

VIRTUAL LIBRARY COLLECTION WITH LINKED DATA

E. Lynette Rayle
Linked Data for Libraries
Cornell University



February 23, 2015

MOTIVATION FOR VIRTUAL COLLECTIONS

- Large collections for the library community
 - Virtual Libraries
- Small collections defined by users or small groups
 - Course reading list
 - Research reference material
 - Personal organization of resources

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Our primary motivation is to create a system for managing **large scale** library collections with **hundreds of thousands** of resources in the collection. We want the **creation tools and exploration** to be **integrated** with the library Access & Discovery system. We want it to be able to draw resources from **multiple institutions** and use linked data to **augment** our metadata. We want to be able to **share** the collections we build through our internal websites and also to make them available through linked data queries.

We want to be able to present users with options like 'you placed these resources in your collection, those same resources exist in another collection that may be of interest to you'.

In the process of solving these challenges at scale for the library community, we will have put in place the **infrastructure** that empowers individual users to create collections as well. I list a few possibilities for users and small collaborative groups. There are any number of other possibilities that users will come up with once the tools are in their hands.

DEMO

The screenshot shows a web browser window displaying the Cornell University Library website. The browser's address bar shows the URL `http://localhost:3000/vc/my_virtual_collections`. The website header features the Cornell University Library logo and a navigation menu with links: Home, About Us, Libraries and Hours, Courses, Research, Services, Ask a Librarian, Help, and My Account. Below the header, the page title is "Search / Catalog". A secondary navigation bar includes links for "My Virtual Collections", "Selected Items", "Search History", "Borrow Direct", and "Interlibrary Loan". The main content area is titled "My Virtual Collections" and contains two sections: "Linked Data for Libraries" (highlighted with a yellow circle) and "Watched Collections". The "Watched Collections" section indicates that there are no watched collections and provides a link to find collections to watch. The footer contains contact information, resources, and social media icons.

From My Virtual Collection page, view the items in Linked Data for Libraries virtual collection.

Cornell University Library

Home About Us Libraries and Hours Courses Research Services Ask a Librarian Help My Account

Search / Catalog [My Virtual Collections](#) [Selected Items](#) [Search History](#) [Borrow Direct](#) [Interlibrary Loan](#)

My Virtual Collections +

[Linked Data for Libraries](#)

Watched Collections +

No watched collections. Click + to find collections to watch.

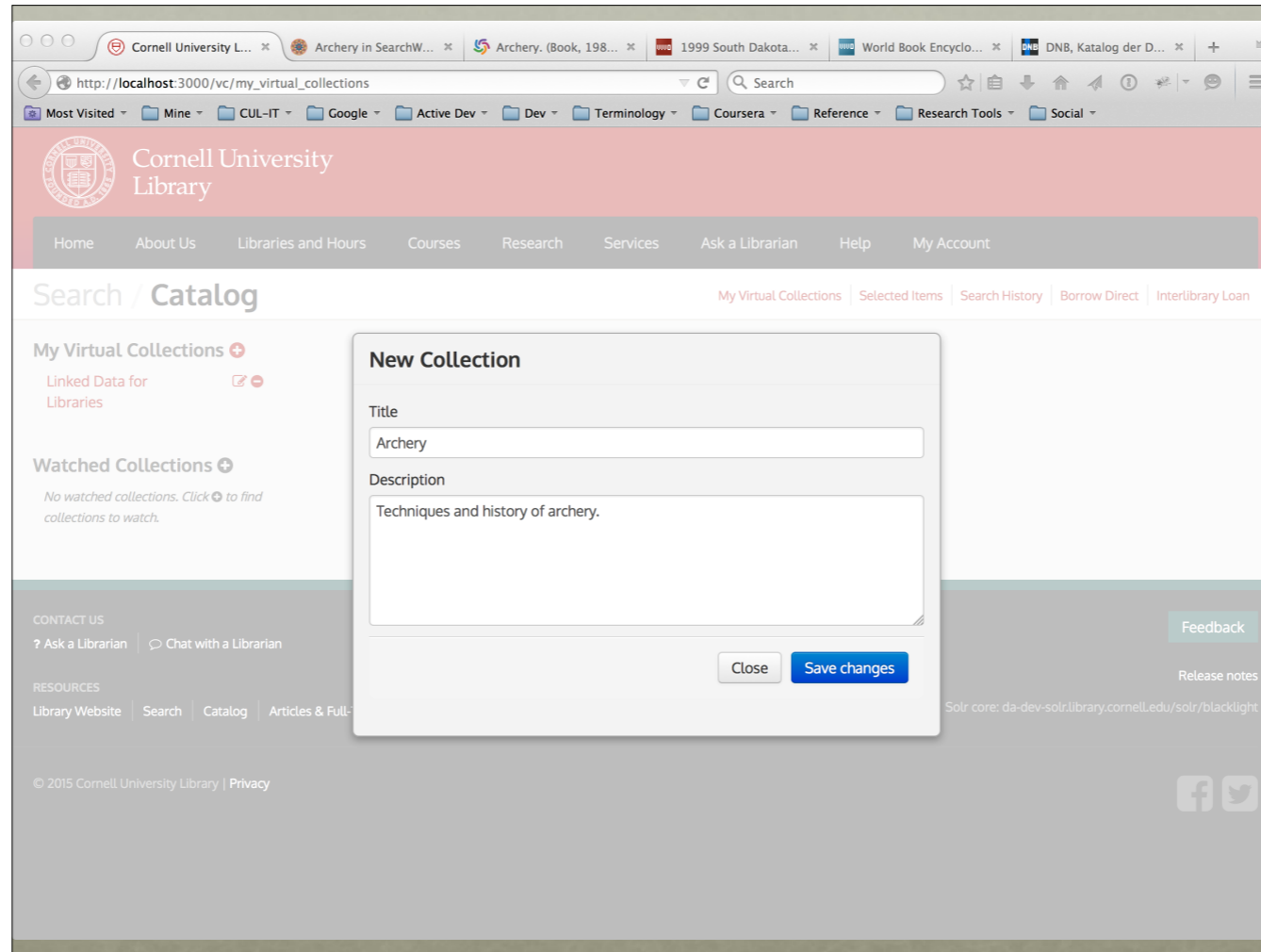
Linked Data for Libraries

+ Add External Resource

« Previous | 1 - 4 of 4 | Next » 20 per page Sort by relevance

- 1. Linked data for libraries, archives and museums : how to clean, link and publish your metadata** 2014 Remove
Book Chicago, IL : Neal-Schuman, an imprint of the American Library Association, 2014. U.S. edition
Source: Cornell Catalog
[Show/Hide Notes and Tags](#)
- 2. Library linked data : research and adoption** Remove
Mitchell, Erik T., 1972-
Book Chicago, IL : ALA TechSource, c2013.
Source: Cornell Catalog
[Show/Hide Notes and Tags](#)
- 3. Linked data structured data on the web** Remove
Wood, David, 1963-
Book Shelter Island, NY : Manning Publications, c2014.
Source: Stanford Catalog
[Show/Hide Notes and Tags](#)

Click + beside My Virtual Collections header in left side menu to create a new virtual collection.



Set metadata for the new collection on Archery.

Each new collection is saved as an aggregation in the triplestore using triples as defined in the ORE ontology.

The screenshot shows the Cornell University Library website. The browser's address bar displays the URL: `http://localhost:3000/vc/my_virtual_collections/http:%2F%2Flocalhost%2Fag4bed9f37-ef81-4ad...`. The page header features the Cornell University Library logo and a navigation menu with the following items: Home (highlighted with a yellow circle), About Us, Libraries and Hours, Courses, Research, Services, Ask a Librarian, Help, and My Account. Below the navigation menu is a search bar and a 'Catalog' link. A light blue notification banner at the top of the main content area states: 'Collection was successfully created.' The 'My Virtual Collections' section shows a list of collections, with 'Archery' selected and highlighted in grey. To the right of the 'Archery' collection, there is a large grey box containing the text 'Archery' and a red button labeled 'Add External Resource'. Below this, the 'Watched Collections' section is empty, with the text: 'No watched collections. Click to find collections to watch.' The footer contains contact information, including 'Ask a Librarian' and 'Chat with a Librarian' links, a 'Feedback' button, and a 'Release notes' link. The footer also includes a list of resources: 'Library Website', 'Search', 'Catalog', 'Articles & Full-Text', 'Databases', 'E-journal Titles', and 'Images'. The footer text includes '© 2015 Cornell University Library | Privacy' and social media icons for Facebook and Twitter.

New Archery collection is selected and has no items.

Click Home to search the Cornell Catalog for items to add to the collection.

Cornell University Library

Home About Us Libraries and Hours Courses Research Services Ask a Librarian Help My Account

Search / Catalog [My Virtual Collections](#) [Selected Items](#) [Search History](#) [Borrow Direct](#) [Interlibrary Loan](#)

Refine your results

Access

At the Library	5,622,891
Online	1,403,811

Format

Book	6,252,464
Journal/Periodical	367,581
Microform	355,348
Thesis	196,418
Musical Recording	150,072
Musical Score	80,557
Map or Globe	62,805
Video	36,648
Manuscript/Archive	15,060
Non-musical Recording	9,693

[See more »](#)

Author/Creator +

Publication Year +

Language +

Subject/Genre +

Subject: Region +

Subject: Era +

Archery All Fields Search

[Advanced Search](#) | [Search Tips](#)

Welcome to the new Cornell University Library catalog. This catalog is being developed to replace the aging [Classic Catalog](#) and incorporate the best features of [WorldCat Local](#). (Please note that WorldCat Local is available through the "libraries worldwide" link on the search results page.)

This site is in active development. For more details about these changes, please see our [release notes](#).

We need your feedback! Please [send us any questions or comments](#).

OTHER RESOURCES


[Articles & Full Text](#) | [Databases](#) | [E-journal Titles](#) | [Classic Catalog](#)

Search Cornell catalog for 'Archery'

Search Results | Cornell U... * +

http://localhost:3000/?utf8=✓&q=Archery&search_field=all_fields

Most Visited Mine CUL-IT Google Active Dev Dev Terminology Coursera Reference Research Tools Social

 Cornell University Library

Home About Us Libraries and Hours Courses Research Services Ask a Librarian Help My Account

Search / Catalog [My Virtual Collections](#) [Selected Items](#) [Search History](#) [Borrow Direct](#) [Interlibrary Loan](#)

Looking for more?

- Request from Libraries Worldwide (+)
- Search Articles & Full Text (8,186)
- Recommend a Purchase

Refine your results

Access

- At the Library 114
- Online 81

Format

- Book 179
- Microform 12
- Musical Recording 7
- Journal/Periodical 3
- Map or Globe 2
- Non-musical Recording 1
- Manuscript/Archive 1
- Video 1

Author/Creator

Publication Year

Language

Subject/Genre




Archery

All Fields Search or Start over

Advanced Search | Search Tips

All Fields: Archery x

« Previous | 1 - 20 of 195 | Next » 20 per page Sort by relevance

-  **1. Archery fundamentals** c2005 Select
Book Champaign, IL : Human Kinetics, c2005. English
✓ Olin Library Oversize GV1185 .A74 2005 +
-  **2. Archery : steps to success** c2006 Select
Haywood, Kathleen.
Book Champaign, IL : Human Kinetics, c2006. English 3rd ed.
✓ Olin Library Oversize GV1185 .H38 2006 +
-  **3. Japanese archery** [1965] Select
Nasu, Toshisuke.
Book Rutland, Vt. : C.E. Tuttle Co., [1965] English
✓ Kroch Library Asia GV1185 .A18 1965

« Previous Next » 1 2 3 4 5 ... 9 10

Select one of the resources related to archery.

The screenshot shows the Cornell University Library catalog interface. At the top, the browser address bar displays 'http://localhost:3000/catalog/5681270'. The page header includes the Cornell University Library logo and navigation links: Home, About Us, Libraries and Hours, Courses, Research, Services, Ask a Librarian, Help, and My Account. Below the header, the 'Search / Catalog' section features a search bar with 'Search...' and a dropdown menu set to 'All Fields'. A 'Back to catalog results' link is visible. The main content area displays the book 'Archery' by Kathleen M. Haywood and Catherine F. Lewis. The book's metadata includes: Author/Creator: Haywood, Kathleen.; Format: Book; Language: English; Edition: 3rd ed.; Published: Champaign, IL : Human Kinetics, c2006.; Subject: Archery; Description: 196 p. : ill. ; 28 cm.; ISBN: 0736055428 (soft cover); Other author/creator: Lewis, Catherine, 1957-. A dropdown menu for 'Add to Virtual Collection' is open, showing 'Linked Data for Libraries Archery' as the selected option. Other options include 'Olin Library' and 'Request'.

From the 'Add to Virtual Collection' drop list, select Archery.

The screenshot shows the Cornell University Library website. At the top, there is a navigation bar with links for Home, About Us, Libraries and Hours, Courses, Research, Services, Ask a Librarian, Help, and My Account. Below this is a search bar and a 'Catalog' link. A message at the top of the main content area states 'Item was successfully created.' The main content area is titled 'My Virtual Collections' and features a section for 'Archery'. Under 'Archery', there is a list of items with pagination and sorting options. The first item is '1. Archery : steps to success' by Kathleen Haywood, published in Champaign, IL by Human Kinetics in 2006. The item is highlighted with a green dashed border. The footer contains contact information, resources, and a feedback button.

The book is added to the Archery virtual collection.

The host 'localhost:3000' is registered, so follow the Cornell catalog process.

Process to add:

- * use content negotiation to get application/marcxml+xml
- * convert marcxml to bibframe triples
- * extract display metadata from bibframe triples
- * add triples to add the URI to the aggregates list for the Archery aggregation and add the triples for a proxy resource according to the ORE ontology

STANFORD UNIVERSITY LIBRARIES

SearchWorks catalog

All fields Archery

ADVANCED BROWSE SELECTIONS (0)

Find materials by...

Access

At the Library	6,368,431
Online	1,439,415

Resource type

Archive/Manuscript	27,437
Book	6,539,880
Database	1,717
Dataset	1,028
Equipment	281
Image	6,812
Journal/Periodical	440,065
Map	79,933
Music recording	154,352
Music score	93,457
Newspaper	7,116
Object	56
Software/Multimedia	8,832
Sound recording	4,451

Featured resources

- Digital collections
Images, maps, data, & more from the Stanford Digital Repository.
- Dissertations & theses
Dissertations and theses in Stanford's collections.
- Selected article databases
Not sure where to start? Find articles by discipline.
- Course reserves
Find print, media, and e-resources set aside for classes.
For instructors: Request course reserves.

Looking for articles?

Articles are not indexed in SearchWorks. Select a database to search for articles.

Citation finder
Find an article in one of Stanford's ejournal subscriptions.

xSearch
Search for articles in multiple databases simultaneously.

Guide: Find articles
Guide to searching for articles at Stanford.

Help with SearchWorks

Guide: SearchWorks basics
Overview of SearchWorks features, including basic search strategies, facets, browsing.

Search Stanford's searchworks for 'Archery'.

Archery - Cornell Universi... 223 results in SearchWorks

searchworks.stanford.edu/?utf8=✓&search_field=search&q=Archery

STANFORD UNIVERSITY LIBRARIES My Account Feedback

SearchWorks catalog All fields Archery ADVANCED BROWSE SELECTIONS (0)

Start over Archery

Limit your search 223 results

Access Resource type Media type Date Library Language Author Call number Topic Genre Region

Previous 1 - 20 Next View Sort by relevance 20 per page Select all

1. Archery [1956] Select
Wiseman, Howard
London, W. & G. Foyle [1956]
BOOK 112 p. illus.
At the library SAL3 (off-campus storage)

2. Archery [1969] Select
Barrett, Jean A.
Pacific Palisades, Calif., Goodyear Pub. Co. [1969]
BOOK 88 p. illus. 23 cm.
At the library SAL3 (off-campus storage)

3. Archery [1926] Select

Select one of the resources related to archery.

Archery - Cornell Universi... Archery in Searchworks...

searchworks.stanford.edu/view/2219806

STANFORD UNIVERSITY LIBRARIES My Account Feedback

SearchWorks catalog All fields Search ADVANCED BROWSE SELECTIONS (0)

Back to results Previous 2 of 223 Next Cite Send to Select

Archery

AUTHOR/CREATOR Barrett, Jean A.
LANGUAGE English.
IMPRINT Pacific Palisades, Calif., Goodyear Pub. Co. [1969]
PHYSICAL DESCRIPTION 88 p. illus. 23 cm.

SAL3 (off-campus storage)
No public access

Stacks 371.3615 .B274 Request

More options
Find it at other libraries via WorldCat

Contents/Summary

BIBLIOGRAPHY
Bibliography: p. [87]-88.

Subjects

SUBJECT
Archery.

Bibliographic information

PUBLICATION DATE
1969

RESPONSIBILITY
[by] Jean A. Barrett.

SERIES
Goodyear physical activities series

Browse related items

For Stanford's searchworks, the URI is the URL. Copy the URL from the browser address bar.

The screenshot shows the Cornell University Library website. At the top, there is a navigation bar with the Cornell University Library logo and a menu with items like Home, About Us, Libraries and Hours, Courses, Research, Services, Ask a Librarian, Help, and My Account. Below this is a search bar and a 'Search / Catalog' header. A blue notification bar at the top of the main content area says 'Item was successfully created.' The main content area is titled 'My Virtual Collections' and features a collection named 'Archery'. Underneath the collection title, there is a button labeled '+ Add External Resource'. Below this, there is a list of items, with the first item being '1. Archery : steps to success' by Haywood, Kathleen. The item is a book published in Champaign, IL by Human Kinetics in 2006. The page also includes a 'Watched Collections' section with a message: 'No watched collections. Click to find collections to watch.' At the bottom, there is a footer with contact information, resources, and a feedback button.

Click + Add External Resource under the virtual collection title Archery in the header of the main content area of the page.

The screenshot shows a web browser window displaying the Cornell University Library website. The browser's address bar shows the URL: `http://localhost:3000/vc/my_virtual_collections/http:%2F%2Flocalhost%2Fag4bed9f37-ef81-4ad...`. The website header includes the Cornell University Library logo and navigation links: Home, About Us, Libraries and Hours, Courses, Research, Services, Ask a Librarian, Help, and My Account. Below the header is a search bar and a 'Search / Catalog' section. A notification at the top states 'Item was successfully created.' The main content area features 'My Virtual Collections' with a sub-section for 'Archery' and an 'Add External Resource' button. A 'New Item' dialog box is open in the center, containing an 'Item URI' input field with the text `http://searchworks.stanford.edu/view/2219806` and two buttons: 'Close' and 'Save changes'. The background page also shows pagination controls ('Previous 1 | 1 of 1 | Next') and a 'Remove' button.

Paste in the URI and Save changes.

The screenshot shows a web browser window displaying the Cornell University Library's virtual collections page. The page title is "Search / Catalog". A notification at the top states "Item was successfully created." The main content area is titled "Archery" and includes a button to "Add External Resource". Below this, there are two search results:

- 1. Archery : steps to success**
Haywood, Kathleen.
Book Champaign, IL : Human Kinetics, c2006. 3rd ed.
Source: Cornell Catalog
[Show/Hide Notes and Tags](#)
- 2. Archery [1969]**
Barrett, Jean A.
Book Pacific Palisades, Calif., Goodyear Pub. Co. 1969
Source: Stanford Catalog
[Show/Hide Notes and Tags](#)

The second result is highlighted with a green dashed border. The interface also includes navigation links like "Previous | 1 - 2 of 2 | Next »" and options for "20 per page" and "Sort by relevance".

The book is added to the Archery virtual collection.

The host 'searchworks.stanford.edu' is registered, so follow the Stanford catalog process, which is the same as the Cornell catalog process.

Process to add:

- * use content negotiation to get application/marcxml+xml
- * convert marcxml to bibframe triples
- * extract display metadata from bibframe triples
- * add triples to add the URI to the aggregates list for the Archery aggregation and add the triples for a proxy resource according to the ORE ontology

Archery - Cornell Universi... Archery in SearchWorks WorldCat.org: The World's...
www.worldcat.org Search
Home Search Create lists, bibliographies and reviews: Sign in or create a free account

OCLC WorldCat®

Find items in libraries near you
2 billion items available here through a library

Everything Books DVDs CDs Articles
Archery Search everything
Advanced search Find a Library
WorldCat connects you to the collections and services of more than 10,000 libraries worldwide Learn more >>


Sign in to create lists, bibliographies and reviews of library materials
User Name:
Password:
 Remember me on this computer.
Continue
Forgot your password? | Create a free account
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- Choose an iPhone or Android app to find an item in a library near you

Learn more and find an app >>

 [WorldCat Identities Network](#)
Visually explore the interconnectivity and relationships between WorldCat Identities. Experimental

 [Browse library collections with WorldCat Genres](#) Experimental

Search OCLC for 'Archery'.

Archery - Cornell Universi... Archery in SearchWorks Results for 'Archery' [Worl... +

www.worldcat.org/search?qt=worldcat_org_all&q=Archery Search

Most Visited Mine CUL-IT Google Active Dev Dev Terminology Coursera Reference Research Tools Social

Home Search Create lists, bibliographies and reviews: Sign in or create a free account

OCLC WorldCat® Archery Search

Advanced Search Find a Library

Search results for 'Archery'

Format Results 1-10 of about 7,114 (.32 seconds) << First < Prev 1 2 3 Next >

Select All Clear All Save to: [New List] Save Sort by: Relevance Save Search

All Formats (7,114)

- Book (2934)
- book-printbook (731)
- eBook (505)
- Microform (200)
- Thesis/dissertation (186)
- Large print (5)
- Braille Book (4)
- Continually updated resource (2)
- Article (1562)
- Chapter (129)
- Downloadable article (41)
- Video (518)
- VHS (229)
- DVD (169)
- Film (76)
- eVideo (20)
- Bluray (10)

Show more ...

Refine Your Search


Author


- Loui Sesejla (106)
- Szuskiewicz J S (66)
- Evan Brown (35)
- Eugen Herrigel (34)
- Kilpatrick Howard J (33)


Show more ...


Year

- 2012 (214)
- 2011 (260)

1.  **Archery**
by USA Archery.;
Book [View all formats and languages >](#)
Language: English
Publisher: Champaign, IL : Human Kinetics, ©2012.
Database: WorldCat
[View all editions >](#)

2.  **Archery**
by Boy Scouts of America.;
Book : Juvenile audience [View all formats and languages >](#)
Language: English
Publisher: Irving, Tex. : Boy Scouts of America, 1986.
Database: WorldCat
[View all editions >](#)

3.  **Archery**
by Wayne C McKinney
Book [View all formats and languages >](#)
Language: English
Publisher: Dubuque, Iowa, W.C. Brown Co. [1966]
Database: WorldCat
[View all editions >](#)

4.  **Archery**
by Steve Boga

Select one of the resources related to archery.

The screenshot shows the OCLC WorldCat website interface. The main content area displays the book details for "Archery" by Boy Scouts of America, published in 1986. A yellow circle highlights the "Permalink" button in the top right corner of the resource page, which has opened a dialog box containing the URL: <http://www.worldcat.org/oclc/14961181>. Below the book details, there is a section titled "Find a copy in the library" with a search bar and a table of library holdings.

Library	Held formats	Distance
1 SUNY at Cortland		

For OCLC, the URI is a permalink. Click the permalink symbol in the top right corner of the resource page and copy the URI.

The screenshot shows the Cornell University Library website. At the top, there is a navigation bar with the library logo and name, and a menu with links: Home, About Us, Libraries and Hours, Courses, Research, Services, Ask a Librarian, Help, and My Account. Below this is a search bar and a 'Search / Catalog' header. A notification bar at the top of the main content area says 'Item was successfully removed.' The main content area is titled 'My Virtual Collections' and features a collection named 'Archery'. Under the 'Archery' title, there is a button labeled '+ Add External Resource' which is circled in yellow. Below this, there are two search results for 'Archery':

- 1. Archery : steps to success** - Remove
Haywood, Kathleen.
Book Champaign, IL : Human Kinetics, c2006. 3rd ed.
Source: Cornell Catalog
[Show/Hide Notes and Tags](#)
- 2. Archery [1969]** - Remove
Barrett, Jean A.
Book Pacific Palisades, Calif., Goodyear Pub. Co. 1969
Source: Stanford Catalog
[Show/Hide Notes and Tags](#)

Click + Add External Resource under the virtual collection title Archery in the header of the main content area of the page.

Cornell University Library

Home About Us Libraries and Hours Courses Research Services Ask a Librarian Help My Account

Search / Catalog

Item was successfully removed.

My Virtual Collections

- Linked Data for Libraries
- Archery

Watched Collections

No watched collections. Click to find collections to watch.

Archery

Add External Resource

Previous 1 | 2 of 2 | Next

20 per page Sort by relevance

New Item

Item URI

Close Save changes

Remove

Remove

Book Pacific Palisades, Calif., Goodyear Pub. Co. 1969

Source: Stanford Catalog

Show/Hide Notes and Tags

Paste in the URI and Save changes.

The screenshot shows a web browser window with multiple tabs. The active tab is a virtual collection page for 'Archery'. The page has a navigation bar with links like 'Home', 'About Us', 'Libraries and Hours', 'Courses', 'Research', 'Services', 'Ask a Librarian', 'Help', and 'My Account'. Below the navigation bar, there's a search bar and a 'Search / Catalog' header. A message at the top says 'Item was successfully created.' The main content area is titled 'Archery' and includes a 'Add External Resource' button. Below this, there are three book entries:

- 1. Archery : steps to success**
Haywood, Kathleen.
Book Champaign, IL : Human Kinetics, c2006. 3rd ed.
Source: Cornell Catalog
[Show/Hide Notes and Tags](#)
- 2. Archery [1969]**
Barrett, Jean A.
Book Pacific Palisades, Calif., Goodyear Pub. Co. 1969
Source: Stanford Catalog
[Show/Hide Notes and Tags](#)
- 3. Archery. 1986**
Book default : default, 1986 en 1986 revision.
Source: OCLC Worldcat
[Show/Hide Notes and Tags](#)

The third entry is highlighted with a green dashed box. The page also features a 'My Virtual Collections' section on the left with 'Linked Data for Libraries' and 'Archery' options, and a 'Watched Collections' section with a message: 'No watched collections. Click to find collections to watch.'

The book is added to the Archery virtual collection.

The host 'www.worldcat.org' is registered, so follow the OCLC process.

Process to add:

* use content negotiation to get application/rdf+xml

* extract display metadata from schema triples

* add triples to add the URI to the aggregates list for the Archery aggregation and add the triples for a proxy resource according to the ORE ontology

The image shows a browser window displaying the Cornell University VIVO website. The browser's address bar shows 'vivo.cornell.edu'. The website header includes the Cornell University logo and the text 'VIVO Research & Expertise Across Cornell'. A navigation menu contains links for Home, People, Organizations, Research, and Events. A 'Welcome to VIVO' section explains the tool's purpose. A 'Log in' section offers a 'Log in using Cornell NetID' button. A search bar is highlighted with a yellow oval, containing the text 'Archery' and a 'Search' button. Below the search bar, three summary boxes are visible: 'Research' with 55,194 Academic Articles and 11,884 Conference Papers; 'Faculty' featuring Kaja Maria McGowan; and 'Research Facilities' listing the Biostatistics and Research Methodology Core and the Animal Health Diagnostic Center.

Search Cornell VIVO for 'Archery'.

Archery - Cornell Universi... Archery in SearchWorks Archery. (Book, 1986) [Wo... Archery - VIVO: Cornell R...

vivo.cornell.edu/search Search

Most Visited Mine CUL-IT Google Active Dev Dev Terminology Coursera Reference Research Tools Social

Cornell University Search Cornell

VIVO Research & Expertise Across Cornell Archery Search

Home People Organizations Research Events

Search results for 'Archery' [Not the results you expected?](#)

1999 South Dakota archery deer hunter survey report | Report
... Jenks, Jonathan A 1999 South Dakota archery deer hunter survey report Hubbard, Daniel E 1999 South Dakota archery deer hunter survey report Gigliotti, Larry M ...

PE-1520: Introduction to Archery - Fall 2012 | Course
... Archery PE 1 PE - Physical Education & Athletics Fall 2012 Course Entity Event Occurrent Process ...

PE-1520: Introduction to Archery - Fall 2013 | Course
... Archery PE 1 Fall 2013 PE - Physical Education & Athletics Course Entity Event Occurrent Process ...

PE-1520: Introduction to Archery - Spring 2015 | Course
... Archery PE 1 PE - Physical Education & Athletics Spring 2015 Course Entity Event Occurrent Process ...

PE-1520: Introduction to Archery - Fall 2014 | Course
... Archery PE 1 Fall 2014 PE - Physical Education & Athletics Course Entity Event Occurrent Process ...

PE-1520: Introduction to Archery - Spring 2013 | Course
... Archery PE 1 PE - Physical Education & Athletics Spring 2013 Course Entity Event Occurrent Process ...

PE-1520: Introduction to Archery - Spring 2014 | Course
... Archery PE 1 Spring 2014 PE - Physical Education & Athletics Course Entity Event Occurrent Process ...

Equipment, skills, and success of South Dakota archery deer hunters | Conference Paper
... Hubbard, Daniel E Equipment, skills, and success of South Dakota archery deer hunters Boulanger, Jay Equipment, skills, and success of South

Display Only

people	(1)
courses	(6)
events	(6)
research	(7)
topics	(1)

Select one of the resources related to archery.

Archery - Cornell Universi... Archery in SearchWorks Archery. (Book, 1986) [Wo... 1999 South Dakota archer...

vivo.cornell.edu/display/Al-13671528449

Most Visited Mine CUL-IT Google Active Dev Dev Terminology Coursera Reference Research Tools Social

Cornell University Search Cornell

VIVO Research & Expertise Across Cornell

Index Log in

Home People Organizations Research Events

1999 South Dakota archery deer hunter survey report Report

Overview Additional Document Info View All

authors

[Gigliotti, Larry M](#)

[Boulanger, Jay](#)

[Jenks, Jonathan A](#)

[Hubbard, Daniel E](#)

publication date

2000

share the URI for this profile

<http://vivo.cornell.edu/individual/Al-13671528449>

[view profile in RDF format](#)

For VIVO Cornell, the URI is a permalink. Click the permalink symbol beside the title of the resource and copy the URI.

The screenshot shows the Cornell University Library website. At the top, there is a navigation bar with the library logo and name, and a menu with links like Home, About Us, Libraries and Hours, Courses, Research, Services, Ask a Librarian, Help, and My Account. Below this is a search bar and a 'Search / Catalog' header. A notification banner at the top of the main content area says 'Item was successfully created.' The main content area is titled 'My Virtual Collections' and features a collection named 'Archery'. Under the 'Archery' collection title, there is a button labeled '+ Add External Resource' which is circled in yellow. Below the collection header, there are three items listed:

- 1. **Archery : steps to success** by Haywood, Kathleen. Book. Champaign, IL : Human Kinetics, c2006. 3rd ed. Source: Cornell Catalog. [Show/Hide Notes and Tags](#) [Remove](#)
- 2. **Archery [1969]** by Barrett, Jean A. Book. Pacific Palisades, Calif., Goodyear Pub. Co. 1969. Source: Stanford Catalog. [Show/Hide Notes and Tags](#) [Remove](#)
- 3. **Archery. 1986**. Book. default : default, 1986 en 1986 revision. [Remove](#)

Click + Add External Resource under the virtual collection title Archery in the header of the main content area of the page.

Cornell University Library

Home About Us Libraries and Hours Courses Research Services Ask a Librarian Help My Account

Search / Catalog

My Virtual Collections Selected Items Search History Borrow Direct Interlibrary Loan

Item was successfully removed.

My Virtual Collections

- Linked Data for Libraries
- Archery

Watched Collections

No watched collections. Click to find collections to watch.

Archery

Add External Resource

Previous 1 | 3 of 3 | Next »

20 per page Sort by relevance

New Item

Item URI

Close Save changes

Book Pacific Palisades, Calif., Goodyear Pub. Co. 1969
Source: Stanford Catalog
Show/Hide Notes and Tags

3. Archery. 1986
Book default : default, 1986 en 1986 revision.

Paste in the URI and Save changes.

The screenshot shows a web browser interface for a virtual collection named "Archery". The collection is displayed as a list of four items, each with a small icon, a title, author information, and source. The fourth item, "1999 South Dakota archery deer hunter survey report", is highlighted with a green dashed box. The browser tabs and address bar are visible at the top.

The report is added to the Archery virtual collection.

The host 'vivo.cornell.edu' is registered, so follow the Cornell VIVO process.

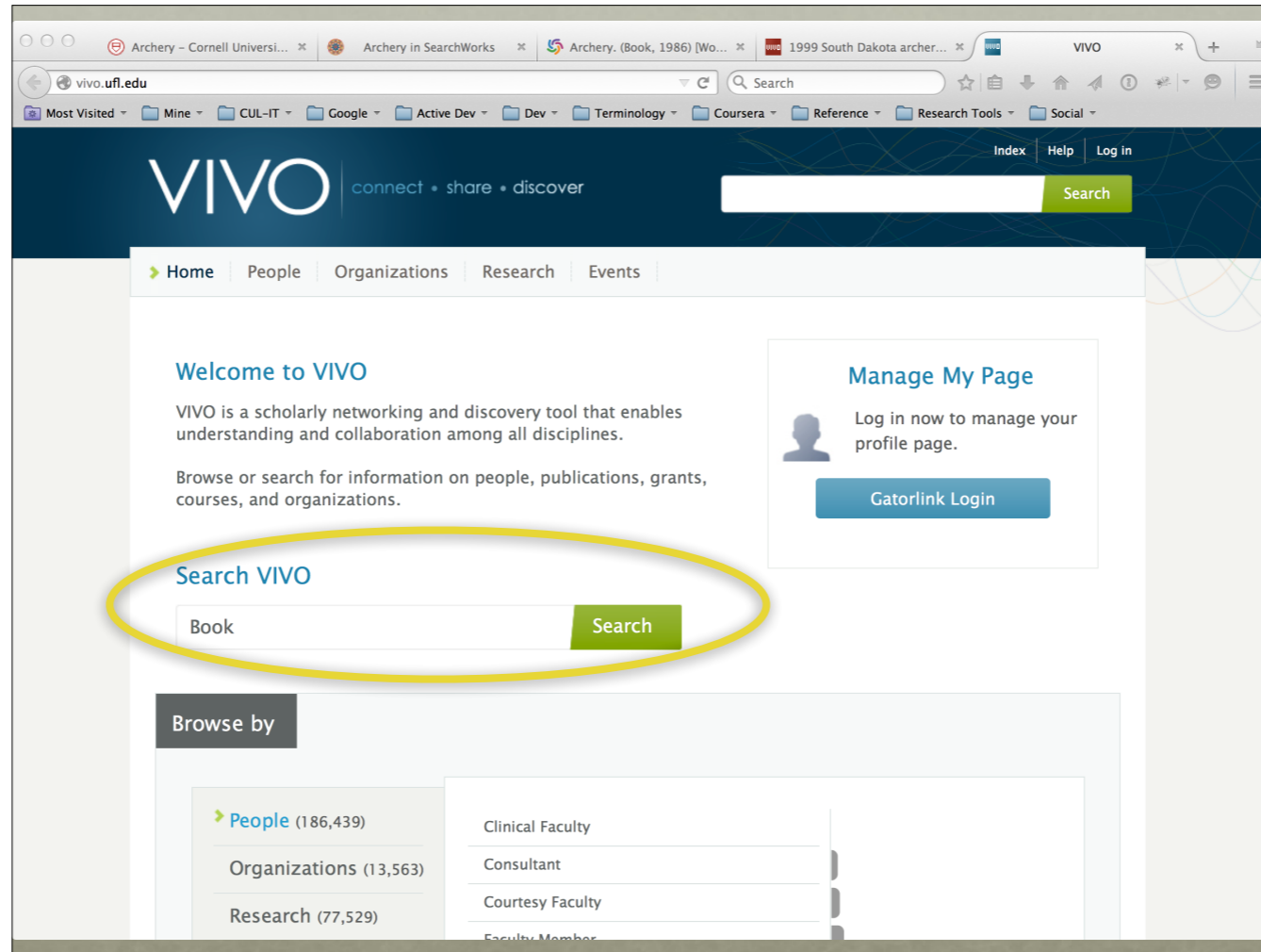
Process to add:

- * use content negotiation to get text/turtle

- * extract display metadata from BIBO/VIVO triples

- * author and publisher are URIs and the triples with details about these are not provided by the first content negotiation. For this demo, only one content negotiation is performed. Additional content negotiation requests could be made to get the author and publisher details.

- * add triples to add the URI to the aggregates list for the Archery aggregation and add the triples for a proxy resource according to the ORE ontology



Search for 'Book' at another VIVO site that is not registered in the Virtual Collection system.
NOTE: UFL doesn't have any books on Archery in its VIVO.

Archery - Cornell Universi... Archery in SearchWorks Archery. (Book, 1986) [Wo... 1999 South Dakota archer... Book - VIVO Search Results

vivo.ufl.edu/search

Index Help Log in

VIVO connect • share • discover

Book Search

Home People Organizations Research Events

Search results for 'Book'

[Not the results you expected?](#)

[Books](#) | Concept
... Origins of Behavior Genetics: the Role of the Jackson Laboratory Mothers' Autobiographical Memory and Book Narratives With Children With Specific Language ...

[Book, Linda](#) | Person
... Book Linda Agent Person ...

[The Book of Seventy](#) | Academic Article
... The Book of Seventy 50 418 422 The gerontologist Academic Article Article Document Information Resource ...

[American Book Review](#) | Journal

[E-Book On Closteroviridae](#) | Academic Article | Editorial Article
... E-Book On Closteroviridae PMC3873501 4 24409172 10.3389/fmicb.2013.00411 Frontiers in Microbiology Academic Article Article Document Editorial Article ...

[Reference Books](#) | Concept

[Apollo Books](#) | Publisher

[Books Panel](#) | Committee

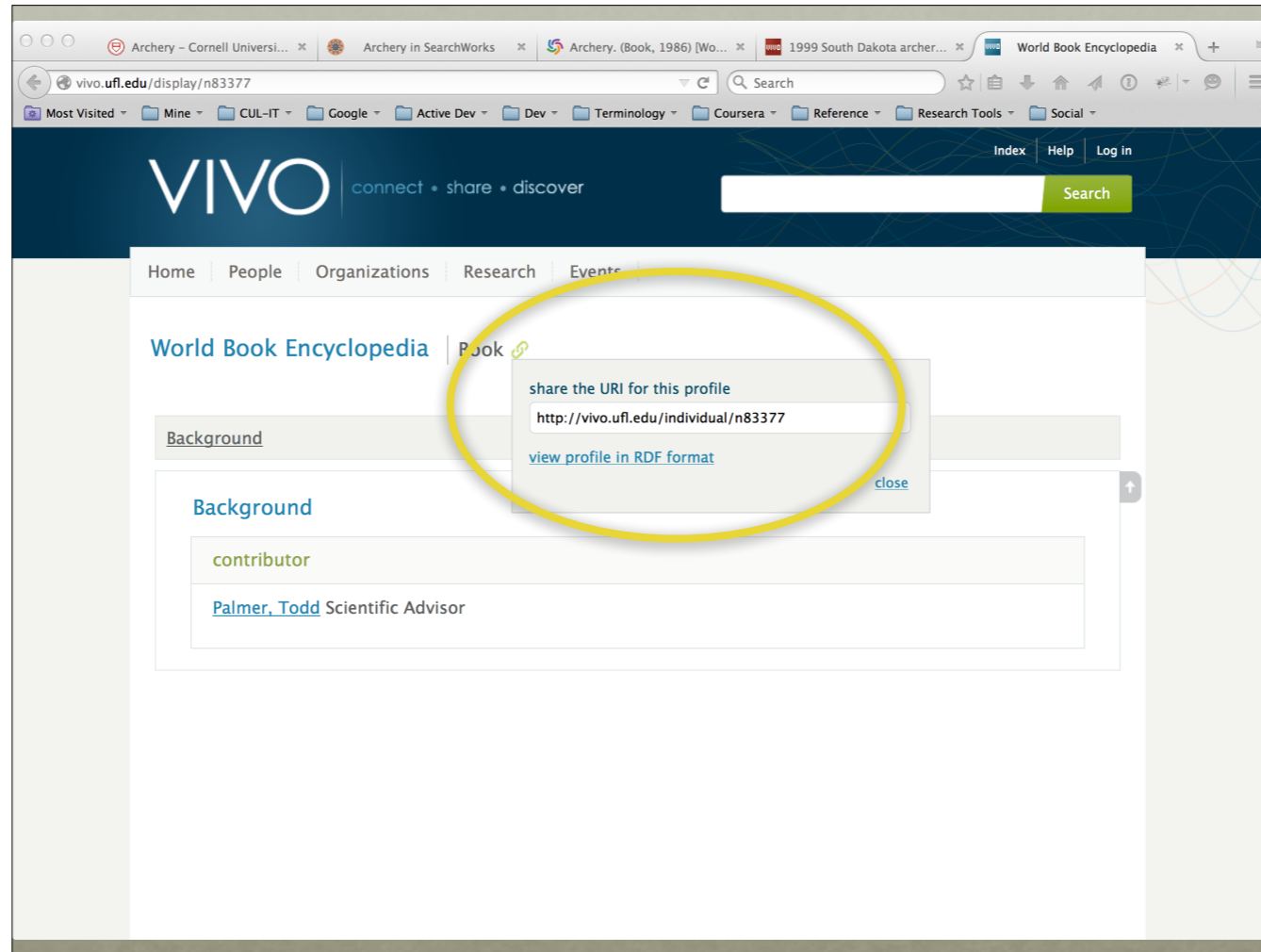
[Books for Otolaryngology Headstaf](#) | Grant

[World Book Encyclopedia](#) | Book

Display only

- [people](#)
- [organizations](#)
- [research](#)
- [grants](#)
- [activities](#)
- [courses](#)
- [events](#)

Select one of the resources that is a Book.



For VIVO at UFL, the URI is a permalink. Click the permalink symbol beside the title of the resource and copy the URI.

The screenshot shows the Cornell University Library website. At the top, there is a navigation bar with the Cornell University Library logo and a menu with items like Home, About Us, Libraries and Hours, Courses, Research, Services, Ask a Librarian, Help, and My Account. Below this is a search bar and a 'Search / Catalog' header. A blue notification bar at the top of the main content area says 'Item was successfully created.' On the left, there are sections for 'My Virtual Collections' (with 'Archery' selected) and 'Watched Collections' (which is empty). The main content area features a header for the 'Archery' virtual collection with a yellow circle around the '+ Add External Resource' button. Below the header is a list of three items:

- 1. **Archery : steps to success** by Haywood, Kathleen. Book. Champaign, IL : Human Kinetics, c2006. 3rd ed. Source: Cornell Catalog. [Show/Hide Notes and Tags](#) [Remove](#)
- 2. **Archery [1969]** by Barrett, Jean A. Book. Pacific Palisades, Calif., Goodyear Pub. Co. 1969. Source: Stanford Catalog. [Show/Hide Notes and Tags](#) [Remove](#)
- 3. **Archery. 1986**. Book. default : default, 1986 en 1986 revision. [Remove](#)

Click + Add External Resource under the virtual collection title Archery in the header of the main content area of the page.

Cornell University Library

Home About Us Libraries and Hours Courses Research Services Ask a Librarian Help My Account

Search / Catalog

My Virtual Collections Selected Items Search History Borrow Direct Interlibrary Loan

Item was successfully created.

My Virtual Collections

- Linked Data for Libraries
- Archery

Watched Collections

No watched collections. Click to find collections to watch.

Archery

Add External Resource

Previous 1 1 - 4 of 4 1 Next »

20 per page Sort by relevance

New Item

Item URI

Close Save changes

Book Pacific Palisades, Calif., Goodyear Pub. Co. 1969
Source: Stanford Catalog
Show/Hide Notes and Tags

3. Archery. 1986
Book default : default, 1986 en 1986 revision.

Paste in the URI and Save changes.

The screenshot shows a web browser window with the URL `http://localhost:3000/vc/my_virtual_collections/http:%2F%2Flocalhost%2Fag4bed9f37-ef81-4ad...`. The page title is "Archery" and it displays a list of five items in a virtual collection. The items are:

- 1. Archery : steps to success**
Haywood, Kathleen.
Book Champaign, IL : Human Kinetics, c2006. 3rd ed.
Source: Cornell Catalog
[Show/Hide Notes and Tags](#)
- 2. Archery [1969]**
Barrett, Jean A.
Book Pacific Palisades, Calif., Goodyear Pub. Co. 1969
Source: Stanford Catalog
[Show/Hide Notes and Tags](#)
- 3. Archery. 1986**
Book default : default, 1986 en 1986 revision.
Source: OCLC Worldcat
[Show/Hide Notes and Tags](#)
- 4. 1999 South Dakota archery deer hunter survey report**
Book
Source: Cornell VIVO
[Show/Hide Notes and Tags](#)
- 5. World Book Encyclopedia**
Book
Source: vivo.ufl.edu
[Show/Hide Notes and Tags](#)

The fifth item, "World Book Encyclopedia", is highlighted with a green dashed box. The browser's address bar and tabs are visible at the top, and a navigation bar with "Add External Resource" is at the top of the page content.

The report is added to the Archery virtual collection.

The host 'vivo.ufl.edu' is NOT registered, so use generic processing.

Process to add:

- * use content negotiation to attempt to get application/rdf+xml
- * recognize that the rdf type is bibo:Book and use Cornell VIVO process for metadata extraction
- * extract display metadata from BIBO/VIVO triples
- * add triples to add the URI to the aggregates list for the Archery aggregation and add the triples for a proxy resource according to the ORE ontology

Archery - Cornell U... Archery in SearchW... Archery. (Book, 198... 1999 South Dakota... World Book Encyclo... Deutsche Nationalb...
www.dnb.de/EN/Home/home_node.html Search

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DEUTSCHE NATIONAL BIBLIOTHEK LEIPZIG FRANKFURT AM MAIN


Deutsch Contact A-Z Donators Data protection Imprint Help My Account

Home
About us
News
Catalogues
Acquisition
Online Publications
Use / Service
Standardisation
German Museum of Books and Writing
German Music Archive
Exile Collections

WELCOME TO THE GERMAN NATIONAL LIBRARY
Deutscher Platz 1 / D-04103 Leipzig / Opening hours and getting there
Adickesallee 1 / D-60322 Frankfurt am Main / Opening hours and getting there

Search in: Online Catalogue Search: Archery Search

Freya Klier „Wir letzten Kinder Ostpreußens. Zeugen einer vergessenen Generation“ // Book presentation // German National Library in Frankfurt am Main // Friday, 27 February 2015, 10:30



Freya Klier traces the escape and expulsion of seven children from East Prussia in her book. Following decades of silence they are given the opportunity to tell the story of their childhood, starting from the summer of 1944 and coming up to the present day. The collection of different voices creates a panorama of the final months of the war. A book presentation for an entire generation – and its descendants. Historical reappraisal and the culture of remembrance are the central themes explored by director, actor and publicist Freya Klier. Freya Klier has received numerous awards and honours, including the Bundesverdienstkreuz (Order of Merit of the Federal Republic of Germany).
Event organised in cooperation with Hessische Landeszentrale für politische Bildung.


Free admission. Please go to @ Birgit Schulz to reserve a place

The underground car park and delivery area can only be accessed via Cronstettenstrasse, Frankfurt am Main due to construction work.

Subscribe newsletter

Facebook Twitter

Kindheit und Jugend im Ersten Weltkrieg // Exhibition of the German Museum of Books and Writing of the German National Library in Leipzig // 13 December 2014 to 7 June 2015 // Guided tour at 10:30 on 25 March 2015



"We'll be back home by Christmas!" This and similar exclamations were made by many as they set off on their journey to the front in August 100 years

Search for 'Archery' at another site that is not registered in the Virtual Collection system.

Archery - Cornell U... Archery in SearchW... Archery (Book, 198... 1999 South Dakota... World Book Encyclo... DNB, Katalog der D...

https://portal.dnb.de/opac.htm?method=simpleSearch&query=Archery

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DEUTSCHE NATIONALBIBLIOTHEK LEIPZIG FRANKFURT AM MAIN

English Kontakt A-Z Förderer Datenschutz Impressum Hilfe Mein Konto

Katalog

→ Einfache Suche

→ Erweiterte Suche

→ Browsen (DDC)

→ Suchverlauf

→ Meine Auswahl

→ Hilfe

→ Datashop

→ Mein Konto

→ Ablieferung von Netzpublikationen

→ Informationsvermittlung

→ Über die Deutsche Nationalbibliothek

→ Login →

KATALOG DER DEUTSCHEN NATIONALBIBLIOTHEK

Gesamter Bestand Musikarchiv Exilsammlungen Buchmuseum

→ Suchformular zurücksetzen

Archery Finden → Expertensuche ?

Ergebnis der Suche nach: "Archery"
im Bestand: Gesamter Bestand

1 - 10 von 55 Datum (neuestes zuerst) sortieren →

1 Archery through the ages - In the Twilight of Truth [Elektronische Ressource] @
Meine, Thomas M.. - Norderstedt : Books on Demand, 2014

2 Archery through the ages - In the Twilight of Truth [Elektronische Ressource] @
Meine, Thomas M.. - Norderstedt : Books on Demand, 2014

3 ARCHERY THROUGH THE AGES - In the Twilight of Truth Ankündigung
Meine, Thomas M.. - Norderstedt : Books on Demand, 2013, 1. Aufl., neue Ausg.

Alle Normdaten

- Organisationen (5)
- Sachbegriffe (2)
- Veranstaltungen (2)
- Personen (9)

Alle Materialarten

- Musikträger (3)
- Bücher (29)
- Online Ressourcen (5)

Alle Standorte

- Frankfurt (24)
- Leipzig (29)

Alle Kataloge/Sammlungen

- Buchmuseum Fachbibliothek (1)
- Desiderata (2)

Select one of the resources related to archery.

Archery - Cornell U... Archery in SearchW... Archery, (Book, 198... 1999 South Dakota... World Book Encyclo... DNB, Katalog der D...

https://portal.dnb.de/opac.htm;jsessionid=69C56F99CEDAB631376688CF751DD47E.prod-work Search

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DEUTSCHE NATIONALBIBLIOTHEK LEIPZIG FRANKFURT AM MAIN

English Kontakt A-Z Förderer Datenschutz Impressum Hilfe Mein Konto

↓ Katalog

→ Einfache Suche

→ Erweiterte Suche

→ Browsen (DDC)

→ Suchverlauf

→ Meine Auswahl

→ Hilfe

→ Datenshop

→ Mein Konto

→ Ablieferung von Netzpublikationen

→ Informationsvermittlung

KATALOG DER DEUTSCHEN NATIONALBIBLIOTHEK

Gesamter Bestand Musikarchiv Exilsammlungen Buchmuseum

→ Suchformular zurücksetzen

"Archery" Finden → Expertensuche ?

Ergebnis der Suche nach: "Archery"

← Zurück zur Trefferliste

Treffer 2 von 55

← →

Aktionen

In meine Auswahl übernehmen

Druckansicht

→ MARC21-XML-Repräsentation dieses Datensatzes

→ RDF/XML-Repräsentation dieses Datensatzes

→ Dokumentation Linked Data

→ BIBFRAME-Repräsentation dieses Datensatzes

→ Projekt BIBFRAME

→ Korrekturanfrage

→ Lieferbar bei buchhandel.de?

Teilen

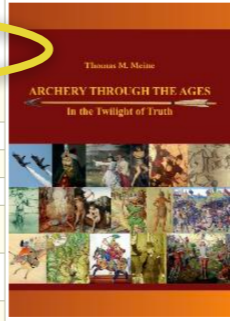
Tweet

i ⚙

Login →

→ Über die Deutsche Nationalbibliothek

Link zu diesem Datensatz	http://d-nb.info/1052963609
Titel/Bezeichnung	Archery through the ages : In the Twilight of Truth [Elektronische Ressource] / Thomas M. Meine
Person(en)	Meine, Thomas M.
Verleger	Norderstedt : Books on Demand
Erscheinungsjahr	2014
Umfang/Format	Online-Ressource Dateiformat: pdf
Parallele Ausgabe(n)	Druckausg.: ARCHERY THROUGH THE AGES - In the Twilight of Truth
Anmerkungen	Lizenzpflichtig. - Vom Verlag als Druckwerk on demand und/oder als E-Book angeboten Langzeitarchivierung gewährleistet



For Deutsche National Bibliothek, the URI is a permalink. Copy the permalink listed as the first item in the table of information about the resource on the resource detail page.

The screenshot shows the Cornell University Library website. At the top, there is a navigation bar with the Cornell University Library logo and a menu with items: Home, About Us, Libraries and Hours, Courses, Research, Services, Ask a Librarian, Help, and My Account. Below this is a search bar and a 'Search / Catalog' header. A blue notification bar at the top of the main content area says 'Item was successfully created.' The main content area is titled 'My Virtual Collections' and features a collection named 'Archery'. Under the 'Archery' collection title, there is a button labeled '+ Add External Resource' which is circled in yellow. Below the collection header, there are three items listed:

- 1. **Archery : steps to success** by Haywood, Kathleen. Book. Champaign, IL : Human Kinetics, c2006. 3rd ed. Source: Cornell Catalog. [Show/Hide Notes and Tags](#) [Remove](#)
- 2. **Archery [1969]** by Barrett, Jean A. Book. Pacific Palisades, Calif., Goodyear Pub. Co. 1969. Source: Stanford Catalog. [Show/Hide Notes and Tags](#) [Remove](#)
- 3. **Archery. 1986**. Book. default : default, 1986 en 1986 revision. [Remove](#)

Click + Add External Resource under the virtual collection title Archery in the header of the main content area of the page.

Cornell University Library

Home About Us Libraries and Hours Courses Research Services Ask a Librarian Help My Account

Search / Catalog

Item was successfully created.

My Virtual Collections

- Linked Data for Libraries
- Archery

Watched Collections

No watched collections. Click to find collections to watch.

Archery

Add External Resource

Previous 1 | 5 of 5 | Next »

20 per page Sort by relevance

New Item

Item URI

Close Save changes

Book Pacific Palisades, Calif., Goodyear Pub. Co. 1969
Source: Stanford Catalog
Show/Hide Notes and Tags

3. Archery. 1986
Book default : default, 1986 en 1986 revision.

Paste in the URI and Save changes.

The screenshot shows a web browser window with a virtual collection of books. The browser's address bar shows a URL starting with 'http://localhost:3000/vc/my_virtual_collections/'. The page displays a list of books under the heading 'collections to watch'. The books are:

1. Archery: Steps to Success (Book, Champaign, IL: Human Kinetics, c2006. 3rd ed. Source: Cornell Catalog)
2. Archery [1969] (Book, Pacific Palisades, Calif., Goodyear Pub. Co. 1969. Source: Stanford Catalog)
3. Archery. 1986 (Book, default: default, 1986 en 1986 revision. Source: OCLC Worldcat)
4. 1999 South Dakota archery deer hunter survey report (Book, Source: Cornell VIVO)
5. World Book Encyclopedia (Book, Source: vivo.ufl.edu)
6. Archery through the ages - In the Twilight of Truth (Book, Source: d-nb.info)

The sixth item is highlighted with a green dashed box.

The book is added to the Archery virtual collection.

The host 'd-nb.info' is NOT registered, so use generic processing.

Process to add:

- * use content negotiation to attempt to get application/rdf+xml
- * recognize that the rdf type is bibo:Document and use Cornell VIVO process for metadata extraction
- * attempt to extract display metadata from BIBO/VIVO triples
- * add triples to add the URI to the aggregates list for the Archery aggregation and add the triples for a proxy resource according to the ORE ontology

Cornell University Library

Home About Us Libraries and Hours Courses Research Services Ask a Librarian Help My Account

Search / Catalog [My Virtual Collections](#) [Selected Items](#) [Search History](#) [Borrow Direct](#) [Interlibrary Loan](#)

My Virtual Collections +

- Linked Data for Libraries
- Archery




Watched Collections +

No watched collections. Click to find collections to watch.

Archery

+ Add External Resource

« Previous | 1 - 6 of 6 | Next » 20 per page Sort by relevance

-  **1. Archery : steps to success** Remove
Haywood, Kathleen.
Book Champaign, IL : Human Kinetics, c2006. 3rd ed.
Source: Cornell Catalog
[Show/Hide Notes and Tags](#)
-  **2. Archery [1969]** Remove
Barrett, Jean A.
Book Pacific Palisades, Calif., Goodyear Pub. Co. 1969
Source: Stanford Catalog
[Show/Hide Notes and Tags](#)
-  **3. Archery. 1986** Remove
Book default : default, 1986 en 1986 revision.
Source: OCLC Worldcat
[Show/Hide Notes and Tags](#)

Click Show/Hide Notes and Tags to annotate a resource.

Cornell University L... Archery in SearchW... Archery. (Book, 198... 1999 South Dakota... World Book Encyclo... DNB, Katalog der D...

http://localhost:3000/vc/my_virtual_collections/http:%2F%2Flocalhost%2Fag4bed9f37-ef81-4ad4 Search

Most Visited Mine CUL-IT Google Active Dev Dev Terminology Coursera Reference Research Tools Social

Home About Us Libraries and Hours Courses Research Services Ask a Librarian Help My Account

Search / Catalog My Virtual Collections Selected Items Search History Borrow Direct Interlibrary Loan

My Virtual Collections +

Linked Data for Libraries -

Archery -

Watched Collections +

No watched collections. Click to find collections to watch.

Archery

+ Add External Resource

« Previous | 1 - 6 of 6 | Next » 20 per page Sort by relevance

1. Archery : steps to success Remove

Haywood, Kathleen.
Book Champaign, IL : Human Kinetics, c2006. 3rd ed.
Source: Cornell Catalog
[Show/Hide Notes and Tags](#)

Note:

This is an excellent resource on archery technique.

Set Note Reset

Tags:

NOTE: Separate tags with semicolons. Set Tags Reset

2. Archery [1969] Remove

Type in text for the note and click Set Note.

The note is saved as a comment annotation in the triplestore using triples as defined in the Open Annotation ontology's.

Cornell University L... Archery in SearchW... Archery. (Book, 198... 1999 South Dakota... World Book Encyclo... DNB, Katalog der D...

http://localhost:3000/vc/my_virtual_collections/http:%2F%2Flocalhost%2Fag4bed9f37-ef81-4ad4

Home About Us Libraries and Hours Courses Research Services Ask a Librarian Help My Account

Search / Catalog My Virtual Collections Selected Items Search History Borrow Direct Interlibrary Loan

My Virtual Collections +

Linked Data for Libraries -

Archery -

Watched Collections +

No watched collections. Click to find collections to watch.

« Previous | 1 - 6 of 6 | Next » 20 per page Sort by relevance

1. Archery : steps to success Remove

Haywood, Kathleen.
Book Champaign, IL : Human Kinetics, c2006. 3rd ed.
Source: Cornell Catalog
[Show/Hide Notes and Tags](#)

Note:
This is an excellent resource on archery technique.
Set Note Reset

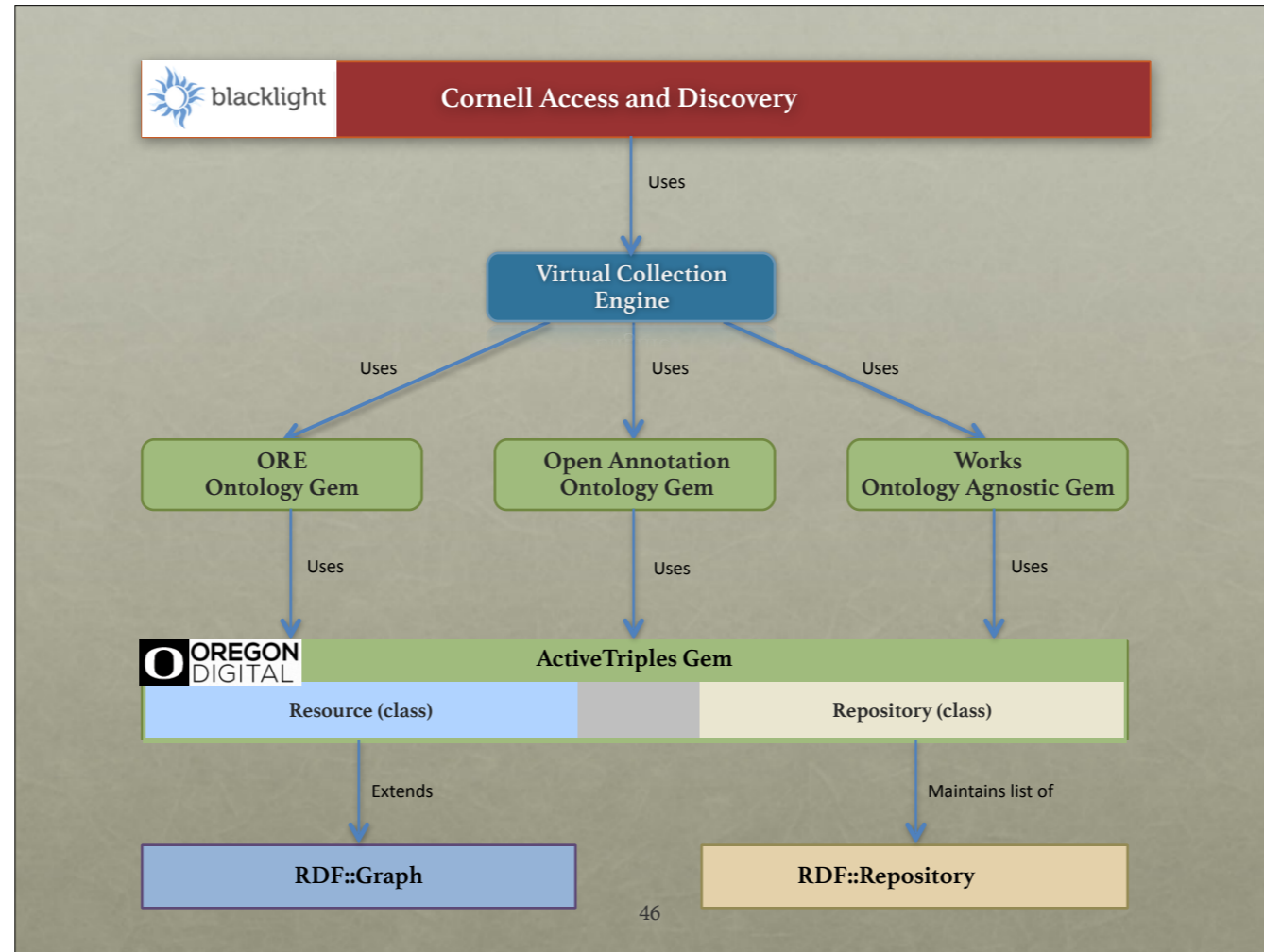
Tags:
archery; technique
NOTE: Separate tags with semicolons.
Set Tags Reset

2. Archery [1969] Remove

Type in text for the note and click Set Tags.

Each tag is saved as a tag annotation in the triplestore using triples as defined in the Open Annotation ontology's.

ARCHITECTURE



Two major pieces of the infrastructure existed before work began on the system. The **Cornell Access and Discovery** system is the live search system for the catalog that was implemented with **blacklight**. The goal was to integrate the virtual collection management code into the Access and Discovery system.

The other existing work was **ActiveTriples** which is a gem that was extracted from the work done on the Oregon Digital project. By extending the **ActiveTriples::Resource class**, models can be defined to have **predicates as properties** that can **hold the object values** of a set of triples for a **common subject**. This allows for triples to be manipulated in **logical clusters** instead of each triple being manipulated **individually**, thus reducing the likelihood of errors being introduced and increasing programming productivity. **ActiveTriples** also provides a means for **persisting** triples into a triplestore and later **resuming** all the **related triples** back into a new instance of a resource model. **ActiveTriples** makes use of several of the classes defined in the ruby rdf project on github. I **highlight** two here, the **RDF::Graph** and **RDF::Repository**, but there are many other classes that can be used for **querying** and **transforming triples**, and **connecting** to various **triplestore** implementations.

The work underway for the LD4L use case includes the definition of ontology gems which **inherit** all the **triple manipulation functionality** provided by **ActiveTriples** and the virtual collection engine which uses the ontology gems to build the bigger concept of a Virtual Collection and provide the UI integration into the Access and Discovery system. By separating the code into ruby supported components, we achieve code isolation for improved testing and a **higher degree of reusability which lowers the programming effort**. We saw this earlier in Stanford's **Triannon** system which was able to make use of the Open Annotation Gem for working with annotation triples in ruby. Each gem defines models for classes in the ontology by **extending ActiveTriples::Resource** and by **adding additional methods** that provide commonly required **services for a specific ontology**. For example, when you add a new item to an aggregation, the ORE ontology gem adds a new proxy resource for the item and updates the aggregation which holds a list of URIs for all items in the list.

WORKING WITH AN ONTOLOGY GEM

Setup required for all examples.

```
require 'ld4l/open_annotation_rdf'  
ActiveTriples::Repositories.add_repository :default, RDF::Repository.new  
p = LD4L::FoafRDF::Person.new('p4')
```

Example creating a comment annotation.

```
ca = LD4L::OpenAnnotationRDF::CommentAnnotation.new('c10')  
ca.hasTarget = RDF::URI("http://example.org/bibref/br3")  
cb = ca.setComment("This book is a good resource on archery technique.")  
ca.annotatedBy = p  
ca.setAnnotatedAtNow  
ca.persist!
```

Triples created...

```
<http://localhost/c10> a <http://www.w3.org/ns/oa#Annotation>;  
  <http://www.w3.org/ns/oa#annotatedAt> "2014-11-26T15:53:49Z";  
  <http://www.w3.org/ns/oa#annotatedBy> <http://localhost/p4>;  
  <http://www.w3.org/ns/oa#hasBody> <http://localhost/9c8c8126-2d31-48be-81d8-3cd4748a3351>;  
  <http://www.w3.org/ns/oa#hasTarget> <http://example.org/bibref/br3>;  
  <http://www.w3.org/ns/oa#motivatedBy> <http://www.w3.org/ns/oa#commenting> .  
  
<http://localhost/9c8c8126-2d31-48be-81d8-3cd4748a3351> a  
  <http://www.w3.org/2011/content#ContentAsText>,  
  <http://purl.org/dc/dcmitype/Text>;  
  <http://purl.org/dc/terms/format> "text/plain";  
  <http://www.w3.org/2011/content#chars> "This book is a good resource on archery technique." .
```

CHALLENGES

PROCESSING SPEED FOR COLLECTING & DISPLAYING

- Real time metadata extraction is slow
 - simple triple content negotiation is slow
 - multiple content negotiation calls is required by some sites
 - worst case occurs for sites providing only marcxml leading to a conversion step before extracting metadata
- Working at scale
 - solr indexing & caching
 - periodic re-indexing of resource metadata
 - length of time to re-index

49

The first challenge is processing speed for collecting and displaying metadata about each resource in the collection. Right now, this impacts every view of a virtual collection as the metadata is re-extracted with every refresh of the display. This is simply a limitation of the system not being far enough along in the development process.

In the near future, this problem will be relegated to adding a new item.

The plan is to use a **solr index to cache** the extracted metadata and use **periodic re-indexing** or a lazy re-index based on last date extracted to bring the metadata up to a current state. A continuing **challenge** once indexing is in place is the length of **time to re-index** as the number of items across all collections grows. We anticipate the potential for re-indexing to happen on the scale of a day.

BATCH PROCESSING FOR LARGE SCALE COLLECTIONS

- Rules for gathering records
 - range of call numbers
 - keywords
 - owned by a particular library
- Batch metadata manipulation
- Processing ranges of items

50

As we move from the current small scale support to large, hundreds of thousands, scale, we will be adding in batch processing. At Cornell, we currently have CuLLR which is a system that allows us to gather resources into a collection and provides a website that can be navigated and searched as though it is a separate library. The technology for this system is no longer current, but we learned a lot about batch processing and want to carry that knowledge forward into the new system.

For example, CuLLR supports rules like identifying a range of call numbers, matching keywords, and ownership by a particular library, as well as combinations of rules, like all call numbers starting with K that are owned by the Law library.

The second batch processing approach will allow common metadata to be set for all or large selections of items in a collection to be set in one step.

As a collection grows, it will need to operate on a range of items instead of the entire collection. This is particularly challenging for ordered lists.

INTEGRATION WITH OTHER INSTITUTIONS

- Not much linked data exists.
- Many ontologies.
- Many interpretation of ontology usage.
- Varying support for content negotiation.
- How does the user locate the URI to use?

RESOURCES

- RDF Ruby Development:
 - [ruby-rdf](#) - rdf, linkeddata, rdf-do
 - [ActiveTriples](#) - manipulate triples as objects
- LD4L
 - [ORE Gem](#) - aggregations representing lists with items
 - [OA Gem](#) - comment, tag, and semantic tag annotations
 - [Works Gem](#) - ontology agnostic providing multiple models for works, metadata extraction into a simplified set of display metadata
 - [Virtual Collection Engine](#) - UI for Virtual Collections

SIMILAR WORK

- [projecthydra-labs/rdf-proxy_list](#)
- [CuLLR](#) (Virtual Libraries at Cornell - non linked data)

