Moving from MARC: How BIBFRAME moves the Linked Data in Libraries conversation to large-scale action

> SWIB 2014 Semantic Web in Libraries December, 3, 2014 Bonn, Germany

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I believe that everyone benefits from the visibility of libraries and their content on the Web.

Extremely encouraged

- Tom Grahame value proposition of "one page per thing"
- Lessons learned from Europeana "quantity has a quality all its own"
- D-SWARM: middleware designed to empower domain experts (librarians)
- Aliada accelerate the publication of Library data in the Linked Open Data
- Dan Scott speak in the way the web understands
- Richard Wallis things not strings
- #swib14

A talk in 3 acts

Act 1 : Context

Minimum Viable Product, Incremental Value, and Continuous Learning







BIBFRAME Vocabulary



Linked Data

"a term used to describe a recommended best practice for exposing, **Sharing**, and **Connecting** pieces of **data**, information, and knowledge on the Semantic **Web** using **URIS** and RDF."

http://en.wikipedia.org/wiki/Linked_Data

General Technology Hype Cycle



Phases of Linked Data / BIBFRAME Adoption



Phases of Linked Data / BIBFRAME Adoption



Act 2 : Tools - Transformation

001		26132811				
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010		\$a92021087				
020		\$a1555701205				
040		\$aDLC\$cDLC\$dAGL				
049		\$aHNKA				
050	00	\$aZ678.9\$b.C58 1992				
082	00	\$a025/.00285\$220				
100	1	\$aCohn, John M				
245	10	\$aPlanning for automation :\$ba how-to-do it manual for librarians /\$cJohn M. Cohn, Ann L. Kelsey, Keith Michael Fiels				
260 300		\$aNew York :\$bNeal Schuman Publishers,\$cc1992 \$avi, 116 p. :\$c28 cm				
440	0	\$aHow-to-do it manuals for libraries ;\$vno. 25				
504		SaIncludes bibliographical references and index				
650	0	\$aLibraries\$xAutomation\$xManagement\$xHandbooks, manuals, etc				
650	0	\$aLibrary planning\$xHandbooks, manuals, etc				
700	10	\$aKelsey, Ann L				
700	10	\$aFiels, Keith Michael				















As a cornerstone of Zepheira's Practical Practitioner series, we believe participants need to get hands on with their own data. To that end, our training includes access to an introductory set of utilities to guide participants through data import, analysis and end user discovery.

The following MARC diagnostics and BIBFRAME transformation service is provided to participants of this training curriculum. To get started link to, paste in, or upload a MARC XML file (up to 100 records). Feel free to add a 'title' to the data to help describe what you've uploaded.

Load MARC Data from a URL	Pasted MARC Text	Upload MARC File					
Title (optional)							
URL							
Submit URL							
Advanced Settings (click to learn more)							

Don't have access to a set of MARC records? Here are some examples others have uploaded. Drag or copy the following links to the URL Input form above to transform these records.

- George Washington sample collection (small)
- National Library of Medicine sample collection (medium)
- George Mason University DVD Backstage sample (large)

- Sample Rare Book / Manuscript collection (small)
- Sample Music collection (small)





A

NLM Sample 📲 Views 🔌 MARC Diagnostics 🔌 BIBFRAME Resources 🔌 BIBFRAME Works 💌 🔌 BIBFRAME Collections



- Processing started on 2014-12-02 at 15:38
- 193 MARC records analysed in 6.99 seconds
- Input Format:

- 193 MARC records converted to 1214 BIBFRAME Resources
- 230 BIBFRAME Resources folded indicating this data is moderately connected

0

8

NLM Sample Views MARC Diagnostics BIBFRAME Resources BIBFRAME Works V BIBFRAME Collections

NLM SAMPLE

GENERATED 2014-12-02 AT 15:38 FROM 193 RECORDS USING CURRENT PIPELINE VERSION 0.5.1

Search	1423 Resources	K
	sorted by: labels; then by • \bigcirc grouped as sorted	
	1 • 2 • 2 72 Novt »	
Туре	1 * 2 * 3 /2 NEXL *	
 325 Topic 200 Instance 197 Work 168 ProviderEvent 158 Person 141 Agent 112 Place 70 Organization 23 Series 24 General 	1. oXD85ZJ7 (link) label: oXD85ZJ7 type: Topic URI: https://linksmith.zemple_3/item#oXD85ZJ7 name: Hospitals, Military sf-x: history sf-a: Hospitals, Military bf-id: oXD85ZJ7 generalSubdivision:history	
21 Genre 6 Collection 2 Meeting	2.qNmTh3yY (link) label:qNmTh3yY type:VorkURI:https://linksmith.ze mple_3/item#qNmTh3yY bf-id:bf-id:qNmTh3yY mediaCategory:unmediated tag-995a:tag-995a:AUTH language:rus tag-880c:tag-880c:[2012], выпускающий редактор, А.В. Харевин. contentTypeCode:contentTypeCode:txt nlmCallNumber:vX 27 GR9, 2013 B-503 tag-0359:101603036 subject:subject:OZy2W9Qb, rS9xqPrn, PirWzlep, oXD85ZJ7 tag-995b:tag-995b:20130909	

0

8



BIBFRAME WORK-FOCUSED NAVIGATOR

44 Periodicals

6 Congrossos

GENERATED 2014-12-02 AT 15:38 FROM 193 RECORDS USING CURRENT PIPELINE VERSION 0.5.1



2. Put' vverkh k podnozhiju vershin : avtobiograficheskie zametki / Nikolaj

8



BIBFRAME COLLECTION-FOCUSED NAVIGATOR

GENERATED 2014-12-02 AT 15:38 FROM 193 RECORDS USING CURRENT PIPELINE VERSION 0.5.1







A link is worth a 1000 words



NLM SAMPLE

GENERATED 2014-12-02 AT 13:16 FROM 193 RECORDS USING CURRENT PIPELINE VERSION 0.0.1

Summary

Resource Types

Folding

Dropped Codes

Data Normalization

Local Extensions

- 193 MARC records converted to 1423 BIBFRAME Resources
- 498 BIBFRAME Resources folded indicating this data is highly connected
- 168 MARC tags did not match applied transformation rules indicating this data is moderate candidate for custom rule design
- 38 MARC tags identified as local extensions indicating this data is strong candidate for local rule design

Resource Types

Summary

1423 BIBFRAME Resources were materialized from 193 MARC records



Resource Types

1423 BIBFRAME Resources were materialized from 193 MARC records



The following is a breakdown of Resource Types by total count of materialized resources.



Summary

Resource Types

Folding

Dropped Codes

Data Normalization

Local Extensions

Breakdown of Resource Types by Count

Folding

Of the 1423 BIBFRAME Resources generated, 498 resources folded. The following is a percentage breakdown by Resource type.

The following is a breakdown of Resource Types by Total count of materialized resources and associated Folding counts.

Summary

Resource Types

Folding

Dropped Codes

Data Normalization

Local Extensions

In Summary

- Highly connected graph of data
- Completely dark to the Web

Act 2.5 : Tools - creation

Opportunity

OCLC^{*} Research

Small is Beautiful

- BIBFRAME common model flexible, designed to accommodate the needs of our community.
- Recognize creative tension between
 past and future
- Recognize creative tension of being useful across communities, but also community specific
- Profiles are a simple, small, subset to of the model to support a specific community or entity description but sharable in a global context
```
"Profile": {
  "id": "bfp:Monograph:Book",
  "title": "Monograph -- Book",
  "description": "An example profile reflecting the cataloging practices of example public library",
  "date": "2013-05-01",
  "contact": "Example Public Library cataloging help desk, info@examplelib.org",
  "resourceTemplate": [
       "id": "bfp:Work:Book",
       "resourceLabel": "Book",
       "resourceURI": "http://bibframe.org/vocab/Book",
       "propertyTemplate": [
             "propertyURI": "http://bibframe.org/vocab/titleStatement",
             "propertyLabel": "Title"
             "type": "literal"
          },
             "propertyURI": "http://bibframe.org/vocab/subject",
             "propertyLabel": "Subject"
             "type": "resource",
             "valueConstraint": {
               "valueTemplateRef": [ "bfp:Agent:Person",
                              "bfp:Agent:Organization",
                              "bfp:Authority:Place",
                              "bfp:Authority:ClassificationEntity",
                              "bfp:Authority:Topic" ]
```



In Summary

- Proof of concept extremely encouraging
- Enormous potential for increased connectivity
- No other community does authorities like we do
 - Control points for more effective discovery
- Were making it extremely difficult to connect
 - Lower costs to linking is critical to improved visibility

Act 3: Visibility

Expectations of Library Web Visibility

"When my community searches the Web for something we have, we better show up as an option."



- Chuck Gibson, Director & CEO Worthington Public Library



Can't ignore the problem...



Start with Agreement and Purpose

"Everyone benefits from the visibility of libraries and their content on the Web."



Learning though action together





Practical Practitioners Community



http://zepheira.com/training

Moving from web pages to "a web of data"

But we aren't speaking in a way the Web understands

We have a wealth of content and resources locked behind legacy, closed technology systems and niche vocabularies



The traditional, <u>Visible</u> Web focuses on Harvesting and Links to Pages

e e Salbert einstein - Google Sel ×						
← → C 🔒	https://www.google.com/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8	#q=albert%20einstein	☆ 〓			
Apps 🗋 for	rraining - Activity - Z 💎 Practical Practitioner					
Google	albert einstein		Sign in			
	Web Images Books News Videos More - Search tools		\$			
	About 81,800,000 results (0.25 seconds)					
	 Albert Einstein - Wikipedia, the free encyclopedia en.wikipedia.org/wiki/Albert_Einstein ▼ Wikipedia ▼ Albert Einstein was a German-born theoretical physicist and philosopher of science. He developed the general theory of relativity, one of the two pillars of Hans Albert Einstein - Eduard Einstein - Elsa Einstein - Einstein family Albert Einstein - Biography - Physicist, Scientist - Biography www.biography.com/people/albert-einstein-9285408 ▼ FYI ▼ Biography.com offers a glimpse into the life of Albert Einstein, the most influential physicist of the 20th century, who developed the theory of relativity. 					
	In the news					
	8 Ways You Can See Einstein's Theory of Relativity in Real Life Yahoo News - 1 day ago Formulated by Albert Einstein in 1905, the theory of relativity is the notion that the laws of physics are the same everywhere. The theory					
	Albert Einstein Autographed Letter Auctioned Off For \$12500 The Inquisitr - 16 hours ago					
	Turkish students know Einstein, but not Muslim scholars, Erdoğan complains Hurriyet Daily News - 3 hours ago					
	More news for albert einstein					
	Albert Einstein - Biographical - Nobelprize.org www.nobelprize.org/nobel_prizes/physics//einstein-bio.htm Nobel Prize Questions and Answers on Albert Einstein. Albert Einstein was born at Ulm, in Württemberg, Germany, on March 14, 1879. Six weeks later the family moved to					
	Albert Einstein Quotes - BrainyQuote www.brainyquote.com/quotes/authors/a/albert_einstein.html - Enjoy the best Albert Einstein Quotes at BrainyQuote. Quotations by Albert Einstein, German Physicist, Born March 14, 1879. Share with your friends.					

Albert Einstein | Albert Einstein Official Site

The emerging <u>Invisible</u> Web focuses on Data, Resources, Vocabulary, and Connections



Albert Einstein | Albert Einstein Official Site

New Vocabularies and Characteristics Retail - items, reviews, geo, descriptions, inventory, hours, social, events



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Shop A Wide Selection Of Fall Deals At Best Buy®. Free Shipping \$35 & Up · Low Price Guarantee · Free In-Store Pickup Best Buy has 271,883 followers on Google+ 1375 Polaris Pkwy, Columbus, OH - (614) 430-0789

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Best Buy Weekly Ad View the Best Buy weekly ad and Deal of the Day online and find ...

Best Buy stores.bestbuy.com 2.2 ★★★★ 26 Google reviews · Google+ page

Best Buy stores.bestbuy.com 2.3 *** 23 Google reviews · Google+ page

Best Buy stores.bestbuy.com 2.3 ★★★★ 27 Google reviews · Google+ page

Map results for best buy

In the news



United Rentals, Best Buy, GM lead the way

MarketWatch - 16 hours ago Best Buy Co. BBY, -6.12% and General Motors Co. GM, -5.87% : The electronics retailer and ...



Map for best buy

Best Buy

Consumer electronics company

Best Buy Co., Inc. is an American multinational consumer electronics corporation headquartered in Richfield, Minnesota, a Minneapolis suburb. It operates in the United States, Puerto Rico, Mexico, Canada, and China, Wikipedia

Customer service: 1 (888) 237-8289

Headquarters: Richfield, MN

Stock price: BBY (NYSE) \$30.23 0.00 (0.00%) Oct 7, 4:02 PM EDT - Disclaimer

CEO: Hubert Joly

Founder: Richard M. Schulze

Founded: 1966, Minnesota

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Don't wait until the +NBA tips off to start your season. #NBA2K15 is here: http://shout.lt/GKQP 21 hours ago

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C 3840 Morse Rd Columbus, OH (614) 471-9510

New Vocabularies and Characteristics Movies - Geo, reviews, ratings, images, previews, times, tickets





to you the business owner

Square Stadium 16

New Vocabularies and Characteristics

Restaurants - locations, reviews, hours, reservations, menus





How does the Web see Libraries?

Libraries = Community Businesses Location, photos, hours, reviews, social, events



Westerville Library

Directions Write a review

Address: 126 S State St, Westerville, OH 43081

Phone: (614) 882-7277

Hours: Open today · 9:00 am - 9:00 pm

Reviews



More reviews: judysbook.com, insiderpages.com, yahoo.com

Recent posts on Google+



Westerville Library 217 followers • Shared publicly

HOMEWORK

Conquerors of homework conundrums, at your service. http://www.westervillelibrary.org/... Oct 14, 2014

Follow

us a call: 614-882-7277 · clock image. Mon - Thurs 9 a.m. - 9 p.m.; Fri

Westerville Public Library - Westerville, OH ... - Facebook

https://www.facebook.com/westervillelibrary -A new library building on State Street was under construction in 1954. Westerville Public Library shared Out and About in Westerville with Kathy Cocuzzi's ...

Westerville Library

www.westervillelibrary.org/ Westerville Public Library -4.5 ★★★★ 14 Google reviews · Write a review · Google+ page

126 S State St, Westerville, OH 43081 (614) 882-7277

Westerville Public Library - Wikipedia, the free encyclopedia

en.wikipedia.org/wiki/Westerville Public Library - Wikipedia The Westerville Public Library is a public library that serves the community of ... 1932: The library expanded to the second floor of the municipal building (which

Westerville Public Library - Westerville, OH | Yelp

www.yelp.com > Public Services & Government > Libraries - Yelp -**** Rating: 4.5 - 16 reviews of Manada maille. Deskiller 1 (b

If at all....



training in the "turning outward" approach. Here, Cindy Fesemyer describes ...

External Perspectives

- Are websites and systems harvestable?
- Is there a unified and accessible industry vocabulary?
- Are there strong connections and relationships?
- What is the consistency and reliability of the user experience and available data?

This is the now







This is what a search engine harvester sees. Unconnected data results in poor page rank.







A link is worth a 1000 words



And this pattern is already happening in many localized markets as we speak



www.bestbuy.com/.../Dell/Dell-Laptops/pcmcat140500050011... Dell: Laptops. Read customer reviews, compare prices and buy online at E Dell Inspiron Laptops - Dell - Inspiron - Dell - Less than \$400



Web

the great gatsby f. scott fitzgerald

Q

Search tools

More -

Books

em@zepheira.com

Share > 🤉 -

SafeSearch v

WILTOWS

Great

Qatsby



About 3,660,000 results (0.30 seconds)

Maps

Images

The Great Gatsby - Wikipedia, the free encyclopedia en.wikipedia.org/wiki/The_Great_Gatsby

The Great Gatsby is a novel by American author F. Scott Fitzgerald. The story takes place in 1922, during the Roaring Twenties, a time of prosperity in the United ... The Great Gatsby (2013 film) - The Great Gatsby (1974 film) - F. Scott Fitzgerald

Shopping



The Great Gatsby: F. Scott Fitzgerald: 9780743273565: Amazon ...

www.amazon.com > Books > Literature & Fiction > Classics

\$8.67 to \$13.57

The Great Gatsby [F. Scott Fitzgerald] on Amazon.com. *FREE* super saver shipping on qualifying offers. The Great Gatsby, F. Scott Fitzgerald's third book, ...

SparkNotes: The Great Gatsby

www.sparknotes.com/lit/gatsby/

F. Scott Fitzgerald. Video SparkNote of The Great Gatsby ... Gatsby is the one who dies. if Nick died who would tell the end of the book? 47 out of 86 people ... Chapter 1 - Chapter 7 - Chapter 4 - Chapter 6

The Great Gatsby, by F. Scott Fitzgerald

ebooks.adelaide.edu.au/f/fitzgerald/f_scott/gatsby/

The Great Gatsby. F. Scott Fitzgerald. logo. This web edition published by eBooks @Adelaide. Rendered into HTML by Steve Thomas. Last updated Wednesday ...

The Great Gatsby: F. Scott Fitzgerald Biography

www.cliffsnotes.com/.../great-gatsby/f-scott-fitzgerald-biograp... Early Years. September 24, 1896 marks the birth date of F. Scott Fitzgerald, one of the foremost twentieth century American writers. Born in St. Paul, Minnesota, ...

BARNES & NOBLE | The Great Gatsby by F. Scott Fitzgerald | NO...

www.barnesandnoble.com/.../great-gatsby-f-scott-fitzgerald/11..

The Great Gatsby is a novel by American author F. Scott Fitzgerald. The story takes place in 1922, during the Roaring Twenties, a time of prosperity in the United States after World War I. Wikipedia

Published: April 10, 1925

Author: F. Scott Fitzgerald

Original language: English

Characters: Jay Gatsby, Nick Carraway, Daisy Buchanan, Myrtle Wilson, Jordan Baker, Tom Buchanan, Henry Gatz

Genres: Novel, Fiction

J. D. Salinger

Adaptations: The Great Gatsby, G

People also search for



Mockingbird Paradise Harper Lee F. Scott Fitzgerald Karenina Leo Tolstoy

Feedback / More info

We're not (yet) speaking the language of the Web

F. Scott

Fitzgerald

But we're very close

- MARC To BIBFRAME (social)
- Frustration with consolidation in marketplace (economic)
- Web is increasingly actionable / semantic e.g. schema.org (technical)

BIBFRAME Purpose and Promise

- **Purpose**: Replacing MARC
- **Promise**: So much more

- **Purpose**: Serving Libraries
- **Promise**: Related memory organizations and the users they serve

- Purpose: Leverage existing Web standards to speak with a consistent voice
- **Promise**: Visibility, Discovery and Effectiveness



Web Friendly

The Hunger Games



The Hunger Games

Suzanne Collins

Publisher

Title

A Scholastic Press

Publication Date

2012

Characteristics

373 p. ; 21 cm.

Summary

In a dark vision of the near future, a terrifying reality TV show is taking place. Twelve boys and twelve girls are forced to appear in a live event called the Hunger Games. There is only one rule: kill or be killed. When sixteen-yearold Katniss Everdeen steps forward to take her sister's place in the games, she sees it as a death sentence. But Katniss has been close to death before. For her, survival is second nature.



Other Editions



Hardcover Paper 2008 2009 Scholastic Schol Press



Reviews

SparklePonies | Apr 30, 2014 | ★★★★★

I do not know why I put this off for so long. I am in love with this book. I love Katniss and her attitude. I had grown very tiresome of the damsel in distress crap in most fiction. I was happy, sad, and mad all at once. I watched the movie before I read the book so I knew the gist of what was happening. But I feel like the movie is lacking

st part of the whole read! You d every move is (with everyone,) ilm. I cried. I will not lie about it. is was "The Perks of Being a it up after) tears spring out and I believe I will have my review for

r******

cters. The Hunger Games was ot a huge fan of dystopian buy a few books a hardbacks one made the bookshelf.

Others in Se

"One Page Per Thing"

● ottilieweber | Apr 24, 2014 | ★★★★★

What will you do to survive? I want to start by saying I do not like distopian books, they



		100
		1.15

Upcoming movies: Django Unchained, Kill Bill: Vol. 3

Awards: Palme d'Or, National Society of Film Critics Award for Best Director, More

Education: Narbonne High School, Fleming Junior High School

Song	Year	Album
Interview	1997	Tarantino Connection
Pulp Fiction	1998	Interview Picture Disc
Jackie Brown	1998	Interview Picture Disc







info-stars.com







Death Proof



Romance till dawn

Quentin Tarantino

People also search for













Word-of-mouth on Reservoir Dogs began to build at the 1992 Sundance Film Festival, ... During 1993, Tarantino wrote and directed his next feature, Pulp Fiction, ... Grindhouse into two portions: the first half, Death Proof, directed by Tarantino,

Quentin Tarantino Movies | Cracked.com

www.cracked.com/funny-1906-quentin-tarantino-movies/

Quentin Tarantino used to recommend movies while working in a video rental store, making him the most successful "annoying guy going on about 'good' ...

Everything Tarantino « The film works of Quentin Tarantino www.everythingtarantino.com/

Jamie Foxx says that Quentin Tarantino rewrote the ending to Django Unchained in a matter of minutes after being unhappy with the previous conclusion.

Top Ten Quentin Tarantino Movies « Movies-Films-MotionPictures moviesfilmsmotionpictures.com/.../top-ten-quentin-tarantino-...

Mar 27, 2010 - Reservoir Dogs is the first movie Quentin Tarantino ever directed and it is ... Death Proof is "the" guilty pleasure movie for me. ... It's really amazing how wildly entertaining and amazing a film that Pulp Fiction is. ... a doubt in my mind that Indourious Basterds is Quentin Tarantino's greatest piece of cinema

More

Los Angeles, CA Change location

Moving the Needle and Transforming the Web

- NO NEED TO WAIT
- Build on existing investments
- Use BIBFRAME to reflect content in the Web
- Leverage the Web's cooperative infrastructure
- Link between shared & Web assets to test impact on results
- Help the Web understand library vocabularies
- Connect into legacy systems


Not like this 5.4 0 3 2 Like this! ¢ • • 5 3 2

Henrik Kniberg

Incremental Steps

- 1. Make it extremely easy to project Library data to Linked Data (BIBFRAME)
- 2. Start with Visibility publish to the Web in a way the Web understands
- 3. Links!
- 4. RDFa (schema.org, BIBFRAME)
- 5. Increase discoverability
- 6. Accelerate linking among / across assets
- 7. Learn! Inform! Educate! Iterate!



Y We believe that <u>everyone</u> benefits from the <u>visibility</u> of <u>libraries</u> and their <u>content</u> on the <u>Web</u>.

http://libhub.org

http://zepheira.com/linkeddatatraining-201501a/



Getting Involved

Learn more @ <u>http://zepheira.com/solutions/library/</u>

Code @ http://github.org/zepheira/pybibframe http://github.org/zepheira/bibframe-scribe



Thank you

Eric Miller em@zepheira.com

