A Vision of Access Services in the Open Library Environment (OLE)

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Overview

• BACKGROUND
  – What is OLE? Why OLE?
  – OLE Project Principles. Definitions of SOA, BPM
  – The Design Process

• DELIVER ENTITY
  – Request Service
  – Identify User
  – Identify Terms of Use
  – Supply Entity

• FUTURE
  – A Research scenario. OLE in a consortia environment. How to stay informed about the Kuali OLE Project
What was the OLE Project?

A multinational group of libraries collaborating to design a next generation automated library system
OLE Project Timeline

- Initial assessment of interest, early 2008
- Proposal development by a diverse group of libraries, April 2008
- The Andrew W. Mellon Foundation provided funding for the design project, June 2008
- Project underway, August 2008
- Final (Draft) Report, July 26, 2009
- OLE Project Final Report, November 9, 2009
- Kuali OLE
OLE Project Activities

• Training and Workshops on Service Oriented Architecture (SOA) and Business Process Modeling (BPM)

• Engaging the Library & IT Communities

• Communication with the Community

• Interactions with other projects

Detailed information about all phases of the project is available at http://oleproject.org
Why OLE?

• Current ILS products are inadequate.
• Vendor consolidation constrains choice.
Why OLE?

- Dynix
- Inlex
- DRA
- Multilis
- Endeavor
- Aleph
- SirsiDynix
- Unicorn, Horizon
- MARCorp
- III
- Millenium
- CLSI
- CARL
- UTLAS
- Geac
- DataPhase
- VTLS
- Ex Libris
- Aleph, Voyager
Why OLE?

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• There is a growing need for library systems to interact with other enterprise systems.
Why OLE?
Why OLE?

- Current ILS products are inadequate.
- **Vendor consolidation constrains choices.**
- There is a growing need for library systems to interact with other enterprise systems.
- **Libraries need to control their own destinies.**
Why OLE?
Why OLE? Original Project Rationale

• Current ILS products are inadequate.
• Vendor consolidation constrains choices.
• There is a growing need for library systems to interact with other enterprise systems.
• Libraries need to control their own destinies.
OLE Project Principles

• Flexibility. Supports a wide range of resources
• Community Ownership. Built, owned, governed by the library community
• Service Orientation. Developed using SOA, implemented with Web Services
• Enterprise Level Integration. Adapt and integrate with other enterprise systems
• Efficiency. Modular, meets current and future needs
• Sustainability. Reliable, robust
What is SOA?

• **SOA = Service Oriented Architecture**

• **Design approach**
  – Independent software pieces
  – Pieces can be interchanged or repurposed more easily
  – Pieces can be combined to create new services or systems
  – Business experts and IT experts work together
  – Think Legos™
Before & After SOA

Before SOA
- Siloed
- Closed
- Monolithic
- Brittle

Application Dependent Business Functions
- Service Scheduling
  - Check Customer Status
  - Determine Product Availability
- Order Processing
  - Check Customer Status
  - Determine Product Availability
  - Verify Customer Credit
- Account Management
  - Calculate Shipping Charges
  - Order Status
  - Check Credit

Data Repository
- Marketing
- Sales
- CRM
- Finance
- Data Warehouse
- External Partner

After SOA
- Shared services
- Collaborative
- Interoperable
- Integrated

Composite Applications
- Composite Application
- Order Processing
- Account Management
- Service Scheduling
- Composed Business Process

Reusable Business Services
- Reusable Service
  - Create Invoice
  - Check Customer Status
  - Order Status
  - Check Credit
  - Check Inventory

Data Repository
- Marketing
- Sales
- CRM
- Finance
- Data Warehouse
- External Partner
What is BPM?

• BPM = Business Process Modeling
• Design approach
• BPM process
  – What needs to be done
  – How to do it, in what order, and contingencies
  – Separate from the systems and services that do the work
  – Mid-level detail
• Necessary before determining shared processes as part of SOA
Regional Design Workshops

• Held from November ‘08 through January ‘09 at Rutgers, other locations in the US, Canada, and Australia
• Two Workshops at Rutgers co-hosted with Columbia and University of Pennsylvania
• Approximately 80 individuals representing 27 institutions
Regional Design Workshops – Process Modeling

• Identified and prioritized core processes
• Modeled top 10 core processes at each workshop such as:
  – Ordering a resource
  – Checking out a book
  – Cataloging a resource
  – Request fulfillment

• These were combined/synthesized with process models from other regional workshops
OLE Reference Model
Deliver Entity

**Definition:** The Deliver Entity component describes processes that track the request and supply of a resource. It includes processes that initiate and receive the request, identify the user requesting the resource, check and verify the user’s credentials, and determine availability and terms of use of the resource requested. A message is sent to the user whenever a condition is not met. The resource is supplied if all conditions are met.

**Workflow / Process Diagrams:**
- Request Service
- Identify User
- Identify Terms of Use
- Supply Entity
Deliver Entity – Request Entity

Since this workflow/use case does not require a new process, no corresponding process model is needed.

Is Request metadata available electronically?

Populate workflow or template, validate metadata

Yes

Create Metadata

Obtain Metadata

Capture metadata from metadata source, validate metadata

No

Service Request Created
Deliver Entity – Identify User

- Valid Request for Entity or Resource Received. Check user making request.
- Identity Manager (IM) checks user's identity.
- Is user authentic?
- Is IM valid and trusted?
- IM checks user's credentials.
- Is user authorized?
- IM checks conditions or attributes of user's identity that authorize user to place a request.
- Return request to user.
- Reply.
Deliver Entity – Identify Terms of Use

Authenticated user makes a valid request for a resource.

Is the resource available?

Yes: Check user and resource attributes.

User attributes are stored in the Identity Manager (IM); resource attributes are stored in resource metadata or an attribute store. Different resources may require different attributes, such as membership in a university or enrollment in a course.

Do attributes allow access?

Yes: Check preconditions on use.

Preconditions of use may include payment of a fee, check-box "opt-in" for a user license; a watermark applied to the object before download. May also be a requirement that no resources are overdue or no outstanding fees, which may be stored in a user history file or financial system.

No: Error message returned to user.

No: Error message returned to user.
Deliver Entity – Supply Entity

Supply Entity Process

Valid request placed by authenticated user for available item

Do preconditions of use exist?

Yes

Apply conditions

No

Deliver Entity
A Research Scenario – Questions to consider

- How is the delivery of library content and services improved?
- How is a collaborative approach to research, teaching, learning supported?
- Does the library integrate with the institution’s enterprise infrastructure?
- Does the library leverage the information environment-- publishing, technologies, mass digitization,
- Is content in all formats managed, delivered?
- Are consortial, cross-institutional activities supported?
- Are interactions with external service providers supported?
- Where /what is Access Services in the research scenario?
Advantages of OLE for VALE, New Jersey’s Virtual Academic Library Environment

- Better control of costs (no more than present)
- Better control of system functionality
- Leverages similar workflows at VALE institutions
- Supports shared collection development
- Supports development of a statewide repository system
VALE and OLE: Decisions of Policy & Workflow

- Selection of Discovery Tool (local views and location customization)
- Organization and management. How will VALE-OLE be governed and managed?
- Hardware configurations
- Data Preparation and Migration
  - Bibliographic
  - patron, lending, usage statistics
  - acquisitions and serials
- Policy and Practices: metadata; acquiring resources; resource sharing
- Testing OLE
Kuali OLE (Open Library Environment)

The goal of the Kuali Open Library Environment Project is to define a next-generation technology environment based on a thoroughly re-examined model of library business operations. The model will then be used to develop specifications for a next generation community-sourced library management system, Kuali OLE (pronounced oh-LAY). This software system will be a part of the academic enterprise technology framework and will scale up to connect with other enterprise technology systems within the academic and administrative computing environment. The software system will also be capable of scaling down for stand-alone library use.
Kuali OLE Founding Partners

- **Indiana University (Lead School)**
- **Florida Consortium: University of Florida representing:**
  - Florida International University
  - Florida State University
  - New College of Florida
  - Rollins College
  - University of Central Florida
  - University of Miami
  - University of South Florida
  - The Florida Center for Library Automation
- **Lehigh University**
- **Triangle Research Libraries Network for**
  - Duke University
  - North Carolina State University
- **University of Chicago**
- **University of Maryland**
- **University of Michigan**
- **University of Pennsylvania**
Staying Informed

OLE Final Project Report
http://oleproject.org/final-report-on-ole-project/

Kuali-OLE website:
http://www.kuali.org/ole
Questions?

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