Sakai, Future Directions, Virtual Research Environments

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Today ...

- **Sakai** background, state of the Foundation
- Sakai as a set of VRE **components** in use
  - Specific examples from JISC VRE Programme - UK
  - Experience of **BeSTGRID** - New Zealand
- **General** ‘experience so far’ of VRE use
- Towards an **Open Academic Environment**
Reminding Ourselves

- This is all very **new**
- 1990‘s: Using the web to support academic endeavour - pages, cgi apps, the homegrown LMS
- **Consolidation, commercialization**
- Growing distance between those who **identify** innovation, or the need for it ...
  
  ...and those who can **realize** it
Shape of the initial Sakai Project

- MIT, Stanford, Michigan, Indiana, Berkeley, Foothill CC + Mellon Foundation funding
- **Collaboration** & Learning Environment
- Not just an LMS - **Research**, Admin Collab
- Do we need more than one collaboration environment? Or greater flexibility?
- A system for the **Higher Education Enterprise**
Sakai Capabilities

- A flexible framework and toolset to support
  - Course Management
  - Ad-hoc work groups
  - Research collaboration
  - Portfolios - OSPI
  - Library services integration - SakaLibrary
  - Providing and sharing an Academic Profile
Sustainability - Community Source

- Pooling institutional and community resource
- Learning from OS software development
- Liberal licensing, commercial engagement
- Knowledge sharing, experience sharing
- Openness as a key value
We are a community, not a vendor.
**Key Differentiators**

- **Breadth of use** - more than just an LMS
  - Research support uses of Sakai CLE
  - Enterprise system; diverse uses & diverse community

- **Collegiate** and **global** nature of Foundation
  - For education, by education

- Teaching and Learning community - design lenses

  [http://confluence.sakaiproject.org/display/PED/Sakai+Learning+Capabilities+v+1.0](http://confluence.sakaiproject.org/display/PED/Sakai+Learning+Capabilities+v+1.0)
Sustainability - Sakai Foundation

- Not-for-profit -
- 84 Institutional Members
  - North America, Europe, S Africa, Australia, Japan
  - Small colleges through to major research institutions
- 20 Commercial Partners
  - Integration specialist, tools provider, publisher, services
- 340+ Installations of Sakai CLE worldwide
Foundation **Activity**

- Lightweight. **Subsidiarity** principle.
- Technical and product **coordination**
  - **Release** management
  - **Resource** brokerage
- Safeguarding **IPR**
- **Outreach**
- Stimulating a **support ecosystem**
Support Models

- **Self supported**, with the help of an active community
- **Service offerings** from Sakai Commercial Affiliates
- **Commercial distribution** of CLE
- **Hosted** support
Sustainability - Jasig

- Bringing together Foundations
- Project synergy over time
- Affinity:
  - More “open” end of the Community Source spectrum
  - Global nature of communities
- Build a better umbrella, rationalize infrastructure
- Add greater strength to “openness” agenda
- Reach out to open source outside Higher Ed
Virtual Research Environments
VRE - Early Perspectives

“A VRE is best viewed as a framework into which tools, services and resources can be plugged.”

Michael Fraser, Oxford University, July 2005 Ariadne 44
http://www.ariadne.ac.uk/issue44/fraser/
UK Experience

Sakai Portal Demonstrator
History of Political Discourse
1500-1800
Sakai VRE for Educational Research
Sakai Portal Demonstrator

- JISC VRE Programme Phase 1
- Technical validation of portal/portlet toolkit approach
- "Plugability"
  - Sakai CLE v1 + uPortal v2 + JSR168 Portlets
  +/- "Integration" in sense of presentation + proximity
  +/- Largely tested in science/social science communities
- Technical expertise required for set-up considerable
- User experience and customisation
History of Political Discourse, Educational Research

- VRE for **History of Political Discourse 1500-1800**
  - One small multi-institutional research group
  - Used in *combination* with Access Grid
- Sakai VRE for **Educational Research**
  - TLRP - **Programme** of multiple projects
  - AERS - Thematic **network** + **individual** fellows
Observations from Experience

+ Self service, site flexibility, multiple roles across sites
+ Ease of tool provisioning, range of tools
  • Empowering researchers
+ No license fee for external participants - subjects
+/- Mixed perspectives on specific tools (eg Wiki)
+/- Mixed perspectives on user experience
NZ Experience

BeSTGRID

Thanks to Nick Jones, University of Auckland - n.jones@auckland.ac.nz
BeSTGRID and Sakai - **Drivers**

- Support Collaboration across institutional boundaries
  - No constraints on institutional membership
- Research groups underserved by institutional solutions
  - Difficult for institutions to see scale of need as highly fragmented within disciplinary communities
- Support common collaboration needs
  - File sharing, Wiki, Mail list archive, Announcements, etc
BeSTGRID and Sakai – Constraints

- Low budget for licenses, specialized infrastructure
  - Open Source Software and supporting environments
- Low budget for ongoing maintenance and support
  - Knew this was possible from previous eLearning systems development and support
- Growth and Utilisation
  - Dependent on self service by user communities
Monash and Melbourne

- Provided as “self service” environment for researchers
- Monash - deployed in-house
- Melbourne - externally hosted
- Significant growth in use During 2010
  - 2/300 to 3500-4000 in each case
- Researchers appreciate control, ease of worksite set-up
- Ability to incorporate individuals outside IT infrastructure
General Experience

JISC VRE
Landscape Study
January 2010
Response by Participant NB - demonstrates range, rather than scale

- **Arts & Humanities**: 34%
- **Computer Science**: 21%
- **Eng & Phys Sci**: 6%
- **Econ & Soc Sci**: 11%
- **Natural Sci**: 2%
- **Medical Sci**: 4%
- **Biotech & Biol Sci**: 4%
- **Other**: 18%
Primary Points ...

- **Evidence** from researchers supporting benefits
- **Sustainability** as a critical issue
- **Usability** is **problematic**, particularly when moving to broader adoption
- Tendency towards lightweight “web 2.0” style
- International dimensions
Future **Needs** …

- General, but customizable framework
- Participatory design, with researchers in driving seat
- Improve usability
- Look beyond existing funding models
- International co-operation between funders required
- Engagement across institutions, Libraries highlighted
Increasingly seen as supporting a virtual research **community**, and their **conversations**.
Additionally ...

Specific role in **stimulating** and **supporting** interdisciplinary activity.
Sakai Open Academic Environment
What’s **Changed** in the last 7 years?

... User **expectations** of the software experience

... **Technologies** and **architectures**

... Technology **uses** - the **social** explosion

... **Economic** drivers - demands to do more with less

... Increasing **structural complexity** -
  - x-disciplines, partnerships, remote campus

  **our experience** ...
Initial Sakai Investors 2004

Andrew Mellon Foundation

Foothill
Stanford
Berkeley

Indiana
Michigan
MIT

Sakai Foundation
Initial Sakai 3/Open Academic Environment Environment Investors 2010
Sakai Open Academic Environment
... Formerly known as Sakai 3

- Long gestation, **formal project** from July 2010
  - Contributed resource + finance to managed project 12-14 months
    [http://confluence.sakaiproject.org/display/3AK/Project+overview](http://confluence.sakaiproject.org/display/3AK/Project+overview)

- **Design Approach**
  - Focus on user experience and activity, not on site, course or tool
    [http://confluence.sakaiproject.org/display/3AK/Sakai+3+Design+Goals](http://confluence.sakaiproject.org/display/3AK/Sakai+3+Design+Goals)

- **Modern Architecture, building on web-at-scale**
  - Reuses open source components; Felix, Jackrabbit, Shindig
Sakai OAE Design Goals

- **Composable** workspaces. Tools and resources exposed on pages via placement of tool widgets.
- **Networking people** and **groups**; easy to announce and locate on a global or local scale.
- **Sharing** one-to-one/many without being members of common workspace. Resource **disclosure**.
- **Openness** and **permeability**: navigable public access, integrate and use external resources.
Architecture

HTTP REST + JSON

OpenSocial

Multi-language

Content Store

Sakai Foundation

http://www.slideshare.net/ausakai09/sakai-3-architectural-choices-and-community-impact
Continuous User Engagement

Steering Group

Roadmap Items

Functional Analysis

Requirements

Functional Design

Wireframes

Interaction Design

Pixel Perfect Designs & Functional Specs

URG Refinement

URG Review

All artifacts are published and announced for community review at all stages!
Pre-Alpha Release:

**Academic Networking**

- Interdisciplinary, inter-institutional, inter-campus needs
- **Apply social networking to academic context**
  - Add, edit, display, search academic profiles
  - **Control** who/what locates/connects
  - Institution, State/Territory, National, Discipline/s
- Based on **OpenSocial** specification- [http://www.opensocial.org/](http://www.opensocial.org/)
- Seeking partners to test interoperability
- **Examples from New York University, AAR**
  - NYU Sakai Vision Statement
    [http://confluence.sakaiproject.org/display/MGT/NYU+Sakai+3+Vision+Statement](http://confluence.sakaiproject.org/display/MGT/NYU+Sakai+3+Vision+Statement)
Sakai Open Academic Environment. Designed by educators, for educators.

The Sakai Open Academic Environment (OAE) is a new vision of the Sakai enterprise software developed for a community of learners, teachers, scholars, and researchers. Sakai OAE uses core concepts of social networking, flexible authoring and content sharing, openness and permeability, and cohesive learning experiences to support academic endeavors. Limited, early-adopter pilots of Sakai OAE will be in use starting November 2010. The final goal is a full release by July 2011 that the community can embrace, and to that end the Sakai OAE project will actively engage with other groups in the Sakai community. You can find out more about Sakai OAE here.

Username: ig02
Password: ********

No account yet? Register here.

New York University Atlas Network Demo
http://www.youtube.com/watch?v=tQm03ZfTzCE
Sakai OAE Hybrid

- Sakai 2.x has an extended period of use and development ahead
- **Hybrid** - part of Open Academic Environment Project
- Enables integration of tools and sites from Sakai 2 in Sakai Open Academic Environment via IMS LTI
- Potential for easing transition to new environment
VRE - Some Conclusions

- **Sustainability**: potential role of collegiate, international not-for-profits
- **Sustainability; Software re-use**, and implications
- **International** collaboration **could**, and **should** be more than collaboration between funding agencies
- Institutional collaboration, with **close engagement** of **researchers**. Other perspectives; Scholarly Societies.
Information/Contacts

Sakai Australasia
https://alliance.anu.edu.au/portal/site/ausakai/

To join the **AuSakai mailing list** go to -
http://collab.sakaiproject.org/mailman/listinfo/sakai-au

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Sakai Open Academic Environment Project
http://confluence.sakaiproject.org/display/3AK/Project+overview