Portal Initiatives and Strategies

ITPB – September 24, 2004

Introduction to Portals
- A non-technical primer

Overview of 4 UCLA portal initiatives
- Objectives, current status, and vision for the future
- Proliferation, interoperability, standards, skills
- A panel discussion

Summary and conclusions

The Evolution of Portals

1998 – 2000 Content aggregation
- Delivering content, “my” focused

2000 – 2002 Application Integration
- E-business focused, content management starts

2002 – 2004 Integration
- Multiple audiences, business process focused

2005 + Collaborative business platform
- People and process integration, collaboration

Source: Forrester Research
portal – a web presentation framework

- Allowing aggregated, secure access to a wide range of institutional assets
- Serving different communities from same content
- Bringing multiple systems together into a complete business process
- Giving each user choice of the items displayed
- Accommodating unique job needs and personal work style preferences
- Preserves layouts from session to session

The Buzzword Map

<table>
<thead>
<tr>
<th>BOOK(S)</th>
<th>PAGES</th>
<th>LAYOUT</th>
<th>SKELTON</th>
<th>LOOK &amp; FEEL</th>
<th>BOOKS</th>
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The Buzzword Map

- Desktop
  - Placement of navigation, toolbar, etc.
- Collection of pages (and books)
- Color and style
- Shapes of display elements
- Set of content placeholders

Welcome, Professor Jones!

Account Info · Help · Sign Out

Physics Astronomy


In Focus: Three Cultures Find New Home in Desert

It was in the Negev Desert, it is said, that God first spoke to Abraham, and where Abraham — the father of the divine spirit — began. Constituting more than half the land area of Israel, the Negev today is home to more than 450,000 people, representing one of the most unusual ethnic mixes in the world. Inhabiting this vast expanse are many countries — North Africa, Ethiopia, the Middle East —
One quickly needs…

- A content management system
  - Organizes content into logical groupings (taxonomy)
  - Controls access to specific content
  - Makes it long-term maintainable as it grows
- An identity management system
  - To what community belongs the user?
  - What can the user see?
  - How should the content be displayed?

And soon thereafter…

- Search technologies
  - Ability to find information in content-rich portals
- Collaboration technologies
  - Ability to work with others to accomplish a task
- Commerce technologies
  - Ability to securely “place legally binding orders” on foreign systems
  - “Interaction management” (Middleware)
  - Allowing multiple transaction systems to “appear as one”

How Portlets Changed the Landscape

- Portlets, or portal applets, are visual, dynamic components that make up a Web page residing in a Web portal.
  - Typically, when an end user requests a personalized Web page, multiple portlets are invoked when that page is created.
- Portlets rely on APIs (application program interface) to access various types of information, such as user profile.
  - The lack of standards has led portal server platform vendors to define proprietary APIs for local portal components and for invocation of remote components.
  - This creates interoperability problems for portal customers, application vendors, content providers and portal software vendors.
Industry Analysts on Portals...

- Through 2005, more than 25% of enterprises will plan portals as an *application versus a core piece of infrastructure*, resulting in a portal solution that won’t meet scalability, reliability or availability requirements. — Gartner Research
- ...portal infrastructure and governance must be leveraged across the organization to maintain cost benefits. — Forrester Research

The Nightmare Scenario

Service-Oriented Architecture

How hard can it be?

- Disassemble what we used to call “functional needs” into “what we need to function”
  - Decide what is common and what is unique
  - Decide with whom we need to align ourselves most closely
- Work on the applications
  - Separate business logic from presentation
  - Publish our processes as assemblage of web services
  - Reassemble the loose pieces in a portal or two or three…
- voilà... we’ve become a “nimble organization”
An Anthology of Pitfalls (1)

- Unforeseen and unexpected costs
  - Too many users; multiple interfaces; expanding universe.
- “Portal silos” instead of “functional silos”
  - Incompatible portal technologies
- Poor usability
  - Duplicate functionality stands in the way of use (calendars!!!)
  - Users lose their way in complex or non-intuitive navigation
  - Inappropriate information density (advertisement/editorial)
- Missing institutional governance model
  - Who can change what, where, when and how...

An Anthology of Pitfalls (2)

- Inadequate infrastructure
  - Existing applications don’t support “portalization”
    - Rewrite or use middleware “glue”
    - Different portal technologies require incompatible interfaces
- Scalability
  - Users; Content; Supported Applications
  - Bandwidth
- Performance and reliability
  - Subtly transitioning from prototype to production...

Forrester Research Portal Survey
(Quoted in Information Week, May 3, 2004)

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(Quoted in Information Week, May 3, 2004)

“While application access and integration are the keys to portal success, the ability to actually perform this integration has only improved marginally because most packaged and custom-built applications don’t have portlet-compatible interfaces or support the emerging portal standards…”

Few standards; many local traditions

- Portlets: JSR 168 attaching content to a portal
- Web Services for Remote Portals (WSRP)
- Identity management (Liberty, Shibboleth)
- Content sharing and collaboration
- Metadata
- Permissioning
- Personalization
Web Standards

- HTTP
  - Hyper-Text Transport Protocol
- JSR 168
  - Java portlet API standard
- SOAP
  - Simple Object Access Protocol
- SSL
  - Secure Sockets Layer
- UDDI
  - Universal Description, Discovery and Integration
- WSDL
  - Web Services Description Language
- WSRP
  - Web Services for Remote Portals
- XML
  - eXtensible Markup Language

Portal Standards

- JSR 168 (Java Portlet API)
  - establishes interoperability between portlets and portals. All portlets written to a portlet API will run on all compliant portal servers.
  - Java Portlet API will cleanly separate portlets from the surrounding portal server infrastructure so that the portlets can run on different portal servers, just as servlets can run on different application servers.
- WSRP (Web Services for Remote Portals)
  - enables interoperability between portals and WSRP-compliant Web services for portals.
  - are presentation-oriented, user-facing Web services that plug and play with portals or other applications. They are designed to provide content or applications in a form that does not require any manual adaptation. Portals easily can aggregate WSRP services without programming effort.

Portal issues are institutional IT issues

- Multiplicity of portals
  - How many are too many? How few are not enough?
- How do we achieve interoperability
  - Between applications and portals? Among portals?
  - How do we adapt legacy systems?
- How can we share common infrastructure?
- How does the staff acquire new skills?
  - And it is not just the technical staff …

UCLA Portals and Communities

- myUCLA
  - Student community with some faculty functions
- Administrative Services Portal
  - Consumers of Administrative Services (including staff, students and vendors)
- Sakai, and Class and Departmental portals (uPortal)
  - Instruction-oriented (student/faculty, course management)
- Research Collaboration Portal
  - CENS and other research communities (including extramural)
- PI Portal
  - Research administration, including Federal funding agencies
**Objectives**
- To provide all students, faculty and staff with a secure, personalized gateway to a rich variety of online information and services.
- To support both academic and administrative needs by providing a simple, reliable, and familiar interface to many complex campus processes.
- To vastly improve the distribution of information and greatly enhance its usefulness.
- To build a virtual community by promoting communication and the sharing of experience and perspective.

**Status**
- MyUCLA is enormously popular with all of the UCLA community:
  - 33,000,000 student sessions (105,000 unique students, ~315 ea).
  - 2,000,000 faculty sessions (10,000 unique faculty, ~216 ea).
  - 16,000,000 staff sessions (40,000 unique staffers, ~424 ea).
  - 65,890 sessions (22,577 unique users) on a single day!

Among MyUCLA’s most popular features are:
- Gradebook- used in more than 1500 classes in Spring ’04.
- eMail to Class- over 250,000 messages sent.
- Our Forums which host over 57,000 threads with over 500,000 individual posts.
- Nearly 400 groups are supported with over 175,000 members enjoying integrated targeted notifications, forums, chat rooms, and calendars.
- Class enrollments for classes with unusual prerequisites (enrollment in a parallel course, a unique contract, mentor, etc).
Status

- MyUCLA partnerships with campus service providers:
  - Through our partnership with the Ashe Center students receive MyUCLA reminders of medical appointments and notifications from their Doctor.
  - Through our partnership with the Financial Aid Office students receive document requests as well as notices of aid distribution when they logon to MyUCLA.
  - Through a custom interface jointly developed by the MyUCLA team and iParadigms, faculty and students have integrated access to plagiarism detection services from turnitin.com without the overhead of learning class codes, separate logons, or passwords.

Vision

- Continue to develop standardized methods to import and export information into and out of MyUCLA
  - Using XML and Web Services for platform independence.
  - Using standards with campus-wide applicability and compatible with emerging national standards.
- Expand MyUCLA services beyond the web
  - Support a variety of wireless communication protocols including SMS, text paging, and a variety of wireless PDA standards.

The ITPB can help

- Support the goal of campus-wide standards for common application support.
  - Authentication, authorization, etc.
- Redirect a part of the campus-wide IT budget away from the development of individual “stand alone” applications towards the development of standards to interconnect multiple applications through standardized data exchanges.
- Demand the continuation of low cost, service-oriented, application support systems until replacement systems can prove they offer equivalent or superior functionality.

Administrative Services Portal

Objectives

- To help users of administrative services find them quickly and use them effectively
- To reduce the need for formal training by providing “How To” information about common administrative processes
- To create a consistent and predictable experience for web users
- To automate manual processes with new web self-service applications
- To encourage greater compliance with policies
- To consolidate and focus current distributed web investments
- To empower subject experts to create new content themselves
- To use a distributed approach for oversight of portal content areas
Administrative Services Portal

- **Status**
  - 12/03: Acquired Vignette Content Manager & Portal
  - 2/04: Established partnership with UCSD (Blink)
  - 3/04: Established partnership with University Communications (UCLA Home Page)
  - 8/04: Completed content taxonomy
  - 4/05: First content areas to be released to campus

- **Vision**
  - To create a scalable infrastructure that can be used by other campus service providers
  - To support multiple "landing pages" and navigational models for different types of audiences
  - To support personalization based on directory information and personal preferences
  - To share content, taxonomy and best practices with other UC campuses

uPortal - UCLAAnderson

- **Objectives**
  - Create effective frameworks for delivering high quality, flexible & scalable education & research services
  - Enable effective use of web information & resources
  - Empower students, faculty, and staff in achieving their diverse goals

- **Status**
  - Based on RFP, vendor proposal to use uPortal with their CMS
  - It is standards-based and the same portal software as in Sakai to allow for easy sharing of content
  - Getting started – doing stakeholder interviews
  - MBA Student portal Phase I – Planned rollout for Spring 2005

- **For long-term we will need**
  - Standards-based authentication/authorization (single-sign-on)
  - Standards-based data retrieval options from various data sources like Campus Data Warehouse, Registrar data, Advance data, etc.
  - Standards-based interaction with other campus services like Campus Portal, Bruin card, Course Management Systems, Campus Calendar, etc.
Research – Objectives

Pilot Objectives:
- Investigate, identify and understand:
  - requirements unique to research.
  - common requirements for cross disciplinary institutes.
  - future web tool development and aid in the selection of tools.
  - the value and operational issues for data-driven web sites.
  - the value and “user friendliness” of edit-in-place functionality.
- Enhance the exchange of scholarly information for CENS

CENS Objectives:
- Remove webmaster bottleneck
- Build an authoritative bibliography
- Create aggregate lists of people, publications, presentations and technologies
- Associate these with projects and research areas

Research – Future

Vision
- Monitor usage of pilot portal and new publishing paradigm
- Refine research portal requirements
- Benchmark other tools and systems against refined requirements that:
  - are standards based
  - are open source
  - claim easy inter-operability
  - are compatible with campus authentication direction
  - allow local control of authorization
- Further investigate “portlets” for collaborative tools

Obstacles
- Scalability - Need a more affordable scalable solution (not Oracle Portal).
- User Comfort - Learning curve of new tools is high.
- Culture - Posting research without formal editing process has inherent challenges.
- Process - Portals designed for business “workflow” vs. academic “collaboration”
- Data - Portability and migration paths are non trivial.

CENS Portal Status

Static Content: Updated by Webmaster
- Heads
- Footers
- Page layout
- Site Structure
- Static Content
  - About CENS
  - Welcome
  - base research page content

Semi Static: Update access based on privileges
- Research Area
  - Overview
  - Objectives
  - Internal
- Research Project
  - Overview
  - Approach
  - Accomplishments
  - Future Directions
  - Systems/Experiments
  - Internal

Dynamic Content: Derived from Search of Repositories
- Research Area
  - Project List
  - Publications
  - Technologies
  - Presentations
  - People
- Research Project
  - Publications
  - Technologies
  - Presentations
  - People
- People Page
- Latest Events
- Latest News

Repositories: Access to submit based on privileges

Repositories
- Bibliography
- Pubs
- Tech Reports
- Presentations
- Technologies

People

Events

News

Repositories
- Access to submit based on privileges

PANEL DISCUSSION:

Proliferation, interoperability, standards and skills