - Builds on IMS TI 1.0
 - Improves the integration into LMS systems
 - Defines extension points within LMS systems such as “Add New Resource”
 - Modeled on Blackboard Building Blocks
 - Led by: Bruno van Haetsdale of Wimba and Chris Moffat of Microsoft



Site Maker / Sakai
Giving IMS TI a go..

About SiteMaker

- A simple user configured site builder
- Data Tables - User defined Schema - kind of a database backed flexible spreadsheet with simple AuthZ
- Very popular amongst its devotees
- Built at University of Michigan
Jonathan Maybaum



SiteMaker Detail

- Open Source - Written in Apple WOA
- Maintained by Global Village - leading WOA experts - provide hosting and service

UM.SiteMaker

- From 2004-2007 SiteMaker and Sakai competed for attention and funds at UM
- UM.SiteMaker used in Sakai using SSO integration and CSS sharing
- Powers-that-be said to bring the products together - work jointly

SiteMaker

- I did not want to rewrite WOA code in Sakai - five years of development
- I want SiteMaker to work in places like Bb and Moodle - not just Sakai
- I chose to use IMSTI
- Integration mimics YouTube - “paste in this link”

sitemaker.umich.edu Configure a Different Site Return to Main Page Logout

You are logged in as user: maybaum.
This site is owned by: maybaum, and associated with unit: > SiteMaker Administration.
Configuring site with SiteID: sakai.conf.demo, site URL is: <http://sitemaker.umich.edu/sakai.conf.demo>.

Configure Remote Participation

Enable Remote Participation:

Remote Participation Password :

Select style:

Use this URL in Remote System:

Cancer Stem Cells

Customize SiteMaker Integration

Tool Title

SiteMaker URL

SiteMaker Password

ctools.umich.edu

My Workspace | sakai.conf.demo | DENT 645 001 F06 | ACSF | AT Commons |

[Home](#) [View All Articles](#) [Add/Edit My Articles](#)

Navigate Database Table: "Articles"
Current record is #1 out of 1 in found set (1 total records in table)
[List View](#) [Search](#) [Find All](#) [<<First](#) [<Prev](#) [Next>](#) [Last>>](#)

Title	Identification of Pancreatic Cancer Stem Cells
File	Filename: cancer_res-67p1030-37_2007_.pdf (MIME Type: application/pdf; Size: 564.0 Kb)
Comments	Supports the concept...
Date Modified	15 Nov 2007 10:38 AM
Created By	maybaum

University Campus Under Construction



Campus Project

- Service Oriented Architecture
- A new way to build portable tools
- Deployable in Sakai *or* Moodle
- OKI as Middleware
- Includes cross-deployment and configurations
- Proxy Tool Pattern
- Strong funding by Catalan Government
- www.campusproject.org



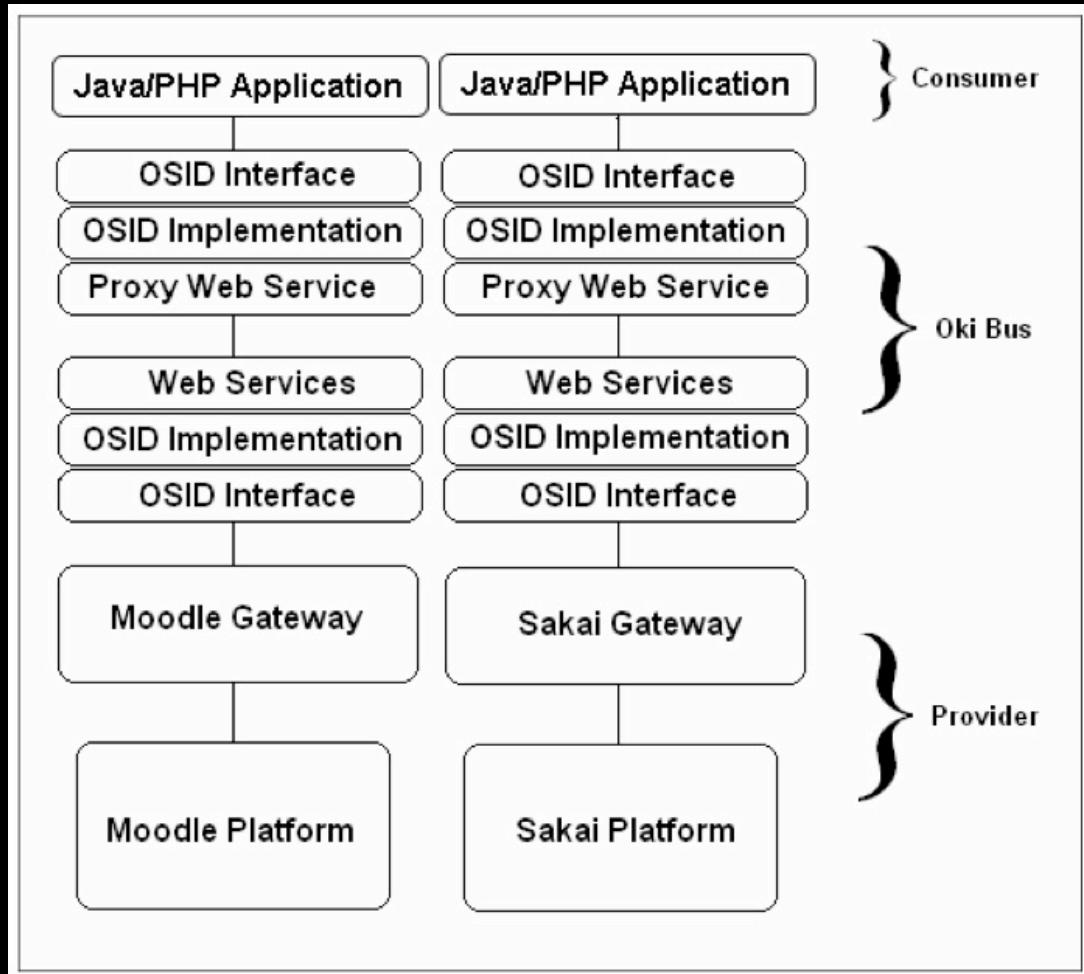
Initial Campus OKI OSIDs for New Tools

- Authentication
- Authorization
- Configuration
- Locale
- Logging
- Identifier
- Messaging

This set is a good choice because it keeps the project scope feasible. And these OSIDs are used by nearly every learning application ever built.



Campus Architecture



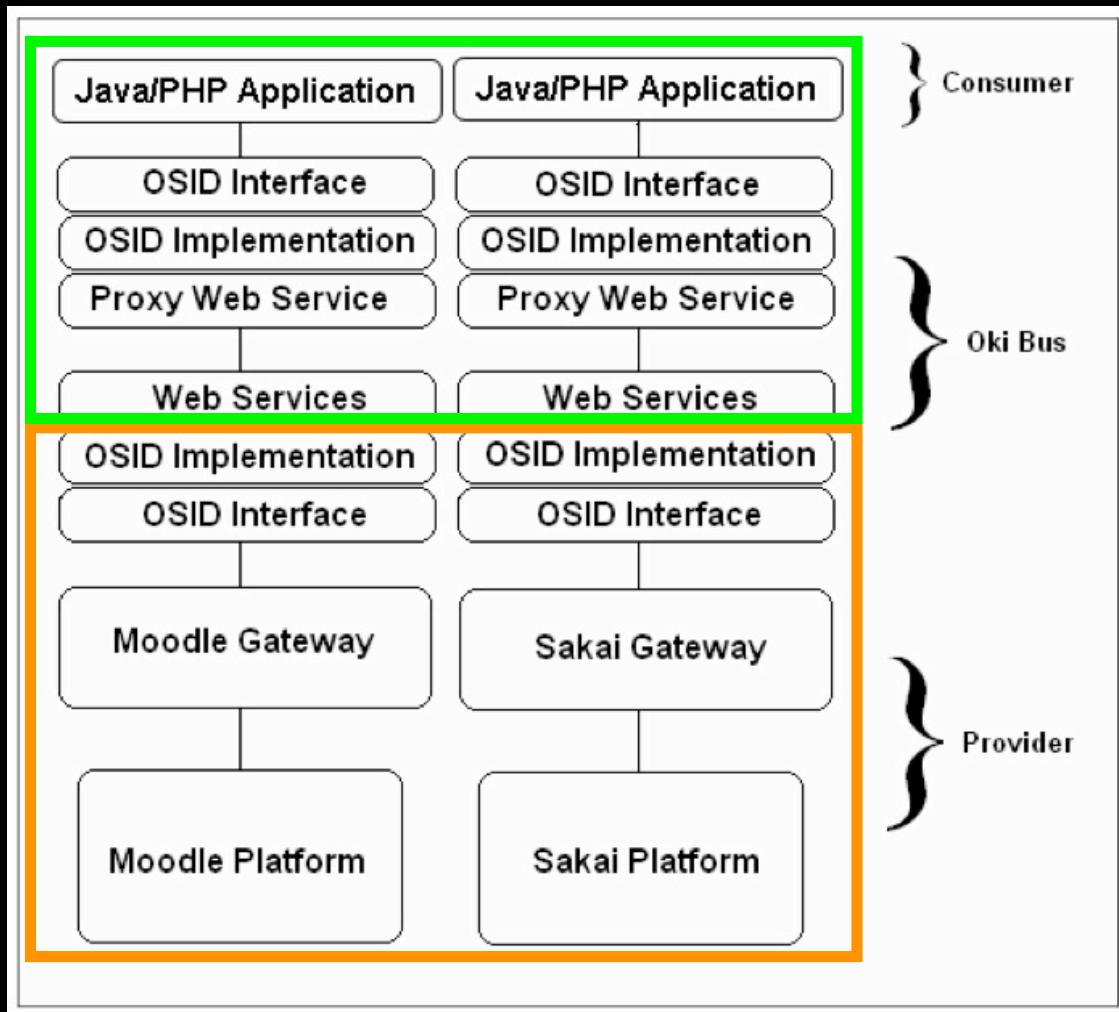
moodle

Sakai



Important Details

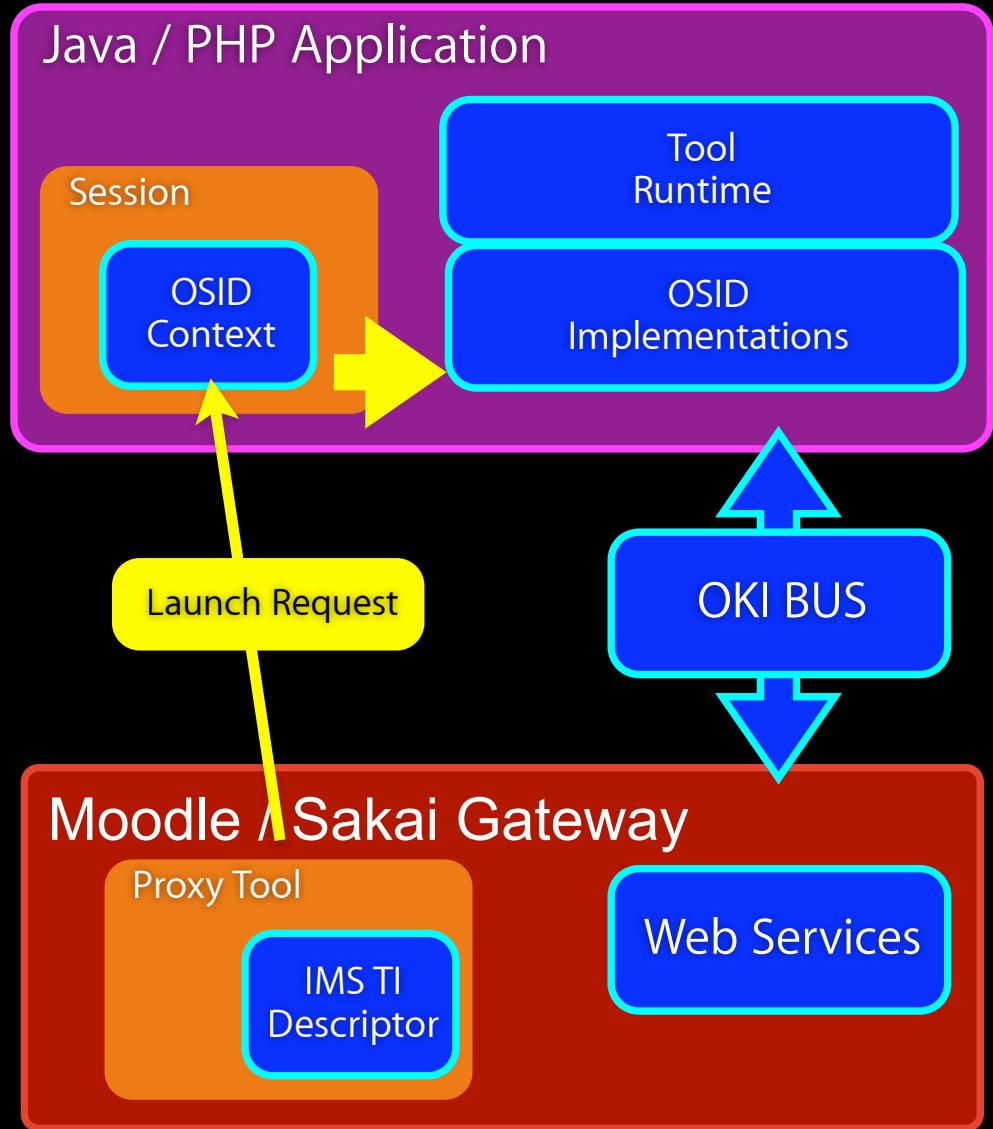
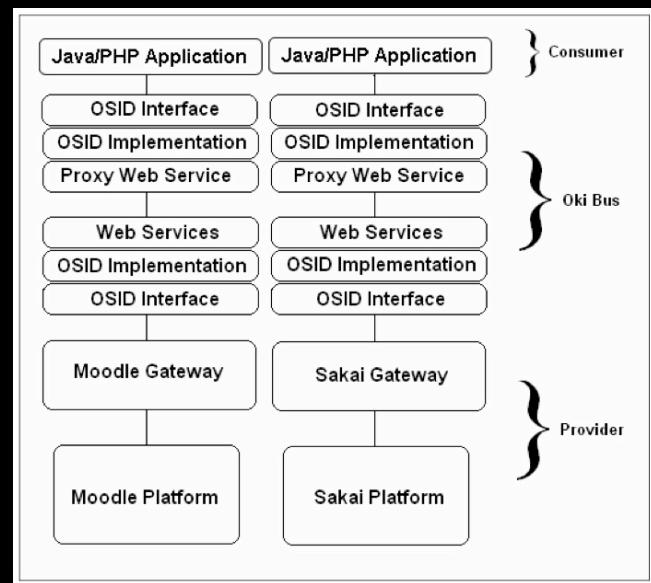
How are tools provisioned?



The model for the new tool is solid. Much work is yet to be done.

Why not simply have each LMS implement the “on-the-wire” web services directly?

Adding IMS Tool Interoperability to Campus



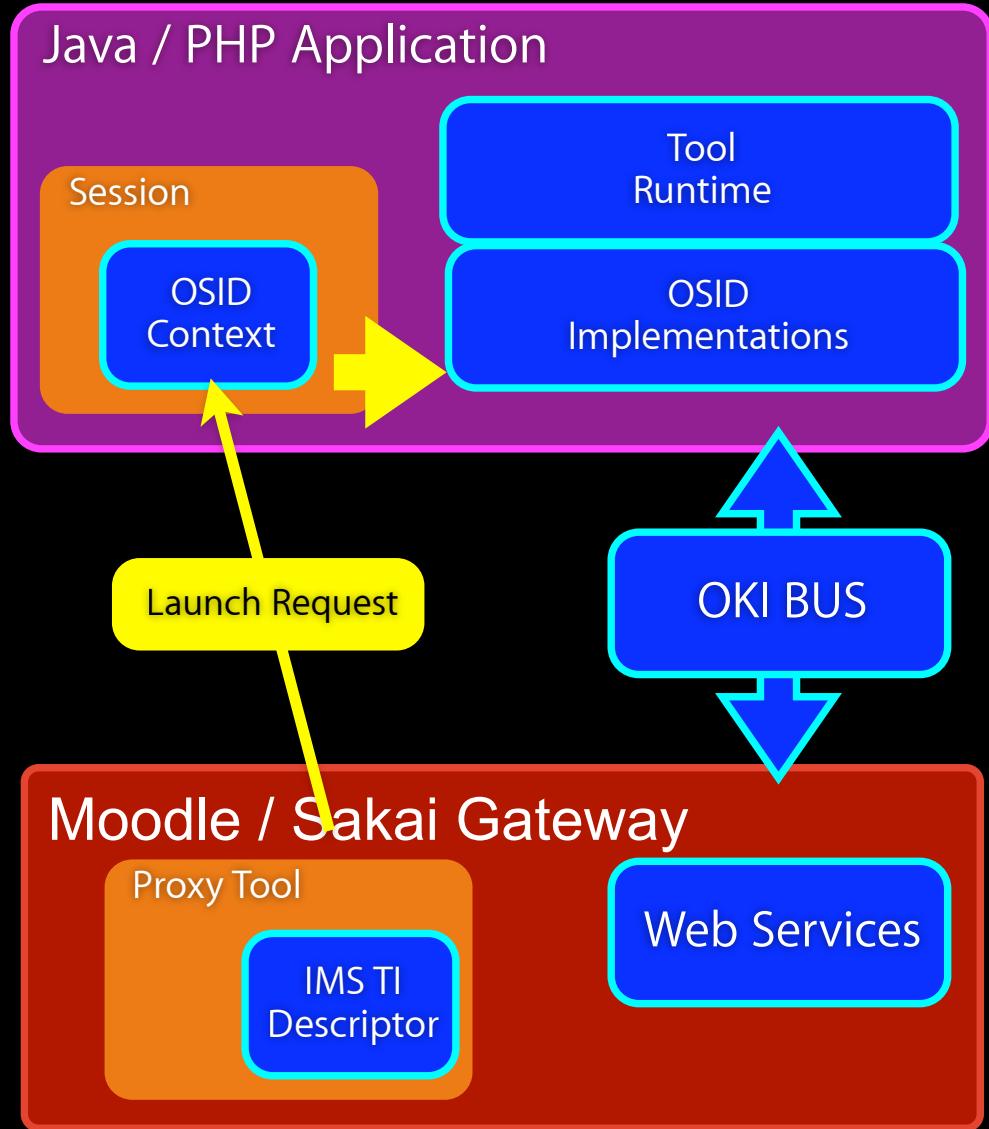
Provisioning

Run-Tme

Adding IMS Tool Interoperability to Campus

The primary value in using IMS Tool Interoperability as part of the Campus Architecture is to provide a standards-based protocol to exchange configuration information between the LMS and the Tool and establish the OSID Context.

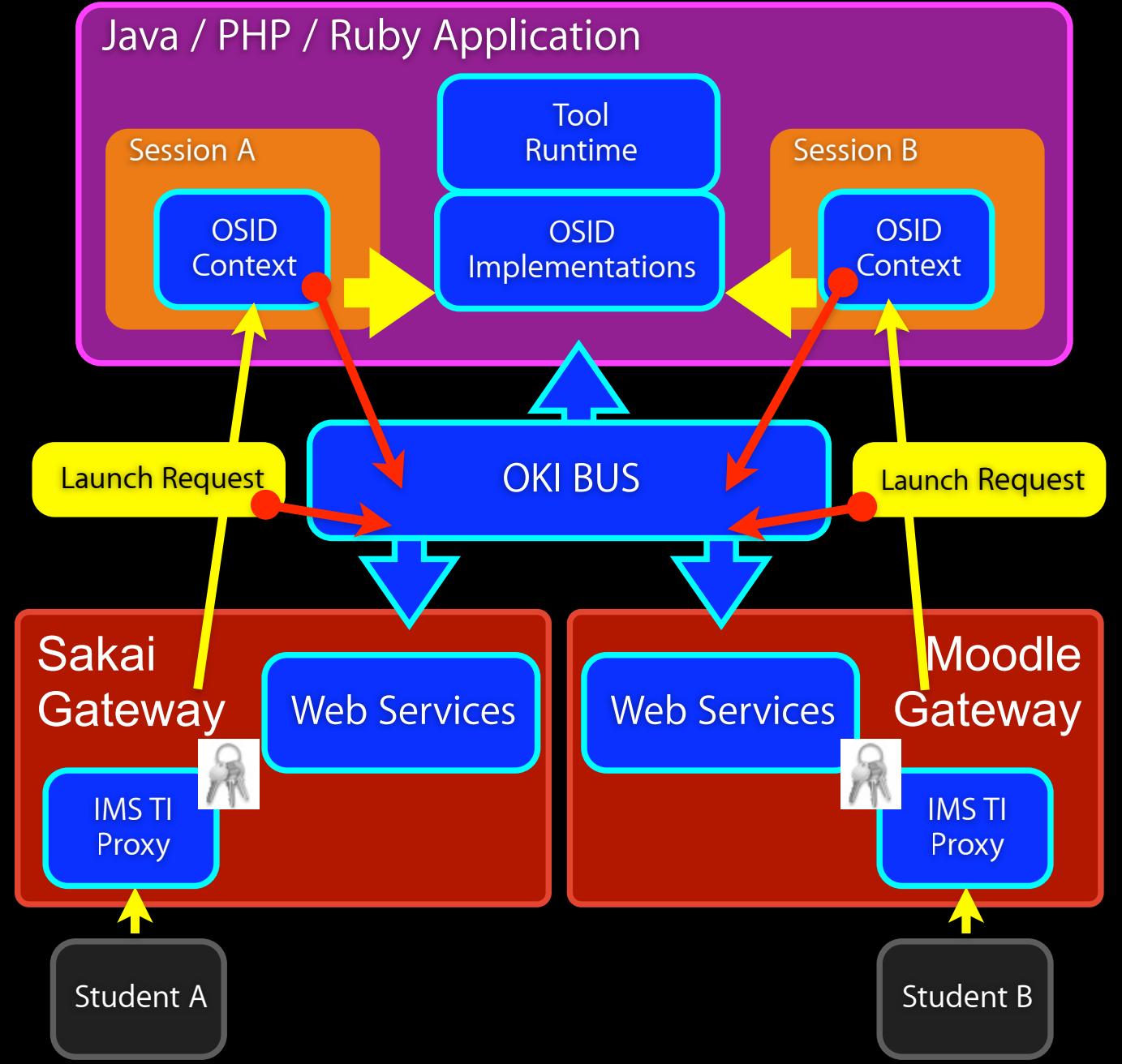
For Campus, this OSID context can also contain information which properly configures the OKI bus so that applications can access other OKI services in the LMS.



Sharing Tool Context

We can support multiple LMS systems and tools that federate identity by including an appropriate bus end point in each launch request.

Trust is granted when two LMS placements share the IMS TI Descriptor.



Next Week - Spain

- I have been talking all along
- I have a feeling that I mis-understand aspects of the UOC model
- Some of the early sample code was weak
- Next week I hope to talk in more detail with the UOC team

Toozday - Personal Learning Environment

My personal playground to
easily explore the un-explored
use cases of the past three
years...

Personal Learning and Reflection Environment

<http://localhost:3000/portal> Inquisitor

News (141) ▾ HCI ▾ Design (2) ▾ Web Dev ▾ iPhone ▾ UM (1) ▾ Banking ▾ BAO ▾ WordPress > Login Wikipedia Gmail eBay PayPal Amazon

Personal Learning and Refl...

Toozday Personal Learning Environment (11.0)

You are logged in as aatorres (logout)

Learn Stuff..

Refresh (2 Sites) My Profile Sites 501 Group Site SI539 Ruby Site

New Site

Title	Description	SiteType	User_Id	Created_at
501 Group Site	A place to meet...	1	Tue Nov 27 22:00:47 - 0500 2007	View Delete
SI539 Ruby Site	A place to store our stuff...	1	Sat Dec 01 12:24:31 - 0500 2007	View Delete

The portal shows two tools at a time using Ajax and they operate independently. Site tools work within the context of that site.

Personal Learning and Reflection Environment

<http://localhost:3000/portal/index/2> Inquisitor

News (141) ▾ HCI ▾ Design (2) ▾ Web Dev ▾ iPhone ▾ UM (1) ▾ Banking ▾ BAO ▾ WordPress > Login Wikipedia Gmail eBay PayPal Amazon

Personal Learning and Refl...

Toozday Personal Learning Environment (11.0)

You are logged in as aatorres (logout)

Learn Stuff..

All Sites My Profile Current Site: SI539 Ruby Site Wiki Comments

The wiki page named [Main] in site SI539 Ruby Site does not exist. Wiki links are words surrounded by square brackets like [SubPage].

Recent Comments

- Comment number 3
By aatorres | 1 Dec 2007 12:26PM | [view](#)
- Comment number 2
By aatorres | 1 Dec 2007 12:25PM | [view](#)
- Comment number 1
By aatorres | 1 Dec 2007 12:25PM | [view](#)

Add your comment.

[Add Comment](#) | [Cancel](#)

Note: You should press "Save" or "Cancel" before navigating away from this screen.

Toozday

- Written in Ruby / Rails
- Running example in my complex Web Sites course
 - CSS
 - Ajax
 - Service-Oriented-Architecture (Ruby OSIDs)
 - Data Modeling

Toozday Goals

- IMS Tool Interoperability throughout
- Not to be an Enterprise LMS
- Personal content and collaboration system
- The place individuals produce and consume stuff
- Reference Implementations for IMS Specifications

Sakai Based Service : Toozday : Toozday Wiki

http://localhost:8080/portal/site/53c8d0ca-5327-4277-83d2-0

Tooz 13k CT Dr Mail GMail Blogin 18k

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Toozday Wiki

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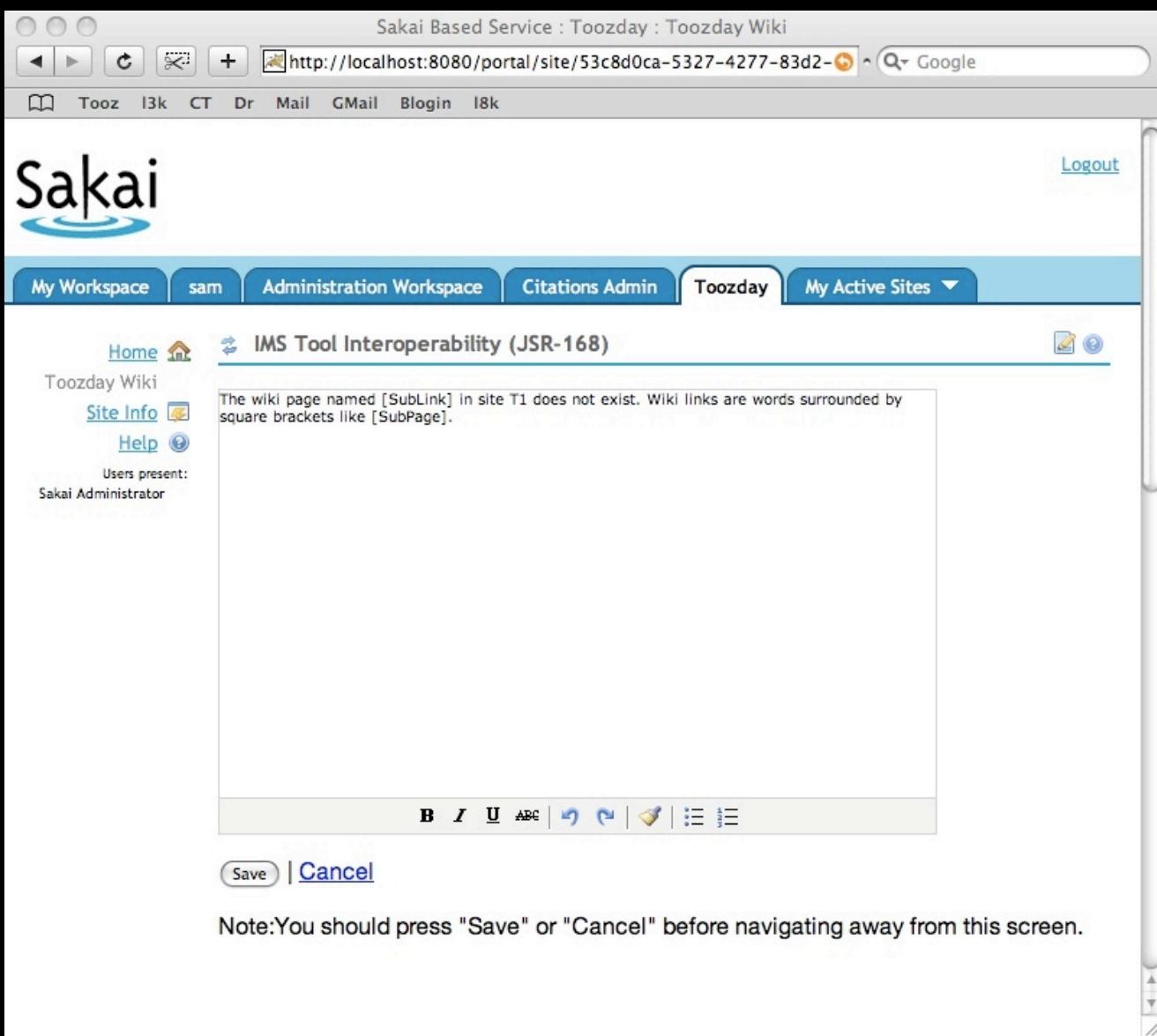
Users present:
Sakai Administrator

[IMS Tool Interoperability \(JSR-168\)](#)

The wiki page named [SubLink] in site T1 does not exist. Wiki links are words surrounded by square brackets like [SubPage].

| [Cancel](#)

Note: You should press "Save" or "Cancel" before navigating away from this screen.



Need to Explore Provisioning...

Toozday Technical Goals

- Understand provisioning for Functionality Mashup
- Showcase for IMS TI
- Content centric - JSR-170 in Ruby
- Build Ruby OSIDs
- “Peer-to-Peer” - synchronization model
- Works off line - on workstation

Toozday Use Cases

- Life Long Teaching and Learning
- Personalize Teaching and Learning
- Portfolio - Artifact-oriented - long term
- Open Educational Resources
- Organic / adhoc learning
- Produce / Consume / Annotate learning artifacts

Toozday Realities

- This is way too hard - Rails makes it easier
- Will need a few “throw away versions”
- Resources - Chuck spare time plus a few graduate students
- It is a continuous research experiment

What I would like to see
and/or help make happen...

Sakai

- Needs to move to Core plus modules
 - High quality core - usability, performance, etc.
 - Easy to pull down and assemble modules
- Needs to become content-centered
- Core needs to be platform for innovation

OU UK

- Get involved in IMS Tool Interoperability
- Research and build the Moodle TI Producer
- Get involved in Sakai - focus on JSR-170 and make sure the OU 170 and Sakai 170 are well aligned going forward - share experience - coordinate efforts

OUC

- Work on building a new way of building fresh tools in Java
- Work on OKI OSIDs in Java - get suitable out of band agreements in place
- Figure out the on-the-wire web services
- Adopt IMS Tool Interoperability for Provisioning OKI OSIDs for the new tools

My tentative plans...

January 08

- Sakai Tool Interoperability in trunk
 - Maximized tool view - frameset
 - IMS Tool Interoperability Portlet will use new frameset mode - advantage over linktool
- Customers
 - SiteMaker
 - McGraw-Hill

The screenshot shows a web browser window with the URL ctools.umich.edu in the address bar. The page title is "My Workspace | sakai.conf.demo | DENT 645 001 F06 | ACSF | AT Commons | - more sites -". Below the title, there are navigation links: Home, View All Articles, and Add/Edit My Articles. A message indicates "Navigate Database Table: 'Articles'" and "Current record is #1 out of 1 in found set (1 total records in table)". There are links for List View, Search, and Find All, along with pagination controls: <<First <Prev Next> Last>>. The main content area displays a table with the following data:

Title	Identification of Pancreatic Cancer Stem Cells
File	Filename: cancer_res-67p1030-37_2007_.pdf (MIME Type: application/pdf; Size: 564.0 Kb)
Comments	Supports the concept...
Date Modified	15 Nov 2007 10:38 AM
Created By	maybaum

January 08 (hope)

- IMSTI Portlet in Production at Michigan - used in my course to access bits of Toozday
- Toozday - IMSTI Producer and Consumer

Winter Semester 08

- Teaching Python - www.si182.com
- Teaching Ruby on Rails - www.si543.com
- Approach: Open Courseware Live!

Teaching Approach

- Build in Open Course Ware from the beginning - three sites
 - Course Site - SI539 - Winter 2008
 - Project Site - SI539
 - Open Course Site - www.si539.com - www.rubylearn.com - move toward Toozday

CTools : SI 539 : RubyLearn.com

https://ctools.umich.edu/portal/site/0ae836b9-7

Logout

My Workspace | SI 539 | SI 539 002 W08 | SI 539 002 F07 | SI 182 | - more sites -

RubyLearn.com ?

Options

Welcome to Teaching Programming with Ruby and Rails

This is a very much under construction web site being initially built by [Dr. Charles Severance](#) to collect resources to help in teaching Ruby and Rails to beginning programming students.

The first course I am developing is **SI539 - Design of Complex Web Sites** being taught Fall 2007 at the University of Michigan. I am using this site to make my materials publically available under the Creative Commons Attribution 2.5.

Textbook

I have adopted and recommend that you adopt the book [Building](#)



Home
Announcements
Resources
Email Archive
RubyLearn.com
Site Info
Help

Charles Severance

www.rubylearn.com
Personal Learning
Environment

SI539
Community

SI539
Winter
2008

SI539
Fall 2007

May 08

- SiteMaker's next release supports IMS TI Producer - Sakai Integration complete
- IMS Tool Interoperability Consumers
 - Blackboard
 - Microsoft Share Point
 - Moodle
- Merge linktool, iframe tool, and IMS TI tool

Summer 2008

- I have an open schedule from April 15 - September 6
- Will play with Toozday
- May raise some funds to invest in TI

Summary

- A lot of fragmentary ideas here
- Core concept - Functionality mashup and tool interoperability is a chicken-and-egg problem
- I now have time to come at it from a lot of directions to see which will prove fruitful
- These are conversation starters...