What’s it all about? OCLC Web Services, Developers Network and the Application Gallery: their Contribution to the Cooperative

Kathryn Harnish
Senior Product Manager
How Do We Get From...

Today’s black-box systems environments, which limit flexibility and creativity...

to

an environment of collaborative innovation, in which OCLC, libraries, and industry partners can work together to build the system of the future?
In the past, it was common for user interface and the underlying data to be “joined at the hip”.
With the emergence of service-oriented architectures, applications are separated into three distinct components...
Once upon a time, there was a Web service. According to the W3C, I’m a software system designed to support interoperable machine-to-machine interaction over a network.

In simple terms, I transmit and receive messages between different applications (or with other services).

I am a type of an Application Programming Interface (API)...sometimes people call me an “API” (and that’s OK with me!).
The Web Service’s Job… In a Picture

An Application That Wants to Know About

I need some information about Martha.

Web Service…at your service!

I need to talk to the database!

So here’s the scoop on Martha Lawless: she was born on April 1, 1970...

Give me everything you’ve got on Martha.

Martha Lawless
Born 4/1/1970
Brunette hair | Green eyes
Wife of Oliver Lawless
Etc…
Have You Seen This Before?

It’s your friendly neighborhood Web service again!

In this case, superpages “called” me and asked me to get information about Kathryn from Facebook.
In the Library World...

For a PO, I need bibliographic data...

And I’ve gotten that data from WorldCat for you.

Hi, I’m the WorldCat Search API...

And I’ve gotten that data from WorldCat for you.

WMS ACO

And fund information...

Hi, I’m the WMS budget service...

Grab data

Grab data

Library Data
In the Library World...

For a PO, I need bibliographic data...

WMS ACQ

But what about opportunities to integrate other critical data?

And I can return price and availability to ACQ.

And fund information...

Hi, I’m an Amazon API...

Library Data

Supplier Data
An “A-ha!” Moment

Since OCLC is using Web services to build its products...

What if we exposed some of these for use by the library community?

What kinds of innovation would happen?

How could libraries and other providers take advantage of these services?

The OCLC Developer Network is a community of developers collaborating to propose, discuss and test OCLC Web Services. This open source, code-sharing infrastructure improves the value of OCLC data for all users by encouraging new OCLC Web Service uses.

1. **Register**
   Sign-up to collaborate with other developers.

2. **Learn**
   Use our resources to start building your application.

3. **Contribute**
   Add your application to our gallery.
# Web Services

## Download the Developer Network Handbook 8.5x11 A9

<table>
<thead>
<tr>
<th>Title</th>
<th>Status</th>
<th>What Is It</th>
<th>What It Does</th>
<th>Query Protocols</th>
<th>Record Formats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classify</td>
<td>Experimental</td>
<td>Classify books, videos, CDs and other materials based on identifier: ISSN or OCLC Number</td>
<td>Allows you to retrieve a classification (Dewey Decimal or Library of Congress) based on an identifier (ISBN, OCLC Number)</td>
<td>REST</td>
<td>Classify specific XML</td>
</tr>
<tr>
<td>Dewey Web Services</td>
<td>Experimental</td>
<td>Portion of Dewey Decimal classification represented as Linked Data</td>
<td>• Allows you to link to the top 3 levels of Dewey as Linked Data resources</td>
<td>REST, SPARQL</td>
<td>• XHTML+RDFa&lt;br&gt;• SKOS in three serializations</td>
</tr>
</tbody>
</table>
WorldCat Search API

Developer-level Access to WorldCat - for bibliographic holdings and location data

STATUS: Production

Search WorldCat and retrieve bibliographic records for cataloged items, information about libraries that own the items and links to online catalog records when available.

What you get

- Information about books, videos, music and more in WorldCat
- MARC XML or Dublin Core content for OCLC records
- Geographically-sorted library information (institution, name, location and an OPAC link) in request for a specific record (ISBN, OCLC Number)
- Records in standard bibliographic citation formats (APA, Chicago, Harvard, MLA, and Turabian)
- Commercial developers please contact the Business Development group to gain access

Who can use it

Qualifying Institutions

Interested in commercial use of this service? Contact us.

Usage Limit

Initially 50,000 queries a day. Can be raised by request

Read the API Documentation

- Featured Video
- Handouts
- Recent Presentations
- Applications
- Code Libraries
- Latest Discussion
- Related Publications
Enter Developer Network


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Applications

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### Programming Languages

- Javascript (5)
- Perl (4)
- PHP (9)
- Python (1)
- Ruby (4)

### Categories

#### Applications

<table>
<thead>
<tr>
<th>Screenshot</th>
<th>Title</th>
<th>Description</th>
<th>Contact Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Also Available at a WorldCat Library</td>
<td>Created at the May 2009 WorldCat Mashathon in Amsterdam, the “Also available at” sidebar in the Wageningen UR Library Catalogue development site uses the WorldCat Search API and the WorldCat Registry OpenURL Gateway to display a location-sensitive listing for other WorldCat libraries who also hold the item.</td>
<td>Peter van Boheemen, Wageningen University</td>
</tr>
<tr>
<td></td>
<td>Ask Scotland</td>
<td>Ask Scotland is an online information service that lets you get real answers from real people. Questions are sent to a librarian who uses library collections to research the query and sends back a personal response. The service uses QuestionPoint and the QuestionPoint Knowledge Base web service in order to create a highly customized user experience.</td>
<td>Gillian Hanlon, Slainte</td>
</tr>
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Developer Network: Applications

iRecommend

By scanning a book barcode or entering an ISBN, this application will quickly show you which books you should be reading and where you can buy or borrow them. Data on where to borrow books is based on the WorldCat Search API.


Contact Name
Josh Pressnell

Contact Developer

Related Web Service(s)
Worldcat Registry
WorldCat Search API

Average:

Your rating: None Average: 3 (2 votes)
Community and collaboration are important parts of Developer Network.
To the Next Level...

- As more products offer exposed Web services...
- And the library development community grows...
- A more formal infrastructure provides new opportunities.

Enter... The Platform!

No, not that kind of platform...
The Cooperative Platform

• The Cooperative Platform leverages OCLC’s infrastructure to deliver an externalized integration environment
  • Exposes a suite of business- and data-level services for use by libraries and other industry partners, beginning with WMS
  • Makes it possible to transform the relationships between libraries, their data, and their systems
  • Creates opportunities for collaborative innovation and provides a framework for building the library of the future
What Is the Cooperative Platform?

- From a practical standpoint, the Cooperative Platform offers:
  - A “toolbox” for developers that want to use OCLC services and data to build new or enhance existing applications
    - *Including integration with OCLC user interfaces!*
  - An “App Gallery”, through which libraries can easily share apps created by the community
  - Support for collaboration and cooperation within the library community
I want to innovate and integrate

Ability to create apps (Service Catalog)

I want to expose and share innovations

Ability to publish apps

I want to benefit from others’ innovations

Ability to find & install apps (App Gallery)

Ability to share (Community Site)

Data Layer

WorldCat®
“As a developer, I want to...”

I want to create an app that combines my library’s activity with info about titles on the NY Times bestseller list.
“I want to build an app…”

Trends from outside of the library realm…

Feed into selection and acquisition decision-making…

Trends within the library…
Searching for documentation and other information necessary to begin writing my app.
“Next I…”

Build my app in my local development environment...

// build request
$listURL = 'http://api.nytimes.com/svc/books/v2/lists/' . $listname . '.xml';

$listURL = $listURL . '?api-key=' . $NYT_API ;

// go get the XML
$xml = simplexml_load_file($listURL);
$bookCount = count($xml->xpath('//results/book'));
if ($bookCount > 0) {
    $list_title = $xml->results->book[0]->list_name;
    $list_date = $xml->results->book[0]->published_date;
And upload the app to the Platform.

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“This is where I upload my app...”

Manage Apps

Add an App to the repository (max size: 5120K)

<table>
<thead>
<tr>
<th>ID</th>
<th>App Name</th>
<th>Status</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>237</td>
<td>Search the Gail Borden Public Library catalog</td>
<td>Approved</td>
<td><img src="icon" alt="Action" /></td>
</tr>
<tr>
<td>238</td>
<td>The Librarian's Book Revoogle</td>
<td>Approved</td>
<td><img src="icon" alt="Action" /></td>
</tr>
<tr>
<td>239</td>
<td>Montréal Library Network</td>
<td>Approved</td>
<td><img src="icon" alt="Action" /></td>
</tr>
<tr>
<td>240</td>
<td>Riverside Public Library</td>
<td>Approved</td>
<td><img src="icon" alt="Action" /></td>
</tr>
<tr>
<td>241</td>
<td>Frogger</td>
<td>Approved</td>
<td><img src="icon" alt="Action" /></td>
</tr>
<tr>
<td>242</td>
<td>Hamster</td>
<td>Approved</td>
<td><img src="icon" alt="Action" /></td>
</tr>
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<td>Tetrix</td>
<td>Approved</td>
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<td>Tetrix</td>
<td>Approved</td>
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<tr>
<td>260</td>
<td>Circulation Demo</td>
<td>Approved</td>
<td></td>
</tr>
<tr>
<td>261</td>
<td>Super Flash Mario Bros</td>
<td>Approved</td>
<td></td>
</tr>
<tr>
<td>262</td>
<td>Super Flash Mario Sisters</td>
<td>Approved</td>
<td></td>
</tr>
<tr>
<td>274</td>
<td>Bestseller 1.5</td>
<td>Approved</td>
<td></td>
</tr>
</tbody>
</table>
“Here’s my app on the Platform…”

Super Flash Mario Sisters
Web Service: General
Developer: Welee
This is a nice flash remake of the classic Super Mario Bros, with an option to play as Mario or Luigi.

Hamster 2
Web Service: General
Developer: Adam Bowman
This lively pet hamster will keep you company throughout the day.

Bestseller 1.5
Web Service: General
Developer: Harnish
The Bestseller widget aggregates data from online sources such as the New York Times and Oprah Bookclub lists.
“And then I share the app...”

- Options to contribute apps to a shared App Gallery for use by other libraries
  - Share innovative solutions with peers
  - OCLC is working on an incentive model for sharing local development with the Platform community
As an acquisitions librarian, I want to find tools that will help me to better understand and react to the interests of my library community.
Search the Gail Borden Public Library catalog
Web Service: General
Developer: Gail Borden Public Library
Search the Gail Borden Public Library catalog for books, movies, and more.

The Librarian's Book Revoogle
Web Service: General
Developer: Paul K.
A search engine for finding online book reviews written by librarians, staff, or library users. Library and librarian websites are included.

Montréal Library Network
Web Service: General
Developer: Jonathan Latreille
Search for book(s) in NELLIGAN catalogue from Montréal library network

Riverside Public Library
Web Service: General
A Sample Platform App

Exactly what I want!
### The Sample App Installed

Data from the NYT API

Data from WC Search API

Data from the WMS circ service

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#### Bestsellers

<table>
<thead>
<tr>
<th>Rank</th>
<th>Title</th>
<th>Weeks On</th>
<th>Copies</th>
<th>Holds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The girl with the dragon tattoo</td>
<td>13</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>2</td>
<td>The girl who played with fire</td>
<td>12</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>Black hills</td>
<td>3</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>The bourne deception</td>
<td>2</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>The doomsday key</td>
<td>3</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Orchard valley grooms</td>
<td>3</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>Garrett</td>
<td>3</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>Necusa</td>
<td>3</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>Matters of the heart</td>
<td>3</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>Married by morning</td>
<td>3</td>
<td>6</td>
<td>1</td>
</tr>
</tbody>
</table>
An Example of an External App

Hello, Kathryn Harnish. We have recommendations for you. (Not Kathryn?)

Kathryn’s Amazon.com | Today’s Deals | Gifts & Wish Lists | Gift Cards

Instant Order Update for Kathryn Harnish. You purchased this item on September 7, 2007. View this order.

Prime
Member: Kathryn Harnish

Kathryn Harnish: This item is eligible for Amazon Prime. Click here to turn on 1-Click and make Prime even better for you. (With 1-Click enabled, you can always use the regular shopping cart as well.)

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Michael Pollan (Author)

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109 new from $7.35  306 used from $5.63

Format
Kindle Edition -- $12.99
Library Binding $14.18 Prime $14.18 $34.47
Paperback $8.86 Prime $7.35 $5.63

More Buying Choices
415 used & new from $5.53
Have one to sell? Sell yours here
Platform Partnerships

- Working closely with three library pilots:
  - BIBSYS, University of TN Chattanooga, Orbis Cascade (and Washington State)
- In discussions with a number of potential third-party developers regarding platform capabilities
  - Service neutrality is a key goal
Timeline for Platform Delivery

- Delivery of beta versions to pilots in March and June 2011
- General availability expected in September 2011
- Actively working on externalizing services across OCLC products - WMS, cataloging, network delivery, etc.
Questions and Discussion

Thank You

Kathryn Harnish (harnishk@oclc.org)