

A specialisation of the Europeana Data Model for the representation of manuscripts

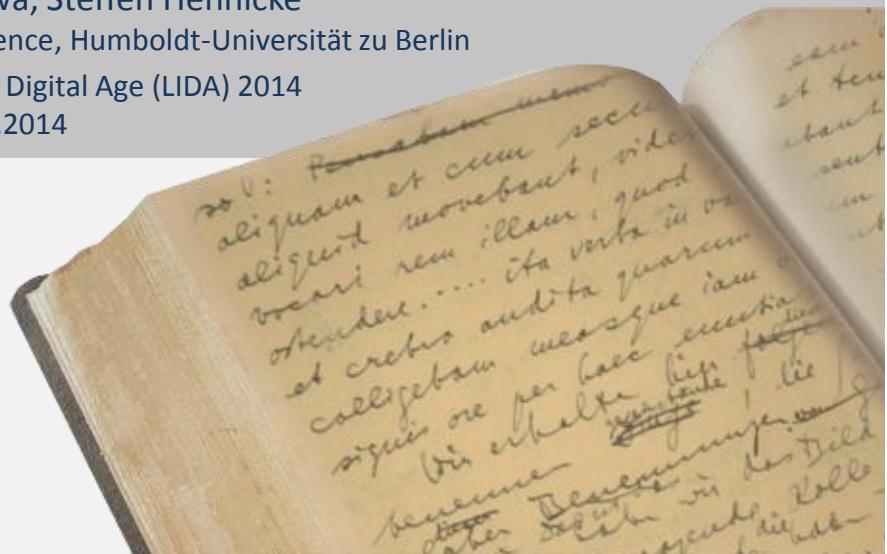
The DM2E model

Evelyn Dröge, Julia Iwanowa, Steffen Hennicke

Berlin School of Library and Information Science, Humboldt-Universität zu Berlin

Presentation at Libraries in the Digital Age (LIDA) 2014

Zadar, 18.06.2014



Introducing the DM2E Project

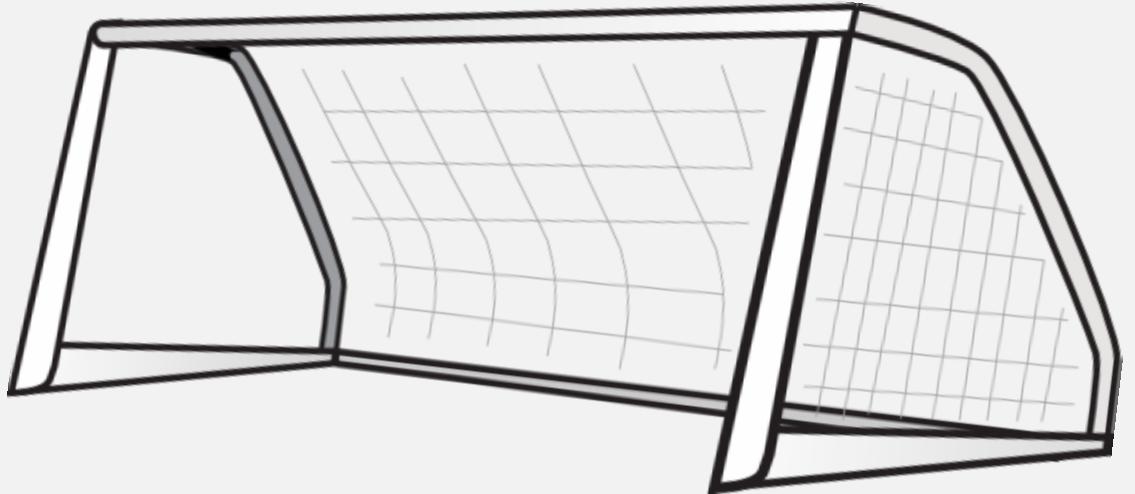
Digitised Manuscripts to Europeana (DM2E)

- EU-funded Europeana satellite project
- Duration: Three years (2012 – 2015)
- Partners from Germany, Austria, Norway, Greece, UK and Italy
- Primary aims:
 - Enable an easy integration of rich metadata into Europeana
 - Stimulate the creation of new tools and services for reuse of Europeana data in the Digital Humanities



IBI at the Humboldt-Universität zu Berlin

- Project coordination
- **Data model**, mapping, ingestion infrastructure



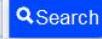
The Goal:

**Creation of rich metadata mappings for
Europeana**

Europeana

Home My Europeana Choose a language▼

 europeana think culture

Search ▾ |  Search Help

New & Improved - Europeana 1914-1918

Take a look at the new and improved Europeana 1914-1918 website and browse the most important pan-European collection of original First World War source material.

[Browse website](#)




From the blog 



[Documenting the Great War: behind the scenes at a '14-'18 community collection day](#)

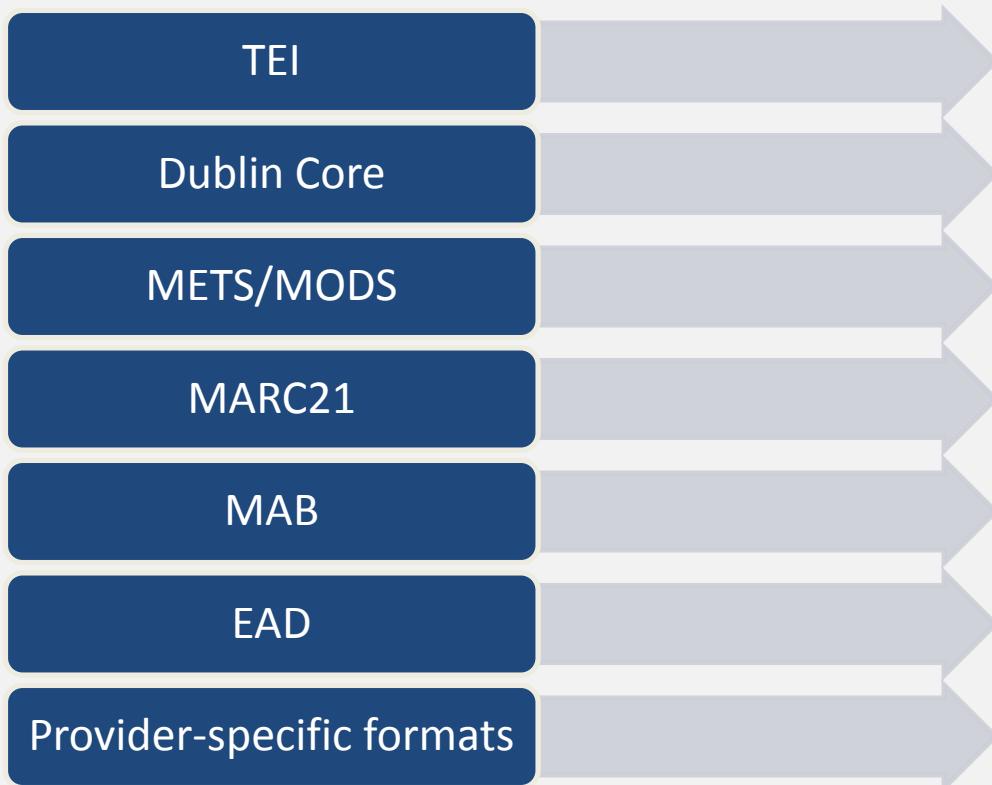
On Europeana1914-1918 you can find thousands of stories and digitised photos, diaries and objects from the time of the Great War. These stories are gathered during the so-called community collection days, which are organised throughout Europe. During these days, citizens ...



[Re-use of fashion heritage and new digital perspectives](#)

Just think of a designer delving into a brand archive to inspire a new collection or a director researching a fashion film. Using fashion heritage is not just looking at the past but discovering how the past can become relevant ...

Metadata Interoperability in Europeana



The screenshot shows the Europeana search results for the query "Van Gogh". The top navigation bar includes "Home", "My Europeana", "Choose a language", and a search bar with the term "Van Gogh". Below the search bar is a "Return to search results" link. The main content area displays a card for the painting "Blommende akaciagrenar" by Vincent van Gogh. The card includes the creator's name, type (Måleri / Paintings), format (Mått 33 x 24 cm ; Olja på duk), identifier (Inv. Nr.: NM 5939), data provider (Nationalmuseum, Sweden), provider (AthenaPlus), providing country (Sweden), and auto-generated tags. It also features links for "View item at Nationalmuseum, Sweden", "Share", "Cite on Wikipedia", "Translate details", and "Select language". Below the card, there is a section titled "Other items you may be interested in:" featuring thumbnail images and titles for "Sädeskylarna", "Courtisane", "Brug in de regen", and "Het luchten van gevangen". A link "Show all 9,405 items" is at the bottom right.

Europeana Models: From ESE to EDM

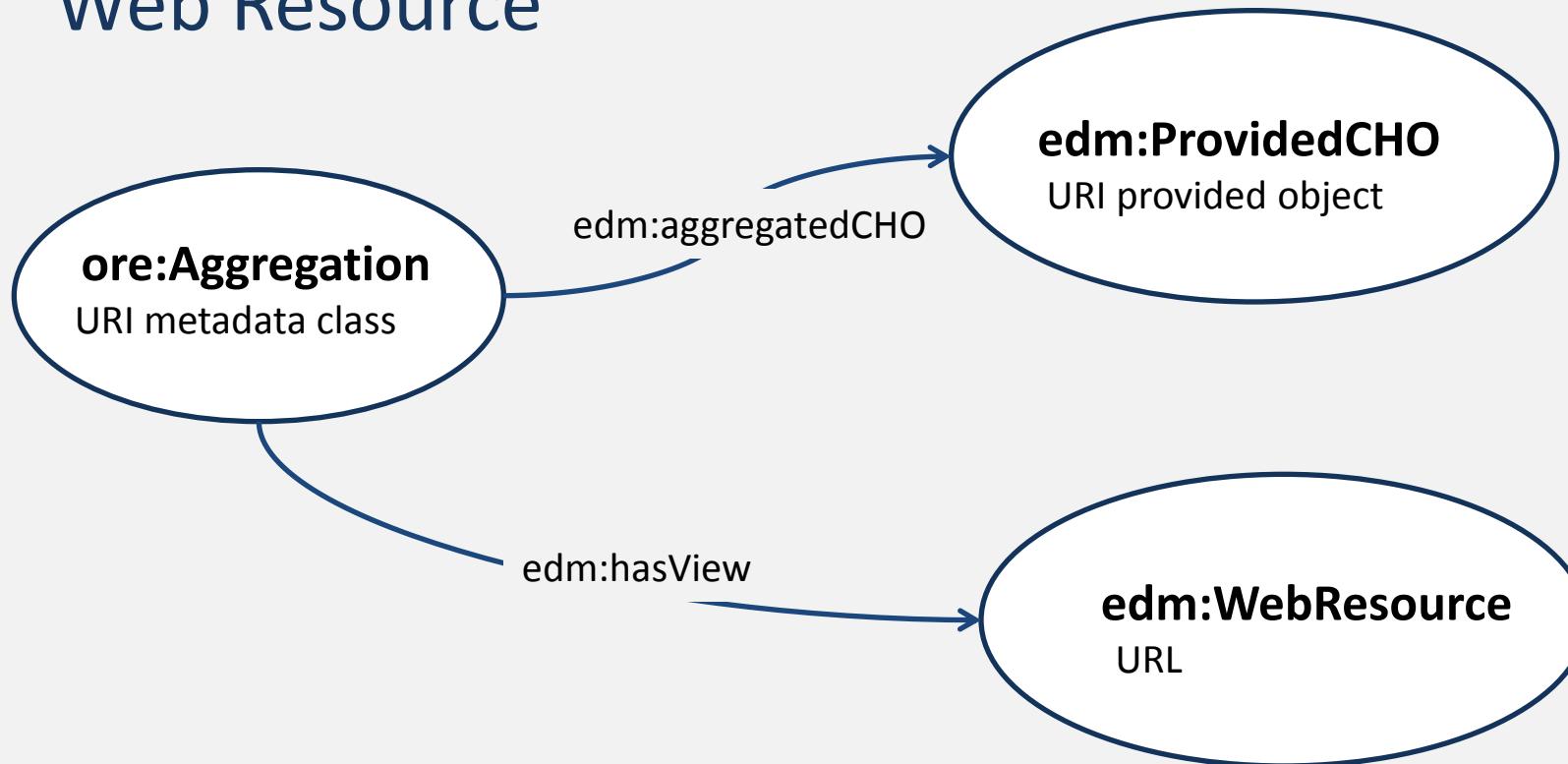
| ESE (Europeana Semantic Elements) | EDM (Europeana Data Model) |
|-----------------------------------|--|
| First model | Current model |
| XML | RDF |
| Provided CHO | Provided CHO, Aggregation, WebResource, Context |
| DC, DCTerms, Europeana | DC, DCTerms, EDM, FOAF, SKOS, ORE-OAI, rdaGr2, wgs84_pos |
| Literals | Resources and literals |
| One class with properties | Different classes and properties |



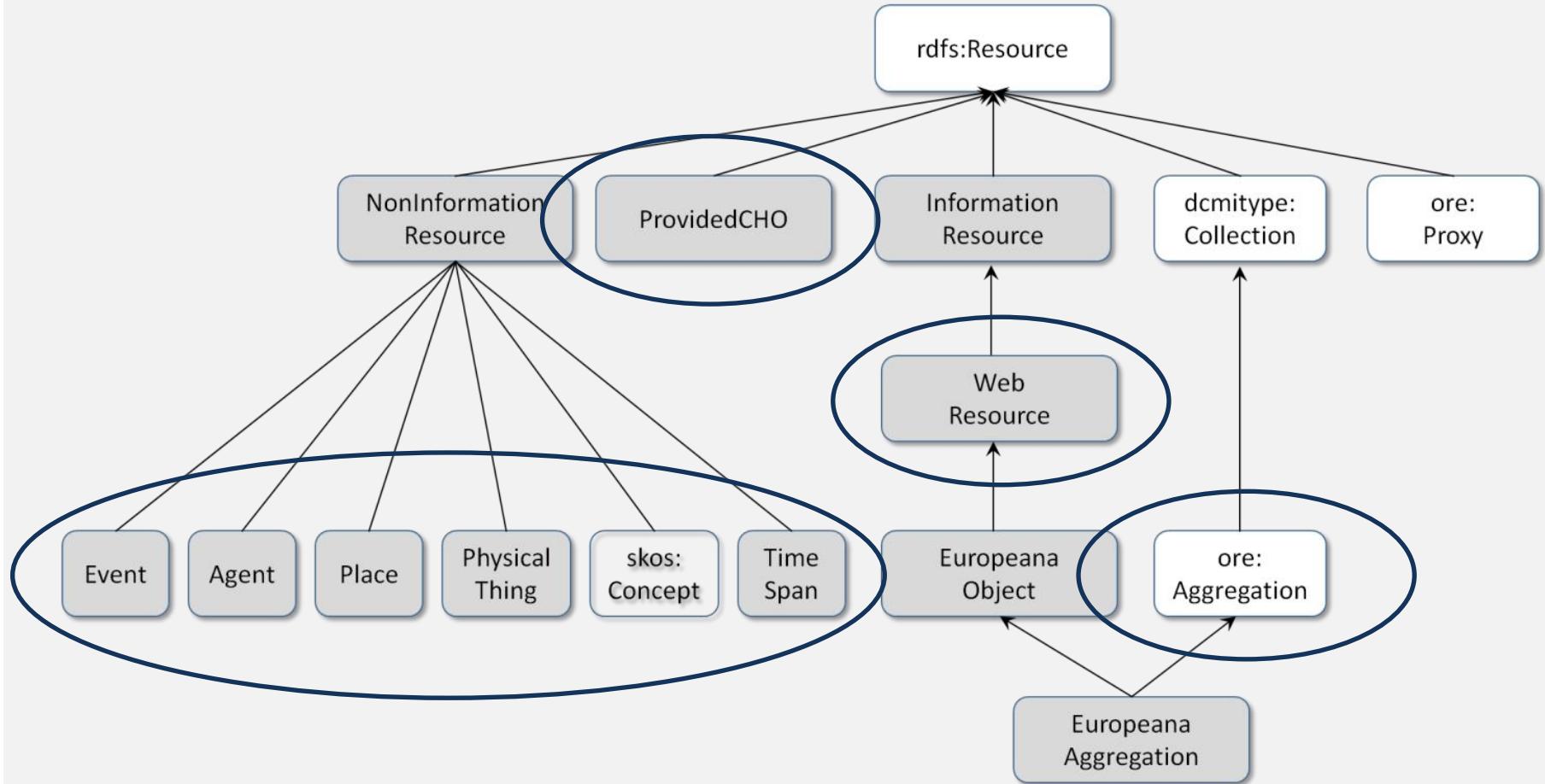
Subpart of EDM

Core Classes in EDM

Metadata, Cultural Heritage Object (CHO), Web Resource



EDM: All Classes



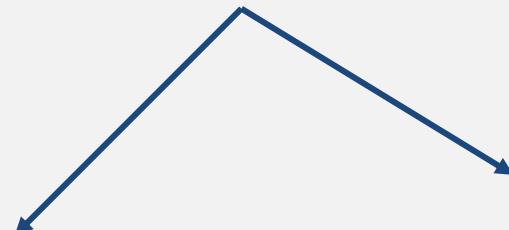
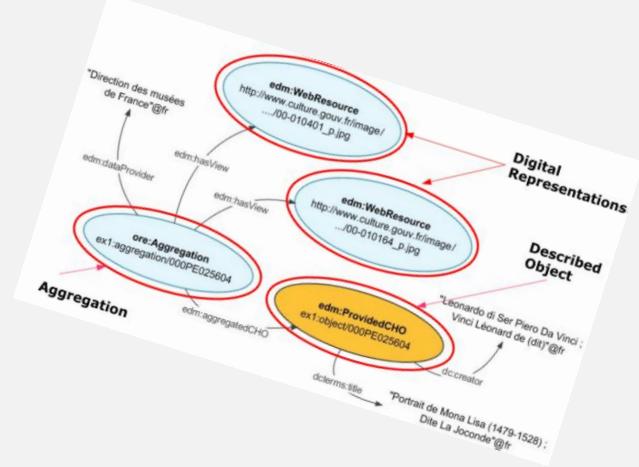
Specialising the EDM

EDM

... covers different object descriptions
used in cultural heritage

... **but:** is still very broad and generic

... can be specialised (refined and extended) for different domains and tasks via application profiles

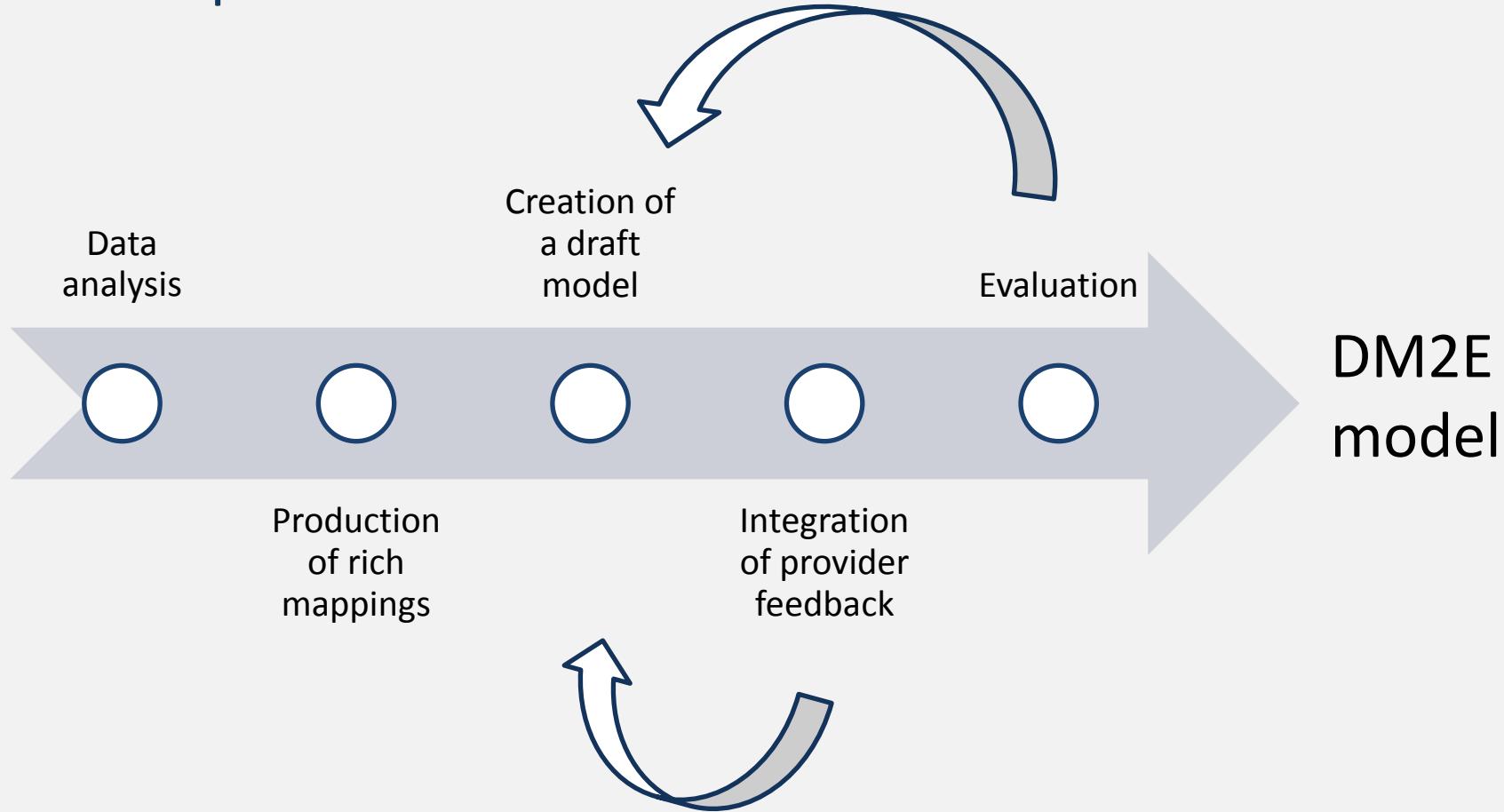


The DM2E Model

- Specialises the EDM for manuscripts
- Namespaces:
 - dm2e: <<http://onto.dm2e.eu/schemas/dm2e/>> .
 - dm2edata: <<http://data.dm2e.eu/data/>> .
- Ontology reuse:
 - Bibliographic Ontology (Bibo), FRBR-aligned Bibliographic Ontology (FaBiO), Publishing Roles Ontology, VIVO Ontology, VoID
 - Usage of reused resources is described with dm2e: scopeNote
 - Original definitions remain and must be fulfilled
 - Original definitions are broader
 - Narrower restrictions and recommendations in the DM2E model

Modelling Approach

Bottom-up model creation



Underlying Data

**DIGITALISIERUNG DES
POLYTECHNISCHEN JOURNALS**

Deutsche
Forschungsgemeinschaft

STARTSEITE JOURNAL PROJEKT KONTAKT

Text-Bild-Ansicht Band 94

Bild: 0019 <> vorherige Seite

Polytechnisches Journal.
Fünfundzwanziger Jahrgang.
I. Die atmosphärische Eis
Eisenbahnen mit Seilzug.
Stephenson's Bericht über
die atmosphärischen Eisenbahnen im
polytechnischen Journal von Hrn. Bidder.

Aus dem Civil Engineer and Architect
1844, S. 267.

Ein Bericht über die praktische Anwendbarkeit
Prinzipiell als Triebkraft auf Eisenbahnen zu
verwenden; wenn die Überzeugung nicht bei dem Bericht
der Eisenbahn abgenommen einigenfürthlichen Nachdruck und
die Wiedergabe der Arbeit, welche die Praktikabilität der
eigentümlichen Eisenbahn, welche von den Eigentümlichkeiten der Eisenbahn
Bleibst Eisenbahn nicht bestreitet.

Die Eisenbahn ist ausgedacht, um einen Zug, und einen Zug
zwei Personen oder zwei Tiere, auf einer Eisenbahn von 400
und 250 Meterlängen zu bewegen. Die Wagen werden mittels Seilen
an den Zügen herabgelassen, welche sich an den Enden auf einem Ende der
Eisenbahn befinden. Der Zug wird durch die Wirkung des
Staudens, der die ganze Strecke reicht, auf einer Höhe von 1000
Zoll, auf einer Höhe von 600 bis 700 Fuß, bei einem Winkel von
der Steigung von 1 zu 100.

Wittgenstein SOURCE
Introduction - Software

EXPLORE DOCUMENTATION About WittgensteinSource SEARCH ARCHIVE Legend D N

Ms-114 X. Philosophische Grammatik m F D N
Ms-115 XI. Philosophische Bemerkungen m F D N
Ms-139a Lecture on Ethics m F D N
Ms-140 Grosses Format m F D N
Ms-141 m F D N
Ms-148 C4 m F D N
Ms-149 C5 m F D N
Ms-150 C6 m F D N
Ms-152 C8 m F D N
Ms-153a Anmerkungen m F D N
Ms-153b m F D N
Ms-154 m F D N
Ms-155 m F D N
Ms-156a m F D N
Ts-201a1 Notes on Logic m F D N
Ts-201a2 Notes on Logic m F D N
Ts-207 Lecture on Ethics m F D N
Ts-212 m F D N
Ts-213 Big Typescript m F D N
Ts-310 Brown Book m F D N

Ms-141 Facsimile Ms-141.1 Lesehilfe

Ms-141.1 Ms-141.2

Ms-141.3 Ms-141.3a

Ms-141.4 Ms-141.5

Ms-141.6 Ms-141.7

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Spener, Philipp Jakob: Theologische Bedenken. Bd. 3. Halle (Saale), 1702.

Bild: 0007 <> vorherige Seite

Philipp Jacob Speners/D.
Theologische
Bedenken

Und andere
Briefliche Antworten
auff geiftliche/
fonderlich zur erbauung gerichtete materien
zu untertheilenden zeiten aufgeteletzt/
und auff langwiriges anhalten Christlicher freunde
in einer ordnung gebracht
und herausgegeben.

Dritter Theil/

Werinnen fonderlich vieles dessen/ was in den nechstten
30. Jahren in den kirchen vorgegangen ist/ und zum theil des
autors
perfon und amt betroffen hat/ vorkommt.
Mit Konigl. Polnicher und Preuß. auch Churf. Sachf. und
Brandenb. Freyheit.

HALLE / in verlegung des Wayfen-Haufes/ 1702.

Informationen zum Werk

- Titeldaten
- Verfügbarkeit Text (TEI-XML-, HTML-, TCF-, E-Book-Fassung): CC BY-NC 3.0.
- Nutzungsbedingungen

Download dieses Werks

XML (TEI PS) • HTML • Text
TCF (text annotation layer)
TCF (tokenniert, serialisiert, lemmatisiert, normalisiert)

Metadaten zum Werk

TEI-Header • CMDI • Dublin Core

Ansichten dieser Seite

- gerendertes HTML (normierte Zeichen)
- gerenderte HTML (Originalzeichen)
- zugrunde liegendes XML/TEI
- Reintext
- normalisierte Orthographie
- Faksimile in hoher Auflösung

Feedback

Sie haben einen Fehler gefunden? Dann
können Sie diesen über unsere
Qualitätssicherungsplattform DTAG melden.

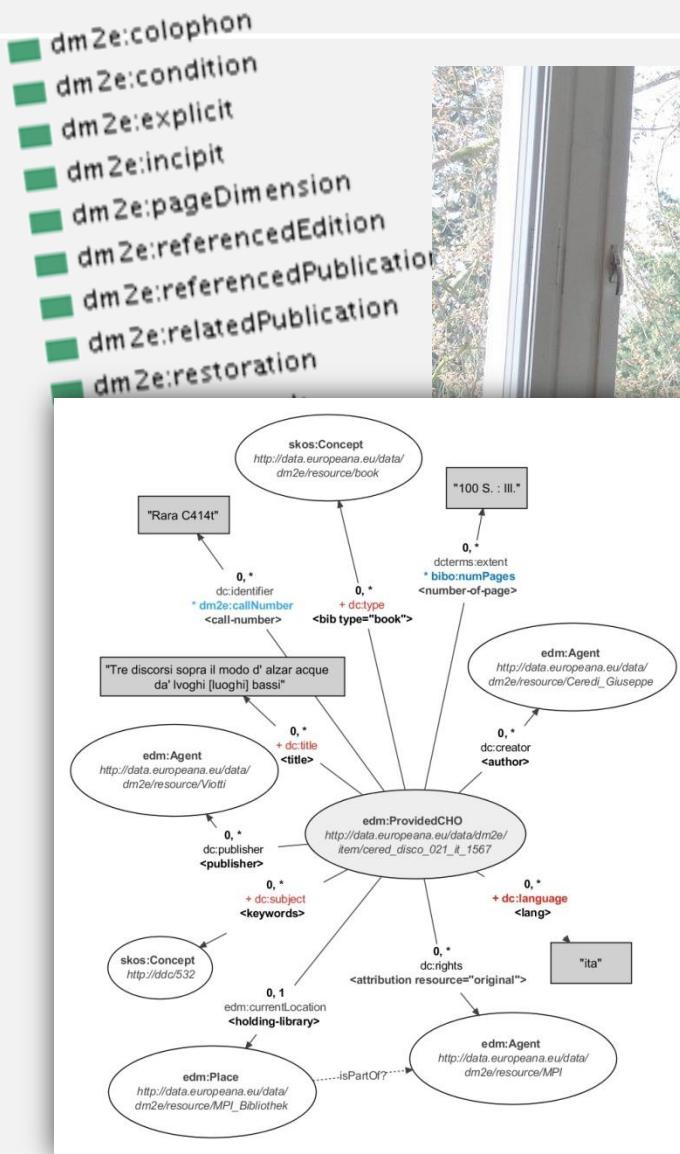
Kommentar zur DTA-Ausgabe

Dieses Werk wurde gemäß den
DTA-Transkriptionsrichtlinien im Double-
Keying-Verfahren von Nicht-
spezialisten erstellt.

→ Heterogeneous object data
in independent resources

Mapping Workshops

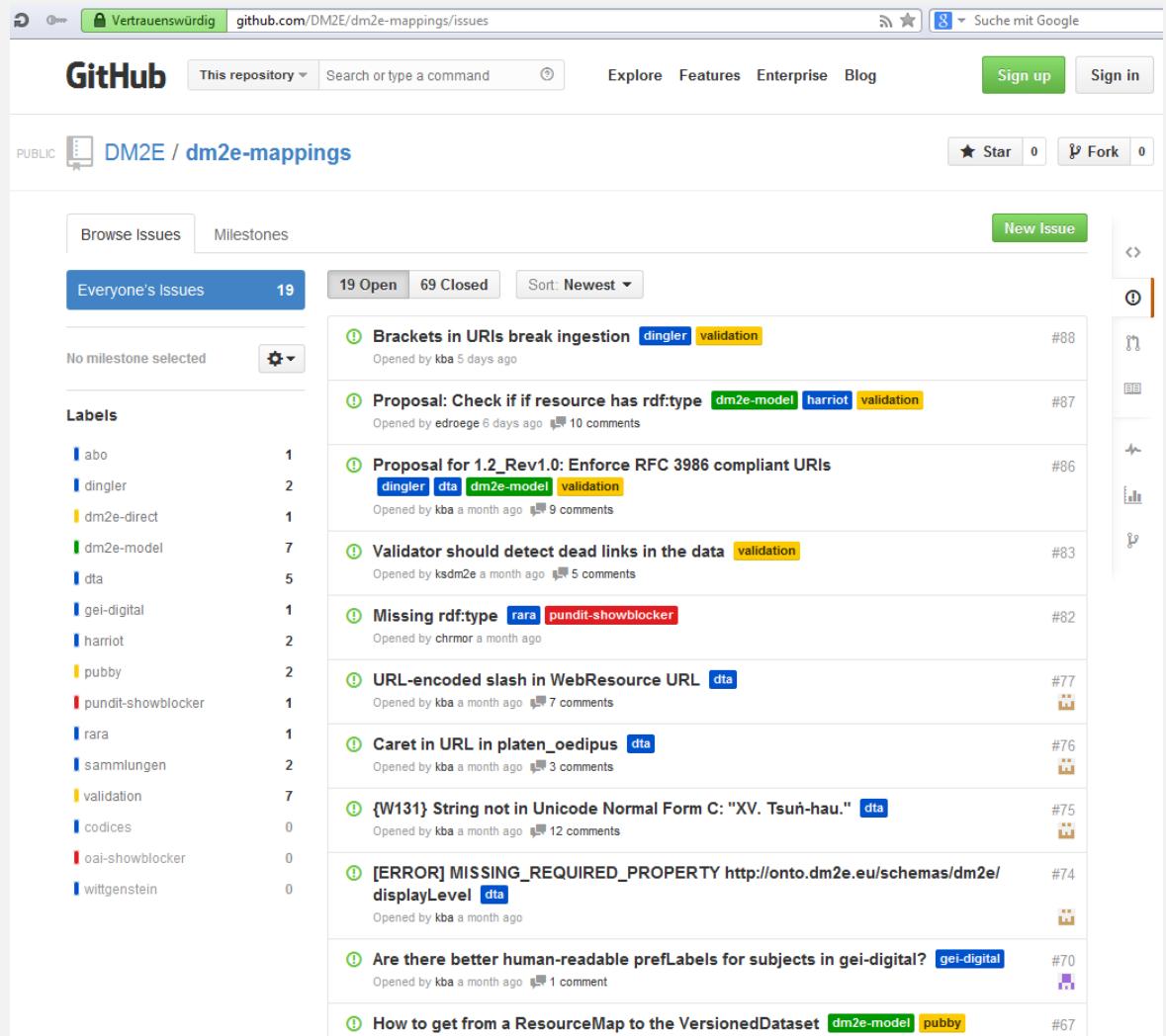
- dm2e:copylist
- dm2e:copyrightHolder
- dm2e:dateOfRemark
- dm2e:editor
- dm2e:hasVersion
- dm2e:honoree
- dm2e:influencedBy
- dm2e:isPartOf
- dm2e:locatedIn
- dm2e:mentioned
- dm2e:misattributed
- dm2e:owner
- dm2e:portrayed
- dm2e:printer
- dm2e:recipient
- dm2e:refersTo
- dm2e:sponsor
- dm2e:studentOf
- dm2e:subjectOf
- dm2e:translator
- dm2e:wasStudiedBy
- dm2e:wasTaughtBy



Workshops and
conceptual mappings

Provider and Developer Feedback

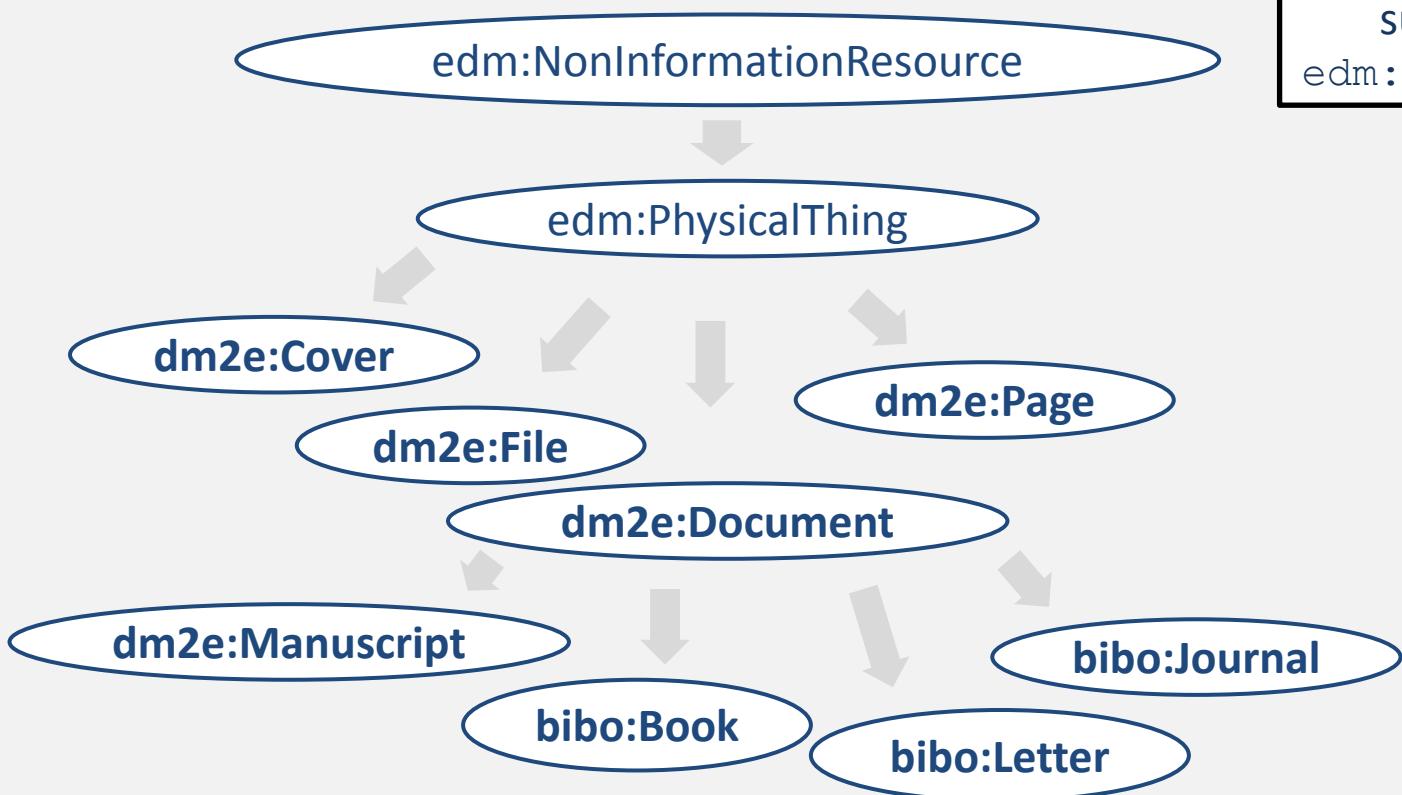
- Proposals for model changes are discussed via GitHub
- Quick feedback
- Everyone is involved
- Model and Mapping issues



The screenshot shows the GitHub interface for the repository 'DM2E / dm2e-mappings'. The repository has 19 open issues and 69 closed issues. The issues are listed in descending order of creation date (Newest). Each issue includes a title, a brief description, the number of comments, and the user who opened it. Labels for each issue are also visible.

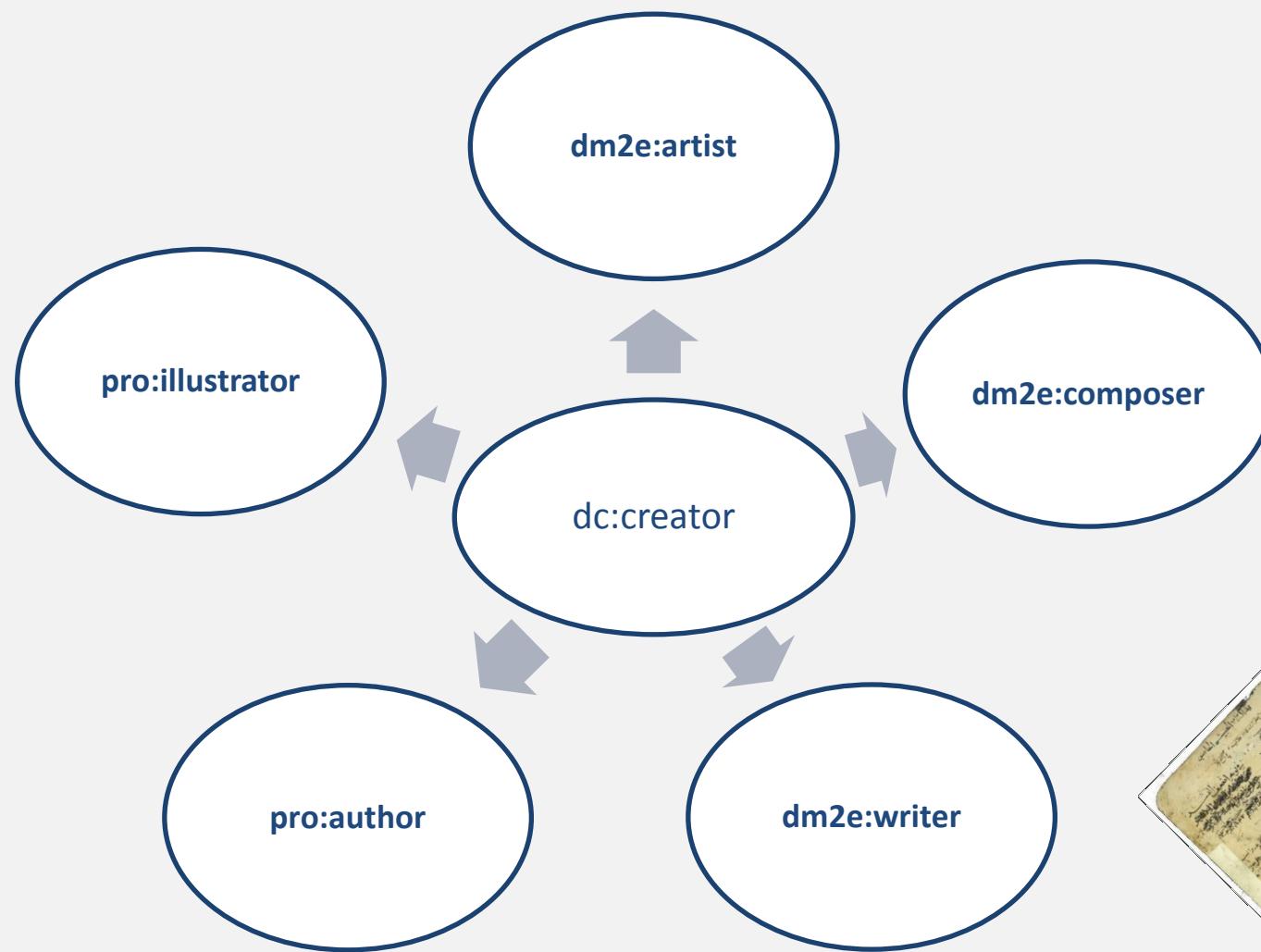
| Issue # | Title | Labels | Comments | User Opened |
|---------|---|-----------------------------------|----------|------------------------------|
| #88 | Brackets in URLs break ingestion | dingler validation | 0 | Opened by kba 5 days ago |
| #87 | Proposal: Check if resource has rdf:type | dm2e-model harriot validation | 10 | Opened by edroege 6 days ago |
| #86 | Proposal for 1.2_Rev1.0: Enforce RFC 3986 compliant URLs | dingler dta dm2e-model validation | 9 | Opened by kba a month ago |
| #83 | Validator should detect dead links in the data | validation | 5 | Opened by ksdm2e a month ago |
| #82 | Missing rdf:type | rara pundit-showblocker | 0 | Opened by chrmor a month ago |
| #77 | URL-encoded slash in WebResource URL | dta | 7 | Opened by kba a month ago |
| #76 | Caret in URL in platen_oedipus | dta | 3 | Opened by kba a month ago |
| #75 | {W131} String not in Unicode Normal Form C: "XV. Tsuri-hau." | dta | 12 | Opened by kba a month ago |
| #74 | [ERROR] MISSING_REQUIRED_PROPERTY http://onto.dm2e.eu/schemas/dm2e/displayLevel | dta | 0 | Opened by kba a month ago |
| #70 | Are there better human-readable prefLabels for subjects in gei-digital? | gei-digital | 1 | Opened by kba a month ago |
| #67 | How to get from a ResourceMap to the VersionedDataset | dm2e-model pubby | 0 | Opened by kba a month ago |

Specialised Classes



Example: New
subclasses of
edm:PhysicalThing

Specialised Properties



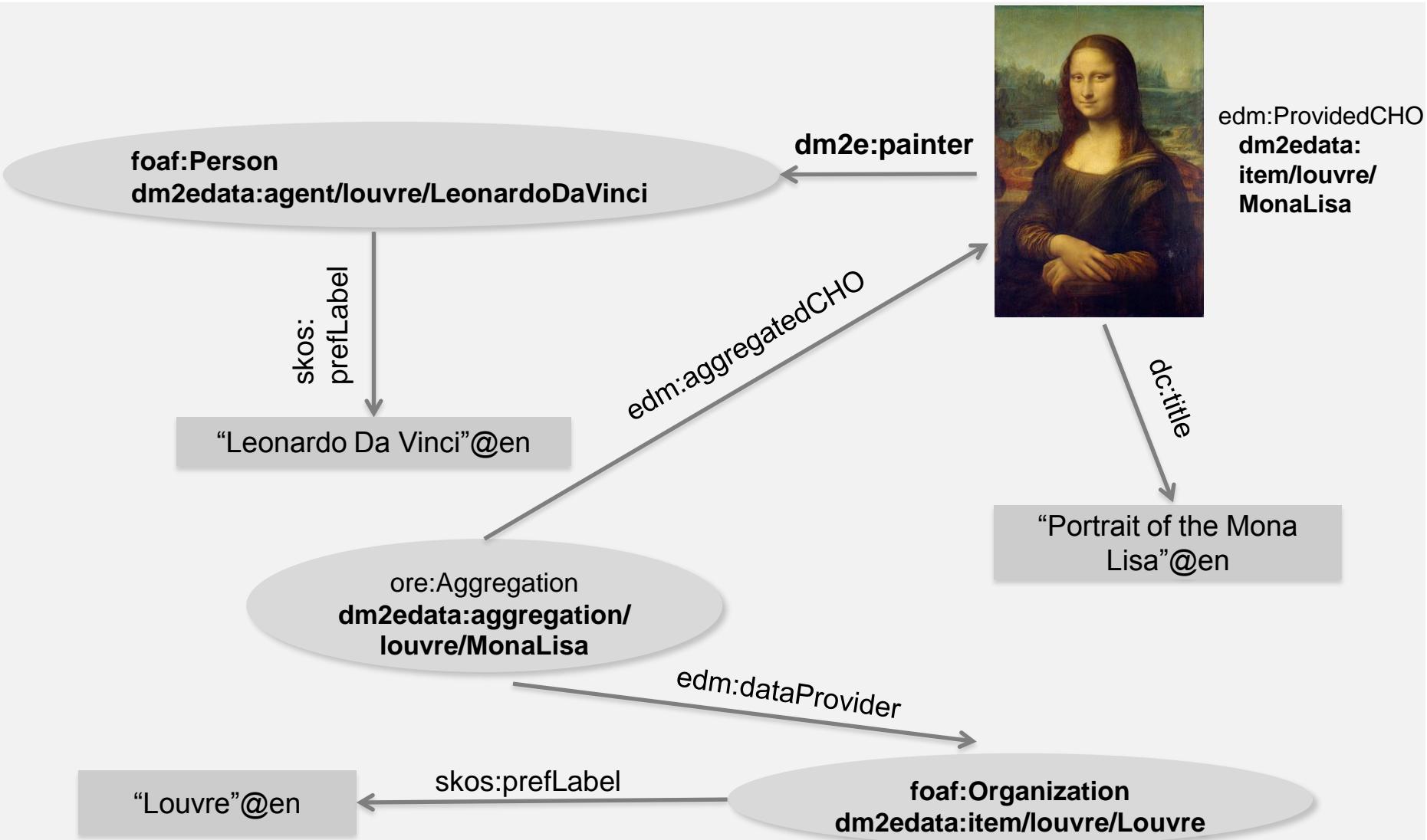
Example: New properties of `dc:creator`



Properties for Additional Functionalities

- dm2e:hasAnnotatableVersionAt
 - Property for the semantic annotation tool Pundit
 - Restricted to specific MIME-Types:
image/jpeg, application/pdf etc.
- dm2e:levelOfHierarchy
 - Shows the order of levels in hierarchical objects
 - Example for books: 1: book, 2: chapter, 3: page.
- dm2e:displayLevel
 - Used for search functionality
 - If **true** the object is shown in the search results
- dm2e:scopeNote
 - Used for mapping notes and DM2E-specific views on a resource
- crm:P79F.beginning_is_qualified_by and
crm:P80F.end_is_qualified_by
 - Unsure or estimated timespans

DM2E Model: An Example



DM2E Data

DM2E facetd search prototype
Semantic facets over DM2E Linked Data.

Digital Objects
(press ESC to close suggestions)

Text search
Language

Author

Semantic facet search:

Ferdinand Schöninghs Sammlung von Quellenstoffen für den

Selected Facets
(X) Ferdinand

Facetd search interface

Annotations

Refine My Results

Topic

Creator

Printed at

MS. 114_17r

URI of this Resource Map: http://lelystad.informatik.uni-mannheim.de:8080/data/resourceMap/ob/wittgenstein-repo/Ms-114_17r

Property

- is <http://www.europeana.eu/schemas/edm/aggregatedCHO> of
- Identifier
- is Part Of
- Language
- Same As
- Type

Value

- http://lelystad.informatik.uni-mannheim.de:8080/data/aggregation/ob/wittgenstein-repo/Ms-114_17r
- Page sequence, Ms-114_17r page01_Ms-114_37 from Wittgenstein Nachlass MS 114: Ms-114.xm - A machine-readable transcription [Work in progress]
- Ms-114_17r
- http://lelystad.informatik.uni-mannheim.de:8080/data/resource/ob/wittgenstein-repo/Ms-114_17r>
- http://lelystad.informatik.uni-mannheim.de:8080/data/resource/ob/wittgenstein-repo/Ms-114_17r>
- ger
- http://dm2e.eu/resource/ob/wittgenstein-repo/Ms-114_17r
- TEXT
- TEXT
- http://www.europeana.eu/schemas/edm/Type

gregation/ob/wittgenstein-repo/Ms-114_17r

blue

- http://lelystad.informatik.uni-mannheim.de:8080/data/resource/ob/wittgenstein-repo/Ms-114_17r>
- Wittgenstein Archives at the University of Bergen (WAB)
- http://webcat.uib.no/cost-a32/text/14/Ms-114_17r.pdf>
- Wittgenstein Archives at the University of Bergen (WAB)
- Copyright holders: The Master and Fellows of Trinity College, Cambridge, Oxford University Press, Oxford, University of Bergen. License: Under the Creative Commons General Public License Attribution, Non-Commercial, Share-Alike version 3.0 (CC-BY-NC-SA).
- <http://creativecommons.org/licenses/by-nc/3.0/>
- <http://dm2e.eu/aggregation/ob/wittgenstein-repo/Ms-114_17r>
- Aggregation

http://lelystad.informatik.uni-mannheim.de:8080/openrdf-sesame/repositories/dm2test.

Browser

e-Shelf

Search

Advanced Search

View Online

Details

View Online

Details

View Online

Details

View Online

Details

Search

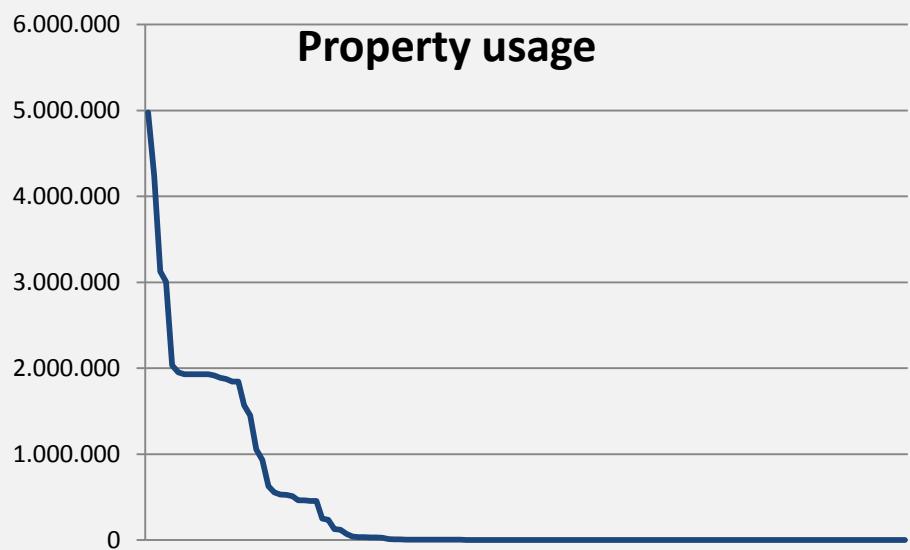
Search

Europeana

think culture

Model Evaluation

- Analysis:
 - General usage of properties and classes
 - Overall usage of properties and classes
 - Differences between mappings from different providers and mapping institutions



Evaluation: Unused Classes and Properties

- Bottom-up approach led to many model extensions
→ The larger the model, the less of it is used
- Examples of unused classes: events, institutions, CHO types
- Examples of unused properties: CHOs, person roles, places

Consequence 1: Check if unused resources can be removed

- Different providers create different mappings

Consequence 2: Refine mapping recommendations



Collaborative ontology creation:
(Some) lessons learned

Next Steps

- Ingest data into Europeana
 - Test ingestions were checked
- Add evaluation results to the model
 - Remove unused and unneeded classes and properties



Model Documentation

Main Page

The DM2E Wiki
Digitised Manuscripts to Europeana

Pundit and Ask Learning Environment

User tutorials

- English (Wiki)
 - Creating annotations with Pundit
 - Deploying the Pundit annotation environment
 - Sharing/visualizing annotations in AskThePund.it
 - Timeline Demo: building an interactive timeline with annotations
 - Edgemaps visualization with Pundit annotations
- German (PDF)
 - Annotieren mit Pundit
 - Aufsetzen der Annotationsumgebung
 - Annotationen teilen, entdecken und visualisieren mit AskThePund.it
 - Zeitstrahl-Demo: mittels Annotationen einen interaktiven Zeitstrahl erstellen
 - Visualisierung als Edgemap mit Annotationen aus Pundit
- Italian (PDF)
 - Create annotations con Pundit
 - Deploying dell'ambiente delle annotazioni
 - Condividere/scoprire/visualizzare annotazioni in AskThePund.it
 - Timeline Demo: realizzare una timeline interattiva con annotazioni
 - Edgemaps per visualizzare le annotazioni create con Pundit
- Norwegian (PDF)
 - Hvordan lage annotasjoner med Pundit
 - Hvordan best anvende annoteringsmiljøet
 - Deling/oppdagelse/visualisering av annotasjoner i AskThePund.it
 - Tidslinje Demo: Å bygge en interaktiv tidslinje med annotasjoner
 - Visualisering av annotasjoner med Edgemaps

Videos and screencasts

- Introduction to Pundit
- DM2E Pundit and the Early Days of Linked Open Data
- Pundit Screencast 1

wiki.dm2e.eu

A specialisation of the EDM for manuscripts: The DM2E model

Digitised Manuscripts to Europeana

DM2E model

Authors:
Julia Iwanowa (School for Library and Information Science)
Evelyn Dröge
Steffen Hennecke (IBI)
Konstantin Balmer

Last update:
11 March 2014

Namespace URI:
<http://onto.dm2e.eu/schemas/dm2e/>

Abstract

This document describes the DM2E model v1.1 in its final revision. It is built on the first operational version of the model (DM2E v1.0) and is the current specialisation of the Europeana Data Model (EDM) made by the Digitised Manuscripts to Europeana project (DM2E).

All terms at a glance

Classes: Archive | Collection | DataResource | Document | File | Manuscript | Page | Paragraph | Photo | Publication | Work

Properties: artist | callNumber | composer | condition | copyist | cover | displayLevel | explicit | genre | hasAnnotatableVersion | holdingInstitution | honoree | illustration | incipit | influenceBy | levelOfGenesis | levelOfHierarchy | mentioned | misattributed | modeOfAcquisition | origin | owner | pageDimension | painter | patron | portrayed | previousOwner | principal | printed | publishedAt | refersTo | restoration | scopeNote | shelfmarkLocation | sponsor | studentOr | subtitle | support | wasStudiedBy | wasTaughtBy | watermark | writer | writtenAreaDimension | writtenText

Classes

- dm2e:rootOrganization
- dm2e:archive
- dm2e:collection
- dm2e:resource
- dm2e:informationResource
- dm2e:collection

Properties

- dc:creator
- dm2ewww:...

TECHNICAL SPECIFICATION

Project Acronym: DM2E

Grant Agreement number: ICT-PSP-297274

Project Title: Digitised Manuscripts to Europeana

DM2E Model V 1.1 Specification

SUMMARY OF THE DOCUMENTATION

Thank You!

Evelyn Dröge

Berlin School for Library and
Information Science

Humboldt-Universität zu Berlin

www.ibi.hu-berlin.de

Digitised Manuscripts to Europeana

www.dm2e.eu

evelyn.droege@ibi.hu-berlin.de



References

Literature

- Documentation of the „Digital Public Library of America Metadata Application Profile“ (DPLA MAP V3). Online: <http://dp.la/about/map> (07.04.2014).
- Definition of the Europeana Data Model v5.2.5 (2014). Europeana Professional Website. <http://pro.europeana.eu:9580/documents/900548/0d0f6ec3-1905-4c4f-96c8-1d817c03123c> (15.06.2014).
- Dröge, E., Iwanowa, J., Hennicke, S., & Eckert, K. (2014). DM2E Model V 1.1 Specification [http://wiki.dm2e.eu/wiki/images/6/6a/DM2E Model V1.1 Specification.pdf](http://wiki.dm2e.eu/wiki/images/6/6a/DM2E_Model_V1.1_Specification.pdf) (07.04.2014).

Images

- Goal (Slide 3). <http://www.clker.com/cliparts/F/D/w/Z/V/P/soccer-goal-hi.png>
- Lego Bagger (Slide 22). http://trucks-and-details.de/files/Lego_Bagger.jpg.
- Footsteps (Slide 23). <http://openclipart.org/detail/left-footprint-by-anonymous>.
- IBI (Slide 25). http://commons.wikimedia.org/wiki/File:Berlin,_Mitte,_Dorotheenstrasse,_Handelskammer_Berlin_02.jpg.