



# Open Library Data and Embrace the World – Library Linked Data

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# Outline

- ▶ Overview about Semantic Web and Linked Data
- ▶ Linked Data Life Cycle
- ▶ Case Study 1: Linked Data in National Central Library
- ▶ Case Study 2: Movie Linked Data
- ▶ Case 3: Linked OPAC (brief)
- ▶ Conclusion and Future Plan



# **OVERVIEW ABOUT SEMANTIC WEB AND LINKED DATA**



# Semantic Web

- ▶ **Semantic Web (SW)** – a web of data that can be processed directly or indirectly by machines
- ▶ The Semantic Web describes the **properties of things (resources)** and **relationships between things**
  - ✱ The Beatles was a popular band from Liverpool.
  - ✱ John Lennon was a member of the Beatles.
- ▶ Data exchange, interoperation, reuse

Berners-Lee, T. (2000). *Weaving the Web: The original design and ultimate destiny of the World Wide Web*. Harper Business, 1st edition.



# Linked Data and Its Principles

- ▶ Best practice for realizing Semantic Web by publishing and interlinking structured data on the Web
- ▶ Linked Data principles
  - ✱ Use URIs as names for things
  - ✱ Use HTTP URIs, so that a client (machine or human reader) can look up those names
  - ✱ When someone looks up a URI, provide useful information, using the standards (RDF, SPARQL)
  - ✱ Include links to other URIs, so that they can discover more things

# What is RDF?

## ▶ Resource Description Framework

- ✱ RDF is a language for representing information about **Web** resources (Ah...metadata)
- ✱ RDF can be used to represent information about things that can be identified on the Web, even when they cannot be directly retrieved on the Web
- ✱ Intended for situations in which information needs to be processed by applications, rather than being only displayed to people. (Ah... **Semantic Web**...)

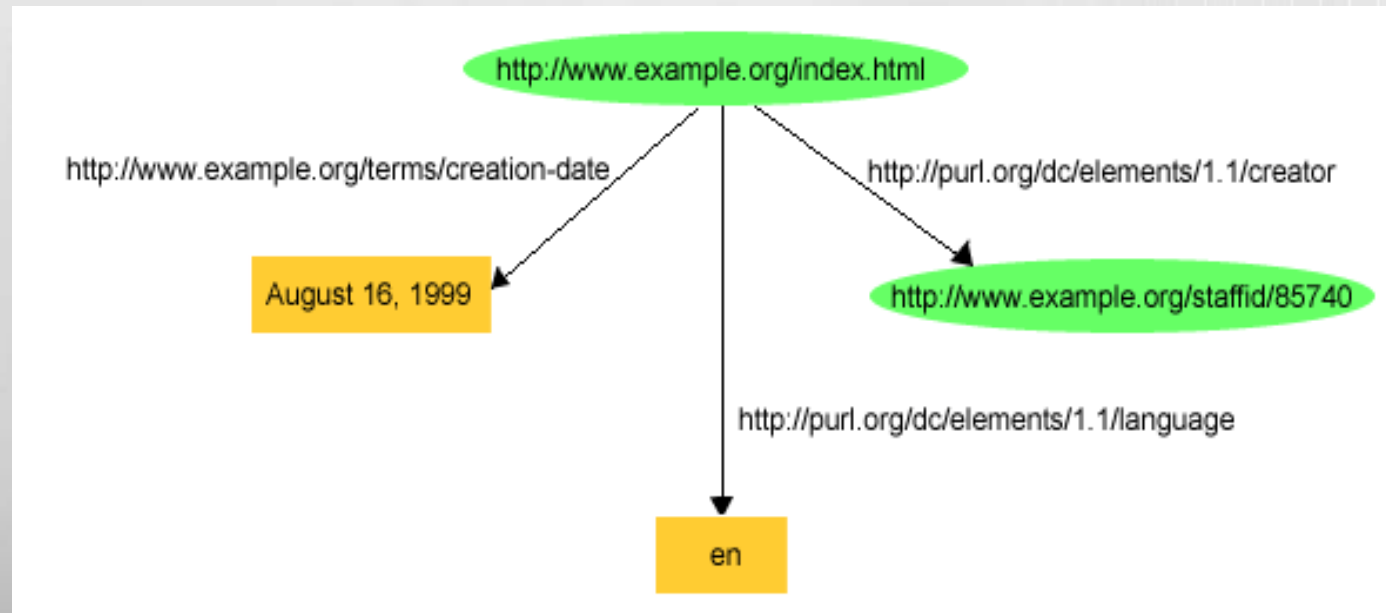


# RDF Data Model

- ▶ A model for describing
  - ✱ resources
  - ✱ named properties
  - ✱ property values
- ▶ (resource, property, value)

# Example

- ▶ <http://www.example.org/index.html> has a creation-date whose value is August 16, 1999
- ▶ <http://www.example.org/index.html> has a language whose value is English



Objects in RDF statements may be either URIs, or constant values (called literals)



# Triple Notation

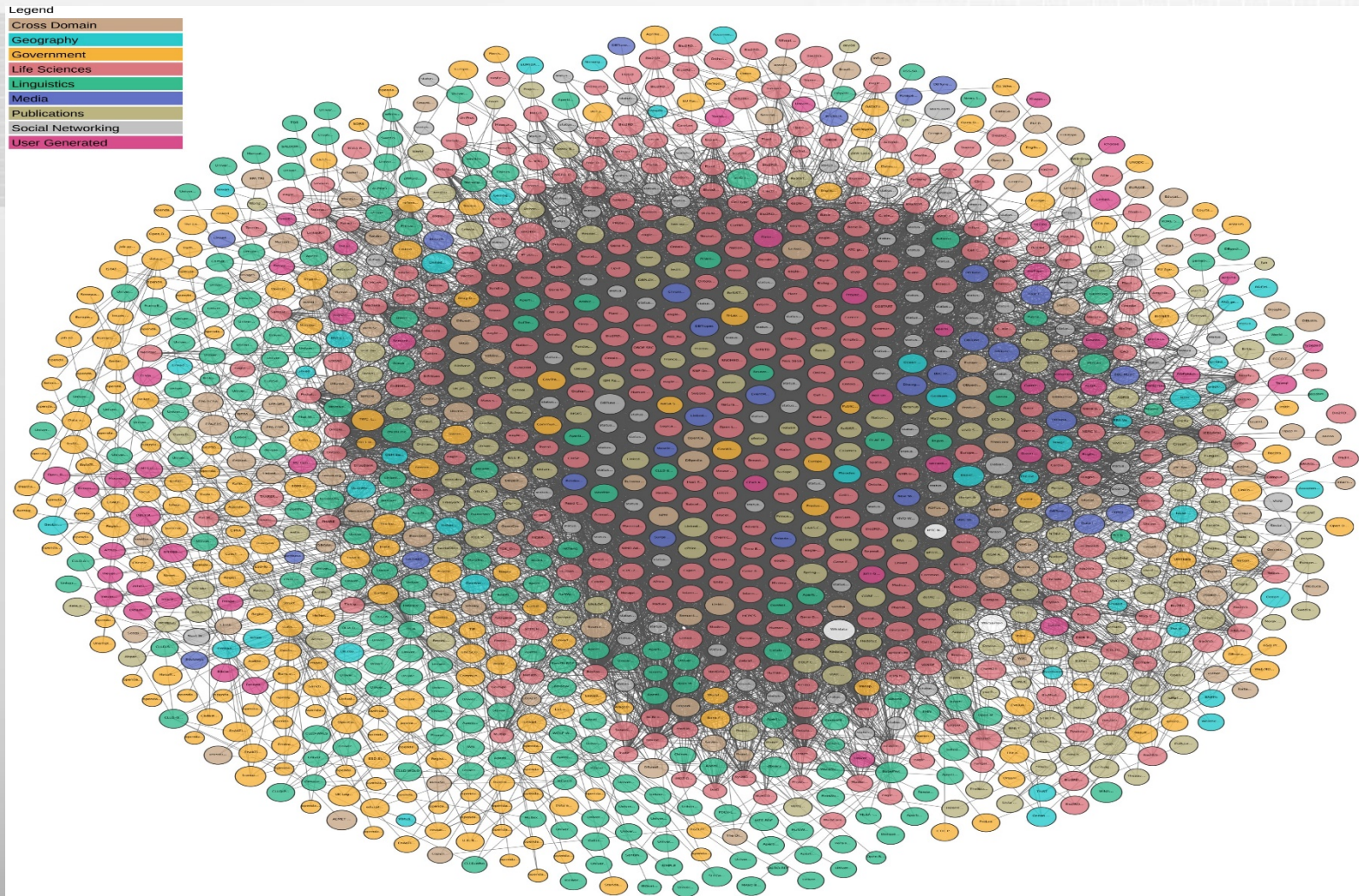
## ▶ Triple Notation of Example

- \* `<http://www.example.org/index.html>`  
`<http://purl.org/dc/elements/1.1/creator>`  
`<http://www.example.org/staffid/85740>` .
- \* `<http://www.example.org/index.html>`  
`<http://www.example.org/terms/creation-date>` "August 16, 1999" .
- \* `<http://www.example.org/index.html>`  
`<http://purl.org/dc/elements/1.1/language>` "en" .

## ▶ Shorthand Triple Notation – Giving prefix (Namespace)

- \* `ex:index.html` `dc:creator` `exstaff:85740` .
- \* `ex:index.html` `exterms:creation-date` "August 16, 1999" .
- \* `ex:index.html` `dc:language` "en" .

# LOD Data Cloud as of June 2018





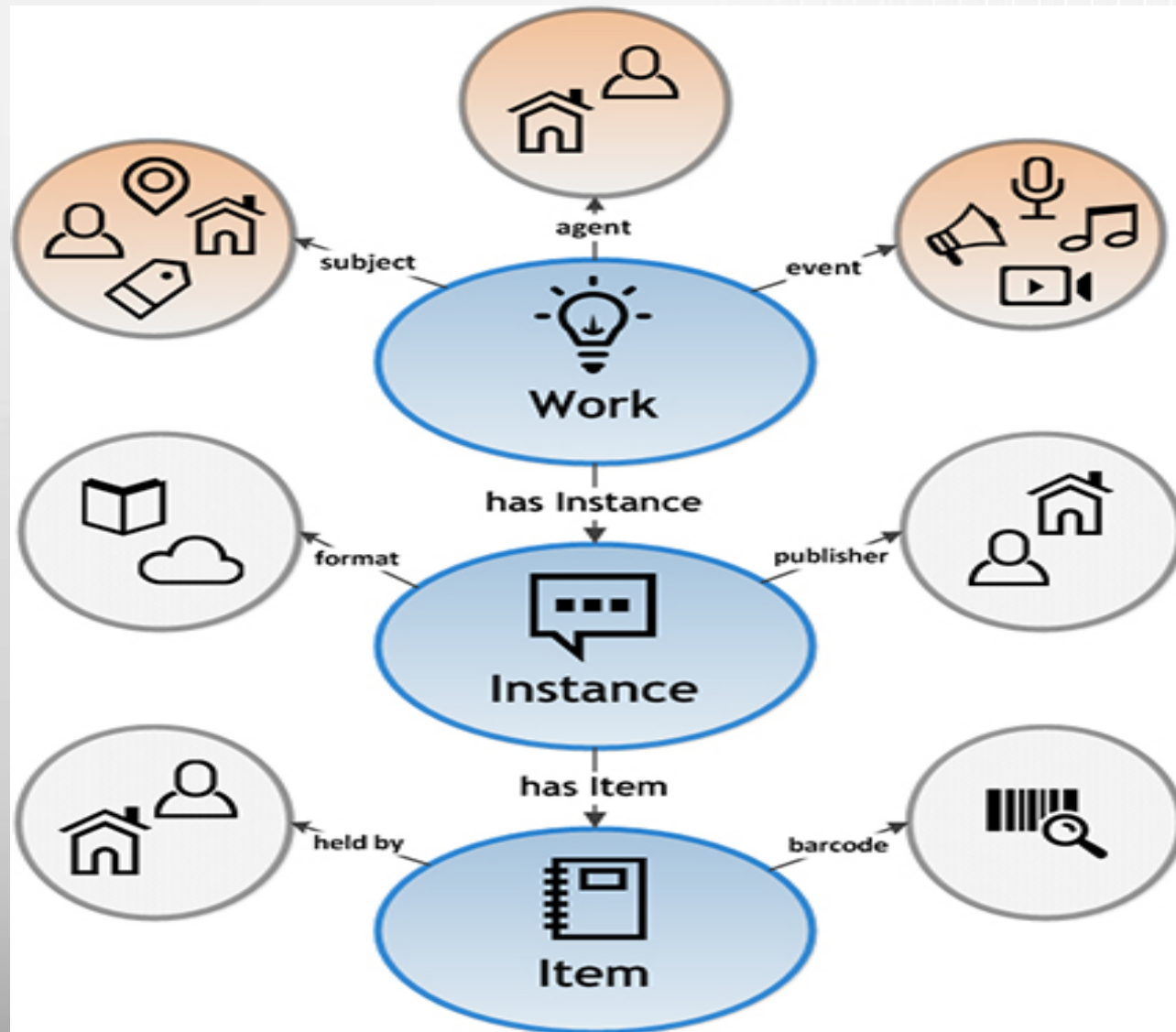
# LOD Data Cloud Evolution

|            | White   | Colored     | Graph file | Dataset list | Datasets |
|------------|---------|-------------|------------|--------------|----------|
| 2018-08-28 |         | png         | svgjson    |              | 1,224    |
| 2018-07-30 |         | png         | svgjson    |              | 1,220    |
| 2018-06-28 |         | png         | svgjson    |              | 1,205    |
| 2018-05-30 |         | png         | svgjson    |              | 1,186    |
| 2018-04-30 |         | png         | svgjson    |              | 1,184    |
| 2017-08-22 |         | png         | svgjson    | tsv          | 1,163    |
| 2017-02-20 |         | png         | svg        |              | 1,139    |
| 2017-01-26 |         | png         | svg        |              | 1,146    |
| 2014-08-30 | png pdf | svg png pdf | svg        |              | 570      |
| 2011-09-19 | png pdf | svg png pdf | svg        |              | 295      |
| 2010-09-22 | png pdf | svg png pdf | svg        |              | 203      |

# Five Stars of Linked Data



# BIBFRAME Model





# LINKED DATA LIFE CYCLE



# Linked Data Life Cycle





# Implementation Plan (**As a Publisher**)

- ▶ Define your model
  - ✱ Resources, URI, properties, relationships
- ▶ **Select** or define your metadata terms (**resource properties**)
- ▶ **Select** or define any controlled vocabularies
  - ✱ Each list of terms will be described in an RDF-compatible format (such as SKOS)
- ▶ Create links from your data (terms) to related data (terms) on the Web (**as a consumer**)



# From Library Record to LOD – Take a record

| Field/attribute | Value                            |
|-----------------|----------------------------------|
| Record ID       | 54321                            |
| Title           | Museum archives: an introduction |
| Author          | Wythe, Deborah                   |
| Date            | 2004                             |
| LCSH            | Museum archives                  |
| Media/GMD       | Electronic                       |
| Content form    | Text                             |

# From Library Record to LOD – Disaggregate to single statements

| Record | Attribute          | Value                            |
|--------|--------------------|----------------------------------|
| 54321  | (has) title        | Museum archives: an introduction |
| 54321  | (has) author       | Wythe, Deborah                   |
| 54321  | (has) date         | 2004                             |
| 54321  | (has) LCSH         | Museum archives                  |
| 54321  | (has) media type   | Electronic                       |
| 54321  | (has) content form | Text                             |

# From Library Record to LOD – Replace record ID with URI

| URI       | Attribute          | Value                            |
|-----------|--------------------|----------------------------------|
| mlx:54321 | (has) title        | Museum archives: an introduction |
| mlx:54321 | (has) author       | Wythe, Deborah                   |
| mlx:54321 | (has) date         | 2004                             |
| mlx:54321 | (has) LCSH         | Museum archives                  |
| mlx:54321 | (has) media type   | Electronic                       |
| mlx:54321 | (has) content form | Text                             |

“mlx” = qname (xmlns) = shorthand for “http://MyLibraryX.com/”



# From Library Record to LOD – Replace attributes with URIs

| URI       | URI            | Value                            |
|-----------|----------------|----------------------------------|
| mlx:54321 | isbd:P1014     | Museum archives: an introduction |
| mlx:54321 | rdarole:author | Wythe, Deborah                   |
| mlx:54321 | isbd:P1018     | 2004                             |
| mlx:54321 | dct:subject    | Museum archives                  |
| mlx:54321 | isbd:P1003     | Electronic                       |
| mlx:54321 | isbd:P1001     | Text                             |

# From Library Record to LOD – Replace values with URIs

| subject   | predicate      | object                             |
|-----------|----------------|------------------------------------|
| mlx:54321 | isbd:P1014     | “Museum archives: an introduction” |
| mlx:54321 | rdarole:author | viaf:31899419/#Wythe,+Deborah      |
| mlx:54321 | isbd:P1018     | “2004”                             |
| mlx:54321 | dct:subject    | lcsch:/sh85088707#concept          |
| mlx:54321 | isbd:P1003     | isbdmt:T1002                       |
| mlx:54321 | isbd:P1001     | isbdcf:T1009                       |



# **CASE STUDY 1: LINKED DATA IN NATIONAL CENTRAL LIBRARY**

# Datasets and Formats

## ▶ ISO 2709

- ✿ Chinese Name Authority Control(中文人名權威控制): 262,668 records
- ✿ List of Chinese Subject Terms(中文主題詞表): 19,317 records

## ▶ SQL (bulk loading) and EXCEL (incremental)

- ✿ New Classification Scheme For Chinese Libraries, 2007 ed.(中文圖書分類法2007版): 23,500 records
- ✿ National Central Library Online Catalog(國家圖書館館藏書目資料): 0.7 million records (out of 4 million holding data of NCL)

# URI Design

| Data source           | ID Field           | URI                                                                                                                                   |
|-----------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Name authority        | System No.         | <a href="http://catld.ncl.edu.tw/authority/AC{System No.}">http://catld.ncl.edu.tw/authority/AC{System No.}</a>                       |
| Subject terms         | Serial No.         | <a href="http://catld.ncl.edu.tw/subject/SH{Serial No.}">http://catld.ncl.edu.tw/subject/SH{Serial No.}</a>                           |
| Classification scheme | Classification No. | <a href="http://catld.ncl.edu.tw/classification/{Classification No.}">http://catld.ncl.edu.tw/classification/{Classification No.}</a> |
| NCL Catalog           | System No.         | <a href="http://catld.ncl.edu.tw/book/{System No.}">http://catld.ncl.edu.tw/book/{System No.}</a>                                     |



# Metadata Terms – Name Authority

| Field                                                                                                   | MARC   | SKOS           | MADS                           |
|---------------------------------------------------------------------------------------------------------|--------|----------------|--------------------------------|
| 標目 - 姓 / 名<br>Heading-<br>Personal Name                                                                 | 100\$a | skos:prefLabel | mads:FullNameElement           |
| 生卒年，朝代<br>Dates<br>associated with<br>a name                                                            | 100\$d |                | mads:DateNameElement           |
| 學科領域100\$c -<br>Titles and other<br>words<br>associated with<br>a name<br>372 \$a- Field of<br>Activity | 100\$c | skos:scopeNote | mads:TermsOfAddressNameElement |
| 性別Gender                                                                                                | 375\$a |                | mads:gender                    |

# Metadata Terms – Name Authority (Cont.)

| Field                                                                                                                                         | MARC           | SKOS          | MADS                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------|-----------------------------------------------|
| 變異標目 - 姓 / 名<br>See From Tracing-<br>Personal Name                                                                                            | 400\$a         | skos:altLabel | mads:hasVariant<br>mads: PersonalName         |
| 連接 / 參見標目<br>700 - Established<br>Heading      Linking<br>Entry-Personal<br>Name<br>500 - See Also<br>From          Tracing-<br>Personal Name | 700/<br>500\$a | skos:related  | mads:hasRelatedAuthority<br>mads:PersonalName |
| 學歷 / 勳獎<br>373 - Associated<br>Group                                                                                                          | 373\$a         |               | mads:has Affiliation<br>mads:Affiliation      |
| 參考資料 / 館藏資料<br>670 - Source Data<br>Found (R)                                                                                                 | 670\$a         |               | mads:hasSource<br>mads:source                 |

# Metadata Terms – Subject Terms

| Field                                      | SKOS           | MADS                                 |
|--------------------------------------------|----------------|--------------------------------------|
| 主要標目<br>Subject terms                      | skos:prefLabel | mads: authoritativeLabel             |
| 原文<br>English Subject terms                | skos:altLabel  | mads:hasVariant<br>mads:variantLabel |
| 參考類號<br>Reference Classification<br>scheme | skos:notation  |                                      |
| 參見<br>Related term (see also)              | skos:related   | mads:hasRelatedAuthority             |
| 用<br>use (see)                             | skos:prefLabel | mads: authoritativeLabel             |
| 不用<br>used for (see from)                  | skos:altLabel  | mads:hasVariant<br>mads:variantLabel |

# Metadata Terms – New Classification Scheme

| Field                       | skos           | mads                                 |
|-----------------------------|----------------|--------------------------------------|
| 類號<br>Classification scheme | skos:notation  | mads:code                            |
| 類目<br>Class entry           | skos:prefLabel | mads:authoritativeLabel              |
| 原文<br>English class entry   | skos:altLabel  | mads:hasVariant<br>mads:variantLabel |
| 上層類目<br>Upper class entry   | skos:broader   | mads:hasBroaderAuthority             |
| 下層類目<br>Lower class entry   | skos:narrower  | mads:hasNarrowerAuthority            |

# Metadata Terms – NCL Catalog

| Field                    | bibo              | dc            |
|--------------------------|-------------------|---------------|
| 書名Title                  | dcterms:title     | dc:title      |
| ISBN                     | bibo:isbn         | dc:identifier |
| 作者Author                 | bibo:authorList   | dc:creator    |
| 出版者Publisher             | dcterms:publisher | dc:publisher  |
| 分類號Classification Scheme | skos:notation     | skos:notation |
| 標題Subject terms          | dcterms:subject   | dc:subject    |



# NCL Linked Data Service – Home Page

## 國家圖書館鏈結資源

書目搜尋

主題編目資源搜尋

系統功能(請先登入)

主題編目資源查詢

使用查詢功能時，請鍵入完整或部分的查詢詞，可以使用雙引號「"」或配合布林邏輯運算符號AND、OR或NOT使用。

請選擇查詢類型  
請輸入查詢詞：

✓ 所有(不分類)  
分類法2007年版  
中文圖書主題詞表  
人名權威

查詢

本網站由國家圖書館與國立師範大學圖書館系統資訊組共同合作建置與維護，如有任何疑問和建議，歡迎與我們連絡。

A user can search New Classification Scheme, Subject Terms, and/or Name Authority Control

# NCL Linked Data Service – Result List (Subject Terms)

## 國家圖書館鏈結資源

書目搜尋

主題編目資源搜尋

系統功能(請先登入)

條約 一共搜尋到：68筆結果。

| 序號 | 識別號       | 主標目    | 類型   | URI                                                                                               |
|----|-----------|--------|------|---------------------------------------------------------------------------------------------------|
| 1  | sh0001645 | 天津條約   | 主題詞表 | <a href="http://catld.ncl.edu.tw/subject/sh0001645">http://catld.ncl.edu.tw/subject/sh0001645</a> |
| 2  | sh0003928 | 同盟條約   | 主題詞表 | <a href="http://catld.ncl.edu.tw/subject/sh0003928">http://catld.ncl.edu.tw/subject/sh0003928</a> |
| 3  | sh0004464 | 江華條約   | 主題詞表 | <a href="http://catld.ncl.edu.tw/subject/sh0004464">http://catld.ncl.edu.tw/subject/sh0004464</a> |
| 4  | sh0005630 | 辛丑條約   | 主題詞表 | <a href="http://catld.ncl.edu.tw/subject/sh0005630">http://catld.ncl.edu.tw/subject/sh0005630</a> |
| 5  | sh0007284 | 南京條約   | 主題詞表 | <a href="http://catld.ncl.edu.tw/subject/sh0007284">http://catld.ncl.edu.tw/subject/sh0007284</a> |
| 6  | sh0008162 | 軍事條約   | 主題詞表 | <a href="http://catld.ncl.edu.tw/subject/sh0008162">http://catld.ncl.edu.tw/subject/sh0008162</a> |
| 7  | sh0009443 | 租稅條約   | 主題詞表 | <a href="http://catld.ncl.edu.tw/subject/sh0009443">http://catld.ncl.edu.tw/subject/sh0009443</a> |
| 8  | sh0009870 | 馬關條約   | 主題詞表 | <a href="http://catld.ncl.edu.tw/subject/sh0009870">http://catld.ncl.edu.tw/subject/sh0009870</a> |
| 9  | sh0010492 | 國際條約   | 主題詞表 | <a href="http://catld.ncl.edu.tw/subject/sh0010492">http://catld.ncl.edu.tw/subject/sh0010492</a> |
| 10 | sh0011102 | 條約法    | 主題詞表 | <a href="http://catld.ncl.edu.tw/subject/sh0011102">http://catld.ncl.edu.tw/subject/sh0011102</a> |
| 11 | sh0011103 | 條約論    | 主題詞表 | <a href="http://catld.ncl.edu.tw/subject/sh0011103">http://catld.ncl.edu.tw/subject/sh0011103</a> |
| 12 | sh0013447 | 媾和條約   | 主題詞表 | <a href="http://catld.ncl.edu.tw/subject/sh0013447">http://catld.ncl.edu.tw/subject/sh0013447</a> |
| 13 | sh0000959 | 不平等條約  | 主題詞表 | <a href="http://catld.ncl.edu.tw/subject/sh0000959">http://catld.ncl.edu.tw/subject/sh0000959</a> |
| 14 | sh0011101 | 條約     | 主題詞表 | <a href="http://catld.ncl.edu.tw/subject/sh0011101">http://catld.ncl.edu.tw/subject/sh0011101</a> |
| 15 | sh0001195 | 互不侵犯條約 | 主題詞表 | <a href="http://catld.ncl.edu.tw/subject/sh0001195">http://catld.ncl.edu.tw/subject/sh0001195</a> |
| 16 | sh0018655 | 麵條     | 主題詞表 | <a href="http://catld.ncl.edu.tw/subject/sh0018655">http://catld.ncl.edu.tw/subject/sh0018655</a> |
| 17 | sh0007345 | 契約     | 主題詞表 | <a href="http://catld.ncl.edu.tw/subject/sh0007345">http://catld.ncl.edu.tw/subject/sh0007345</a> |
| 18 | sh0013624 | 新約     | 主題詞表 | <a href="http://catld.ncl.edu.tw/subject/sh0013624">http://catld.ncl.edu.tw/subject/sh0013624</a> |
| 19 | sh0017992 | 舊約     | 主題詞表 | <a href="http://catld.ncl.edu.tw/subject/sh0017992">http://catld.ncl.edu.tw/subject/sh0017992</a> |
| 20 | sh0000158 | 二維條碼   | 主題詞表 | <a href="http://catld.ncl.edu.tw/subject/sh0000158">http://catld.ncl.edu.tw/subject/sh0000158</a> |

[更多結果>>](#)

本網站由國家圖書館與國立師範大學圖書館系統資訊組共同合作建置與維護，如有任何疑問和建議，歡迎與我們連絡。

# NCL Linked Data Service – Subject Term

## 國家圖書館鏈結資源

主題詞表

權威控制

系統功能(請先登入)

### 條約

分類法七版：579.7

分類法八版：579.7

分類法2007版：579.7

原文：

註釋：<http://catld.ncl.edu.tw/subject/sh0011101>

用：

不用：

參見：

Term Description

### 檔案下載

SKOS-RDF/XML

SKOS-JSON

SKOS-N-Triples

SKOS-TURTLE

MADS-RDF/XML

MADS-JSON

MADS-N-Triples

MADS-TURTLE

Download

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# NCL Linked Data Service – Classification Scheme

國家圖書館鏈結資源

|            |                        |
|------------|------------------------|
| 主題詞表       | 國際法 579                |
| 權威控制       | --> 579.7 條約論/Treaties |
| 系統功能(請先登入) |                        |

Broader

Current

檔案下載

- SKOS-RDF/XML
- SKOS-JSON
- SKOS-N-Triples
- SKOS-TURTLE
- MADS-RDF/XML
- MADS-JSON
- MADS-N-Triples
- MADS-TURTLE

Download

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# NCL Linked Data Service – MADS RDF/XML

```
<madsrdf:note>百度百科-胡適, http://baike.baidu.com/view/2010.htm</madsrdf:note>
<madsrdf:hasVariant rdf:parseType="Resource">
  <madsrdf:variantLabel xml:lang="zh-TW">Shichang, 1891-1962</madsrdf:variantLabel>
  <madsrdf:FullNameElement rdf:parseType="Resource">
    <madsrdf:elementValue>Shichang,</madsrdf:elementValue>
  </madsrdf:FullNameElement>
  <madsrdf:DateNameElement rdf:parseType="Resource">
    <madsrdf:elementValue>1891-1962</madsrdf:elementValue>
  </madsrdf:DateNameElement>
</madsrdf:hasVariant>
<madsrdf:identifiesRWO rdf:parseType="Resource">
  <madsrdf:RWO rdf:parseType="Resource">
    <madsrdf:Affiliation rdf:parseType="Resource">
      <madsrdf:affiliationEnded></madsrdf:affiliationEnded>
      <madsrdf:affiliationStarted>1943</madsrdf:affiliationStarted>
      <madsrdf:affiliationWith>美國國會圖書館東方部名譽顧問</madsrdf:affiliationWith>
    </madsrdf:Affiliation>
  </madsrdf:RWO>
  <madsrdf:RWO rdf:parseType="Resource">
    <madsrdf:Affiliation rdf:parseType="Resource">
      <madsrdf:affiliationEnded>192301</madsrdf:affiliationEnded>
      <madsrdf:affiliationStarted>192204</madsrdf:affiliationStarted>
      <madsrdf:affiliationWith>國立北京大學教務長</madsrdf:affiliationWith>
    </madsrdf:Affiliation>
  </madsrdf:RWO>
  <madsrdf:RWO rdf:parseType="Resource">
    <madsrdf:Affiliation rdf:parseType="Resource">
      <madsrdf:affiliationEnded>193806</madsrdf:affiliationEnded>
      <madsrdf:affiliationStarted>19370713</madsrdf:affiliationStarted>
      <madsrdf:affiliationWith>(國民政府)國防參政會參議員</madsrdf:affiliationWith>
    </madsrdf:Affiliation>
  </madsrdf:RWO>
  <madsrdf:RWO rdf:parseType="Resource">
    <madsrdf:Affiliation rdf:parseType="Resource">
      <madsrdf:affiliationEnded></madsrdf:affiliationEnded>
      <madsrdf:affiliationStarted>1959</madsrdf:affiliationStarted>
      <madsrdf:affiliationWith>國家長期發展科學委員會主任委員</madsrdf:affiliationWith>
    </madsrdf:Affiliation>
  </madsrdf:RWO>
</madsrdf:identifiesRWO>
<madsrdf:Source rdf:parseType="Resource">
  <madsrdf:citation-source>TUL Card Catalog: His My mother's betrothal, 1946; </madsrdf:citation-source>
</madsrdf:Source>
<madsrdf:RWO rdf:parseType="Resource">
  <madsrdf:Affiliation rdf:parseType="Resource">
    <madsrdf:affiliationEnded></madsrdf:affiliationEnded>
    <madsrdf:affiliationStarted>193205</madsrdf:affiliationStarted>
    <madsrdf:affiliationWith>獨立評論週刊創辦人</madsrdf:affiliationWith>
  </madsrdf:Affiliation>
</madsrdf:RWO>
```

# NCL Linked Data Service – Catalog (Result List)

## 國家圖書館鏈結資源

書目搜尋

主題編目資源搜尋

系統功能(請先登入)

書目查詢

使用查詢功能時，請鍵入完整或部分的查詢詞，可以使用雙引號「"」或配合布林邏輯運算符號AND、OR或NOT使用。

請輸入查詢詞：

查詢

|                                                                                                                       |          |                         |
|-----------------------------------------------------------------------------------------------------------------------|----------|-------------------------|
| 魯迅藏外國版畫全集 =The Complete foreign prints in the collection of Lu Xun                                                    | 937      | 9787535667946           |
| 艾神 =God Ai                                                                                                            | 574.1    | 9789881644213           |
| 金秀賢的全盛時代 =Kim Saa Hyun                                                                                                | 783.28   | 9789869127806           |
| 現在未來式 =Now on the run                                                                                                 | 857.7    | 9789869014021           |
| 魅力城市 :七大世界創意之都的智慧與人文力量 = The allure of cities : the wisdom and humanity of seven UNESCO creative cities               | 719      | 9789571361055           |
| 約會小折紙 =Date a origami                                                                                                 | 947.41   | 9789863259558           |
| 大心印 :蓮生活佛講六祖壇經 = The great mind seal : an annotated platform sutra of the sixth patriarch by living Buddha Lian-sheng | 226.62   | 9789866564819<br>(全套 :) |
| 楊上峰作品創作理念 :屈/從的張力 = Sculpture by Yang, Shang-feng 2012                                                                | 930.233  | 9789868182868           |
| New GRE字彙聖經 =New GRE vocabulary bible                                                                                 | 805.1896 | 9789869078702           |
| 勇者遭到背叛之後 =After that of the betrayed hero                                                                             | 861.57   | 9789863313441           |
| 英雄之心 =Hero hearts                                                                                                     | 947.41   | 9789863313915           |
| 夫妻甜蜜物語精選集 :新婚夫妻的性愛寶典 = The one and only step up love story sweet collection                                           | 947.41   | 9789863109198           |
| 再生的思考昇華 =Re. union                                                                                                    | 861.57   | 9789863109921           |



# NCL Linked Data Service – Bibliographic Information

## 國家圖書館鏈結資源

主題詞表

權威控制

系統功能(請先登入)

|      |                                                                    |
|------|--------------------------------------------------------------------|
| 書名   | 魯迅藏外國版畫全集 =The Complete foreign prints in the collection of Lu Xun |
| 作者   |                                                                    |
| ISBN | 9787535667946                                                      |
| 出版項  | 長沙市:湖南美術出版社,2014.02                                                |
| 標題   | 版畫                                                                 |
| 分類   | 937                                                                |



# **CASE STUDY 2 – MOVIE LINKED DATA**



# Overview

- ▶ Demo how to act as an linked data consumer by integrating information from several linked-data producers, including DBpedia, LinkedMDB, DBtune, and British Library
- ▶ The system is established by Drupal
- ▶ Evaluated by System Usability Scale (SUS) – 72

# Data Sets

- ▶ Local DB – content from IMDb
  - ✱ Films, Directors, Actors
- ▶ Linked Data Sources
  - ✱ Dbpedia – core of LOD cloud
  - ✱ LinkedMDB – complementary movie data
  - ✱ Dbtune + MusicBrainz – Movie OST (Original Soundtrack)
  - ✱ British Library – bibliographic information

# Movie-Related Metadata Terms in DBpedia

| Metadata Terms                                 | URI                                                                                                   |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| <b><code>rdfs:label</code></b>                 | <a href="http://www.w3.org/2000/01/rdf-schema#">http://www.w3.org/2000/01/rdf-schema#</a>             |
| <b><code>dbpedia-owl:abstract</code></b>       | <a href="http://dbpedia.org/ontology/abstract">http://dbpedia.org/ontology/abstract</a>               |
| <b><code>dbpedia-owl:director</code></b>       | <a href="http://dbpedia.org/ontology/director">http://dbpedia.org/ontology/director</a>               |
| <b><code>dbpedia-owl:producer</code></b>       | <a href="http://dbpedia.org/ontology/producer">http://dbpedia.org/ontology/producer</a>               |
| <b><code>dbpedia-owl:cinematography</code></b> | <a href="http://dbpedia.org/ontology/ciematography">http://dbpedia.org/ontology/ciematography</a>     |
| <b><code>dbpedia-owl:country</code></b>        | <a href="http://dbpedia.org/ontology/country">http://dbpedia.org/ontology/country</a>                 |
| <b><code>dbpedia-owl:distributor</code></b>    | <a href="http://dbpedia.org/ontology/distributor">http://dbpedia.org/ontology/distributor</a>         |
| <b><code>dbpedia-owl:editing</code></b>        | <a href="http://dbpedia.org/ontology/editing">http://dbpedia.org/ontology/editing</a>                 |
| <b><code>dbpedia-owl:gross</code></b>          | <a href="http://dbpedia.org/ontology/gross">http://dbpedia.org/ontology/gross</a>                     |
| <b><code>dbpedia-owl:musicComposer</code></b>  | <a href="http://dbpedia.org/ontology/musicComposer">http://dbpedia.org/ontology/musicComposer</a>     |
| <b><code>dbpedia-owl:runtime</code></b>        | <a href="http://dbpedia.org/ontology/runtime">http://dbpedia.org/ontology/runtime</a>                 |
| <b><code>dbpedia-owl:starring</code></b>       | <a href="http://dbpedia.org/ontology/starring">http://dbpedia.org/ontology/starring</a>               |
| <b><code>dbpedia-owl:thumbnail</code></b>      | <a href="http://dbpedia.org/ontology/thumbnail">http://dbpedia.org/ontology/thumbnail</a>             |
| <b><code>dbpedia-owl:wikiPageID</code></b>     | <a href="http://dbpedia.org/ontology/wikiPageID">http://dbpedia.org/ontology/wikiPageID</a>           |
| <b><code>dbpedia-owl:writer</code></b>         | <a href="http://dbpedia.org/ontology/writer">http://dbpedia.org/ontology/writer</a>                   |
| <b><code>rdf:type</code></b>                   | <a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#">http://www.w3.org/1999/02/22-rdf-syntax-ns#</a> |
| <b><code>rdfs:comment</code></b>               | <a href="http://www.w3.org/2000/01/rdf-schema#">http://www.w3.org/2000/01/rdf-schema#</a>             |
| <b><code>foaf:name</code></b>                  | <a href="http://xmlns.com/foaf/0.1/">http://xmlns.com/foaf/0.1/</a>                                   |
| <b><code>foaf:primaryTopic</code></b>          | <a href="http://xmlns.com/foaf/0.1/">http://xmlns.com/foaf/0.1/</a>                                   |



# Metadata Terms in LinkedMDB

| Metadata Terms                    | URI                                                                                                                                       |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <b>rdfs:label</b>                 | <a href="http://www.w3.org/2000/01/rdf-schema#">http://www.w3.org/2000/01/rdf-schema#</a>                                                 |
| <b>dc:title</b>                   | <a href="http://purl.org/dc/terms/title">http://purl.org/dc/terms/title</a>                                                               |
| <b>dc:date</b>                    | <a href="http://purl.org/dc/terms/date">http://purl.org/dc/terms/date</a>                                                                 |
| <b>movie:actor</b>                | <a href="http://data.linkedmdb.org/resource/movie/actor">http://data.linkedmdb.org/resource/movie/actor</a>                               |
| <b>movie:cinematographer</b>      | <a href="http://data.linkedmdb.org/resource/movie/cinematographer">http://data.linkedmdb.org/resource/movie/cinematographer</a>           |
| <b>movie:director</b>             | <a href="http://data.linkedmdb.org/resource/movie/director">http://data.linkedmdb.org/resource/movie/director</a>                         |
| <b>movie:editor</b>               | <a href="http://data.linkedmdb.org/resource/movie/editor">http://data.linkedmdb.org/resource/movie/editor</a>                             |
| <b>movie:film_cut</b>             | <a href="http://data.linkedmdb.org/resource/movie/film_cut">http://data.linkedmdb.org/resource/movie/film_cut</a>                         |
| <b>movie:film_of_distributor</b>  | <a href="http://data.linkedmdb.org/resource/movie/film_of_distributor">http://data.linkedmdb.org/resource/movie/film_of_distributor</a>   |
| <b>movie:filmid</b>               | <a href="http://data.linkedmdb.org/resource/movie/filmid">http://data.linkedmdb.org/resource/movie/filmid</a>                             |
| <b>movie:initial_release_date</b> | <a href="http://data.linkedmdb.org/resource/movie/initial_release_date">http://data.linkedmdb.org/resource/movie/initial_release_date</a> |
| <b>movie:music_contributor</b>    | <a href="http://data.linkedmdb.org/resource/movie/music_contributor">http://data.linkedmdb.org/resource/movie/music_contributor</a>       |
| <b>foaf:made</b>                  | <a href="http://xmlns.com/foaf/0.1/made">http://xmlns.com/foaf/0.1/made</a>                                                               |
| <b>foaf:page</b>                  | <a href="http://xmlns.com/foaf/0.1/page">http://xmlns.com/foaf/0.1/page</a>                                                               |

# Metadata Terms in DBtune

| Metedata Terms        | URI                                                                                           |
|-----------------------|-----------------------------------------------------------------------------------------------|
| <b>rdfs:label</b>     | <a href="http://www.w3.org/2000/01/rdf-schema#">http://www.w3.org/2000/01/rdf-schema#</a>     |
| <b>dc:title</b>       | <a href="http://purl.org/dc/terms/date">http://purl.org/dc/terms/date</a>                     |
| <b>mo:amazon_asin</b> | <a href="http://purl.org/ontology/mo/amazon_asin">http://purl.org/ontology/mo/amazon_asin</a> |
| <b>mo:musicbrainz</b> | <a href="http://purl.org/ontology/mo/musicbrainz">http://purl.org/ontology/mo/musicbrainz</a> |
| <b>mo:image</b>       | <a href="http://purl.org/ontology/mo/image">http://purl.org/ontology/mo/image</a>             |

# URI Design

| Node     | URI                                                                                                                                       |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Film     | <a href="http://140.122.104.69:8080/movie/{contenttype}/{moviename}">http://140.122.104.69:8080/movie/{contenttype}/{moviename}</a>       |
| Director | <a href="http://140.122.104.69:8080/movie/{contenttype}/{directorname}">http://140.122.104.69:8080/movie/{contenttype}/{directorname}</a> |
| Actor    | <a href="http://140.122.104.69:8080/movie/{contenttype}/{actorname}">http://140.122.104.69:8080/movie/{contenttype}/{actorname}</a>       |

[http://140.122.104.69:8080/movie/film/Guardians\\_of\\_the\\_Galaxy](http://140.122.104.69:8080/movie/film/Guardians_of_the_Galaxy)

[http://140.122.104.69:8080/movie/director/James\\_Gunn](http://140.122.104.69:8080/movie/director/James_Gunn)

[http://140.122.104.69:8080/movie/actor/Chris\\_Pratt](http://140.122.104.69:8080/movie/actor/Chris_Pratt)

# Mapping between Drupal Fields and Metadata Terms

| Content Type    | Field            | Metadata Terms       |
|-----------------|------------------|----------------------|
| <b>Film</b>     | field_f_title    | rdfs:label           |
|                 | field_f_director | dbpedia-owl:director |
|                 | field_f_starring | dbpedia-owl:starring |
|                 | field_f_country  | dbpedia-owl:country  |
|                 | field_f_language | dbpedia-owl:language |
|                 | field_f_genre    | dbpedia-owl:genre    |
| <b>Director</b> | field_d_title    | rdfs:label           |
| <b>Actor</b>    | field_a_title    | rdfs:label           |

# Link Film/Director Fields with Other Data Sources

| Field                | Metadata Terms          | Data Source     |
|----------------------|-------------------------|-----------------|
| field_f_abstract     | dbpedia-owl:abstract    | DBpedia         |
| field_f_homepage     | dbpedia-owl:homepage    | DBpedia         |
| field_f_runtime      | movie:runtime           | LinkedMDB       |
| field_f_release_date | movie:release_date      | LinkedMDB       |
| field_f_pages        | foaf:page               | LinkedMDB       |
| field_f_book         | dc:title                | British Library |
| field_f_isbn         | bibo:isbn10             | British Library |
|                      | bibo:isbn13             | British Library |
| field_f_amazon       | mo:amazon_asin          | DBtune          |
| field_f_musicbrainz  | mo:musicbrainz          | DBtune          |
| field_f_picture      | dbpedia-owl:thumbnail   | DBpedia         |
| field_d_birthdate    | dbpedia-owl:birthDate   | DBpedia         |
| field_d_birthplace   | dbpedia-owl:birthPlace  | DBpedia         |
| field_d_nationality  | dbpedia-owl:nationality | DBpedia         |
| field_d_residence    | dbpedia-owl:residence   | DBpedia         |
| field_d_abstract     | dbpedia-owl:abstract    | DBpedia         |
| field_d_picture      | dbpedia-owl:thumbnail   | DBpedia         |



# SPARQL Query for Movie Data

# DBpedia dataset!

PREFIX rdf:<http://www.w3.org/1999/02/22-rdf-syntax-ns#>

PREFIX dbpedia-owl:<http://dbpedia.org/ontology/>

SELECT DISTINCT ?dbp ?d\_homepage ?d\_title ?d\_abstract ?d\_image

WHERE {

?dbp rdf:type dbpedia-owl:Film;

rdfs:label "{name}";

rdfs:label ?d\_title.

OPTIONAL { ?dbp foaf:homepage ?d\_homepage }

OPTIONAL { ?dbp dbpedia-owl:abstract ?d\_abstract }

OPTIONAL { ?dbp dbpedia-owl:thumbnail ?d\_image }

}

# LinkedMDB dataset!

PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

PREFIX movie: <http://data.linkedmdb.org/resource/movie/>

SELECT DISTINCT ?linkedmdb ?mdb\_title ? mdb\_release\_date ?mdb\_runtime

WHERE {

?linkedmdb rdfs:label "{name}";

rdfs:label mdb\_title;

OPTIONAL { ?linkedmdbmovie:initial\_release\_date ? mdb\_release\_date }

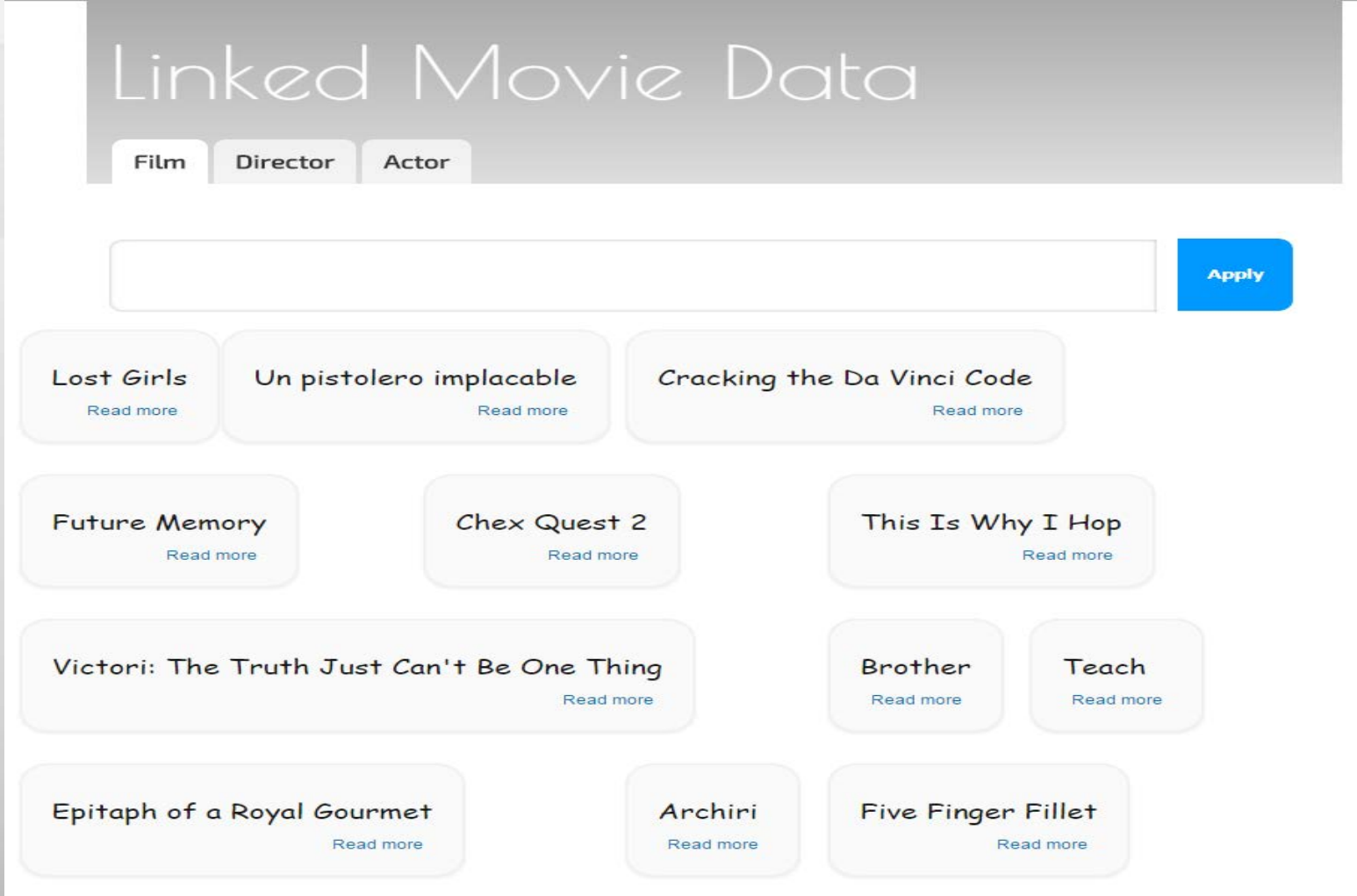
OPTIONAL { ?linkedmdbmovie:runtime ? mdb\_runtime }

}

# SPARQL EndPoints

| Data Sources    | SPARQL Endpoint                                                                         |
|-----------------|-----------------------------------------------------------------------------------------|
| DBpedia         | <a href="http://dbpedia.org/sparql">http://dbpedia.org/sparql</a>                       |
| LinkedMDB       | <a href="http://data.linkedmdb.org/sparql">http://data.linkedmdb.org/sparql</a>         |
| British Library | <a href="http://bnb.data.bl.uk/sparql">http://bnb.data.bl.uk/sparql</a>                 |
| DBtune          | <a href="http://dbtune.org/musicbrainz/sparql">http://dbtune.org/musicbrainz/sparql</a> |

# Linked Movie Data System



The screenshot shows a web application titled "Linked Movie Data". It features a navigation bar with three tabs: "Film", "Director", and "Actor", with "Film" currently selected. Below the tabs is a search bar and a blue "Apply" button. The main content area displays a grid of movie cards, each with a title and a "Read more" link. The cards are arranged in four rows: the first row has three cards, the second and third rows have two cards each, and the fourth row has three cards. The movies listed are: Lost Girls, Un pistolero implacable, Cracking the Da Vinci Code, Future Memory, Chex Quest 2, This Is Why I Hop, Victori: The Truth Just Can't Be One Thing, Brother, Teach, Epitaph of a Royal Gourmet, Archiri, and Five Finger Fillet.

Linked Movie Data

Film Director Actor

Apply

Lost Girls  
[Read more](#)

Un pistolero implacable  
[Read more](#)

Cracking the Da Vinci Code  
[Read more](#)

Future Memory  
[Read more](#)

Chex Quest 2  
[Read more](#)

This Is Why I Hop  
[Read more](#)

Victori: The Truth Just Can't Be One Thing  
[Read more](#)

Brother  
[Read more](#)

Teach  
[Read more](#)

Epitaph of a Royal Gourmet  
[Read more](#)

Archiri  
[Read more](#)

Five Finger Fillet  
[Read more](#)



Release Date: 1994

#### Pages

- <http://www.freebase.com/view/guid/9202a8c04000641f800000000005320c>

#### Books

**Forrest Gump / John Escott**

ISBN10:0140816127

pages:43p.

**Forrest Gump / Winston Groom**

ISBN10:0552996092

pages:238p.



#### Soundtrack

- track
- track
- track
- track

## Forrest Gump

**Genre:** Drama Romance

**Director:** Robert Zemeckis

**Language:** English

**Country:** USA

**Starring:**

|                     |                      |                |                  |
|---------------------|----------------------|----------------|------------------|
| Joe Abby            | Rob Adams            | Todd Adamson   | Joe Alaskey      |
| Markus Alexander    | Sam Anderson         | Neil Armstrong | Pete Auster      |
| Peter Bannon        | Kenneth Bevington    | Geoffrey Blake | Jim Boeke        |
| Charles Boswell     | Jack Bowden          | Grady Bowman   | Arthur Bremer    |
| Stephen Bridgewater | David Brisbin        | Greg Brown     | Michael Burgess  |
| Clint Calvert       | Dick Cavett          | Troy Christian | Dick Clark       |
| John Connally       | Richard D'Alessandro | Jim Damron     | Ed Davis         |
| Kevin Davis         | Steve DeRelian       | Paulie DiCocco | Peter Dobson     |
| Ryan Duncan         | James Ent            | Don Fischer    | Michael Flannery |

Forrest Gump is a 1994 American epic romantic dramedy film based on the 1986 novel of the same name by Winston Groom. The film was directed by Robert Zemeckis and starred Tom Hanks, Robin Wright, Gary Sinise and Sally Field. The story depicts several decades in the life of Forrest Gump, a naive and slow-witted yet athletically prodigious native of Alabama who witnesses, and in some cases influences, some of the defining events of the latter half of the 20th century in the United States; more specifically, the period between Forrest's birth in 1944 and 1982. The film differs substantially from Winston Groom's novel on which it is based, including Gump's personality and several events that were depicted. Filming took place in late 1993, mainly in Georgia, North Carolina, and South Carolina. Extensive visual effects were used to incorporate the protagonist into archived footage and to develop other scenes. A comprehensive soundtrack was featured in the film, using music intended to pinpoint specific time periods portrayed on screen. Its commercial release made it a top-selling soundtrack, selling over 12 million copies worldwide. Released in the United States on July 6, 1994, Forrest Gump received critical acclaim and became a commercial success as the top grossing film in North America released that year, being the first major success for Paramount Pictures since the studio's sale to Viacom earlier in the year. The film earned over \$677 million worldwide during its theatrical run. The film won the Academy Awards for Best Picture, Best Director for Robert Zemeckis, Best Actor for Tom Hanks, Best Adapted Screenplay, Best Visual Effects and Best Film Editing. It also garnered multiple other awards and nominations, including Golden Globe Awards, People's Choice Awards and Young Artist Awards, among others. Since the film's release, varying interpretations have been made of the film's protagonist and its political symbolism. In 1996, a themed restaurant, Bubba Gump Shrimp Company, opened based on the film, and has since expanded to multiple locations worldwide. The scene of Gump running across the country is often referred to when real-life people attempt the feat. In 2011, the Library of Congress selected Forrest Gump for preservation in the United States National Film Registry as being "culturally, historically, or aesthetically significant".



# Tom Hanks

**Birth Date:** 1956-07-09+02:00

**Birth Place:** [http://dbpedia.org/resource/Concord,\\_California](http://dbpedia.org/resource/Concord,_California)

**Birth Date:** Los Angeles



## Movie

- A Hero's Journey: The Making of Beowulf
- A Hologram for the King
- A League of Their Own
- A Timeless Call
- AFI Life Achievement Award: A Tribute to George Lucas

Thomas „Tom “ Jeffrey Hanks (\* 9. Juli 1956 in Concord, Kalifornien) ist ein US-amerikanischer Schauspieler, Regisseur, Filmproduzent sowie Synchronsprecher vieler amerikanischer Film- und Fernsehproduktionen. Er gehört zu den profiliertesten Charakterdarstellern Hollywoods und wurde zweimal in Folge mit dem Oscar als bester Hauptdarsteller ausgezeichnet – für seine Hauptrollen in den Filmen Philadelphia (1993) und Forrest Gump (1994).

Thomas Jeffrey "Tom" Hanks (born July 9, 1956) is an American actor, producer, writer, and director. Hanks is best known for his roles in Big, A League of Their Own, Sleepless in Seattle, Forrest Gump, Apollo 13, Saving Private Ryan, You've Got Mail, The Green Mile, Cast Away, The Da Vinci Code, Captain Phillips, and Saving Mr. Banks, as well as the animated films The Polar Express and the Toy Story series. Hanks has earned and been nominated for numerous awards during his career, including winning a Golden Globe for Best Actor and an Academy Award for Best Actor for his role in Philadelphia and a Golden Globe, an Academy Award, a Screen Actors Guild Award, and a People's Choice Award for Best Actor for his role in Forrest Gump, and earning the Stanley Kubrick Britannia Award for Excellence in Film from the BAFTAs in 2004. Hanks is also known for his collaboration with film director Steven Spielberg on Saving Private Ryan, Catch Me If You Can, and The Terminal, as well as the 2001 mini-series Band of Brothers, which launched Hanks also as a successful director, producer and writer. In 2010, Spielberg and Hanks were executive producers on the HBO mini-series The Pacific (a companion piece to Band of Brothers). As of 2012, Hanks' films have grossed over \$4.2 billion at the United States box office alone, and over \$8.5 billion worldwide making him one of the highest-grossing actors in film history.

Thomas Jeffrey Hanks (Concord, 9 luglio 1956) è un attore, regista, sceneggiatore, e produttore cinematografico statunitense. La sua carriera ha avuto inizio negli anni ottanta quando, interpretando la serie Henry e Kip (Bosom Buddies), cominciò a essere conosciuto; da allora ha recitato in numerosi film ottenendo un grande successo di critica e di pubblico. Nel corso della sua carriera ha ricevuto 5 nomination agli Oscar, 7 ai Golden Globe, 4 ai BAFTA, 6 agli Screen Actors Guild Awards e 8 agli Emmy. È l'attuale Primo Vicepresidente dell'Academy, la società che ogni anno assegna il premio Oscar.

Thomas Jeffrey Hanks (Concord, 9 de julio de 1956) es un actor y productor estadounidense más conocido como Tom Hanks. Ganador del Óscar y del Globo de Oro, Hanks es uno de los actores (junto a Luise Rainer, Spencer Tracy y Katharine Hepburn) que han ganado dos Óscar consecutivos como Mejor actuación principal y el único intérprete masculino que lo haya hecho en la segunda mitad del siglo XX. Por su protagonismo en Ángeles y demonios (2009) se convirtió en el segundo actor mejor pagado tras ingresar cincuenta millones de dólares. La taquilla lograda por sus películas en Estados Unidos supera los 4.500 millones de dólares.

توماس جيفري "توم" هانكس (ولد في 9 يوليو 1956) هو ممثل، ومخرج، وممثل صوت، وكاتب، ومنتج أمريكي حائز على جائزة الأوسكار مرتين وجائزة إيمي وأربعة جوائز الغولدن غلوب.





## **CASE 3: LINKED OPAC (BRIEF)**

# Author Search

## 館藏目錄系統

Title: Type in the book title...

Author: J. K. Rowling



### J. K. Rowling

Joanne "Jo" Rowling, OBE FRSL (/ˈrɒlɪŋ/; born 31 July 1965), pen names J. K. Rowling and Robert Galbraith, is a British novelist best known as the author of the Harry Potter fantasy series. The books have gained worldwide attention, won multiple awards, and sold more than 400 million copies. They have become the best-selling book series in history and been the basis for a series of films which became the highest-grossing film series in history.

- 國籍：United Kingdom, Portugal
- 出生：1965-07-31

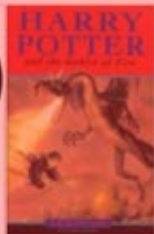
#### 著作



[The Cuckoo's Calling](#)



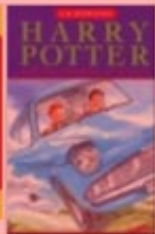
[The Silkworm](#)



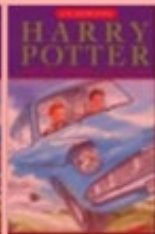
[Harry Potter and the Order of the Phoenix](#)



[Fantastic Beasts and Where to Find Them](#)



[Harry Potter and the Chamber of Secrets](#)



[Harry Potter](#)



[The Casual Vacancy](#)



[Harry Potter and the Half-Blood Prince](#)



[Quidditch Through the Ages](#)

## 共有174筆紀錄



J. K. Rowling

[Harry Potter and the Sorcerer's Stone](#)

# LOCAL

依年代篩選...

- 1983:1
- 1987:1
- 1989:3
- 1993:1
- 1997:1
- 1998:5



Book Cover  
From LibraryThing

題名 Harry Potter and the Order of the Phoenix  
 作者 Rowling, J. K.  
 出版社 Bloomsbury  
 出版年 2004  
 註記 <http://140.122.104.78/opac/amazon/0747561079>  
 ISBN-13 9780747561071  
 ISBN-10 0747561079

LOCAL

書目紀錄下載：[RDF](#)||[JSON](#)

這部作品有被改編為電影，請參見[維基百科](#)

系列作品介紹

[Harry Potter and the Goblet of Fire](#)

DBpedia

--本作品--

↓ ↓

[Harry Potter and the Half-Blood Prince](#)

LibraryThing

詳細資訊

作品介紹

作者介紹

媒體類型：Paperback

頁數：768 pages

高：19.812 cm

長：12.9032 cm

寬：4.0894 cm

ISBN：0747561079

AMAZON

說明：Biography J K (Joanne Kathleen) Rowling was born in the summer of 1965 at Yate General Hospital in England and grew up in Chepstow, Gwent where she went to Wyedean Comprehensive. Jo left Chepstow for Exeter University, where she earned a French and Classics degree, and where her course included one year in Paris. As a postgraduate she moved to London to work at Amnesty International, doing research into human rights abuses in Francophone Africa. She started writing the Harry Potter series during a Manchester to London King's Cross train journey, and during the next five years, outlined the plots for each book and began writing the first novel. Jo then moved to northern Portugal, where she taught English as a foreign language. She married in October 1992 and gave birth to her daughter Jessica in 1993. When her marriage ended, she returned to the UK to live in Edinburgh, where "Harry Potter & the Philosopher's Stone" was eventually completed and in 1996 she received an offer of publication.

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Customer Reviews

Average Customer Review

★★★★★ (7,540 customer reviews)

7,540 Reviews

評價： 5 star 71%  
 4 star 16%

# Conclusion

## ▶ Conclusion

- ✱ Linked Data is a set of best practices to realize Semantic Web
- ✱ Linked Data improves the access, discovery, and integration of Web data by using open standards
- ✱ Linked Data → Linked Open Data → Big Data

## ▶ Why is Linked Data important for libraries?

- ✱ People can more easily find library resources on the Web
- ✱ More creative applications based on library metadata
- ✱ Opportunities for cataloging efficiency and innovation

# Future Plan

## ▶ Future Plan – Data Sets

- ✿ NTNU archives (masters in art, education...)
- ✿ Folkartist digital museums (Cloud Gate, U-Theatre)
- ✿ Manga Linked Data







Home

Manga

Author

Genres

Best Selling Manga

SPARQL Endpoint

Home

## Manga



Manga title: 名偵探柯南

Genres:

偵探

Description:

以福爾摩斯式的推理能力而聲名大噪的高中生名偵探・工藤新一，在一次追緝案時，被歹徒強行灌下不知名的藥，一夜之間變成了一個小孩！從此化為「江戶川柯南」。

## 作者資訊

青山剛昌



Author info:

1963年生於大榮町由良宿・在當地由良育英高中畢業後，進入日本大學藝術學

## 名偵探柯南/卷1

**ZH volumes title:**

現代的福爾摩斯

**Jpa volumes title:**

平成のホームズ

**Eng volumes title:**

Heisei no hōmuzu

**publisher TW:**

青文

**volumes:**

1

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