Repository Interoperability

Open Repositories 2006
Sydney, January 31 to February 3, 2006
University of Sydney

May 21, 2008
www.harvestroad.com.au
Contents

- Alt-i-lab 2005 Demonstration Case Study
- Open Knowledge Initiative
  - Short “primer”
  - Examples
  - Demonstration
  - Implications
- The End Games
  - Course assembly
  - Enterprise integration
- Importance of Repositories
Tools Interoperability
- How tools connect to an LMS
- Resolving API Standoff

Repository Interoperability
- Open Knowledge Initiative (OKI)
  - Open Service Interface Definitions (OSID)
    - Repository OSID
- IMS Content Packaging, SCORM, SRW …

And the winner was …

http://www.okiproject.org/project/update_13.html
Who participated?

Repositories
- Giunti Lab’s eXact
- LOBSTER
- HarvestRoad Hive
- DSpace
- JISC RDN
- Fedora
- MIT’s Visualizing Cultures

Applications
- Giunti’s eXact Packager
- HarvestRoad Hive Explorer
- Mac Learning Environment’s SearchParty
- Tuft University’s VUE
> Highlights

- Consumer choice
- “Moonshot” – Ed Walker, IMS
- “Repositories are where the action is”
- Open Services, especially Repository Services
Specifications for communicating between educational software components and enterprise systems.

- Broad interoperability agreements
- CoP can implement further specification
- Opens new markets for tools and content

From [http://www.okiproject.org/](http://www.okiproject.org/)
Example: Ariadne and Lionshare

Connecting OKI And SQI: One Small Piece Of Code, A Giant Leap For Reusing Learning Objects.
Stefaan Ternier, Ben Bosman, Erik Duval , Metzger, Mike Halm Thorne, Jeff Kahn
<table>
<thead>
<tr>
<th>Type</th>
<th>Repository</th>
<th>Asset Name</th>
<th>Asset Description</th>
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<tbody>
<tr>
<td></td>
<td>HarvestRoad Hive: OKI 1</td>
<td>airborne</td>
<td>A near miss</td>
</tr>
<tr>
<td></td>
<td>HarvestRoad Hive: OKI 1</td>
<td>jetski</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HarvestRoad Hive: OKI 1</td>
<td>Mavericks 030205 057</td>
<td>Photograph from the Maverick...</td>
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<td>Photograph from the Maverick...</td>
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<tr>
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<td>HarvestRoad Hive: OKI 1</td>
<td>pipeline</td>
<td>A wave at Pipeline, Hawaii</td>
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<tr>
<td></td>
<td>HarvestRoad Hive: OKI 1</td>
<td>teahupono</td>
<td>A wave at Teahupono, Tahiti</td>
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</tbody>
</table>
Asset: Mavericks 030205 090
Description: Photograph from the Mavericks surfing competition in California. Do not try this at home!

Thumbnail:

Record Structures:

```xml
<?xml version="1.0" encoding="iso-8859-1"?>
<lcmap>
<general>
<title><langstring xml:lang="en-AU">Mavericks 030205 090</langstring></title>
</general>
<description><langstring xml:lang="en-AU">Photograph from the Mavericks surfing competition in California. Do not try this at home!</langstring></description>
<keyword><langstring xml:lang="en-AU">surf</langstring></keyword>
<keyword><langstring xml:lang="en-AU">wave</langstring></keyword>
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<keyword><langstring xml:lang="en-AU">wipeout</langstring></keyword>
<keyword><langstring xml:lang="en-AU">waverider</langstring></keyword>
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<keyword><langstring xml:lang="en-AU">water</langstring></keyword>
<keyword><langstring xml:lang="en-AU">ocean</langstring></keyword>
</lcmap>
```

Part Structure: Metadata

```xml
<?xml version="1.0" encoding="iso-8859-1"?>
<lcmap>
<general>
<title><langstring xml:lang="en-AU">Mavericks 030205 090</langstring></title>
</general>
<description><langstring xml:lang="en-AU">Photograph from the Mavericks surfing competition in California. Do not try this at home!</langstring></description>
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<keyword><langstring xml:lang="en-AU">water</langstring></keyword>
<keyword><langstring xml:lang="en-AU">ocean</langstring></keyword>
</lcmap>
```
A near miss at Teahupoo. The surfer didn’t get hurt but it was close.
## SearchParty

<table>
<thead>
<tr>
<th>Item</th>
<th>Title</th>
<th>Asset Type</th>
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<td>822</td>
<td>teahupho</td>
<td>harvestroad.com / as HarvestRoad</td>
<td></td>
</tr>
</tbody>
</table>

### Item ID: 2488
- **Title:** Mavericks 030205 090
- **Effective Date:** Friday, June 3, 2005
- **Asset Type:** harvestroad.com / asset / hive_item

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![HarvestRoad Logo](HarvestRoad.png)
Demonstration

Using Hive Explorer to discover and reuse content from multiple repositories

www.harvestroad.com.au
Implications for Repositories

- What really is a repository?
  - Store, Manage content (not just Archives)
  - Repository Services (metadata, workflow, notification, copyright etc.)
  - Deliver to runtime environment

- Interoperability
  - Expose services
  - Don’t lock content in – provide an exit strategy
  - Content Bridge
Repositories need to support

- IMS Metadata, Content Packaging
- SCORM 1.2 application profiles of above
- Any metadata schema (Dublin Core, Cancore etc)
- SCORM 2004 application profiles, CORDRA
- OKI OSIDs
  - Repository, Shared (IDs, Types)
  - Authentication, Authorisation, Hierarchy, Filing
- Open Archives Initiative (Data Provider)
- MARC21 data import, export
- Other application profiles for specific CoP
End Game: Course Assembly
Why HarvestRoad Lerves OKI

- Provides customers with greater choice and flexibility to use tools
- Enables drag and drop course assembly from a wide range of repositories, not just Hive
- Reduces cost to interoperate “many to many” tools and repositories. No “API Stand-off”.
- Technology independent and technologically simple
- Increases ROI in learning technologies
- Decreases the complexity of client applications
- Promotes greater sharing
- Manages integration through a standard rather than a proprietary approach
Importance of Repositories

- American TelEdCommunications Alliance and MiCTA
- Members in 48 States of US
- Single institutions and Statewide repositories
- “Panel Contract” awarded this week
- LOR category for first time

- Quotes relevant to repositories …
“… storing content in a standards based repository and linking to that content from a mature LMS is the proper way to design an on-line learning solution.”
“As on-line learning objects grow in number, it will be important to work with repositories which are open and accessible from multiple learning management applications.”
Questions?

John Townsend
General Manager, Product Group
HarvestRoad Ltd.

www.harvestroad.com.au
Copyright

🛡️ Statutory regulations in Copyright Act
🛡️ Part VB
🛡️ AVCC Guidelines
🛡️ Voluntary Licensing via CAL
🛡️ Research project with Griffith, Uni Tas, ECU and CAL later this year

🛡️ Now, proceed to specific questions....
Open Archives Initiative (OAI-PMH)

- Hive repository is a data provider
- OAI Harvesters send request to Hive
- Harvester is assigned a user account
- ListRecords, GetRecord and ListIdentifier requests implemented as Hive search requests
- Hive returns metadata in unqualified Dublin Core
- Supports all 6 basic request types