

DCMI Today

Tom Baker

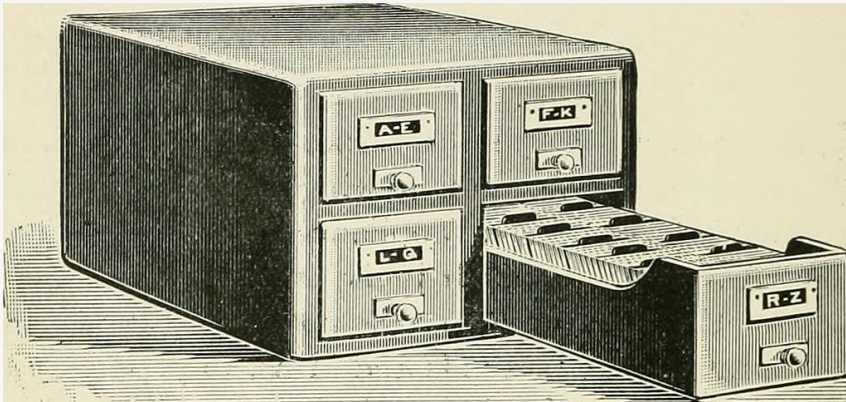
DCMI Virtual 2021

2021-10-04





Metadata 1.0

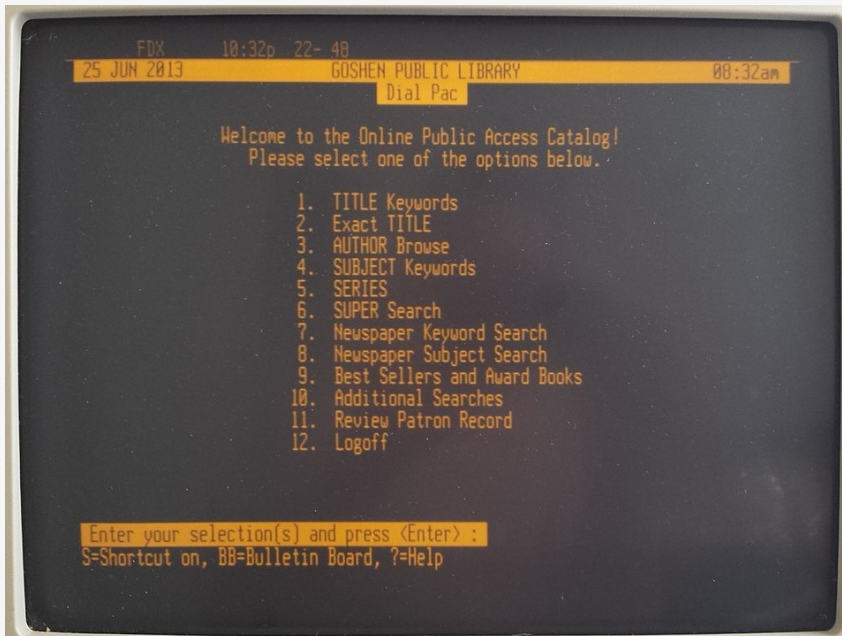


- Clay tablets (Bronze Age)
- Library catalogs (19th century)

Source: Internet Archive Book Images, No restrictions, via Wikimedia Commons



Metadata 2.0



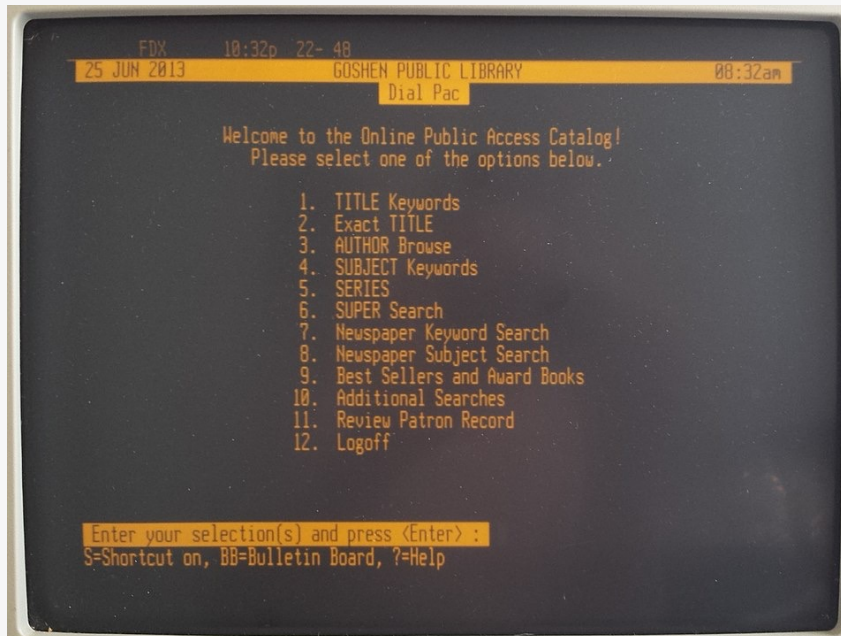
- Relational databases (1970s)
- Online catalogs (1980s)
- Spreadsheets (1980s)
- XML (1990s)

By User:Skylarstrickland, CC BY-SA 3.0

<https://commons.wikimedia.org/w/index.php?curid=30191622>



Metadata 2.0



- Machine-readable data
- Fixed data structures
- Designed for closed systems

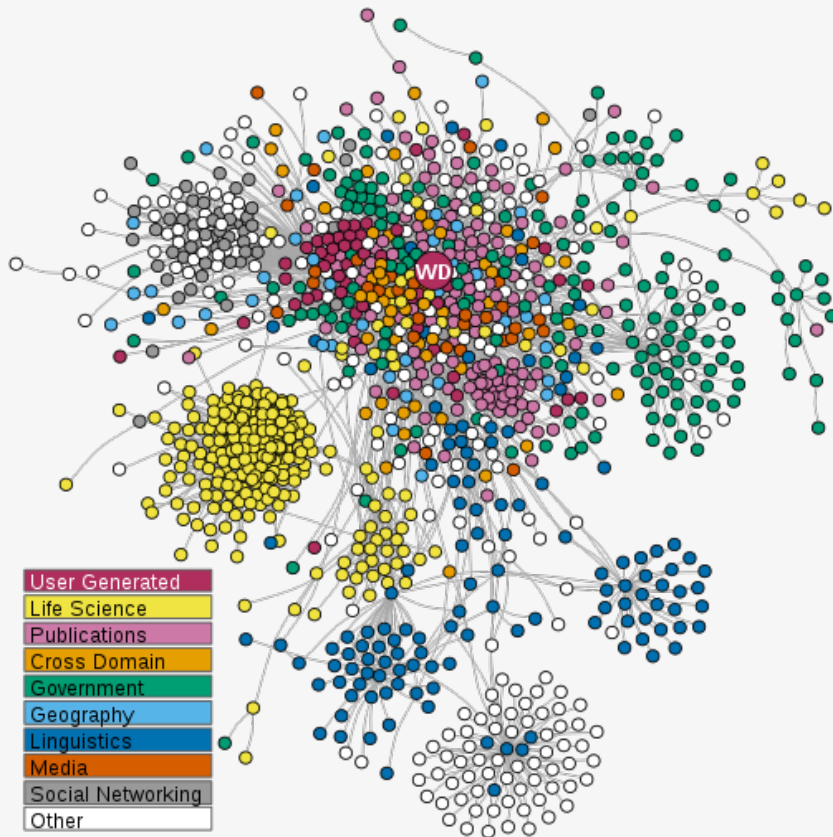
By User:Skylarstrickland, CC BY-SA 3.0

<https://commons.wikimedia.org/w/index.php?curid=30191622>



Metadata 3.0

- Semantic Web (1999)
- Linked Open Data (2006)
- Knowledge Graphs (2011)
- Wikidata (2012)

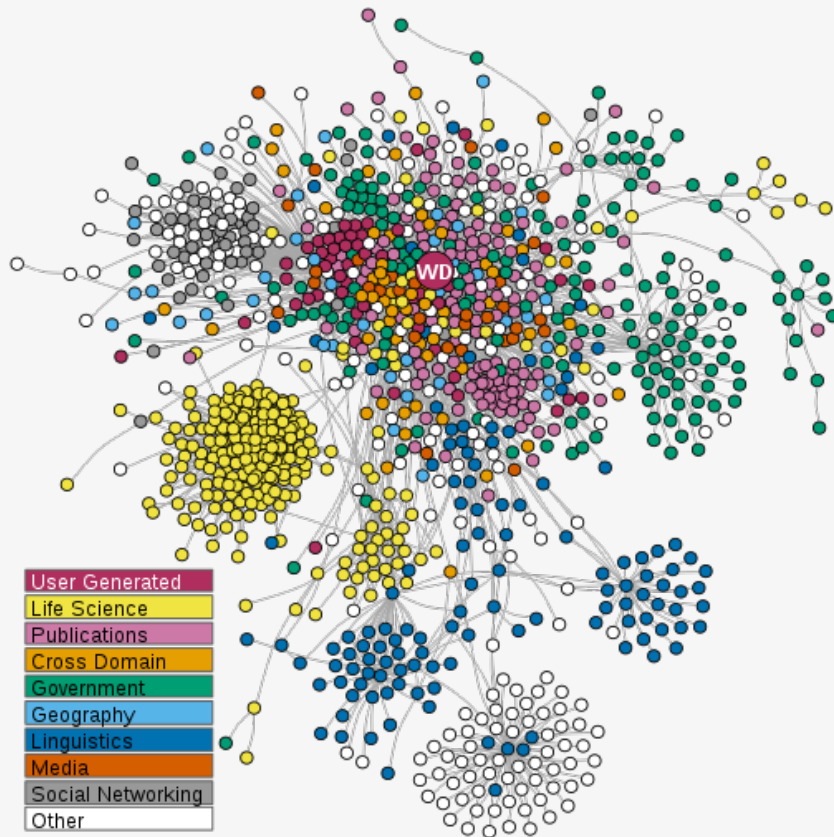


Source: Thomas Shafee, Wikimedia Commons

https://commons.wikimedia.org/wiki/File:Wikidata_in_the_Linked_Open_Data_cloud_2020-08-20.svg



Metadata 3.0



- URIs as global identifiers
- URIs as links
- Graph data structures
- “Machine-understandable”

Source: Thomas Shafee, Wikimedia Commons

https://commons.wikimedia.org/wiki/File:Wikidata_in_the_Linked_Open_Data_cloud_2020-08-20.svg



"Metadata for the Web"

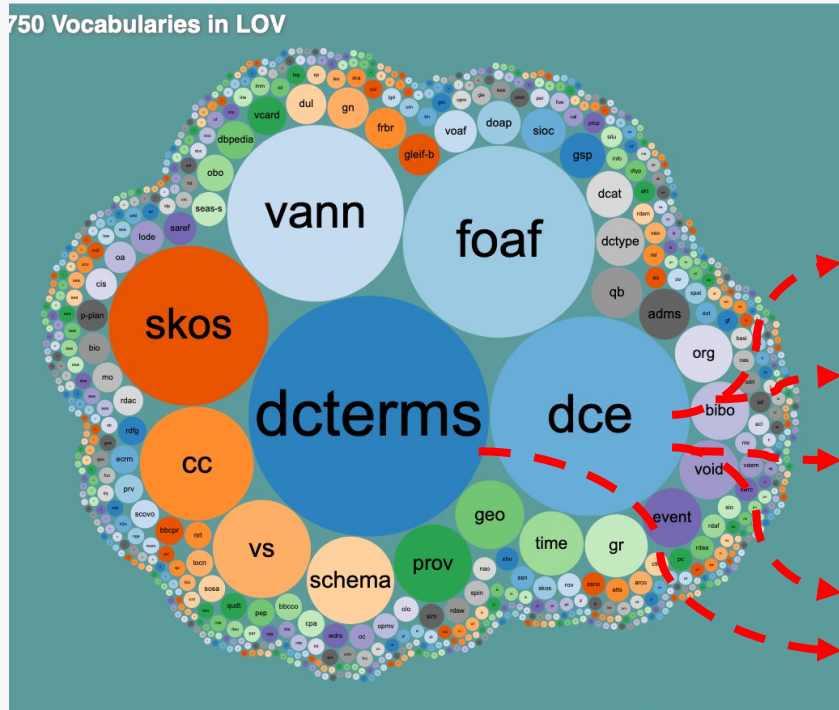


Dublin Core Workshop, Canberra, 1997



DCMI Innovations

Core Metadata



- Published as standards

[IETF RFC 2413](#) (1998)

[CEN CWA 13844](#) (2000)

[NISO Z39-85](#) (2001)

[ISO 15836](#) (2003)

[ISO 15836-1](#) (2017)

[ISO 15836-2](#) (2019)

Source: <https://lov.linkeddata.es/dataset/lov>

As of 2021-09-26, 85% of the vocabularies cataloged in Linked Open Vocabularies use Dublin Core terms



Semantic Web Vocabularies



REC-rdf-syntax-19990222

Resource Description Framework (RDF) Model and Syntax Specification

W3C Recommendation 22 February 1999

This Version:

<http://www.w3.org/TR/1999/REC-rdf-syntax-19990222>

Newest Version:

<http://www.w3.org/TR/REC-rdf-syntax>

Editors:

Ora Lassila ora.lassila@research.nokia.com, Nokia Research Center

Ralph R. Swick rswick@w3.org, World Wide Web Consortium

7.4. Dublin Core Metadata

The [Dublin Core](#) metadata is designed to facilitate discovery of electronic resources in a manner similar to a library card catalog. These examples represent the simple description of a set of resources in RDF using vocabularies defined by the [Dublin Core Initiative](#). *Note: the specific Dublin Core RDF vocabulary shown here is not intended to be authoritative. The Dublin Core Initiative is the authoritative reference.*

Here is a description of a Web site home page using Dublin Core properties:

```
<rdf:RDF
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:dc="http://purl.org/metadata/dublin_core#"
  <rdf:Description about="http://www.dlib.org">
    <dc>Title>D-Lib Program - Research in Digital Libraries</dc>Title>
    <dc:Description>The D-Lib program supports the community of people
      with research interests in digital libraries and electronic
      publishing.</dc:Description>
    <dc:Publisher>Corporation For National Research Initiatives</dc:Publishe
    <dc:Date>1995-01-07</dc:Date>
    <dc:Subject>
```

- First RDF vocabulary created outside of W3C, World Wide Web Consortium (1999)



DCMI Innovations

Application Profiles

shapeID	propertyLabel	propertyID	valueDatatype	valueShape
:document	Date	dct:date	xsd:date	
	Grant number	dct:grantNumber	xsd:string	
	Title	dct:title	xsd:string	
	Creator	dct:creator		:person
:person	Name	foaf:Name		

- Define metadata schemas
- Use RDF vocabularies (eg, DC)
- Add constraints
- Fit new RDF shape languages

See **work in progress**:

DC Tabular Application Profiles

https://www.dublincore.org/groups/application_profiles_ig/dctap_primer/




Global Metadata Community





“Innovative Practice”

- Bridging Metadata 2.0 and 3.0
- As-simple-as-practical solutions
- Workable across languages
- Appropriate for low-resource conditions
- Part of ecosystem with Schema.org, Wikidata, Bibframe...
- Machine learning, automated indexing  Metadata 4.0?



<https://dublincore.org>