WikiD (Wiki/Data)

Jeffrey A. Young
OCLC Office of Research
jyoung@oclc.org

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Introduction

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- OAI Ancestry
  - Using the OAI-PMH... Differently
  - ERRoLs
- Ancestral Limitations
- Synthesis of Available Solutions
- A Quick Glimpse at OpenURL 1.0
- Sample Applications
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WikiD Overview

- Ward Cunningham describes a wiki as "the simplest online database that could possibly work".

- The cost of this simplicity is that wikis are generally limited to a single collection containing a single kind of record (viz. Wiki Markup Language records).

- WikiD (Wiki/Data) extends the wiki model to support multiple collections containing arbitrary schemas of XML records with minimal additional complexity.
Using the OAI-PMH... Differently

- OAI + XSL + content + “extension verbs”
- Used OAI-PMH as an interactive web service
- The addition of an XSL Stylesheet reference in OAI responses provided a human interface without disrupting its intended purpose of automated harvesting
- Dare to store XML content in the OAI record’s <metadata> element
- Sharp criticism for daring to add OAI “extension verbs”
  - Extract <metadata> content from OAI GetRecord
  - Perform HTTP redirect to dc:identifier in oai_dc record
- OpenURL Spec Registry: http://www.openurl.info/registry/
- “info” URI Registry: http://info-uri.info/
Extensible Repository Resource Locators (ERRoLs)

- Decouple “extension verbs” from the OAI mechanism
- Extend principles to any repository registered at UIUC
- One way to think about ERRoLs is as a resolver for OAI repository and item identifiers, with various resolution targets (using rule-based URL construction)
  - HTML renderings of OAI verbs
  - Raw <metadata> extraction and crosswalks
  - Content dereferencing
- Extensible services, protocols, and XSL Stylesheets
  - RSS
  - OpenURL 0.1
- Customized via OAI Identify <description> elements
  - SRW/U
Limitations of ERRoLs

- ERRoL pushed the boundaries of OAI’s harvesting mandate
- The ERRoL URL encoding rules were non-standard
  - http://errol.oclc.org/orpubs.oclc.org.rss
- Many OAI repositories were too slow and/or unreliable
- I was the only one exploiting ERRoL to its full potential
- I was requested to update from OpenURL 0.1 to 1.0
- Every OAI repository I operated was configured differently
- I needed a way to update my repositories online
- Coincidentally, I was playing with a wiki around this time and was disappointed with its performance and features
Synthesis of Available Solutions

- Instead of transforming OpenURL requests into ERRoL requests, I could flip it and use OpenURL as my core infrastructure.
- I could merge my OAI repositories into a single version-controlled database divided into “Collections”
  - Each collection can have its own native metadata format
  - XSL Stylesheets provide the user interfaces and crosswalks
- Use SRW/U as the database API
- The SRW community developed an Update web service protocol
  - I developed WebEdit to bridge the gap between HTML forms and the XML-based Update service
- This gave me everything I needed to create a wiki-style application to manage multiple collections of structured datasets
  - Conventional wiki capabilities could be contained in a single collection within the general model
  - The conventional wiki collection could serve as a user interface for the creation and maintenance of the various collections
Servlets & Data Flows
OpenURL 1.0

- Most people continue to think in terms of OpenURL 0.1:
  - Deliver the “appropriate copy” of a “journal article”
- OpenURL 1.0 abstracts the 0.1 function:
  - Supply the “appropriate service” related to an “identifiable resource”
  - The words “appropriate”, “service”, “identifiable” and “resource” are left to the imagination of developers
- OpenURL 0.1 is thus an “application” of OpenURL 1.0
- WikiD is another example of an OpenURL 1.0 application:
  - “identifiable resource” can be anything (but typically refers to internal collection items) and “appropriate service” can mean anything (but typically refers to wiki-style functions)
Overview

Ward Cunningham describes a wiki as "the simplest online database that could possibly work". The cost of this simplicity is that wikis are generally limited to a single collection containing a single kind of record (viz. WikiMarkupLanguage records). WikiD extends the Wiki model to support multiple WikiCollections containing arbitrary schemas of XML records with minimal additional complexity.

- Here are the standard TextFormattingRules in case you are new to wikis in general
- Here are some details about the WikiD Engine architecture
- Learn about WikiD's distinctive WikiCollection feature
- Learn about WikiD's distinctive OpenUriResolverFeature
- Check out the latest developments in the VersionFile

Here is a WikiDSandbox. You can use it to create and edit your own collections and wiki pages. Once you are comfortable there, feel free to contribute to any page on this site. All changes are archived, and can be viewed or recovered by selecting 'History' from the item's pulldown menu.

You can leave comments, suggestions, and problems on the WikiDFeedback page.
Dewey Record

History & geography / Geography & travel / Geography of & travel in Europe

Class: 914

Caption: Geography of and travel in Europe

<table>
<thead>
<tr>
<th>Index Terms</th>
<th>Mapped Terms</th>
<th>Suggested Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>travels in Spain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Down The Chianti Road: Tuscany</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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The world is flat a brief history of the twenty-first century
by Thomas L Friedman; Oliver Wyman

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1. How do you rate this item?
Very Good

2. Please enter a title for your review:
A bit long but definitely worth a read

3. Type your review in the space below:
The author does a good job explaining why the world is becoming a flat place where anyone can compete effectively on a global scale by taking advantage of the technologies that now exist. Mr. Friedman gets a little political in some places and somewhat repetitive (15 CD's for the audio version) in making his points, but overall I found the book to be informative and challenging to the traditional business models that have guided successful organizations in the past.

Submit Review  Cancel and go back to reviews
Support for Multiple Collections

- CollectionWikiPages is the primary bootstrap collection and gives WikiD its out-of-the-box Wiki functionality

  - Consider that many conventional wiki implementations treat certain types of WikiNames as special (e.g. WikiNames that begin with the word “Category”)

  - In the same spirit, CollectionWikiPages treats WikiNames that start with the word “Collection” as special

  - This special class of WikiNames allows users to create, reference, and manipulate collections in much the same way they would create and reference wiki pages.
= WikiD Sandbox =

* NormalWikiName : Refers to a conventional wiki page
* CollectionCuisineTypes : Refers to a WikiD collection
* CollectionRestaurants : Refers to a WikiD collection
WikiD Sandbox

- NormalWikiName: Refers to a conventional wiki page
- CollectionCuisineTypes: Refers to a WikiD collection
- ?CollectionRestaurants: Refers to a WikiD collection
<table>
<thead>
<tr>
<th>Collection Name</th>
<th>Restaurants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Identifier Type</td>
<td>User-assigned</td>
</tr>
<tr>
<td>Administrator's email</td>
<td><a href="mailto:jyoung@oclc.org">mailto:jyoung@oclc.org</a></td>
</tr>
<tr>
<td>XSL Stylesheet</td>
<td>System-created</td>
</tr>
<tr>
<td>Native Record Schema</td>
<td>default</td>
</tr>
<tr>
<td>Crosswalk Schema</td>
<td>default</td>
</tr>
</tbody>
</table>

**Crosswalks**

See the instructions to learn how to configure crosswalks

<table>
<thead>
<tr>
<th>Crosswalk Schema</th>
<th>None</th>
<th>Add new</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crosswalk Schema</td>
<td>None</td>
<td>Add new</td>
</tr>
<tr>
<td>Crosswalk Schema</td>
<td>None</td>
<td>Add new</td>
</tr>
<tr>
<td>*record</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>repositoryName</td>
<td>Restaurants</td>
<td></td>
</tr>
<tr>
<td>localIdentifierType</td>
<td>userAssigned</td>
<td></td>
</tr>
<tr>
<td>adminEmail</td>
<td><a href="mailto:jyoung@oclc.org">mailto:jyoung@oclc.org</a></td>
<td></td>
</tr>
<tr>
<td>defaultXSL</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>*schemaURI</td>
<td>info:sid/localhost:CollectionSimpleSchemas:restaurant</td>
<td></td>
</tr>
<tr>
<td>defaultSchemaURI</td>
<td>info:sid/localhost:CollectionSimpleSchemas:restaurant</td>
<td></td>
</tr>
</tbody>
</table>
WikiD Sandbox

- NormalWikiName: Refers to a conventional wiki page
- CollectionCuisineTypes: Refers to a WikiD collection
- CollectionRestaurants: Refers to a WikiD collection
<table>
<thead>
<tr>
<th>Item identifier</th>
<th>Item label</th>
<th>Edit link</th>
<th>Deposit record link</th>
<th>Record content link</th>
</tr>
</thead>
<tbody>
<tr>
<td>kihachi</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There are no records in this collection
This record doesn't exist yet.

<table>
<thead>
<tr>
<th>name</th>
<th>Kihachi</th>
</tr>
</thead>
<tbody>
<tr>
<td>cuisine</td>
<td>Japanese</td>
</tr>
<tr>
<td>address</td>
<td>2667 Federated Blvd.</td>
</tr>
<tr>
<td>city</td>
<td>Columbus</td>
</tr>
<tr>
<td>state</td>
<td>OH</td>
</tr>
<tr>
<td>phone</td>
<td>(614) 764-9040</td>
</tr>
<tr>
<td>website</td>
<td></td>
</tr>
</tbody>
</table>

Create
<table>
<thead>
<tr>
<th><strong>name</strong></th>
<th>Kihachi</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>cuisine</strong></td>
<td><a href="#">info: sid/localhost: CollectionCuisineTypes: japanese</a></td>
</tr>
<tr>
<td><strong>address</strong></td>
<td>2667 Federated Blvd.</td>
</tr>
<tr>
<td><strong>city</strong></td>
<td>Columbus</td>
</tr>
<tr>
<td><strong>state</strong></td>
<td>OH</td>
</tr>
<tr>
<td><strong>phone</strong></td>
<td>(614) 764-9040</td>
</tr>
<tr>
<td>Item identifier</td>
<td>Item label</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------</td>
</tr>
<tr>
<td>tajPalace</td>
<td>Taj Palace</td>
</tr>
<tr>
<td>sumenos</td>
<td>Sumeno's</td>
</tr>
<tr>
<td>kihachi</td>
<td>Kihachi</td>
</tr>
</tbody>
</table>

**Import records:**

(restaurant)
OpenURL 1.0 Resolver

- A standard for performing context-sensitive “services” on “referents” (e.g. rendering of wiki markup records)
- WikiD installation is configured to recognize wiki-type services
  - display
  - edit
  - delete
  - etc.
- For this application, the OpenURL resolver is embed in the WikiD code rather than running as a sibling web-app
## Wiki/OpenURL 1.0 Mapping

<table>
<thead>
<tr>
<th>OpenURL Entity Type</th>
<th>Identifier</th>
<th>By Value Metadata</th>
<th>By Reference Metadata</th>
<th>Private Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referent</td>
<td>info:sid/localhost:CollectionWikiPages:FrontPage/SubPage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referring Entity</td>
<td><a href="http://localhost/wikid/FrontPage">http://localhost/wikid/FrontPage</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requester</td>
<td>User ID (if authenticated)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Type</td>
<td>action=edit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resolver</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referrer</td>
<td>info:sid/oclc.org:WikiD</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Pears

- A record-based database system
- [http://www.oclc.org/research/software/pears/default.htm](http://www.oclc.org/research/software/pears/default.htm)
SRW/U

- Search/Retrieve Web/URL Service
- A SOAP/REST search service standard
  - [http://www.loc.gov/z3950/agency/zing/srw/brief.html](http://www.loc.gov/z3950/agency/zing/srw/brief.html)
  - [http://www.oclc.org/research/software/srw/default.htm](http://www.oclc.org/research/software/srw/default.htm)
Update

- Update Web Service
- A database update web service standard created by the SRW/U community
- Enhanced to support file system-based version control of documents
WebEdit

- A lightweight open-source web-based record editor
- Accepts HTML form submittals and transforms them into XML documents that conform to a desired XML Schema
- Forwards the generated XML document to a corresponding Update service
WikiD

- An lightweight wiki front-end to an OpenURL 1.0 resolver
  - This combination supports wiki-enhancements for managing fielded data collections
  - [http://outgoing.typepad.com/outgoing/2005/05/metawiki.html](http://outgoing.typepad.com/outgoing/2005/05/metawiki.html)
- doGet/doPost processing
  - Transforms a Wiki URL request into an OpenURL 1.0 ContextObject representation
  - Issues the ContextObject to the OpenURL resolver
  - Relays the resolver results back to the client
Reference Links

- WikiD project page
  - http://www.oclc.org/research/projects/wikid/
- WikiD demo
  - http://alcme.oclc.org/wikid/
- Open WorldCat contributed content (example)
  - http://worldcatlibraries.org/wcpa/oclc/58795737&tab=reviews
- OCLC DeweyBrowser
  - http://deweyresearch.oclc.org/ddcbrowser/a14