Next Generation Learning Infrastructure
Sakai and Mac OS X Server

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http://www.sakaiproject.org/
http://www.dr-chuck.com/

What is Sakai?

- A project—an initial grant for two years

- A non-profit member supported foundation to sustain the Sakai community—an emerging group of people and resources supporting the code and each other, realizing large scale Open Source efficiencies
in Higher Ed

- A product with:

  - A released bundle of the framework and

  - A set of tools—written and supported by various groups and individuals—which have been tested and released as a unit

- An extensible framework for building collaborative teaching and research tools and services

The Sakai Project

Funding and initial institutional partners

The Sakai Project

The University of Michigan, Indiana University, MIT, Stanford, the uPortal Consortium, and the Open Knowledge Initiative (OKI) are joining forces to integrate and synchronize their considerable educational software into a pre-integrated collection of open source tools.
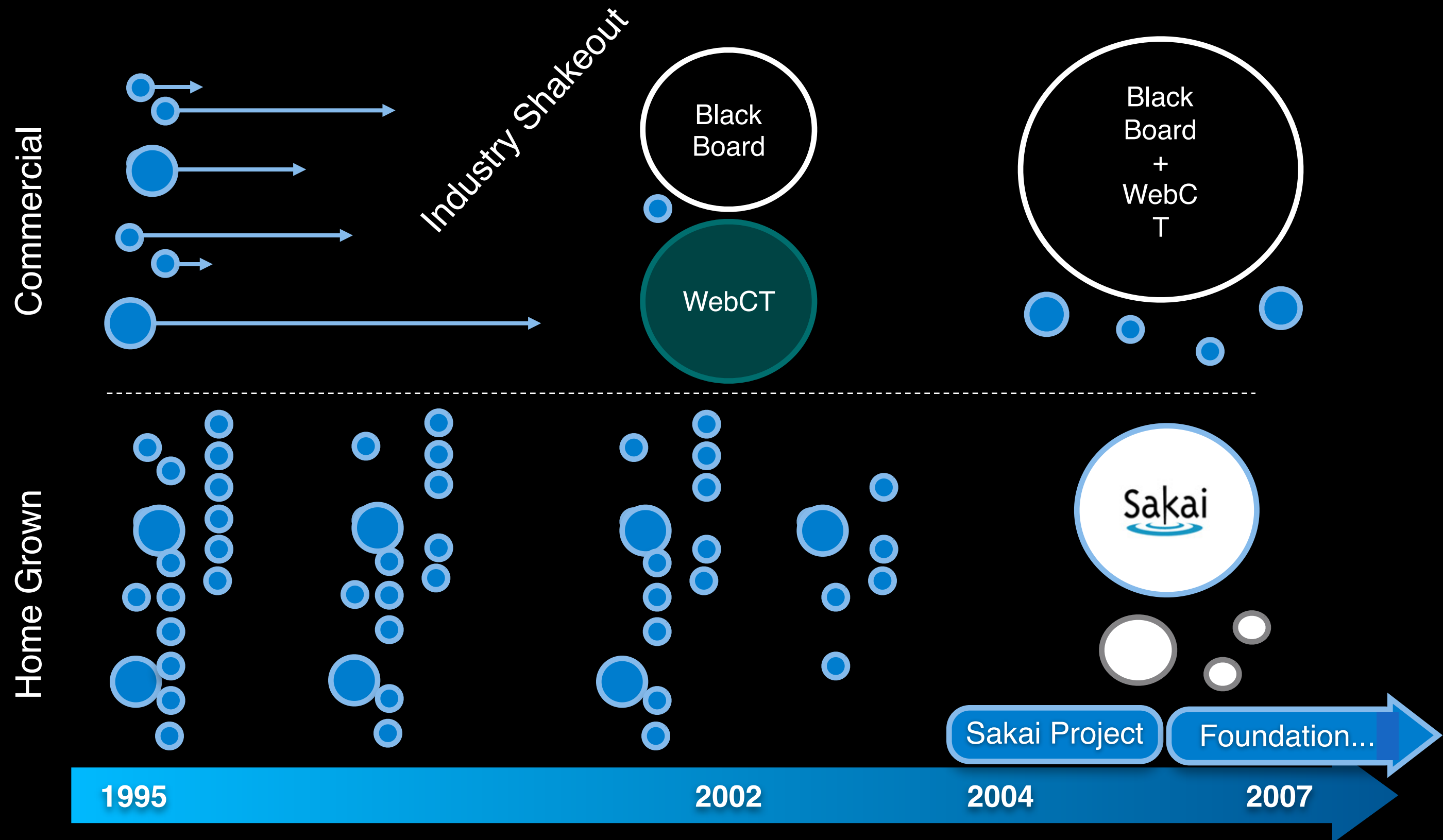
Sakai Project receives $2.4 million grant from Mellon

The Sakai Project

- Each of the 4 Core Universities Commits
  - 5+ developers/architects, etc. under Sakai Board project direction for 2 years
  - Public commitment to implement Sakai
  - Open/Open licensing—"Community Source"
- Overall project levels
  - $4.4M in institutional staff (27 FTE)
  - $2.4M Mellon, $300K Hewlett
  - Additional investment through partners
- The "Sakai Project" transforms into the Sakai Foundation January 2006

Consolidation

Commercial

Industry Shakeout

Black Board

WebCT

Black Board + WebCT

Home Grown

Sakai

Sakai Project

Foundation...

1995   2002   2004   2007

The Sakai Community

Close coordination for two years to quickly build the critical mass for open source enterprise Collaborative Learning Environment

Sakai Foundation

- Formed as a non-profit corporation to support, sustain, and promote Sakai.

- Initial foundation board is the Sakai project board with open nominations and election for three retiring Sakai board members.

- Annual budget of $1M from member contributions
  - Expect to have 4-6 staff positions funded by the Foundation
  - Two conferences per year at 100K each

- Membership fee is $10,000 per year for educational institutions, non-profits, or commercial partners.
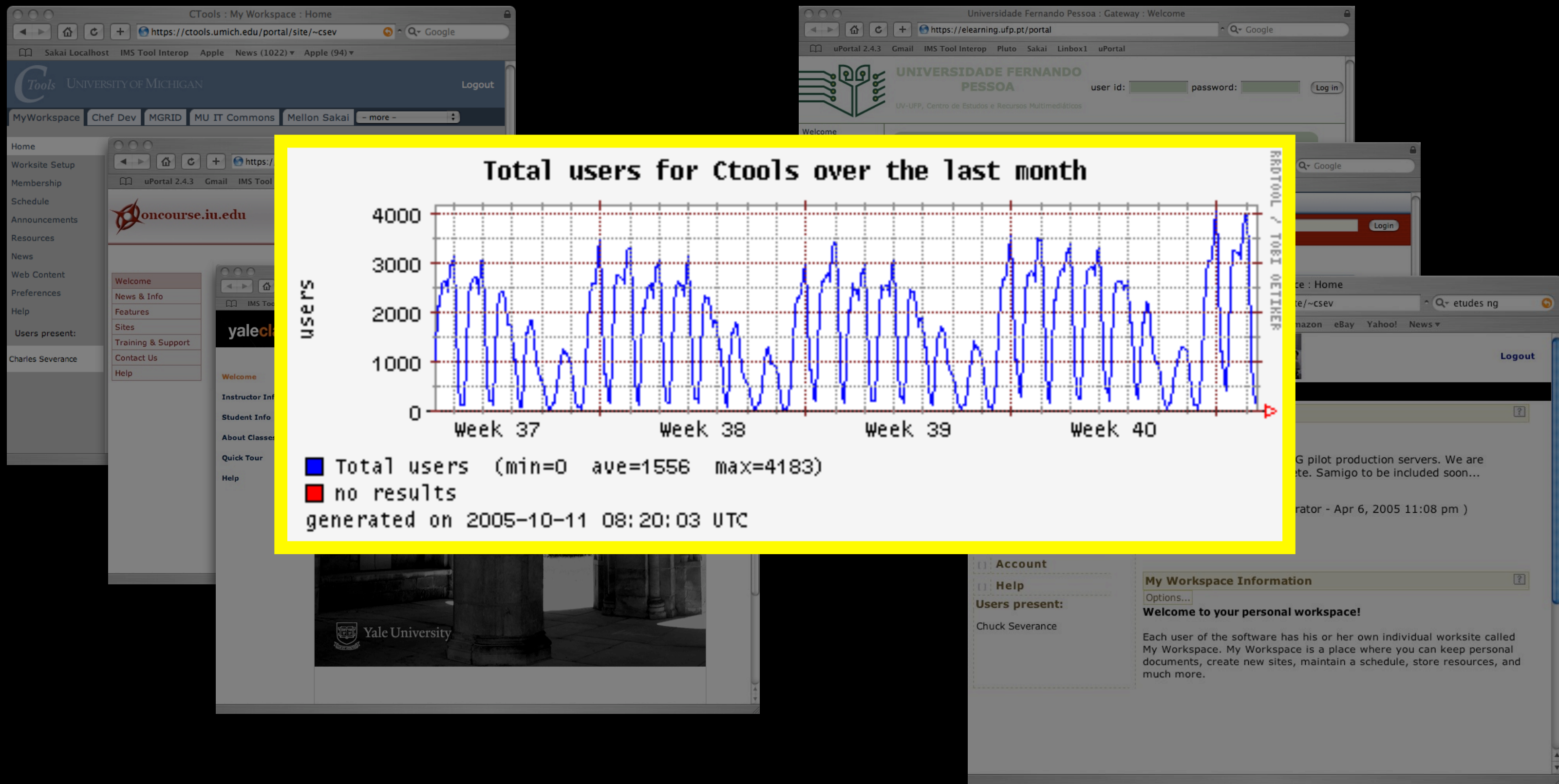
Upcoming Sakai Conference
December 7-9
Austin Texas
http://sakaiproject.org/austin

Sakai Members

Albany Medical College	Monash University	University of California, Los Angeles
Arizona State University	Nagoya University	University of California, Merced
Australian National University	New York University	University of California, Santa Barbara
Boston University School of Management	Northeastern University	University of Cambridge, CARET
Brown University	North-West University (SA)	University of Cape Town, SA
Carleton College	Northwestern University	University of Colorado at Boulder
Carnegie Foundation for Advancement of Teaching	Ohio State University	University of Delaware
Carnegie Mellon University	Portland State University	University of Hawaii
Ceritos Community College	Princeton University	University of Hull
Coast Community College	Rice University	University of Illinois at Urbana-Champaign
Columbia University		
Cornell University		
Dartmouth College		
Florida Community College at Jacksonville	Simon Fraser University	University of Missouri
Foothill-De Anza Community College	Stanford University	University of Nebraska
Franklin University	State University of New York	University of North Texas
Georgetown University	Stockholm University	University of Oklahoma
Harvard University	SURF/University of Amsterdam	University of South Africa (UNISA)
Hosei University IT Research Center	Syracuse University	University of Texas at Austin
Indiana University	Texas State University - San Marcos	University of Toronto, Knowledge Media Design Institute
Johns Hopkins University	Tufts University	University of Virginia
Lancaster University	Universidad Politecnica de Valencia (Spain)	University of Washington
Loyola University, Chicago	Universitat de Lleida (Spain)	University of Wisconsin, Madison
Lubeck University of Applied Sciences	University College Dublin	Virginia Polytechnic Institute/University
Maricopa County Community College	University of Arizona	Whitman College
Marist College	University of California, Office of the Chancellor	Yale University
MIT	University of California Berkeley	University of California Berkeley
	University of California, Davis	

82 and Growing

Sakai Major Collaborators

- Open Knowledge Iniative (OKI)
- IMS Standards
  - Tool Interoperability (TI) standard
  - Common Cartridge (CC) standard
- Open Source Portfolio Initiative
- JA-SIG / uPortal

Sakai in Production

Total users for Ctools over the last month

Total users (min=0 ave=1556 max=4183)
no results
generated on 2005-10-11 08:20:03 UTC

Sakai and Apple

- Among the developer team, 70% develop on Apple systems
  - More dev-QA is done on Apple OS X than any other system :)
- Sakai's internal collaboration server runs on Mac OS X Server
  - collab.sakaiproject.org
- Advantages of Mac OS X and Xserve when running Sakai
  - Simple operating system maintenance (patches, etc)
  - Java pre-installed and kept up to date
  - An ideal platform for installations where there is not a dedicated system administrator

Sakai Commercial Affiliates

- The Sakai Educational Community License is BSD-like and allows complete flexibility in terms of the creation of and licensing of derivative works.

- This allows different commercial companies to interact in different ways without any limitations imposed by license.
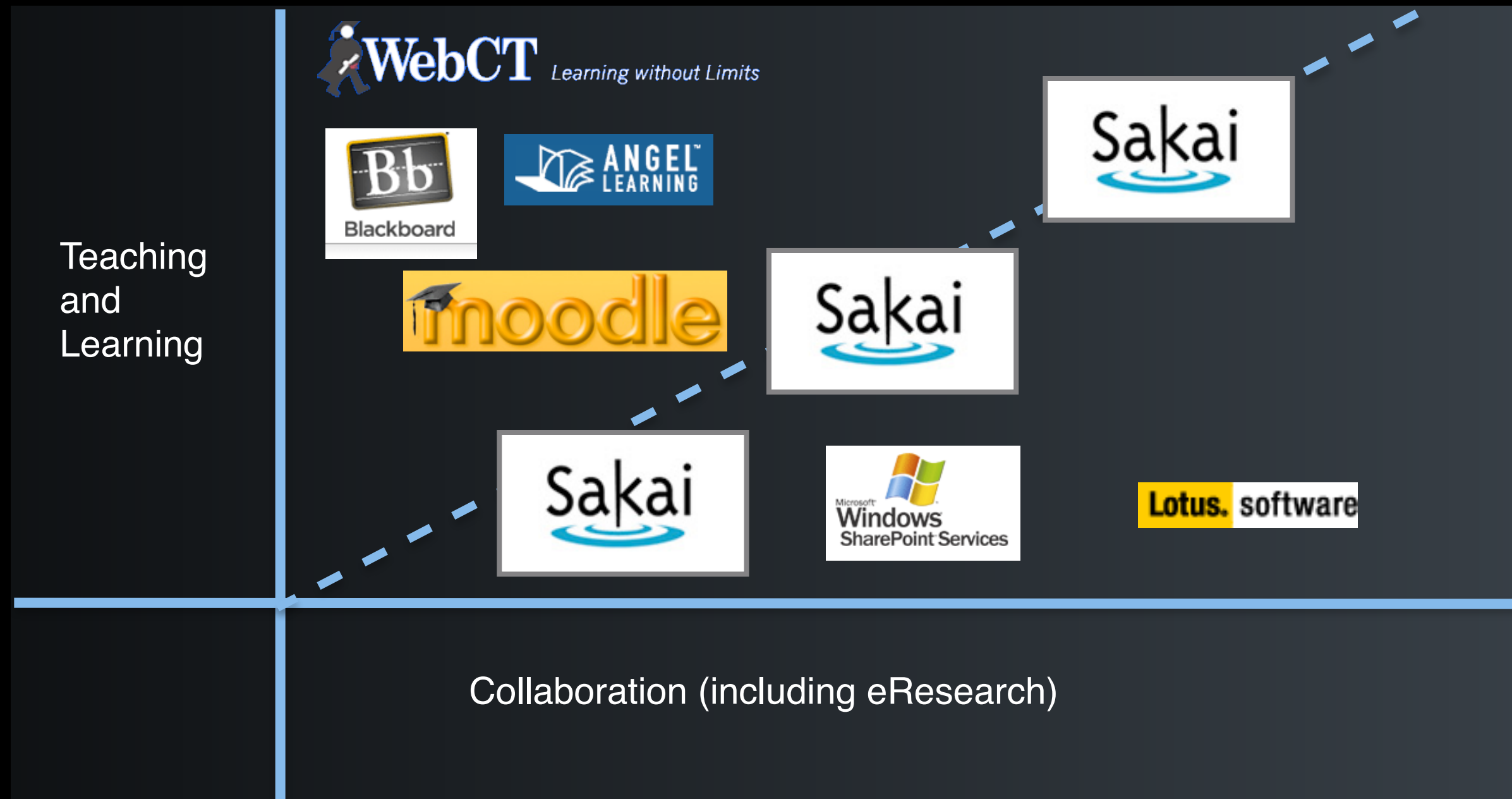
More to say later . . .

Stay tuned!

The Sakai Product

A Collaborative Learning Environment—Suitable for use in teaching and learning, research collaboration, and ad hoc group communication

Placing the Sakai Product
A collaboration and learning environment

Sakai 2.1 Tools

Announcements

Assignments

Chat Room

Threaded Discussion

Drop Box

Email Archive

Gradebook

Melete - Content Editor

Message Of The Day

News/RSS

Preferences

Presentation

Profile / Roster

Resources

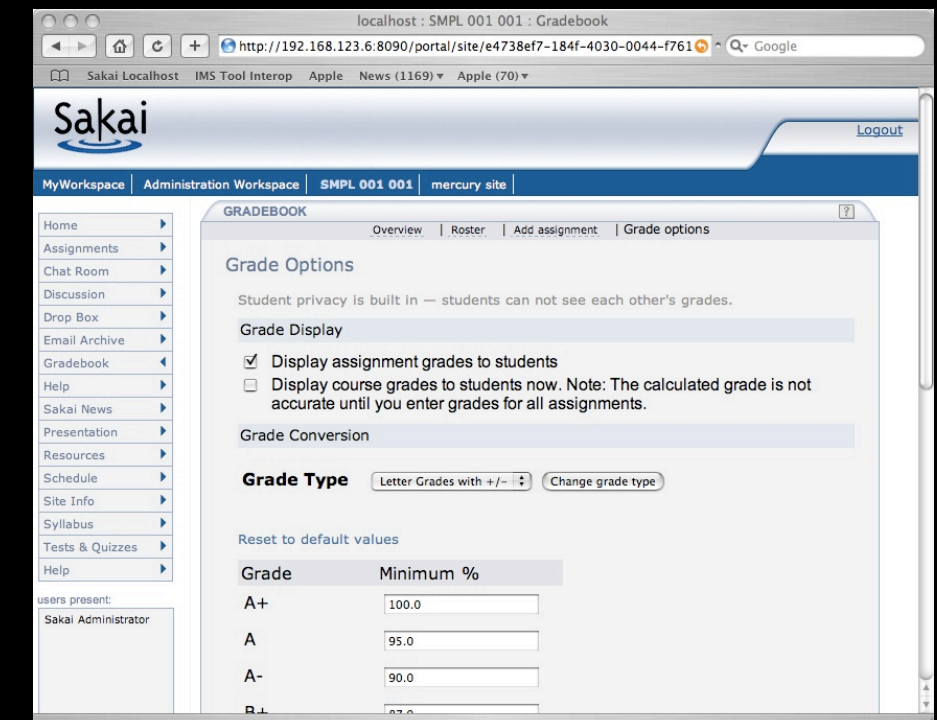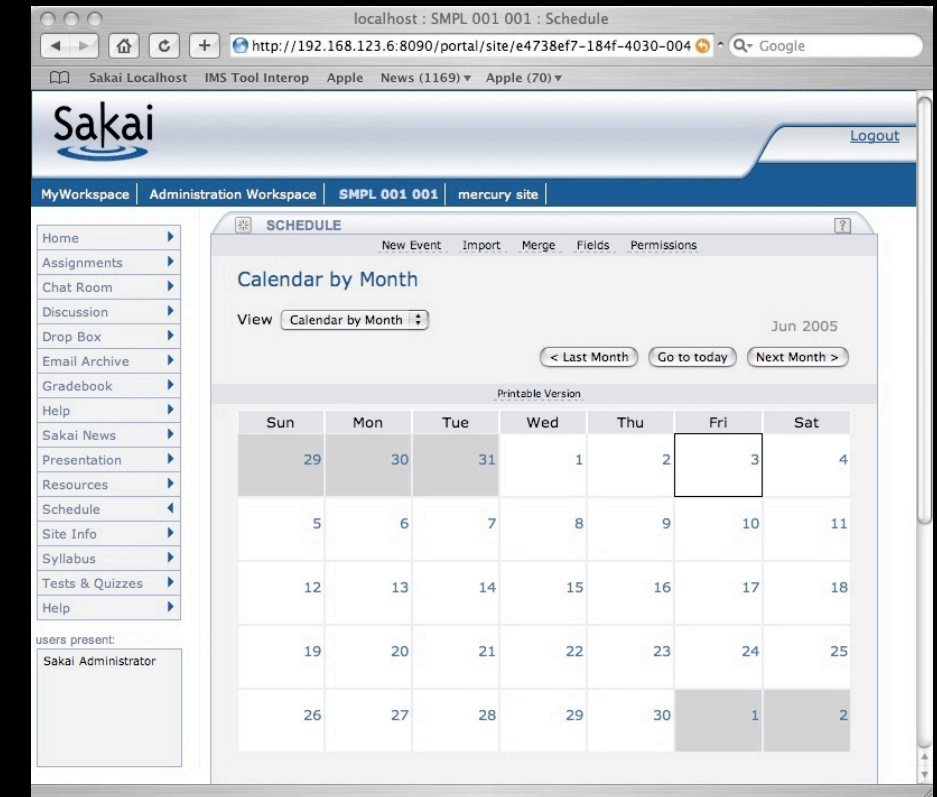TwinPeaks - Repository Search

Samigo - QTI Assessment

Schedule

Section Management

Syllabus
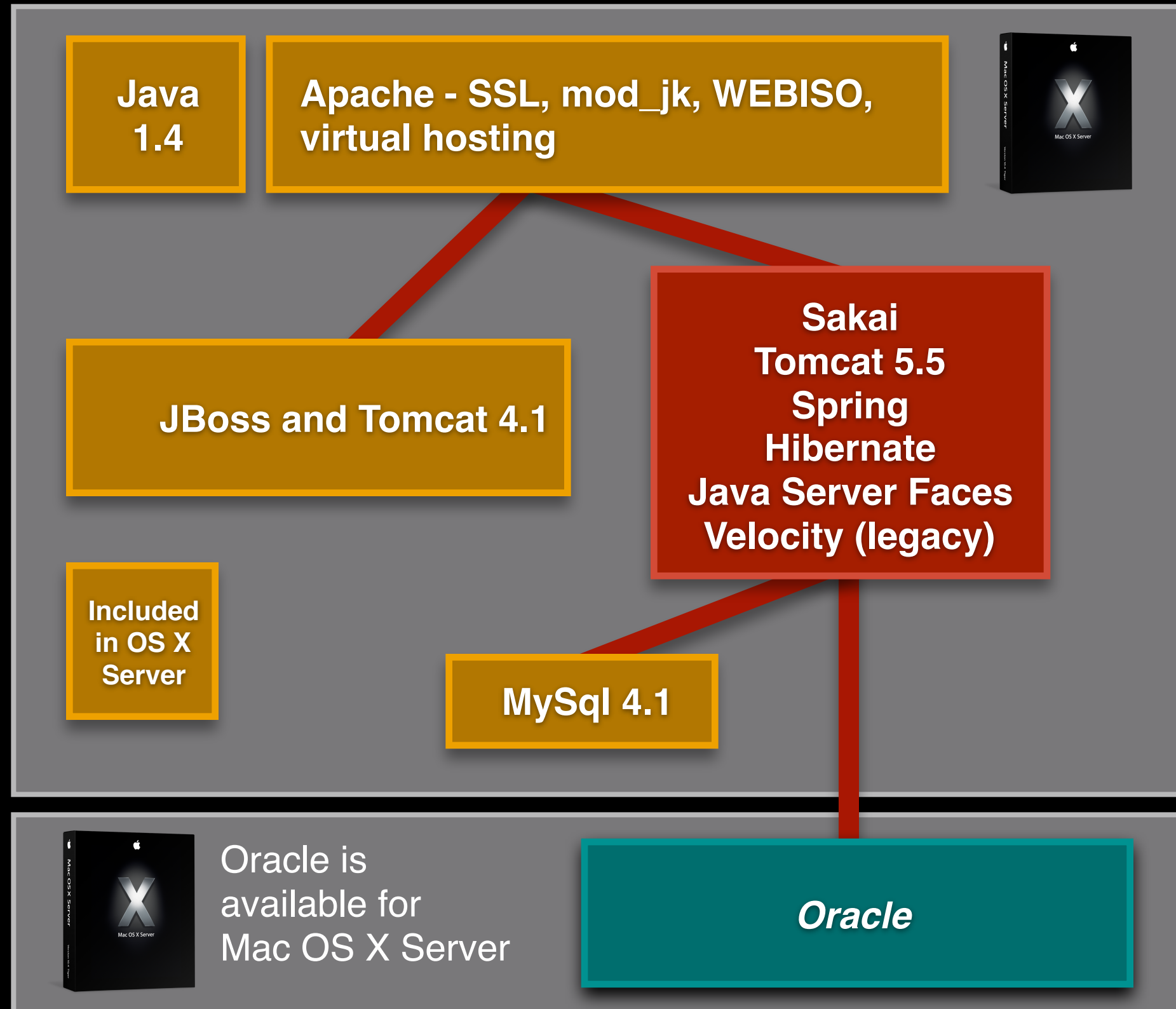
Web Content

Worksite Setup

WebDAV

The Sakai Framework

The need to satisfy the often conflicting goals of ease of use, ease of expansion, configuration flexibility, environmental portability and rock-solid production reliability suitable for enterprise deployment.

Sakai Technical Goals

- Component based expandability

- Appearance of a single well-integrated application

- Flexible Presentation (HTML, Portals)

- Support for Web Services

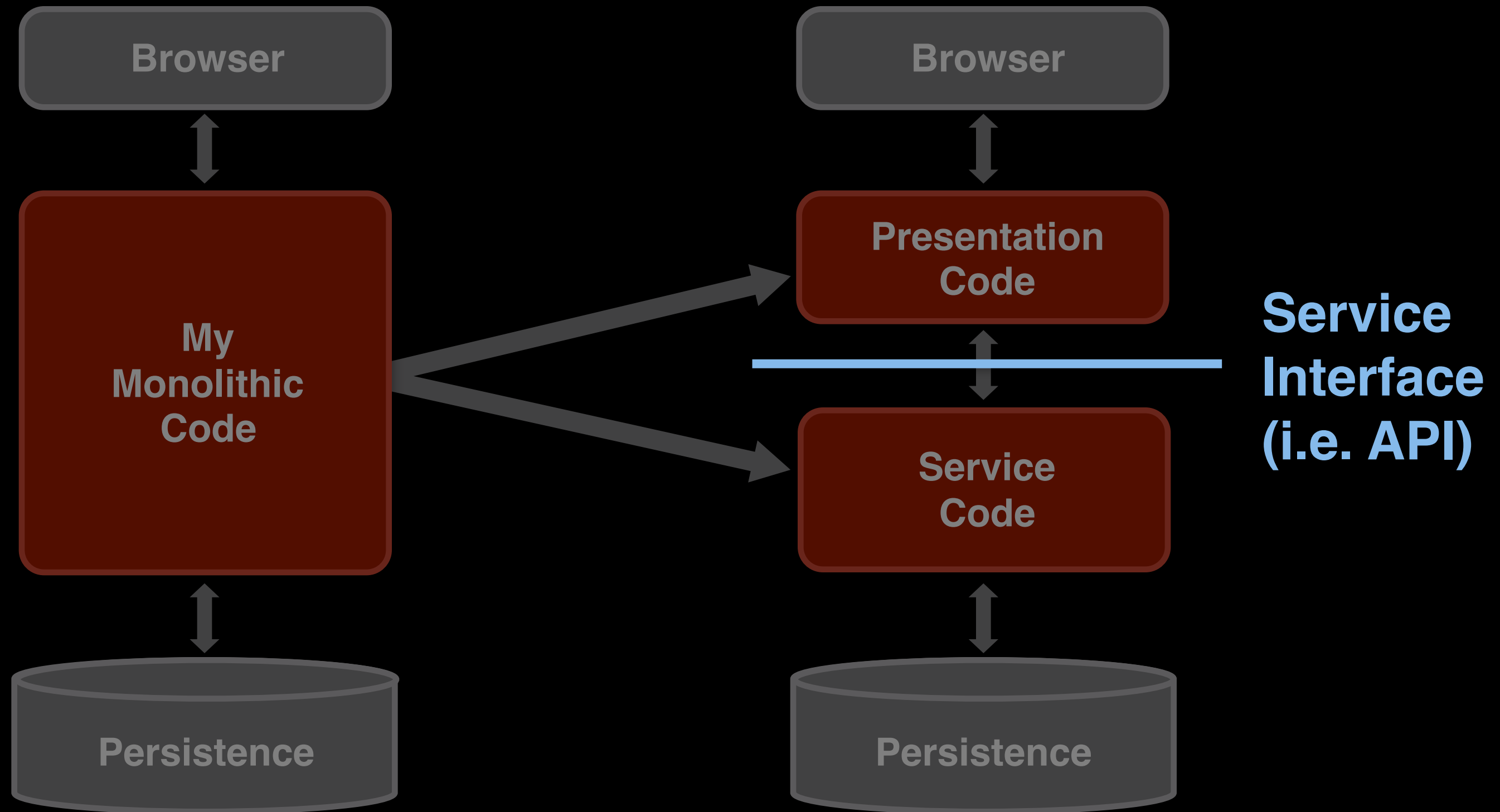- Flexibility in Expansion including non-Java

- Production-ready

Sakai Foundational Technologies

Java 1.4

Apache - SSL, mod_jk, WEBISO, virtual hosting

JBoss and Tomcat 4.1

Sakai
Tomcat 5.5
Spring
Hibernate
Java Server Faces
Velocity (legacy)

Included in OS X Server

MySql 4.1

Oracle is available for Mac OS X Server
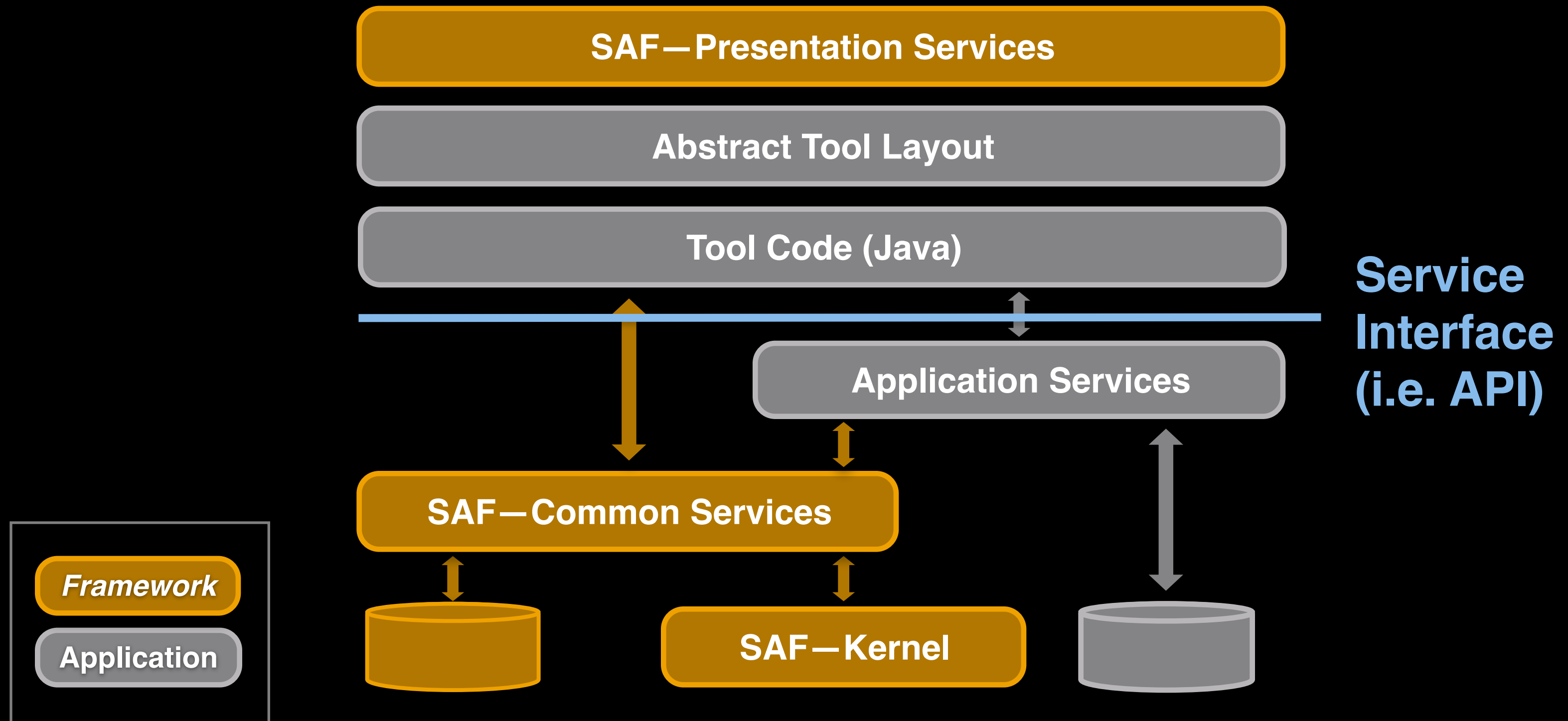
Oracle

Sakai consists of technologies chosen to be common in Java Enterprise Environments.

Sakai requires Tomcat 5.x but can make use of all of the open source elements included in Mac OS X Server.

Service Oriented Architecture

Browser

My Monolithic Code

Persistence

Browser

Presentation Code

Service Code

Persistence

Service Interface (i.e. API)

Sakai Presentation Service Abstraction

```
<sakai:view_container title="#{msgs.sample_title}">
```

```
<sakai:tool_bar> <sakai:tool_bar_item/> </sakai:tool_bar>
```

Sample   + v d

Continue

Please enter some information

Information

Name:

date   JUN ▼ 22 ▼ 2004 ▼

Continue

```
<sakai:instruction_message
value="#{msgs.sample_one_instructions}" />
```

```
<sakai:group_box
title="#{msgs.sample_one_groupbox}">
```

```
<h:inputText
value="#{MyTool.userName}" />
```

```
<sakai:date_input
value="#{MyTool.date}" />
```
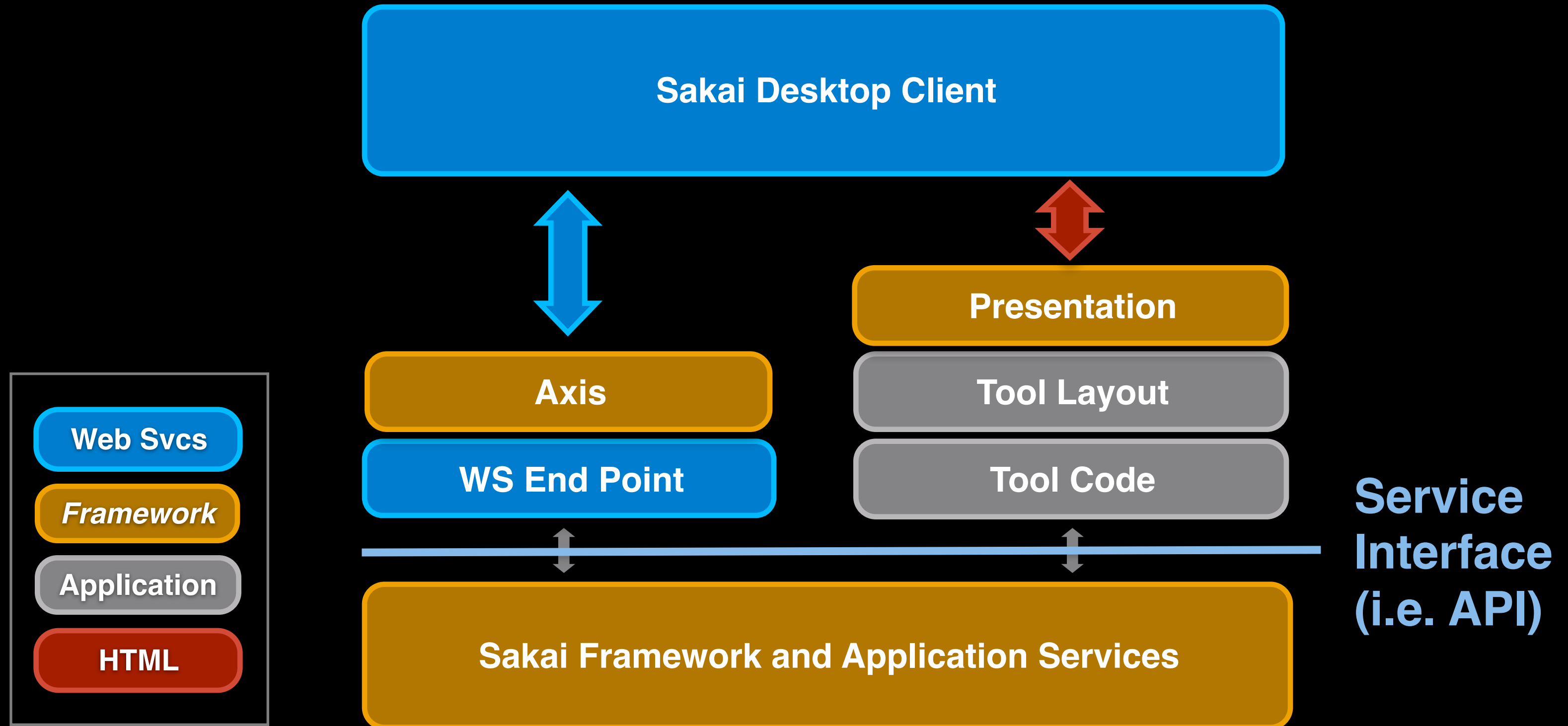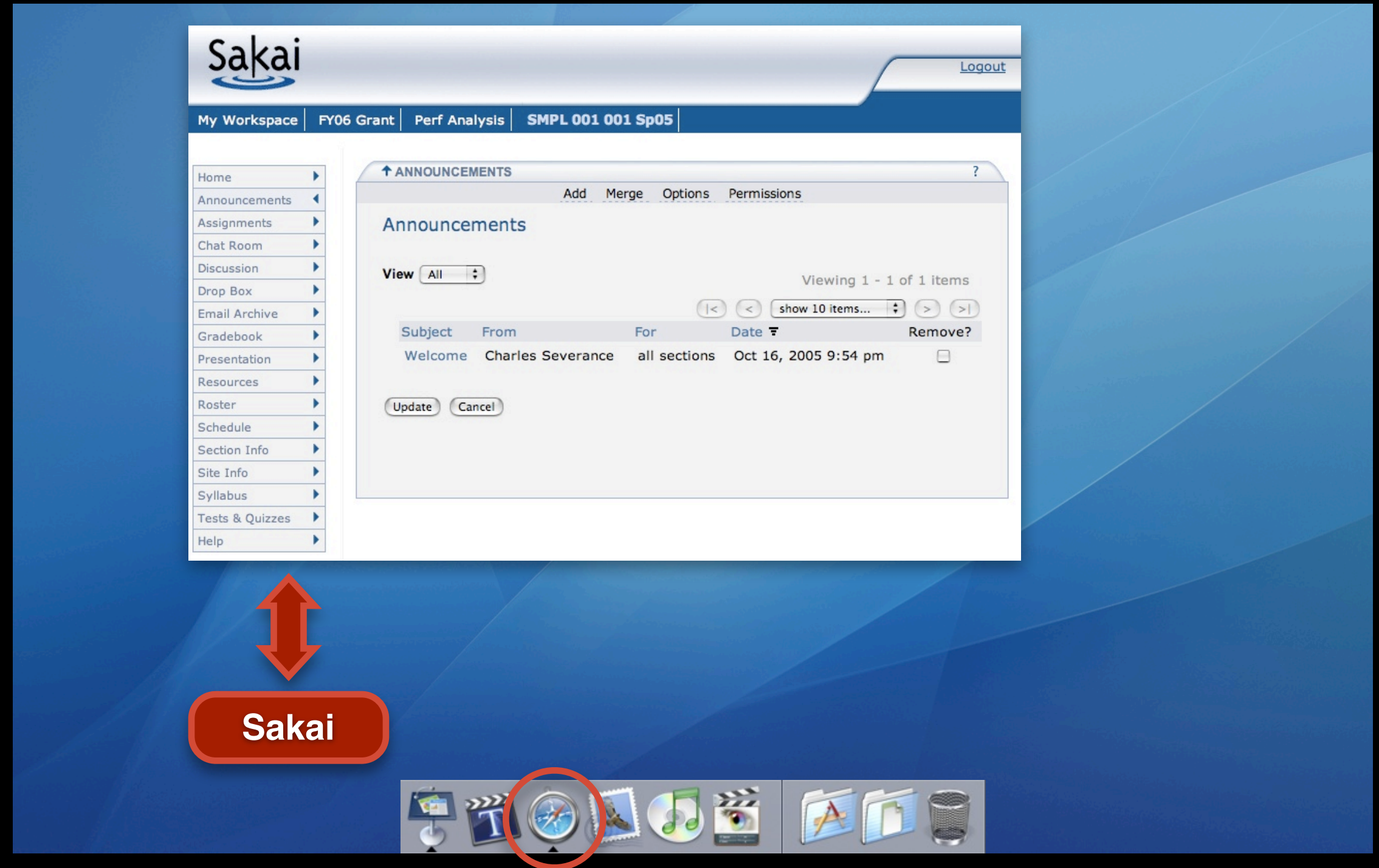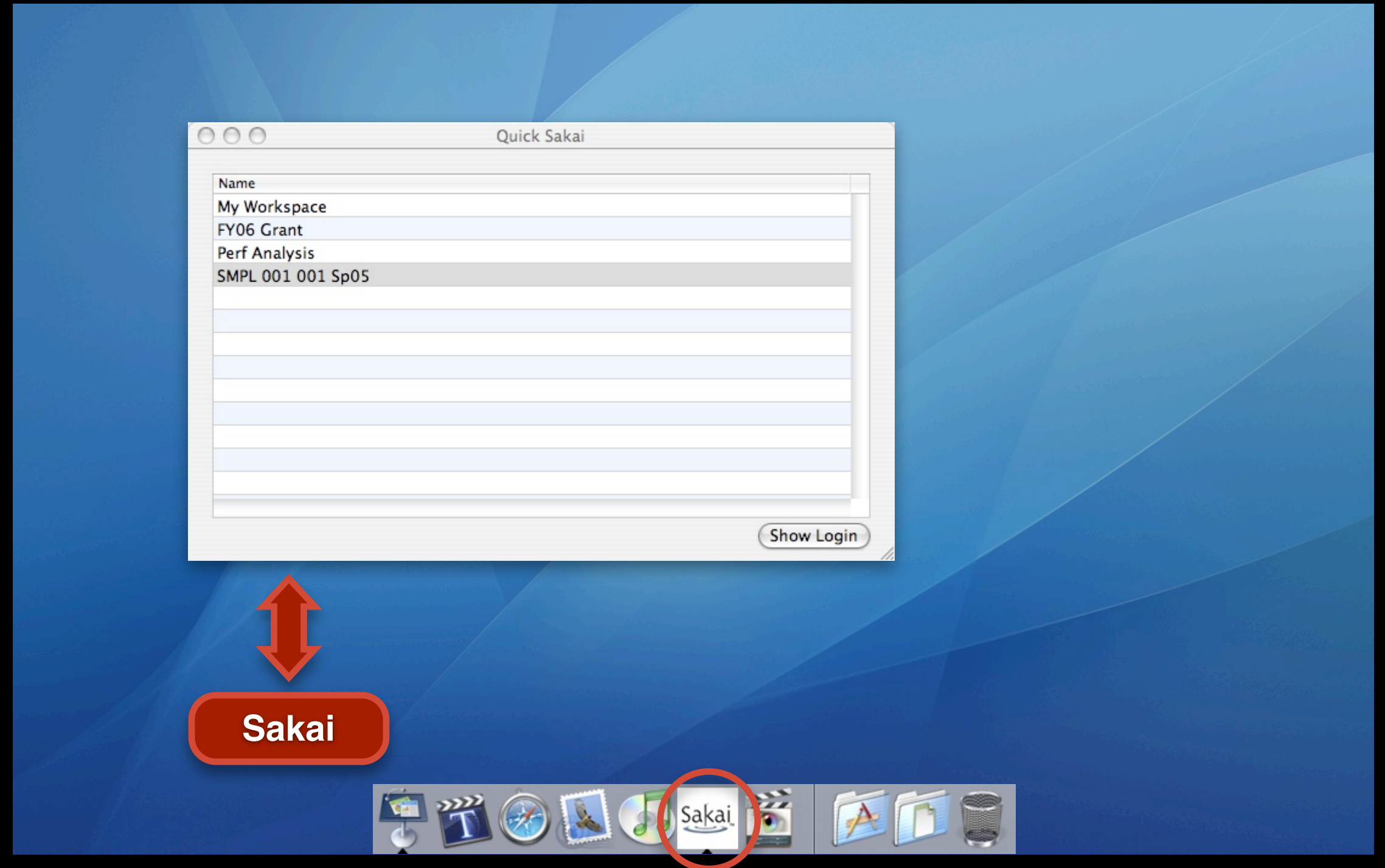
```
<sakai:button_bar>
<sakai:button_bar_item
action="#{MyTool.processActionDoIt}
value="#{msgs.sample_one_cmd_go}" />
</sakai:button_bar>
```

Sakai on the Desktop

Sakai Desktop Client

Presentation

Axis

Tool Layout

WS End Point

Tool Code

Service Interface (i.e. API)

Sakai Framework and Application Services

Web Svcs

Framework

Application

HTML

Sakai Browser-Based Presentation

- The standard Sakai interface is through a web browser.

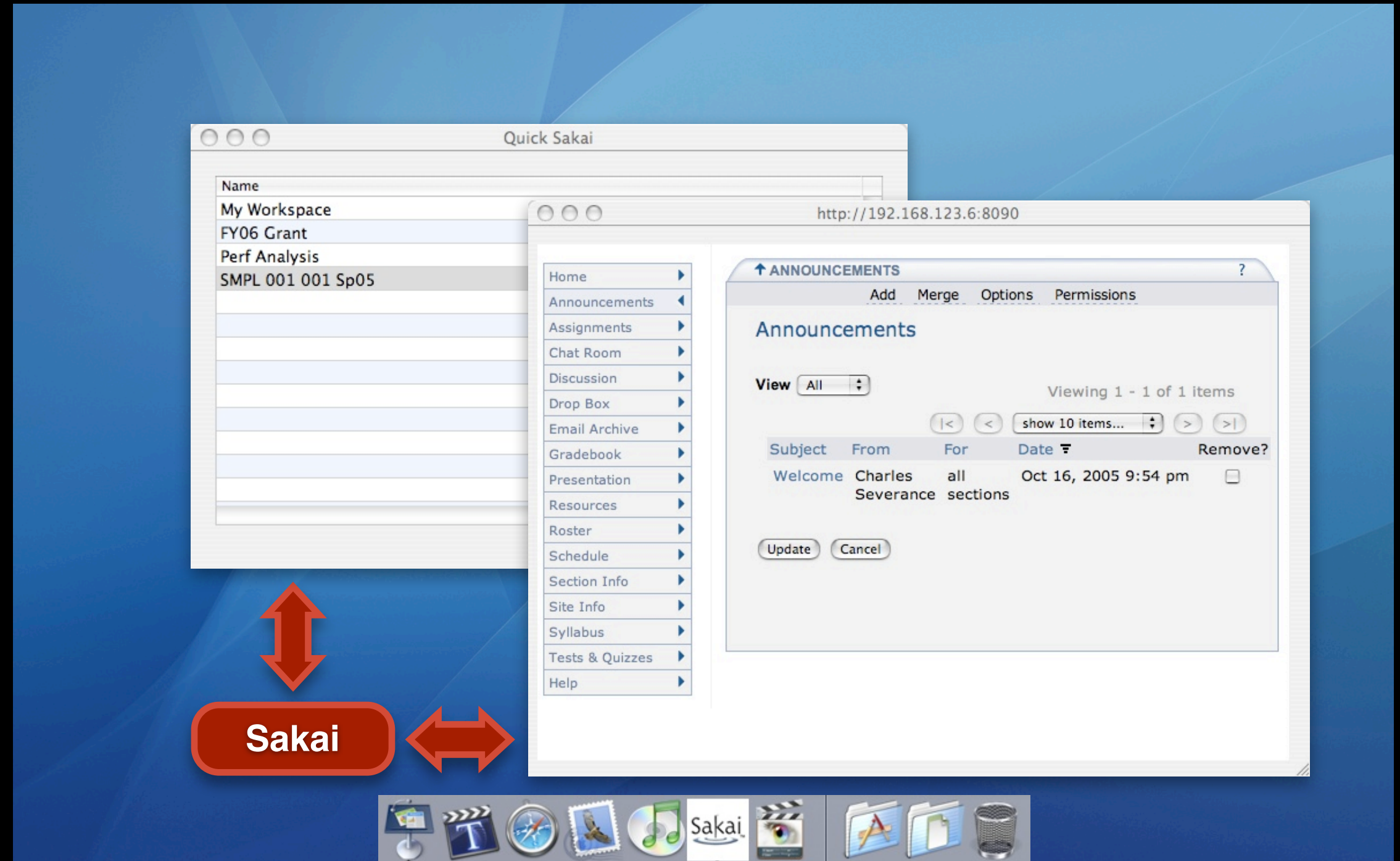- This is only one of the possible ways to view Sakai.

Sakai Apple Desktop

- The Sakai Apple Desktop application is an experiment in a new way of presenting Sakai information directly from the desktop.

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Sakai

More Information

- Main site
  - www.sakaiproject.org
- Sakai-wide collaboration area
  - collab.sakaiproject.org
- MacLearningEnvironments.org
  - Integrating Apple technologies into new Learning Environments
  - Open and Community Source Learning Infrastructure Projects
  - Community built on Mac OS X Server deployment of Sakai

Sakai
Next Steps

- Visit us here in the Apple Booth