

3rd Annual BIBFRAME Workshop in Europe
Stockholm

17th September 2019

The Relevance of BIBFRAME Beyond our Walls

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Data Liberate

Independent Consultant, Evangelist & Founder

40+ Years - Computing

29+ Years – Cultural Heritage technology

18+ Years – Semantic Web & Linked Data

W3C Community Groups:

- Bibframe2Schema (Chair) – Standardised conversion path(s)
- Schema Bib Extend (Chair) - Bibliographic data
- Schema Archetypes (Chair) - Archives
- Financial Industry Business Ontology – Financial schema.org
- Tourism Structured Web Data (Co-Chair)
- Schema Course Extension
- Schema IoT Community
- Educational & Occupational Credentials in Schema.org

Works With:

- **Google** – Schema.org vocabulary, site, extensions. documentation and community
- **OCLC** – Global library cooperative
- **FIBO** – Financial Industry Business Ontology Group
- Various Clients – Implementing/understanding Schema.org:
British Library — Stanford University — Europeana — NLB Singapore



2018 Workshop



50:50		
15	\$1 MILLION	
14	\$500,000	
13	\$250,000	
12	\$125,000	
11	\$64,000	
10	\$32,000	
9	\$16,000	
8	\$8,000	
7	\$4,000	
6	\$2,000	
5	\$1,000	
4	\$500	
3	\$300	
2	\$200	
1	\$100	



What are my Library Linked Data Options?

- A: BIBFRAME 2.0
- B: Schema.org
- C: Linky MARC
- D: Do nothing

An aerial photograph of a walled town, likely a historical site, surrounded by green fields and a river. The town is enclosed by a stone wall with several bastions. The buildings inside are mostly red-roofed and arranged in a grid-like pattern. A river flows through the town, and there are green fields and a road leading to the town from the bottom. The text "Inside the walls" is overlaid in the center of the image.

Inside the walls

BIBFRAME (2.0) is a Good Thing!

- The Only Linked Data vocabulary for bib data ?
 - No
 - Probably not
- Best Linked Data vocabulary for bib data ?
 - No!
- Universally loved by librarians ?
 - No
- Powering lots of systems ?
 - Yes
- Satisfies most bibliographic LD use cases ?
 - By some
 - Becoming so
- Recognised / supported by systems developers ?
 - Yes -ish
- A de facto international standard ?
 - Yes -ish
- Supported by a wide consensus ?
 - Yes -ish

BIBFRAME (2.0) is a Good Thing!

- Most System Developers would admit as a minimum:
 - Must be able to import BIBFRAME
 - = Must be able to export BIBFRAME
- MARC to BIBFRAME Conversion Specs
- MARC to BIBFRAME Conversion Scripts

The most important step on the road to Linked Data

(Regardless of vocabulary)

The MARC Gateway

Converts EnterYE
Here

Most
Implementers
will start
with a MARC
based dataset
to convert

Temporary
Exit ?

BIBFRAME/RDA/MARC -

Baggage

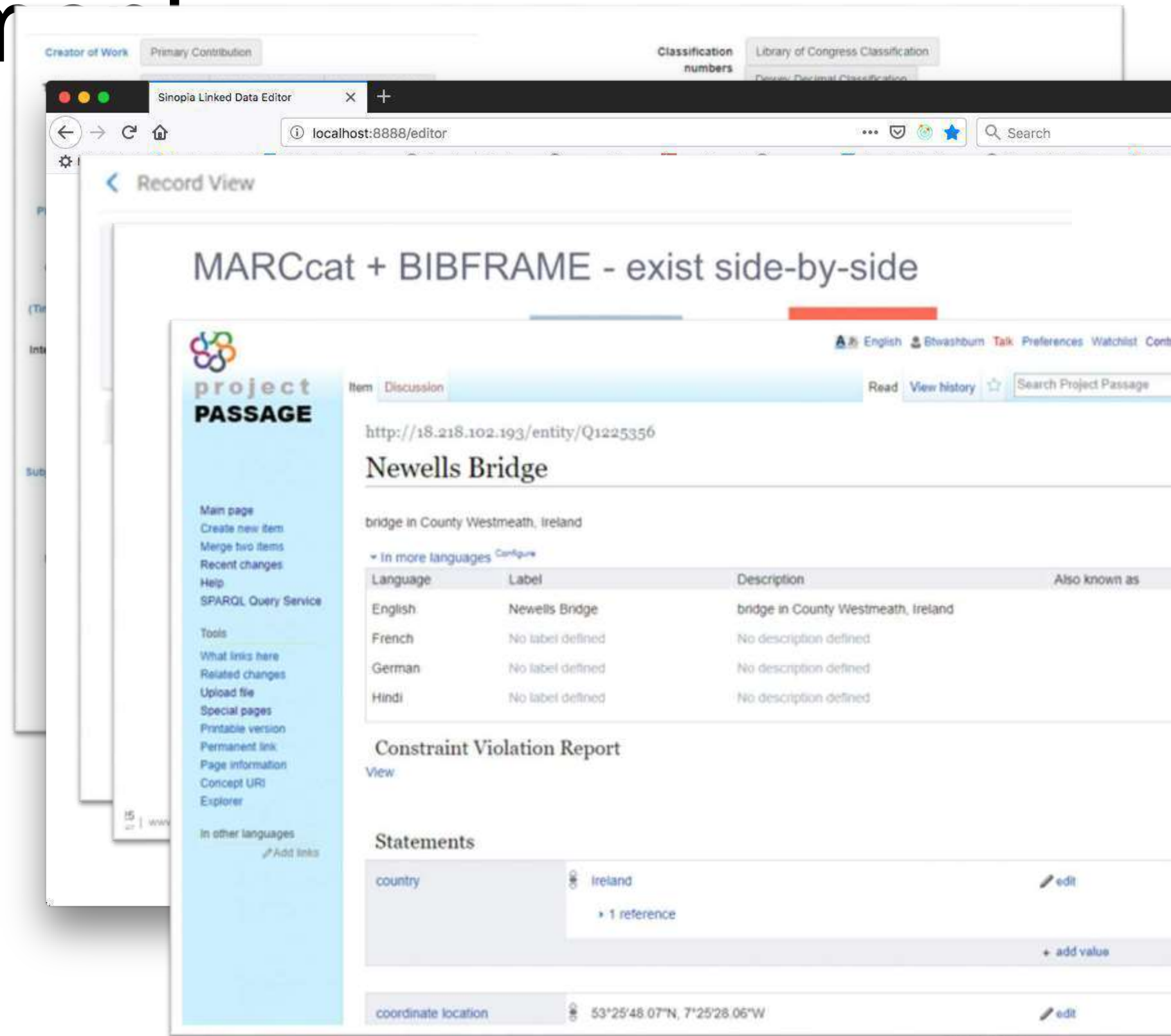
- Driven by MARC conversion needs
 - `bflc:name00MarcKey`
 - `bflc:title40MatchKey`
- The **Winstance** problem
 - Most record conversions currently result in a linked pair of entities
 - Work & Instance
 - For the benefit gained might as well just have a single Winstance!

- When is a Work a Work or a Hub/SuperWork or an Instance of one?

Working Inside the walls

Entity Management

- LC BIBFRAME Editor
- SINOPIA Editor
- Alma BIBFRAME View
- Innovative Interfaces Inspire
- Folio (future)
- OCLC Project Passage
(Entity management & reconciliation)



An aerial photograph of a town enclosed by a stone wall. The town is built on a hillside and features a grid-like street pattern. A river flows through the town, and the surrounding area is lush green with fields and trees. The text "Outside the walls" is overlaid in the center of the image.

Outside the walls

Structured Data On The Web

The screenshot displays a web browser window with two tabs. The active tab is 'dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/LZDQYN'. The page content includes the Harvard Dataverse logo, a breadcrumb trail 'Harvard Dataverse > The Harvard Open Data Dataverse > Harvard Library Bibliographic Dataset', and a 'Cite Dataset' button. The main content area shows the 'Harvard Library Bibliographic Dataset' with a 'Version 1.0' label and a description: 'This dataset contains over 12 million bibliographic records, including electronic resources, manuscripts, archival materials, and more, acquired and modified over decades, and represents a high-quality or quality-checked during the export process and are available for download. Documentation file, below. (2015-06-12)'. Below the description are sections for 'Subject' (Other), 'Keyword' (Library, dataset, bibliography), and 'Notes' (Full documentation of this dataset may be found at http://openmetadata.lib.harvard.edu/bibdata . There may also be a more recent version of the data itself there; the data supplied here is a snapshot.). At the bottom, there are tabs for 'Files', 'Metadata', 'Terms', and 'Versions'.

The second tab is 'Performing Arts Databases (Library of Congress)'. It displays a table of RDF statements for 'Statement Collection #1'. The table has columns for 'Entity', 'Attributes', and 'Value'. The 'Entity' is '_:b0_b0'. The 'Attributes' listed are 'rdf:type', 'schema:citation', 'schema:creator', 'schema:creator', and 'schema:description'. The 'Value' for 'rdf:type' is 'schema:Dataset'. The 'Value' for 'schema:citation' is 'Library of Congress. Recorded Sound Section, and American Folklife Center. Performing Arts Databases (Library of Congress). Ann Arbor, MI: [distributor], 2018-05-29. https://doi.org/10.3886/ICPSR37085.v1'. The 'Value' for 'schema:creator' is 'See Statement Collection #2' and 'See Statement Collection #3'. The 'Value' for 'schema:description' is a paragraph of text describing the performing arts databases. The 'Value' for 'schema:funder' is 'See Statement Collection #4'. The 'Value' for 'schema:identifier' is 'https://doi.org/10.3886/ICPSR37085.v1'. The 'Value' for 'schema:keywords' is a list of keywords: 'dance', 'films', 'jazz', 'music', 'performing arts'.

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Google Knowledge Graph



Taj Mahal

4.6 ★★★★★ 160,080 Google reviews
Mausoleum in Agra, India

The Taj Mahal is an ivory-white marble mausoleum on the south bank of the Yamuna river in the Indian city of Agra. It was commissioned in 1632 by the Mughal emperor, Shah Jahan, to house the tomb of his favourite wife, Mumtaz Mahal. It also houses the tomb of Shah Jahan, the builder. [Wikipedia](#)

Address: Dharmapuri, Forest Colony, Tajganj, Agra, Uttar Pradesh 282001, India
Construction started: 1631
Height: 73 m
Opened: 1648
Architects: Ustad Ahmad Lahouri, Ustad Isa
Did you know: 28 different types of stones were used to make the Taj Mahal. [othersopinion.com](#)

[Suggest an edit](#)

Know this place? Answer quick questions

According to eHow.com, the majority of positions for **SEO** specialists require the following: Bachelor's degree in business, marketing, communications or information technology. One to three years in online marketing. Knowledge of HTML, CSS and various programming languages.

How to Become a Search Engine Optimization (SEO) Specialist | ...

<https://www.marketingcareeredu.org> › search-engine-optimization-specialist

Vue Cinema Manchester - Printworks

4.3 ★★★★★ (3,445) · Cinema
Manchester
Chain cinema showing the latest releases

ODEON Manchester Great Northern

4.3 ★★★★★ (2,355) · Cinema
Manchester
Chain cinema showing the latest releases

Cineworld Cinema Didsbury

4.3 ★★★★★ (2,428) · Cinema
Cinema chain with a mainstream programme

[More places](#)

Winning perfect Yorkshire pudding recipe - All recip...

[p.uk](#) › Recipes › Dish type › Side dish › Yorkshire pudding

★★★★★ Rating: 4.7 - 123 votes - 35 mins

is Blackburn is reigning world Yorkshire Pudding champion. Star of ITV's Country House Sunday and has appeared on BBC Food

8,848 m

Summit Everest / Elevation

Summiting the world's highest mountain is a lifelong goal for many mountaineers. But how high is Mount Everest? The first official height of Everest was established by Nepal in 1955, measuring an impressive **8,848m** (29,029 ft) high.

How High is Mount Everest? - Global Adventure Challenges

<https://www.globaladventurechallenges.com> › journal › how-high-mount-ev...

People also search for

- K2 8,611 m
- Mount Kilimanjaro 5,895 m
- Denali 6,190 m

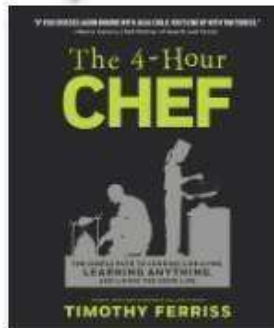
Google Knowledge Graph

The 4-Hour Chef: The Simple Path to Cooking Like a Pro, Learning Anything, and Living the Good Life
<https://www.goodreads.com/book/show/13129810-the-4-hour-chef>
Rating: 4 - 9,067 votes
Read 419 reviews
WHAT IF YOU COULD BECOME WORKING

goodreads Home My Books Browse Microdata RDFa POSH

HomeAway

Start by marking "The 4-Hour Chef" as a **Want to Read** book.



The 4-Hour Chef
Cooking Like a Pro, Learning Anything, and Living the Good Life
by Timothy Ferriss
★★★★★
WHAT IF YOU COULD BECOME WORKING IN 6 MONTHS
The 4-Hour Chef is an adventure guide to becoming a world-class expert in any field.
#1 New York Times Bestseller
Tim Ferriss
Silicon Valley's fastest learner...more

GET A COPY

Amazon UK Online Stores Libraries

Hardcover, 672 pages
Published 2012 by New Harvest
More Details... Edit Details

FRIEND REVIEWS

Statement Collection #1

Entity <https://www.goodreads.com/en/book/show/13129810-the-4-hour-chef>

Attributes

rdf:type	schema:Book
schema:image	https://www.goodreads.com/book/photo/13129810-the-4-hour-chef
Name	The 4-Hour Chef: The Simple Path to Cooking Like a Pro, Learning Anything, and Living the Good Life
schema:author	See Statement Collection #2
schema:aggregateRating	See Statement Collection #3
schema:bookFormat	Hardcover
schema:numberOfPages	672 pages
schema:isbn	9780547884592
schema:inLanguage	English
schema:reviews	See Statement Collection #4
schema:reviews	See Statement Collection #6
schema:reviews	See Statement Collection #8
schema:reviews	See Statement Collection #10
schema:reviews	See Statement Collection #12
schema:reviews	See Statement Collection #14
schema:reviews	See Statement Collection #16
schema:reviews	See Statement Collection #18
schema:reviews	See Statement Collection #20
schema:reviews	See Statement Collection #22
schema:reviews	See Statement Collection #24
schema:reviews	See Statement Collection #26
schema:reviews	See Statement Collection #28
schema:reviews	See Statement Collection #30

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The 4-Hour Chef

Ferriss



available

book

The 4-Hour Chef: The Simple Path to Cooking Like a Pro, Learning Anything, and Living the Good Life is the third book by Tim Ferriss, published November 20, 2012. The book continues Ferriss' "4-Hour" series of self-improvement, self-actualization, and the skill of learning things through the lens of cooking. Wikipedia

Published: 20 November 2012

Ferriss

fiction

United States

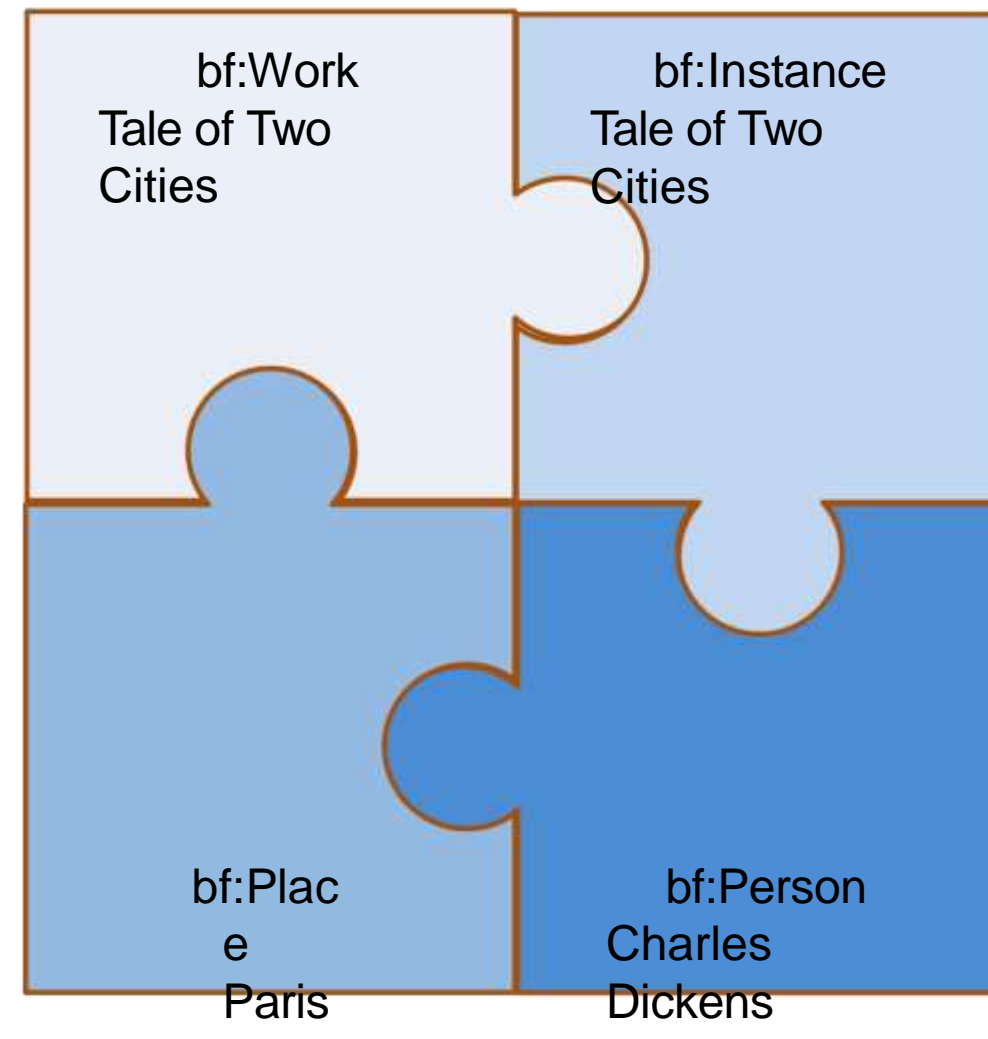
Self-actualization, Self-employment, Self-help, Cooking

The 4-Hour Workweek, The 4-Hour Body

review

Google Knowledge Graph?

How do Graphs stuff into it?



A basic graph of entities
(BIBFRAME)

An aerial photograph of a walled town, likely a historical site, surrounded by green fields and a river. The town is enclosed by a stone wall, and the buildings inside are densely packed. The surrounding landscape is lush and green, with a river winding through it. The text "How Relevant is BIBFRAME Beyond our Walls ?" is overlaid in white on the image.

How Relevant is BIBFRAME Beyond our Walls ?

An aerial photograph of a walled town, likely a historical site, surrounded by green fields and a river. The town is enclosed by a stone wall, and the buildings inside are densely packed. The surrounding landscape is lush and green, with a river winding through it. The text is overlaid on the image in a large, white, sans-serif font.

BIBFRAME is Not Relevant Beyond our Walls*

***Of Cultural heritage**

An aerial photograph of a university campus, likely the University of Cambridge, showing a dense cluster of red-roofed buildings and green spaces. The image is overlaid with several logos: Google (top left), Bing (top right), Yahoo! (bottom left), Alexa (bottom right), and the Apple logo (bottom center).

Google

Where are our
users?
... mostly out of
our reach ...

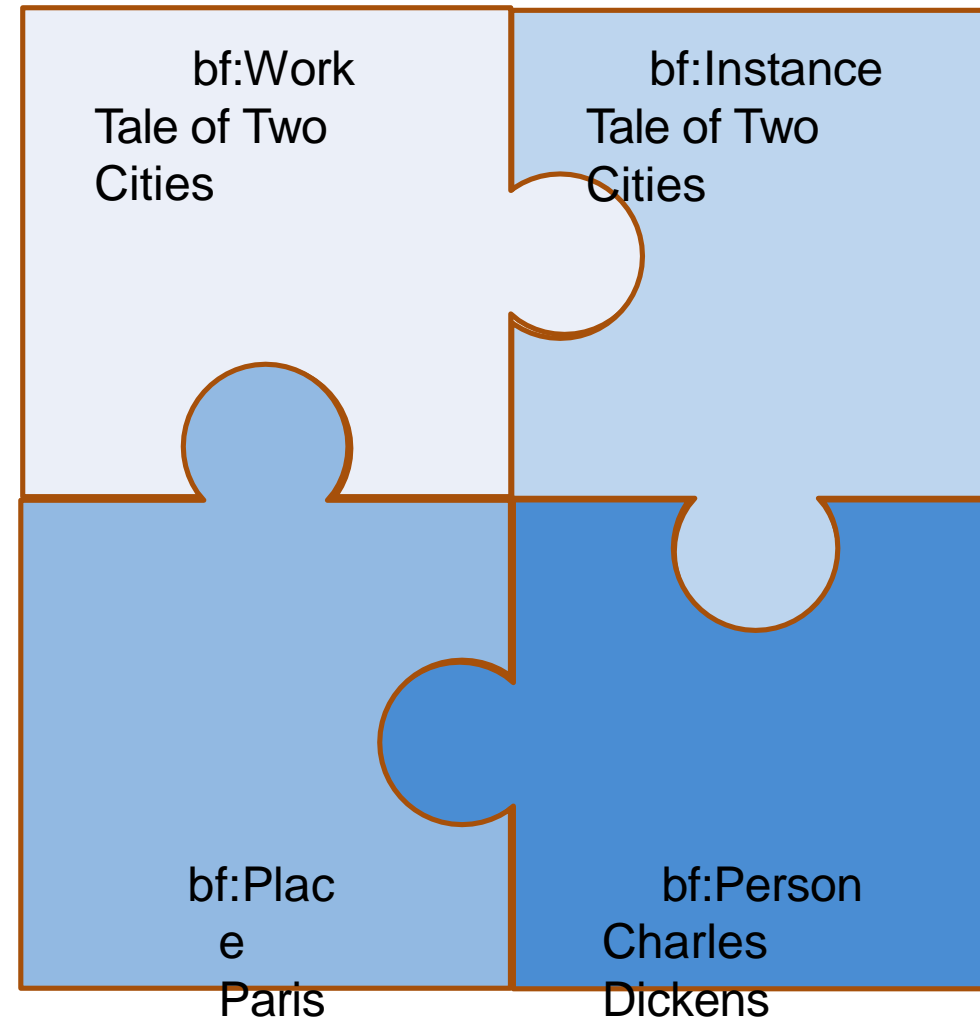
Bing

YAHOO!

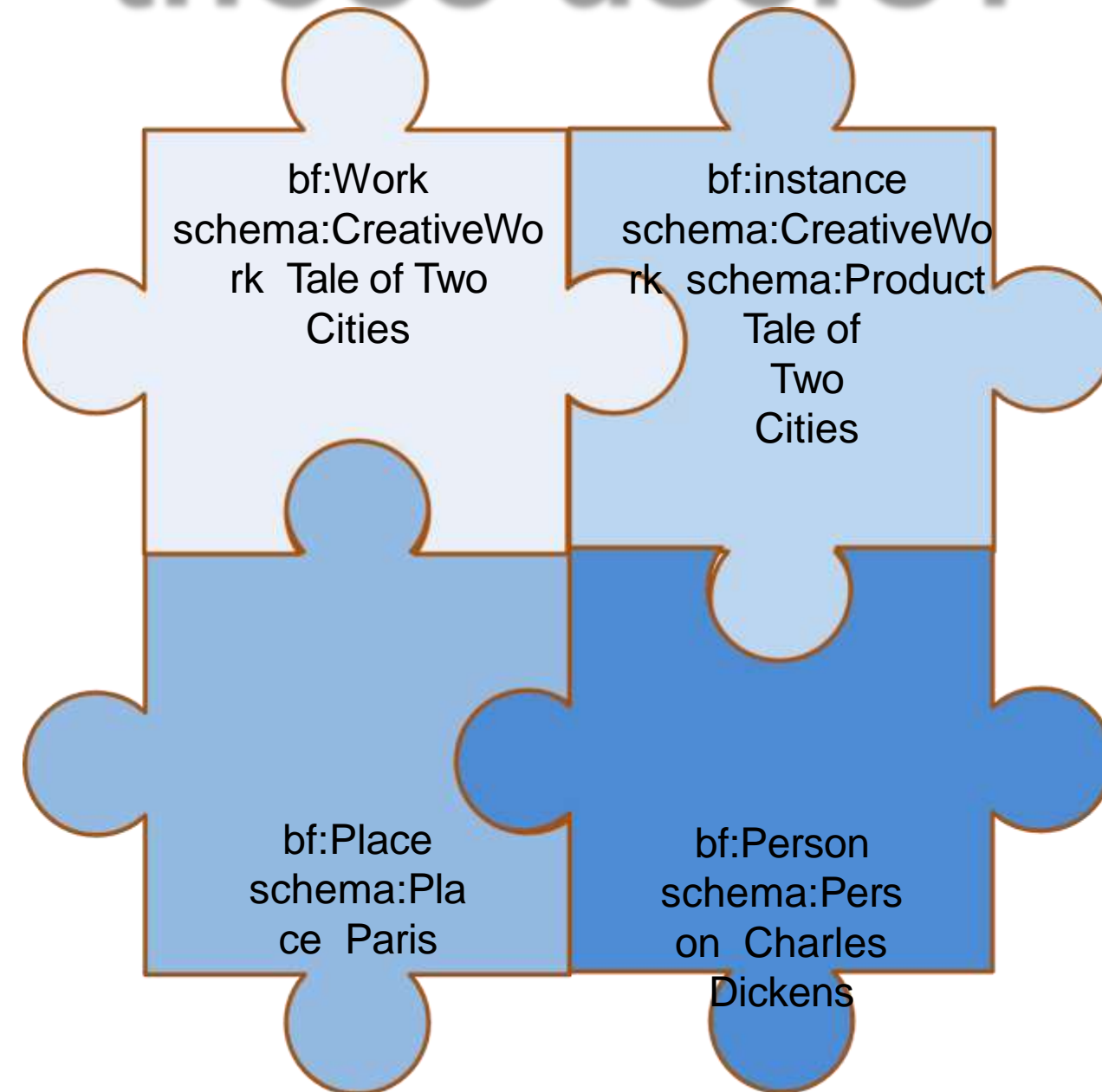
alexa



How to reach those users?



How to reach those users?



Add Schema.org



Knowledge Graph

bf:Work
schema:CreativeWo
rk Tale of Two
Cities

bf:instance
schema:CreativeWo
rk schema:Product
Tale of
Two
Cities

bf:Place
schema:Pla
ce Paris

bf:Person
schema:Pers
on Charles
Dickens

Add context with [Schema.org](https://schema.org)

Google Knowledge Graph

Improving by Reconciliation

Automatic discovery of new entities using graph reconciliation

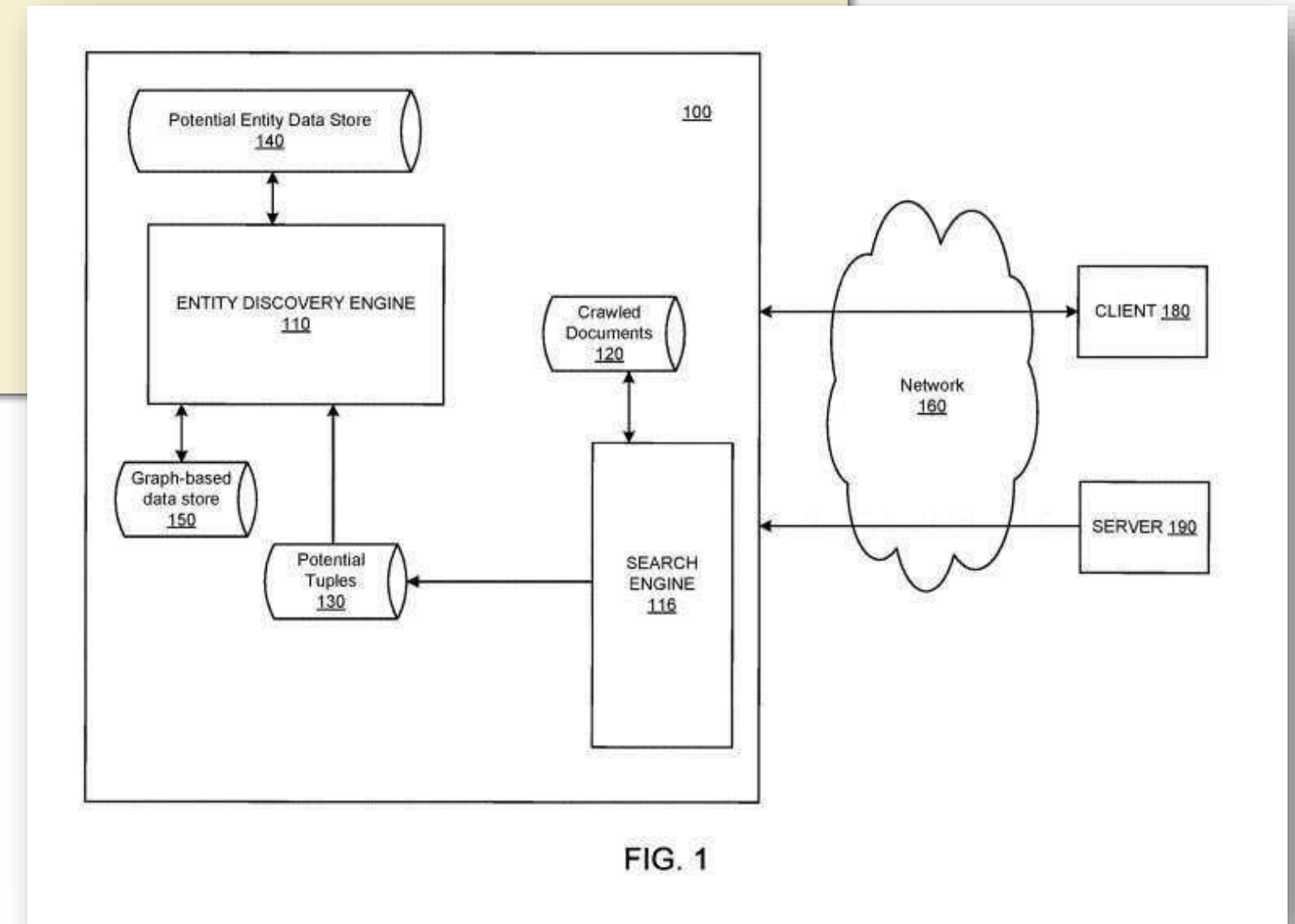
Inventors: Oksana Yakhnenko and Norases Vesdapunt

Assignee: GOOGLE LLC

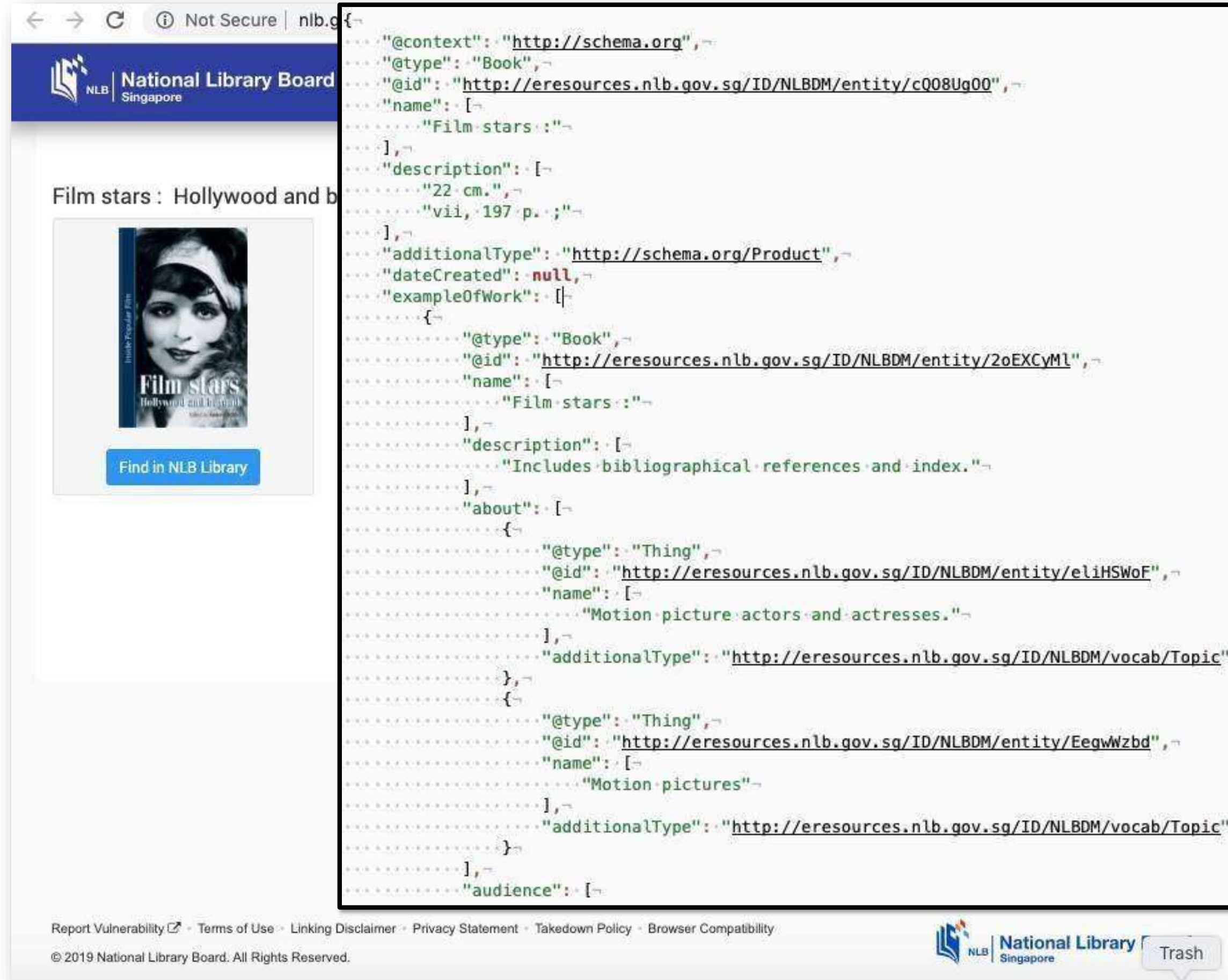
US Patent: 10,331,706

Granted: June 25, 2019

Filed: October 4, 2017



Structured Data On The Web Today

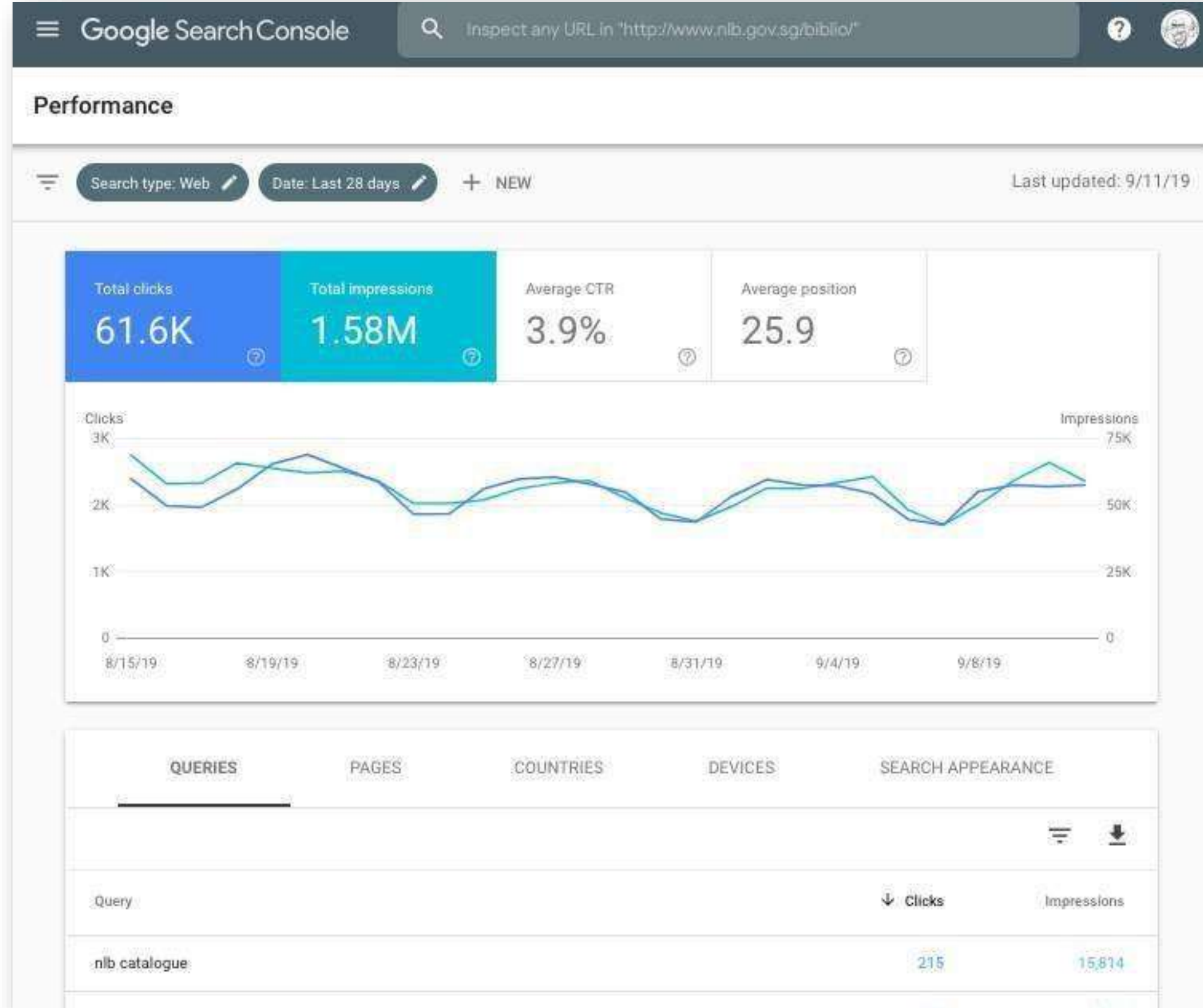


```

{
  "@context": "http://schema.org",
  "@type": "Book",
  "@id": "http://eresources.nlb.gov.sg/ID/NLBDM/entity/cQ08Ug00",
  "name": [
    "Film stars:"
  ],
  "description": [
    "22 cm.",
    "vii, 197 p.;"
  ],
  "additionalType": "http://schema.org/Product",
  "dateCreated": null,
  "exampleOfWork": [
    {
      "@type": "Book",
      "@id": "http://eresources.nlb.gov.sg/ID/NLBDM/entity/2oEXCyMl",
      "name": [
        "Film stars:"
      ],
      "description": [
        "Includes bibliographical references and index."
      ],
      "about": [
        {
          "@type": "Thing",
          "@id": "http://eresources.nlb.gov.sg/ID/NLBDM/entity/eliHSWoF",
          "name": [
            "Motion picture actors and actresses."
          ],
          "additionalType": "http://eresources.nlb.gov.sg/ID/NLBDM/vocab/Topic"
        }
      ]
    }
  ],
  "audience": [
    {
      "@type": "Thing",
      "@id": "http://eresources.nlb.gov.sg/ID/NLBDM/entity/EegwWzbd",
      "name": [
        "Motion pictures"
      ],
      "additionalType": "http://eresources.nlb.gov.sg/ID/NLBDM/vocab/Topic"
    }
  ]
}

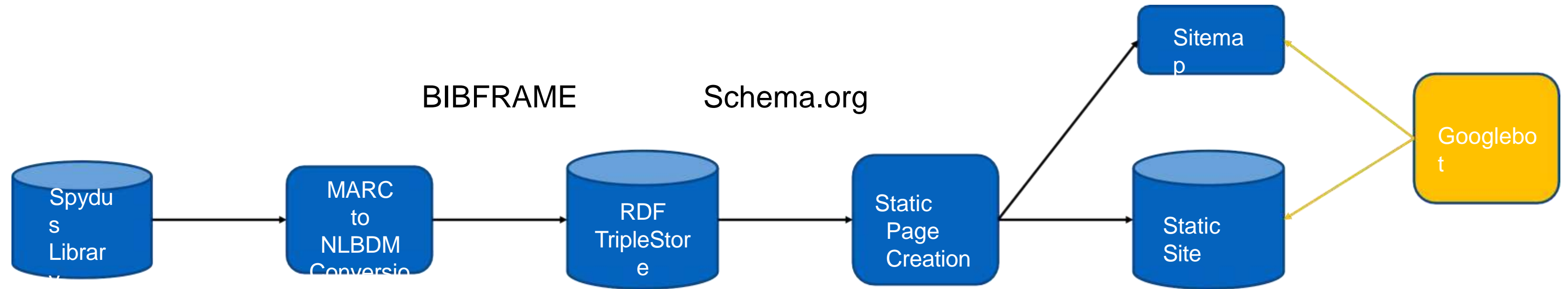
```


Structured Data On The Web Today

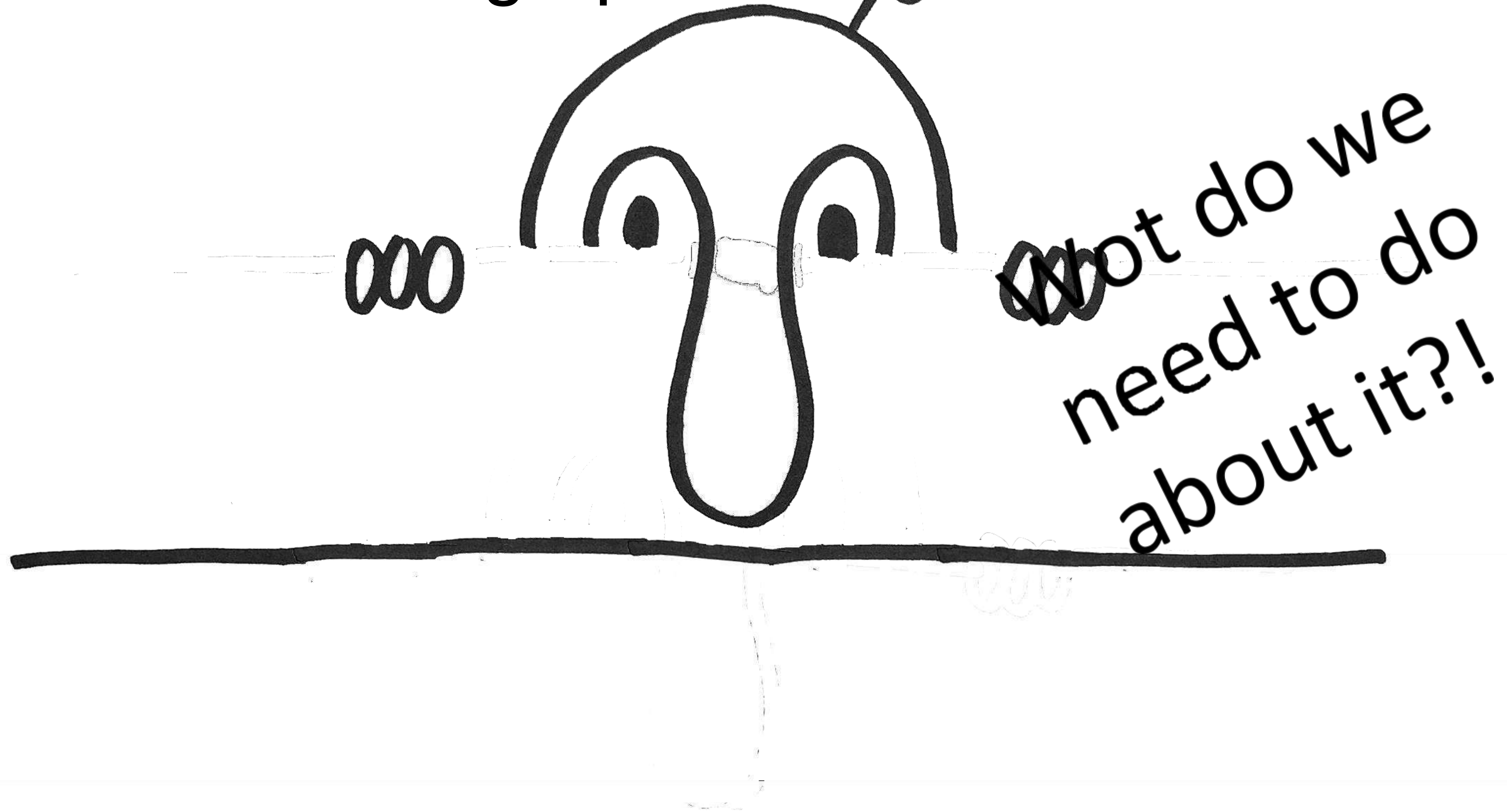


Structured Data On The Web Today

NLB Singapore Schematic



Structured Bibliographic Data On The Web Today



Embark on

- Keep refining BIBFRAME
- Solve the Work Record
 - In a consistent repeat
- Promote reconciliation
- BIBFRAME to Schema.org
 - BIBFRAME2Schema.org
- Build working examples
- Schema.org is complete
 - *It will get our stuff in*

W3C COMMUNITY & BUSINESS

Skip Log In My W3C Account

CURRENT GROUPS REPORTS ABOUT

[Home](#) / [Bibframe2Schema.org...](#)

BIBFRAME2SCHEMA.ORG COMMUNITY GROUP

The objective of the community group is: to facilitate a consensually agreed route for conversion and/or mapping of bibliographic data into Schema.org; building on the development, initiated by the Library of Congress, of the BIBFRAME 2.0 Linked Data vocabulary; utilising the specifications of BIBFRAME 2.0 as a stable base to develop upon. The initial objectives of the community are: 1. The creation of a reference metadata mapping from BIBFRAME 2.0 to Schema.org. 2. To facilitate agreed development and open sharing of reference software implementation(s) to: Enrich BIBFRAME data with Schema.org Terms and/or Create Schema.org terms from BIBFRAME 2.0 data.

Note: Community Groups are proposed and run by the community. Although W3C hosts these conversations, the groups do not necessarily represent the views of the W3C Membership or staff.

No Reports Yet Published ⓘ

Chairs, when logged in, may publish draft and final reports. Please see [report requirements](#).

PUBLISHED REPORTS

Trash

Challenges:

- Mapping to correct type
- What is a Book!?
- No Agent type in SDO
- Need examples to criticise

An aerial photograph of a walled town, likely a historical site, surrounded by green fields and a river. The town is densely packed with buildings and is enclosed by a prominent wall. The surrounding landscape is lush and green, with a river winding through it. The overall scene is captured from a high angle, providing a clear view of the town's layout and its relationship to the surrounding environment.

The Relevance of BIBFRAME Beyond our Walls

BIBFRAME's Lack of Relevance Beyond our Walls

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