



Europeana update: aspects of the data

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Overview

- The Europeana Data Model (EDM)
- Data enrichment activity at Europeana
- The linked open data pilot

Rationale of EDM

- Starting point: ESE (Europeana Semantic Elements)
 - represents lowest common denominator for object metadata
 - forces interoperability
 - flat model, mostly with text string values
 - one-to-one principle violated
 - major drawback: richness of the original metadata is lost
- Goal to move to a model that allows more sophisticated representation of data
 - preserve original data while still allowing for interoperability
 - Semantic Web representation
 - Semantic linking between objects

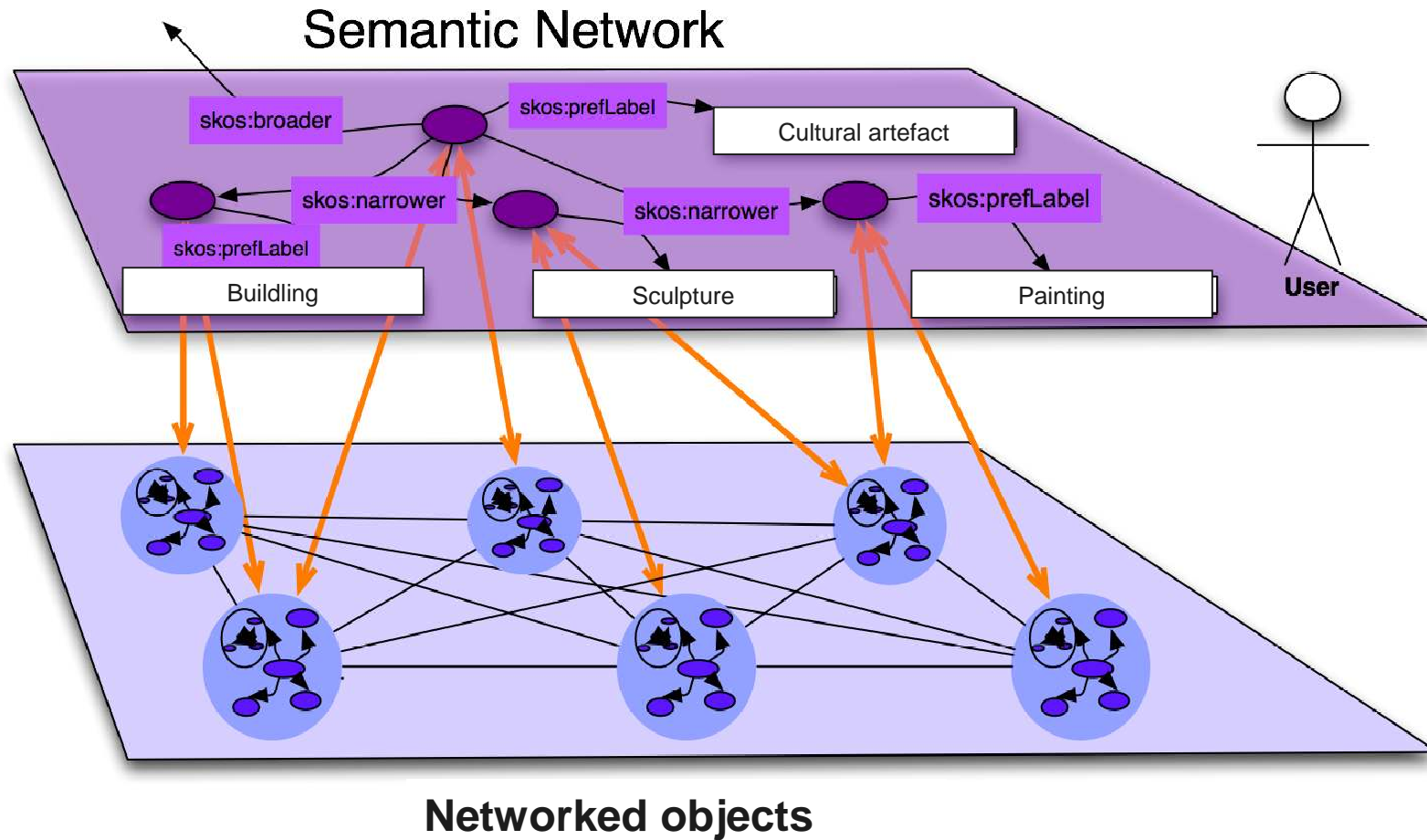
EDM requirements

1. Distinguish between the real world object (painting, book, program) and its digital representation
2. And the object and the metadata record describing the object.
3. Allow multiple records for same object,
 - containing potentially contradictory statements about an object
4. Support for objects that are composed of other objects
5. Standard metadata format that can be specialized
6. Standard vocabulary format that can be specialized
7. EDM should be based on existing standards

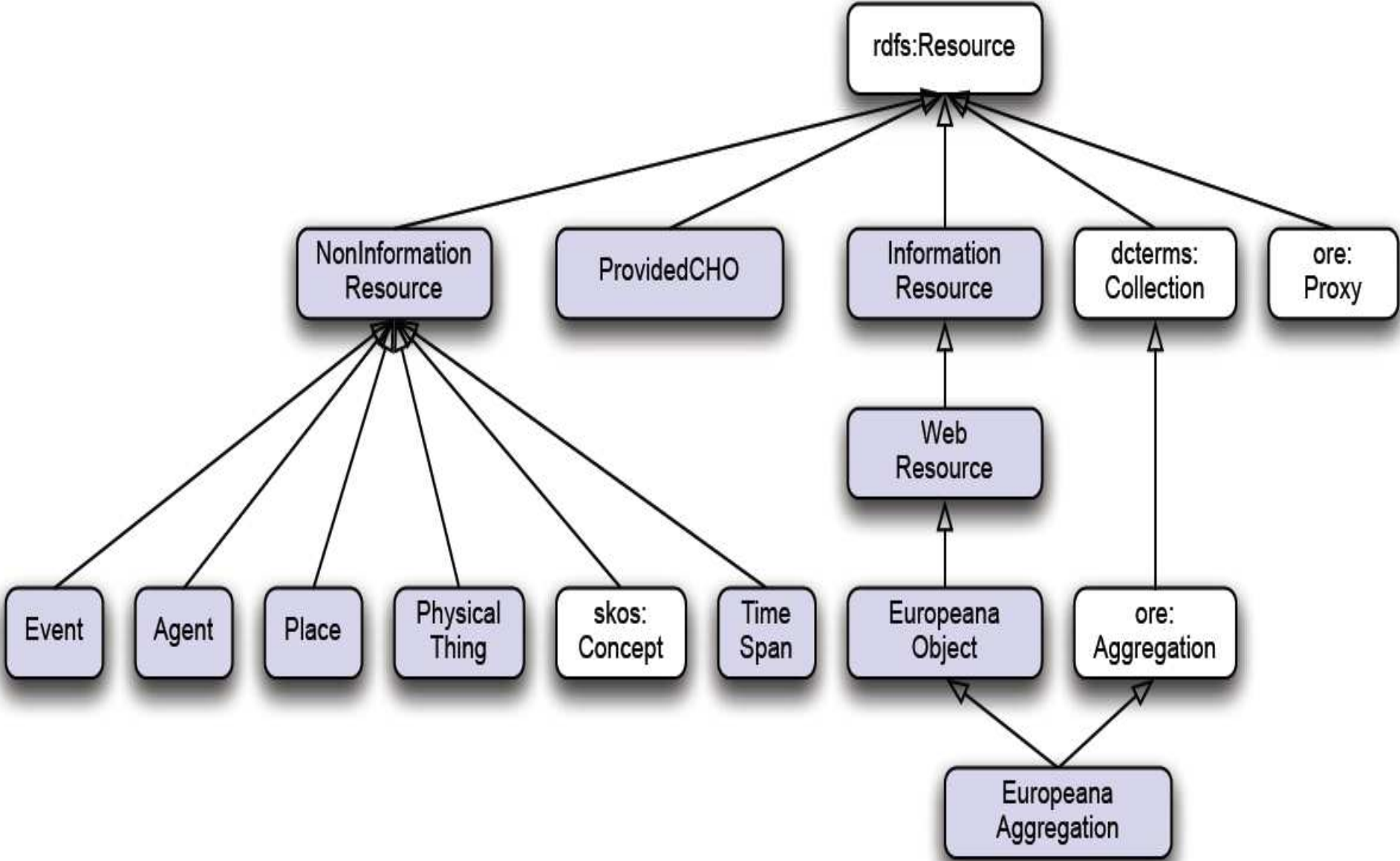
EDM basics

- OAI ORE for organization of metadata about an object
 - Requirements 1-4 (Distinguishing between objects)
- Dublin Core for metadata representation
 - Requirement 5
- SKOS for vocabulary representation
 - Requirement 6
- OAI ORE, Dublin Core and SKOS together fulfil Requirement-7

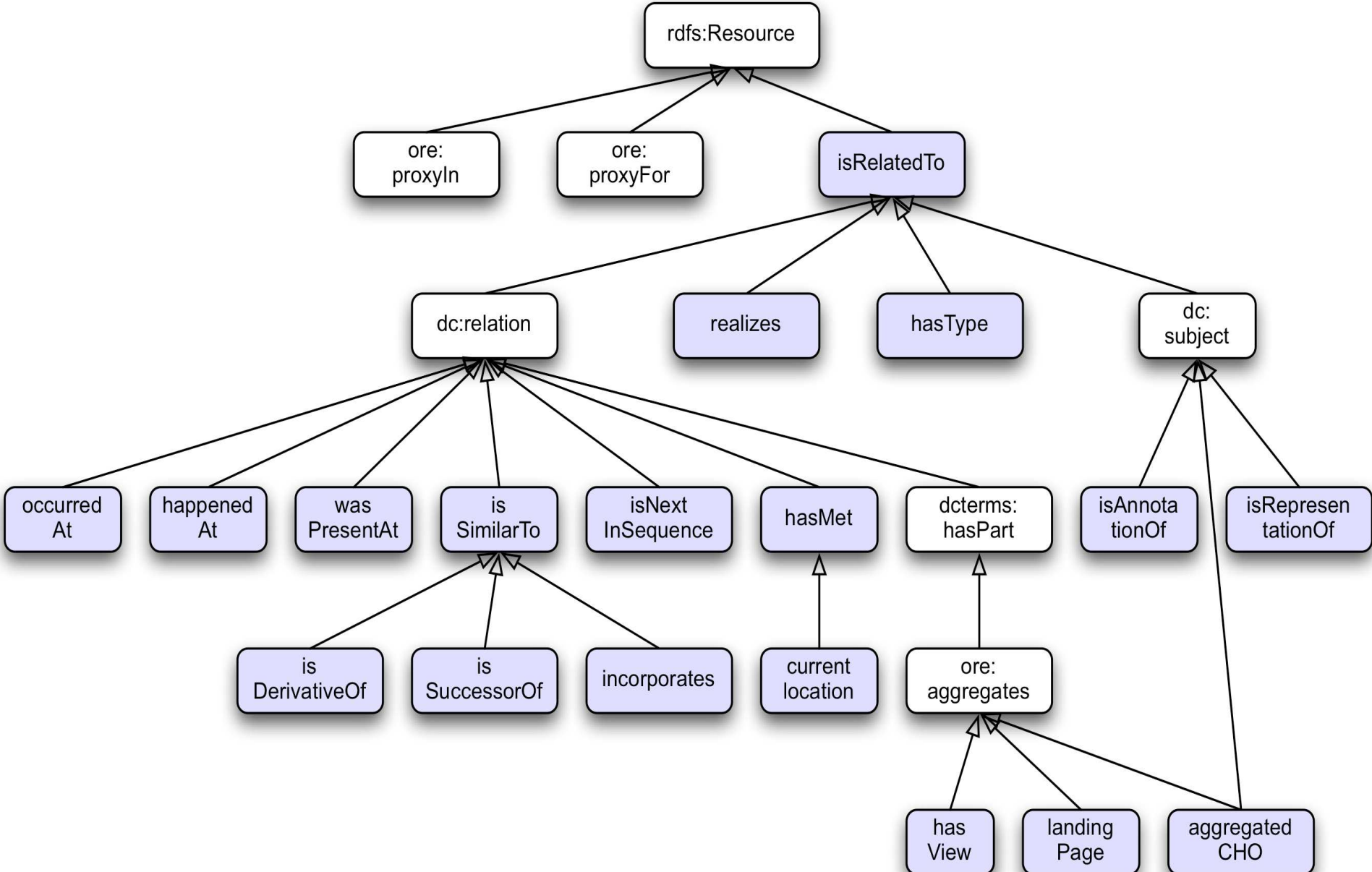
The general picture



EDM Classes



EDM Properties (excluding ESE)



The Example – 1 from Direction des Musees de France

Réponse n° 1



Domaine	peinture
Type d'objet	tableau
Titre	PORTRAIT DE MONA LISA (1479-1528) ; DITE LA JOCONDE
Auteur/exécutant	LEONARDO DI SER PIERO DA VINCI ; VINCI Léonard de (dit)
Précision auteur/exécutant	Vinci, 1452 ; Amboise, 1519
Ecole	Italie
Période création/exécution	1er quart 16e siècle
Millésime création/exécution	1503 entre ; 1506 et
Genèse	oeuvre en rapport ; reproduit en gravure
Historique	commandé par le florentin Francesco del Giocondo, époux de Mona Lisa entre 1503 et 1506 ; nombreuses copies dont une conservée au Louvre ; gravé par Fauchery, par Filhol, par Landon
Matériaux/techniques	peinture à l'huile ; bois
Mesures	77 H ; 53 L
Sujet représenté	portrait (Mona Lisa, femme, à mi-corps, de trois-quarts, assis, accoudé, loggia, Italien) ; fond de paysage (montagne, rocher, cours d'eau, pont, plaine, route)
Date sujet représenté	1479-1528
Lieu de conservation	Paris ; musée du Louvre département des Peintures
	 Musée de France au sens de la loi n°2002-5 du 4 janvier 2002
Statut juridique	propriété de l'Etat ; musée du Louvre département des Peintures
Anciennes appartenances	François 1er ; Couronne de France
Numéro d'inventaire	INV 779
Commentaires	légère diminution du tableau sur les côtés (environ 7 mm) ; acheté vraisemblablement vers 1519, après la mort de l'artiste
Bibliographie	HEYDENRICH 6 ; OTTINO DELLA CHIESA 31 ; VILLOT I 484 ; HAUTECOEUR 1601 ; C.S.I. 1981, P 192
Copyright notice	© Musée du Louvre, © Direction des Musées de France, 1999
Crédits photographiques	© Réunion des musées nationaux ; © Hervé Lewandowski ; © Thierry Le Mage
	 commande reproduction et/ou conditions d'utilisation
	renseignements sur le musée
	000PE025604

The Example – 2 from the Louvre



© Musée du Louvre/A. Dequier - M. Bard

Leonardo di ser Piero DA VINCI, dit Léonard de Vinci

Vinci, 1452 - Amboise, 1519

Portrait de Lisa Gherardini, épouse de Francesco del Giocondo, dite Monna Lisa, la Gioconda ou la Joconde

Vers 1503 - 1506

Peint à Florence

Bois (peuplier)

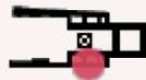
H. : 0,77 m. ; L. : 0,53 m.





Acquis par François Ier en 1518

Département des Peintures

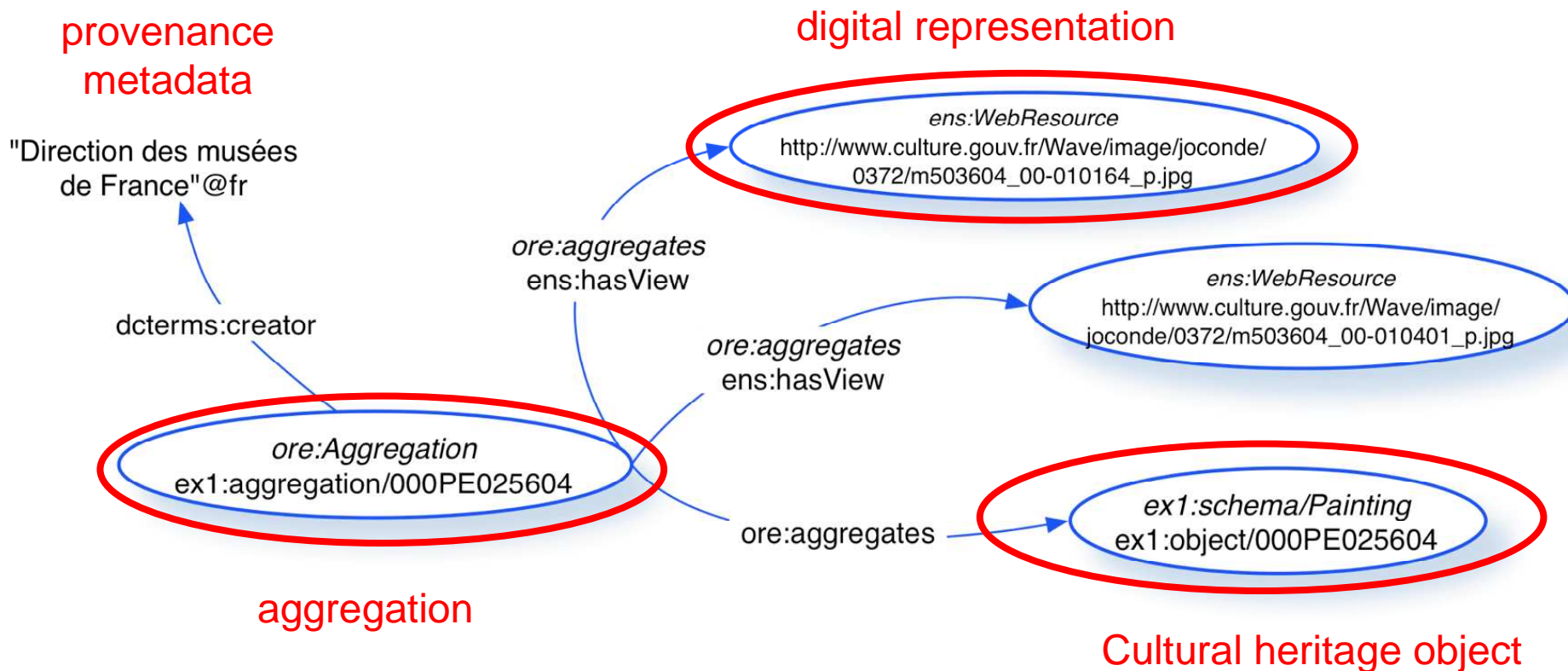
INV. 779

Denon
1^e étage
Salle de la Joconde
Salle 6

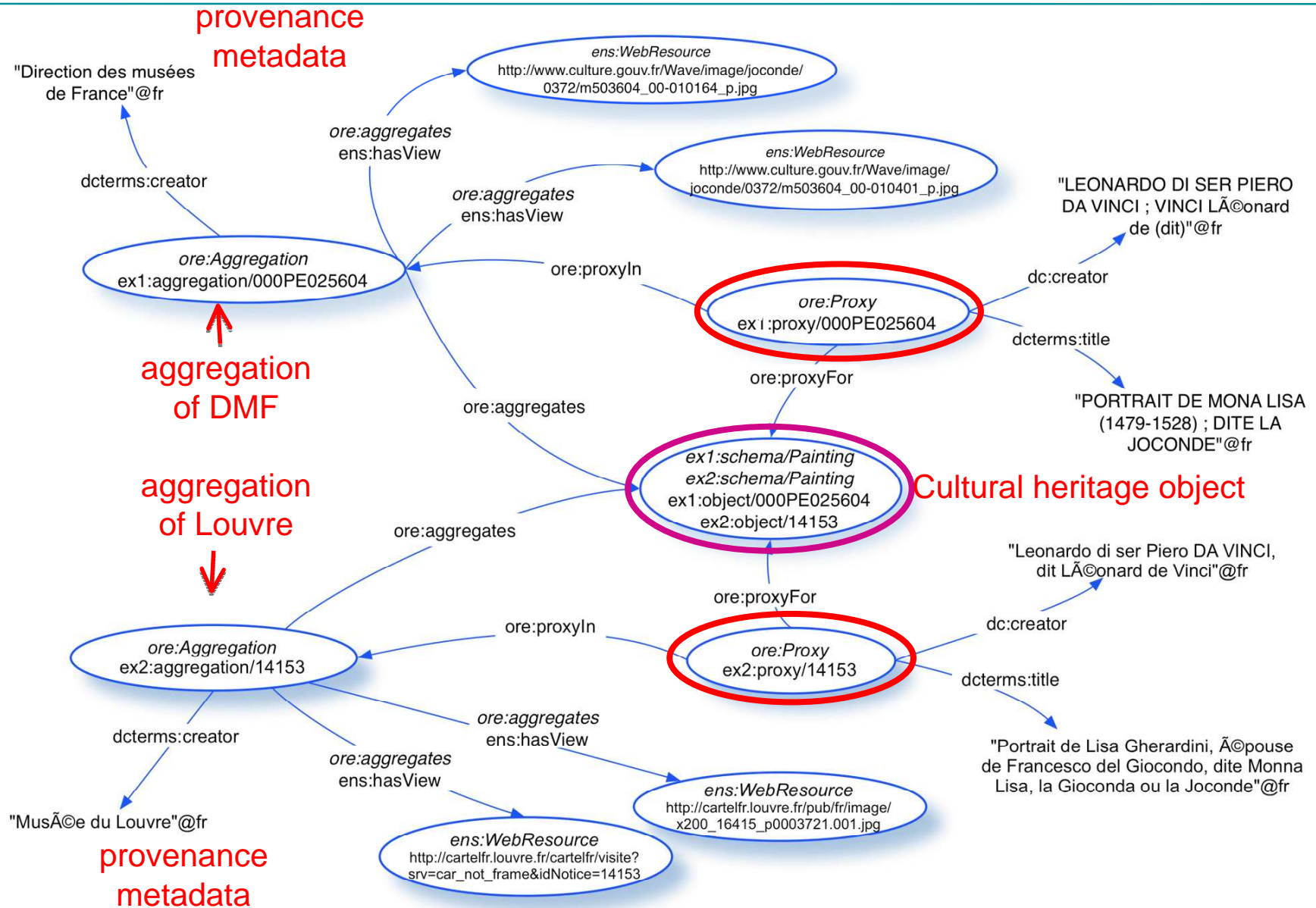


-  détail de la bouche
-  détail des mains
-  détail des yeux
-  détail du buste

Aggregation organizes data of a single provider: example 1



Two providers and two aggregations (the same object)



Creating EDM data

- Apply the different properties to the different objects in the model
 - The properties are all the ESE elements plus the new ones defined for EDM
 - The objects are the classes defined in EDM
- Not all defined objects will be implemented in the first instance

Creating EDM data

- Key objects for providers are the information resources
 - ore:Aggregation, ens:ProvidedCHO, ens:WebResource
- And the non-information resources (contextual)
 - ens:Agent, ens:Place, ens:TimeSpan, ens:Concept
- Object templates
 - <http://europeanalabs.eu/wiki/EDMObjectTemplatesProviders>
- Guidelines are being prepared to help in the creation of EDM data

Creating EDM data

EDMObjectTemplatesProviders - Europeana Labs - Windows Internet Explorer

http://europeanalabs.eu/wiki/EDMObjectTemplatesProviders

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For introduction and general documentation on this page, see <http://europeanalabs.eu/wiki/EDMXMLSchema>

Note: please be aware that some elements mentioned here will NOT be implemented in the first production version of EDM management. See Dev Team doc

Note: in the following all resources have identifiers, which are left implicit in the documentation. These identifiers could be "external" identifiers, e.g. HTTP URIs.

Core EDM resources

ens:ProvidedCHO

Quite often this may be a resource of type `ens:PhysicalThing` as well. This should be indicated using a specific `rdf:type` statement.

All descriptive metadata for the ingested object will be represented attached to the **proxies in the Europeana information space**. Only the `owl:sameAs`, meant to enable providers to point to their own (linked data) representation of the object (e.g., for the Swedish aggregator's linked data or the Nat. Lib of Hungary), would remain attached to the central CHO node.

Info sources:

- ESE-EDM mapping rules give a distribution of ESE properties between proxies and aggregations

<code>owl:sameAs</code>	reference	min 0, max unbounded
<code>rdf:type</code>	reference	min 0, max unbounded
<code>dc:contributor</code>	literal or reference	min 0, max unbounded
<code>dc:coverage</code>	literal or reference	min 0, max unbounded
<code>dc:creator</code>	literal or reference	min 0, max unbounded
<code>dc:date</code>	literal or reference	min 0, max unbounded
<code>dc:description</code>	literal or reference	min 0, max unbounded
<code>dc:format</code>	literal or reference	min 0, max unbounded
<code>dc:identifier</code>	literal	min 0, max unbounded
<code>dc:language</code>	literal	min 0, max unbounded
<code>dc:publisher</code>	literal or reference	min 0, max unbounded
<code>dc:relation</code>	literal or reference	min 0, max unbounded
<code>dc:rights</code>	literal or reference	min 0, max unbounded
<code>dc:source</code>	literal or reference	min 0, max unbounded
<code>dc:subject</code>	literal or reference	min 0, max unbounded

Internet 100%

start 3 Inter... 3 Micr... EDL Tim... Skype?... 5 Micr... Savings... C:\Docu... EDM_Pri... EN Search Desktop 12:34

Core EDM resources
ens:ProvidedCHO
ens:Aggregation
ens:WebResource for digital representations
Classes for contextual resources
ens:Agent
ens:Place
ens:TimeSpan
skos:Concept
skos:ConceptScheme
ens:Event
ens:PhysicalThing

Data Enrichment Activity

Data Enrichment Activity

- Clean and enrich existing Europeana data with standard, multi-lingual terms and references
- Who, what, where, when,
 - Agent, concept, place, time period
- Two approaches
 - Apply an existing thesaurus or controlled vocabulary
 - Create an ontology and mapping using Annocultur
 - (or a mix of the two)

When – time periods

- Mixed values in the data
 - Work to identify dates from text value
- Replace a string with a four digit year value
- Apply chronological and historical periods
- No existing usable ontology
 - created an ad hoc ontology from the values found in the data
 - <http://annocultor.eu/time/>

AnnoCultor report on conversion and enrichment - Mozilla Firefox

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http://mariateresa.isti.cnr.it/~borys/europeana/Ese_Time/

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AnnoCultor report on conversion and enrichment

This report on data conversion and enrichment is generated by [AnnoCultor](#), a tool that performs conversion of databases and XML files to RDF, and semantic enrichment of data with links to vocabularies.

Environment	Graphs	Matched	Missed	Ambiguous	Rules	Unused	Console
Labels where codes are found, and successfully disambiguated							
term							count
fileset/file/response/result/doc/arr[@name='dc_date']/str: A year of four digits (http://annocultor.eu/time/year/XXXX)							3940327
fileset/file/response/result/doc/arr[@name='dc_date']/str: 20e (http://annocultor.eu/time/19xx)							5887
fileset/file/response/result/doc/arr[@name='dc_date']/str: 17e (http://annocultor.eu/time/16xx)							5319
fileset/file/response/result/doc/arr[@name='dc_date']/str: 16e (http://annocultor.eu/time/15xx)							4873
fileset/file/response/result/doc/arr[@name='dc_date']/str: 18e (http://annocultor.eu/time/17xx)							3994
fileset/file/response/result/doc/arr[@name='dc_date']/str: 19e (http://annocultor.eu/time/18xx)							3482
fileset/file/response/result/doc/arr[@name='dc_date']/str: 18e siecle (http://annocultor.eu/time/17xx)							3229
fileset/file/response/result/doc/arr[@name='dc_date']/str: 13e (http://annocultor.eu/time/12xx)							2561
fileset/file/response/result/doc/arr[@name='dc_date']/str: 20th century (http://annocultor.eu/time/19xx)							2461
fileset/file/response/result/doc/arr[@name='dc_date']/str: 19?? (http://annocultor.eu/time/18xx)							2437
fileset/file/response/result/doc/arr[@name='dc_date']/str: 15e (http://annocultor.eu/time/14xx)							2364
fileset/file/response/result/doc/arr[@name='dc_date']/str: 12e (http://annocultor.eu/time/11xx)							2342
fileset/file/response/result/doc/arr[@name='dc_date']/str: 17e siecle (http://annocultor.eu/time/16xx)							2310
fileset/file/response/result/doc/arr[@name='dc_date']/str: 1930s (http://annocultor.eu/time/193x)							2289
fileset/file/response/result/doc/arr[@name='dc_date']/str: 18. (http://annocultor.eu/time/17xx)							2181
fileset/file/response/result/doc/arr[@name='dc_date']/str: 1920s (http://annocultor.eu/time/192x)							2046
fileset/file/response/result/doc/arr[@name='dc_date']/str: 19th century (http://annocultor.eu/time/18xx)							1889
fileset/file/response/result/doc/arr[@name='dc_date']/str: 1950s (http://annocultor.eu/time/195x)							1859
fileset/file/response/result/doc/arr[@name='dc_date']/str: 18th century (http://annocultor.eu/time/17xx)							1458
fileset/file/response/result/doc/arr[@name='dc_date']/str: 16e siecle (http://annocultor.eu/time/15xx)							1439
fileset/file/response/result/doc/arr[@name='dc_date']/str: 14e (http://annocultor.eu/time/13xx)							1349
fileset/file/response/result/doc/arr[@name='dc_date']/str: 1940s (http://annocultor.eu/time/194x)							1046

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http://mariateresa.isti.cnr.it/~borys/europeana/Ese_Time/ Yahoo! Search

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Environment Graphs Matched **Missed** Ambiguous Rules Unused Console

Labels not found in vocabularies

term	count
fileset/file/response/result/doc/arr[@name='dc_date']/str:unknown	285482
fileset/file/response/result/doc/arr[@name='dc_date']/str:0	239000
fileset/file/response/result/doc/arr[@name='dc_date']/str:19e siècle,	54638
fileset/file/response/result/doc/arr[@name='dc_date']/str:0000-00-00 00:00:00	34667
fileset/file/response/result/doc/arr[@name='dc_date']/str:um 1	31213
fileset/file/response/result/doc/arr[@name='dc_date']/str:20e siècle,	28842
fileset/file/response/result/doc/arr[@name='dc_date']/str:18e siècle,	17599
fileset/file/response/result/doc/arr[@name='dc_date']/str:17e siècle,	14017
fileset/file/response/result/doc/arr[@name='dc_date']/str:IIIe République (1870-1940),	13898
fileset/file/response/result/doc/arr[@name='dc_date']/str:16e siècle,	13672
fileset/file/response/result/doc/arr[@name='dc_date']/str:15e siècle,	7282
fileset/file/response/result/doc/arr[@name='dc_date']/str:s.d.	6764
fileset/file/response/result/doc/arr[@name='dc_date']/str:Second Empire (1852-1870),	4410
fileset/file/response/result/doc/arr[@name='dc_date']/str:Premier Empire (1804-1814),	4226
fileset/file/response/result/doc/arr[@name='dc_date']/str:20e siècle,19e siècle,	3933
fileset/file/response/result/doc/arr[@name='dc_date']/str:vor	3695
fileset/file/response/result/doc/arr[@name='dc_date']/str:1890s - 1936	3372
fileset/file/response/result/doc/arr[@name='dc_date']/str:règne de Louis XV (1723-1774),	3152
fileset/file/response/result/doc/arr[@name='dc_date']/str:nach	2960
fileset/file/response/result/doc/arr[@name='dc_date']/str:14e siècle,	2895
fileset/file/response/result/doc/arr[@name='dc_date']/str:17e siècle,règne de Louis XIV (1661-1715),	2714
fileset/file/response/result/doc/arr[@name='dc_date']/str:18e siècle,19e siècle,	2511

AnnoCultor Time Ontology Term - Windows Internet Explorer

http://annocultor.eu/time/

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Time

- Historical period
- Chronological period
- 4e millénaire avant J.-C.
- 3e millénaire avant J.-C.
- 2e millénaire avant J.-C.
- 1er millénaire avant J.-C.
- 3e millénaire après J.-C.
- 2e millénaire après J.-C.
- 10de eeuw
- 21й век
 - 4 quarter of the 21th century
 - Late 21th century
 - 3 quarter of the 21th century
 - Mid 21th century
 - 2 quarter of the 21th century
 - 21e (fin)
 - Early 21th century
 - 1 quarter of the 21th century
 - 21e (début)
- 20й век
- 19й век
- 18й век
- 17й век
- 16й век
- 15й век

1 quarter of the 21th century _{en} - Windows Internet Explorer

http://annocultor.eu/time/20xx_1_quarter

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1 quarter of t... Google Mail - Inb... Google Calendar Web Applications EDMObjectTempl...

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Preferred label

1 quarter of the 21th century _{en}

1-я четверть 21-го века _{ru}

1er quart 21e siècle _{fr}

Alternative labels

Period

2001-01-01 - 2026-12-31

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AnnoCultor Time Ontology Term

Time

- Historical period
- Viking Age (875 - 950 AD)
- Римская республика
- Roman Kingdom
- Римская империя
- Постмодерн
- Neolithic
- Модерн
- Средние века
- Iron Age
- Greek Roman period
- Post-classical period
- Hellenistic period
- Классическая эпоха
- archaic period
- Античность
- Gallo-Roman
- Ille République (1870-1940)
- Ile République (1848-1851)
- Second Empire (1852-1870)
- règne de Louis-Philippe (1830-1848)
- règne de Louis XVI (1774-1792)
- règne de Louis XV (1723-1774)
- règne de Louis XIV (1661-1715)
- Premier Empire (1804-1814)

Roman Empire _{en} - Windows Internet Explorer

http://annocultor.eu/time/roman_empire

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Roman Empire _{en}

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Preferred label

Roman Empire _{en}

Римская империя _{ru}

Alternative labels

Roman _{en}

Empire romain (27 avant J.-C.-476 après J.-C.) _{fr}

Haut-Empire romain (27 avant J.-C.-235 après J.-C.) _{fr}

Bas-Empire romain (307-425) _{fr}

Period

-27 - 476



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Item details

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Free Access

Kieves at King Edward Mine, Camborne, Cornwall

Title: Kieves at King Edward Mine, Camborne, Cornwall

Date: [1998]

Creator: Williams, P

Description: These 'kieves' were filled with slurry. This was agitated by stirring, while at the same time the sides of the kieve were regularly hit with hammers. This caused the sediment to separate with the highest concentration of tin at the bottom and the waste at the top.

Language: en

Europeana rights: Rights Reserved - Free Access

Rights: Crown copyright.NMR

Data provider: English Heritage - View finder

Provider: CultureGrid ; Uk

[Less](#)

Identifier: <http://viewfinder.english-heritage.org.uk/search/detail.asp?calledFrom=oai&imageUID=735>

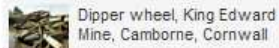
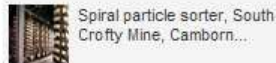
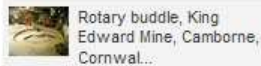
Subject: Machinery ; Tin Mine ; Industry

Type: Image

Relation: English Heritage

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Provider: CultureGrid ; Uk

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Subject: Machinery ; Tin Mine ; Industry

Type: Image

Relation: English Heritage

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Period Term: <http://annocultor.eu/time/1998>

Period Label: 1998

Period Begin: Thu Jan 01 01:00:00 CET 1998

Period End: Fri Jan 01 00:59:59 CET 1999

Period Broader Term: http://annocultor.eu/time/19xx_4_quarter ; http://annocultor.eu/time/19xx_2_half ; <http://annocultor.eu/time/ChronologicalPeriod> ; <http://annocultor.eu/time/19xx> ; <http://annocultor.eu/time/Time> ; <http://annocultor.eu/time/AD2xxx>

Period Broader Label: chronological period ; 2e millénaire après j.-c. ; second half of the 20th century ; 20de eeuw ; 4e quart 20e siècle ; time ; 4-я четверть 20-го века ; 20.. ; second millenium ad, years 1001-2000 ; 20й век ; 20-th ; 20e ; 20e (fin) ; 20th ; 20th century ; 20?? ; вторая половина 20-го века ; 20e siècle ; second millenium ad ; 4 quarter of the 20th century

Concept Term: <http://www.eionet.europa.eu/qemet/concept/4279> ; <http://www.eionet.europa.eu/qemet/concept/13222>

Concept Label: macchinario ; machinery ; tööstus ; masinad, mehhanismid ; industri ; maqinaria ; maszyna ; koneisto ; indústria ; ipar ; industrija ; máquina ; zařízení strojní ; машини, оборудване ; priemysel ; industry ; przemysł ; machine ; промышленность ; maskineri ; mašini ; mašinos ; průmysl ; industrie ; промишленост ; machine ; industria ; pramonė ; maskin ; machines ; ⚙ ; ⚙ ; stroje ; stroji ; teollisuus ; μηχανήματα/μηχανολογικός εξοπλισμός/μηχανισμός ; машины и оборудование ; βιομηχανία/επιχειρήση/κλάδος ; gépezet ; maskineri ; maskiner

Concept Broader Term: <http://www.eionet.europa.eu/qemet/concept/2956>

Concept Broader Label: opréma ; equipos ; varusteet ; equipment ; udstyr ; įranga ; ausrüstung ; équipement ; teknisk utstyr ; apparecchiature ; ⚙ ; echipament ; vybavení přístrojové ; urządzenie ; uitrusting ; оборудование ; оборудване ; equipamentos ; zariadenie ; utrustningar ; berendezés ; seadmestik, seadmed, varustus, aparatuur ; εξοπλισμός

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- REPORTNET
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Find a person

Account services

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- » [lost my password](#)
- Edit my**
- » [user profile](#)

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industry

Definition:

An industry is a group of establishments engaged in the same or similar kinds of economic activities. Industries produce commodities that are sold with the expectation of recovering the total cost of production. A single industry can produce many different commodities. (Source: PGE)

narrower terms

- agriculture and cattle industry
- agroindustry
- building industry
- building materials industry
- ceramics industry
- chemical industry
- clothing industry
- communications industry
- electrical industry
- electrotechnical industry
- energy industry
- environmental industry
- extractive industry
- fishing industry
- food industry
- forest industry

Arabic:	صناعة
Basque:	industria
Bulgarian:	Промисленост
Catalan:	indústria
Chinese:	工厂
Czech:	průmysl
Danish:	industri
Dutch:	industrie
English (US):	industry
Estonian:	tööstus
Finnish:	teollisuus
French:	industrie
German:	Industrie
Greek:	βιομηχανία/επιχείρηση/κλάδος
Hungarian:	ipar
Irish:	tionscal
Italian:	industria
Latvian:	rūpniecība; nozare
Lithuanian:	pramonė
Maltese:	industrija



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Item details

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Ynscriccion Idrografica de el Gran Puerto y Ciudad de La Havana en la Parte del N. de la Isla de Cuba en en [sic] los 23 G. 10 M. de Latitud Material cartográfico

Title: ① Ynscriccion Idrografica de el Gran Puerto y Ciudad de La Havana en la Parte del N. de la Isla de Cuba en en [sic] los 23 G. 10 M. de Latitud Material cartográfico

Date: 1743

Creator: ① Vielsa, Rafael

Description: En el inferior derecho se encuentra la clave en un pedestal. En el ángulo superior derecho figura el título, mención de responsabilidad y año sobre un cortinaje. En la parte superior figura la escala en filacteria. Guía de fuentes para la historia de Ibero-América conservadas en España, 1969. Incluye, ocupando todo el lateral izquierdo, una nota: "Marcas de el Fondo Fuera de el Puerto". Manuscrito sobre papel a plumilla en tinta negra. Lavado en siena y verde y el plano de la ciudad y sus defensas en carmin. Orientada con rosa con lis con el N. al SO. de la hoja. - Nudos de rumbos. - Relieve por montes de perfil. - Sondas y veriles. - Hidrografía. - Red de caminos. - Representa la ciudad amurallada con el trazado de sus calles y plazas en estructura reticular así como las plantas de fuertes, baluartes y otras edificaciones situadas en los alrededores. - Arbolado y vegetación. - Clave alfabética para localizar los edificios y lugares más significativos

Language: es

Provider: ① Biblioteca Nacional de España ; ① Spain

Less

Identifier: MR_000043_0225.tif ; oai:bibliotecadigitalhispanica.bne.es:1557423

Coverage: ① Cuba

Type: ① manuscriptcartographic; ① Mapas manuscritos

Show Auto-tags

Related content:

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- Plano del Puerto de Mariel en la Ysla de Cuba Mate...
- A New and Correct Chart of the Harbour of Havana o...

Actions:

- Add a tag →
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- Embed →
- Translate details →
- Login | Register

Actions:

- Add a tag →
- Save to My Europeana →
- Embed →
- Translate details →
- [Login](#) | [Register](#)

En la parte superior figura la escala en filacteria
 Guía de fuentes para la historia de Ibero-América conservadas en España, 1969
 Incluye, ocupando todo el lateral izquierdo, una nota: "Marcas de el Fondo Fuera de el Puerto"
 Manuscrito sobre papel a plumilla en tinta negra. Lavado en siena y verde y el plano de la ciudad y sus defensas en carmín
 Orientada con rosa con lis con el N. al SO. de la hoja. - Nudos de rumbos. - Relieve por montes de perfil. - Sondas y veriles. - Hidrografía. - Red de caminos. - Representa la ciudad amurallada con el trazado de sus calles y plazas en estructura reticular así como las plantas de fuertes, baluartes y otras edificaciones situadas en los alrededores. - Arbolado y vegetación. - Clave alfabética para localizar los edificios y lugares más significativos

Language: es
Provider: [Biblioteca Nacional de España](#) ; [Spain](#)
[Less](#)
Identifier: MR_000043_0225.tif ; oai:bibliotecadigitalhispanica.bne.es:1557423
Coverage: [Cuba](#)
Type: [manuscriptcartographic](#)
[Mapas manuscritos](#)

[Hide Auto-tags](#)
Place Term: <http://sws.geonames.org/3562981/>
Place Label: kuba ; republic of cuba ; куба ; isla juana ; куба ; κούβα ; república de cuba ; cu ; kuuba ; cuba

Period Term: <http://annocultor.eu/time/1743>
Period Label: 1743
Period Begin: Tue Jan 01 01:00:00 CET 1743
Period End: Wed Jan 01 00:59:59 CET 1744
Period Broader Term: <http://annocultor.eu/time/ChronologicalPeriod> ; <http://annocultor.eu/time/17xx> ; <http://annocultor.eu/time/Time> ; <http://annocultor.eu/time/AD2xxx> ; http://annocultor.eu/time/17xx_2_third
Period Broader Label: 18-th ; 18de eeuw ; 18?? ; 18e siècle ; chronological period ; 2e millénaire après j.-c. ; mid 18th century ; середина 18-го века ; 18й век ; time ; second millenium ad, years 1001-2000 ; 18e ; 18th century ; second millenium ad ; 18.. ; 18th
Agent Term: <http://dbpedia.org/resource/Raphael>
Agent Label: rafael sanzio ; raphael (peintre) ; rafael ; raffaello sanzio ; raffaello santi ; rafael (nombre) ; raffaell ; рафаэль санти ; raphael ; রাফােল-সান্টি ; rafael (konstnär) ; rafaël santi



[View in original context](#)
 Opens in a new window

AnnoCultor report on conversion and enrichment

This report on data conversion and enrichment is generated by [AnnoCultor](#), a tool that performs conversion of databases and XML files to RDF, and semantic enrichment of data with links to vocabularies.

GeoNames Home | Postal Codes | Download / Webservice | About

Map center : N 49° 12' 50" E 2° 21' 3"

Paris ca. 30 m
 Département de Paris, Département de Paris, Par ...
 France » Île-de-France » Paris
 second-order administrative division
 population : 2193030
 N 48° 51' 12" E 2° 20' 54"
 48.8534 / 2.3486
 GeoNameId : 2968815


[zoom](#) [move](#) [edit](#) [history](#) [tag](#) [delete](#) [alternate names](#)
[perma link](#) [ontree](#) [semantic web rdf](#)

Alternate Names or Name Variants

Name	Language Code	†	s	Action
Département de Paris				edit/delete
http://en.wikipedia.org/wiki/Paris	link	link to website		edit/delete
Parigi	it	Italian	x x	edit/delete
Paris	de	German	x x	edit/delete
Paris	en	English	x x	edit/delete
Paris	es	Spanish	x x	edit/delete
Paris	fr	French	x x	edit/delete

[new](#)

The "Language Code" is referring to the [ISO-639](#) Language Code.
 Example : "en" for English, "fr" for French.
 † : is preferred Name in this language
 s : is short Name in this language



About: Raphael

An Entity of Type : [person](#), from Named Graph : <http://dbpedia.org>, within Data Space : dbpedia.org



Rafaël was een Italiaanse kunstenaar uit de hoog-renaissance. Rafaël is de in Nederland gebruikelijke vorm van zijn naam. Zijn echte naam was Raffaello Sanzio. Hij is ook wel bekend onder namen als Raffaello Santi en Raffaello da Urbino. Zoals met vele Italiaanse kunstenaars uit zijn tijd het geval is, wordt zijn leven beschreven in het beroemde boek Le Vite van de 16e-eeuwse schilder en schrijver Giorgio Vasari.

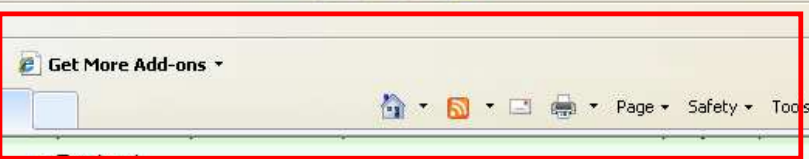
Property

Value

dbpedia-owl:abstract

lacteria
-América conservadas en España, 1969
do, una nota: "Marcas de el Fondo Fuera de el Puerto"
a negra. Lavado en siena y verde y el plano de la ciudad y
O. de la hoja. - Nudos de rumbos. - Relieve por montes de
- Red de caminos. - Representa la ciudad amurallada con
ructura reticular así como las plantas de fuertes, baluartes
ededores. - Arbolado y vegetación. - Clave alfabética para
ificativos
aña ; Spain
biotecadigitalhispanica.bne.es:1557423

rdfs:label



- Raphael
- Raffael
- Rafael Sanzio
- Rafael (nombre)
- Rafael
- Raphaël (peintre)
- ラファエロ・サンティ
- Raffaello Sanzio
- Rafaël Santi
- Raffaello Santi
- Rafael Sanzio
- Рафаэль Санти
- Rafael (konstnär)
- □□□□□□□

- owl:sameAs ■ [freebase:Raphael](#)
- foaf:depiction ■ http://upload.wikimedia.org/wikipedia/commons/9/94/Sanzio_00.jpg
- foaf:name ■ Raphael
- foaf:page ■ <http://en.wikipedia.org/wiki/Raphael>
- is dbpedia-owl:influenced of ■ [dbpedia:Melozzo_da_Forli](#)
- is dbpedia-owl:wikiPageDisambiguates of ■ [dbpedia:Raphael_\(disambiguation\)](#)

Linked Open Data Pilot

Linked Open Data Pilot

- Applying linked data techniques to Europeana data
 - More than just adding links in the metadata values
- Publishing Europeana data using standard web technologies
 - RDF/XML syntax, identifying resources with URIs
- Enabling linking to (more) semantically related resources on the web
- Contribute a large cultural heritage data set to the community
- Relieves participating data providers from having to implement their own infrastructure

Preconditions

- Needed a suitable data model – EDM in RDF
 - Transform from source ESE – a flat model that uses simple string values and breaks the one-to-one rule
- Needed data agreements for exposing data in the public domain
 - Call for volunteer providers who could allow their data to be exposed this way
- The pilot is a separate system from the operational Europeana system

Process

- Extraction of the volunteers' data from Europeana
- Conversion of the existing ESE data to EDM format
 - Resulting in RDF/XML representation of the data
- Assigning URIs to the EDM resources thereby created
 - aggregations and proxies
- Incorporating the Europeana-generated links to semantically related resources - from the enrichment activity
- Adding links to LOD services of providers where known
 - National Library of Hungary, Swedish culture aggregator
 - *owl:sameAs* statements using values in *dc:identifier*

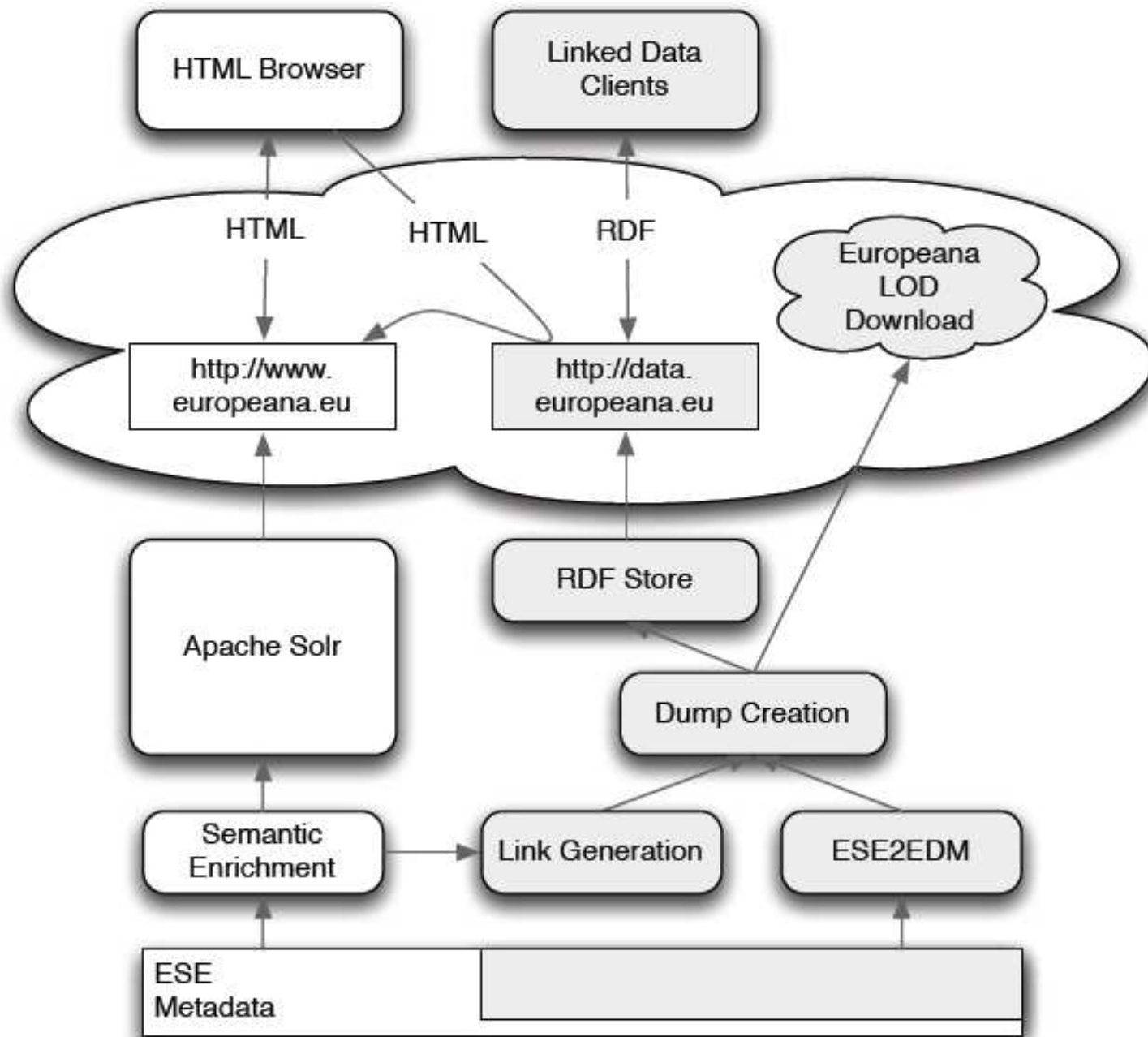


Fig. 1. data.europeana.eu - Technical Architecture



End result

- Generation of data dumps
 - Made available for download at <http://data.europeana.eu/downloads>
 - Ingested into an RDF store searchable as a SPARQL endpoint <http://data.europeana.eu>
- From
 - 9 direct providers
 - 300 indirect providers
 - 16 countries
- Data set of 184m triples before links to any other data sources.

Lessons learned

- Difficulties in converting from ESE to EDM
 - Knowing which resource any particular ESE element belonged to
 - Use of proxies – attaching metadata about e.g. a painting to a resource that is not standing for that painting
 - Meta-level information about the data (licensing, provenance)
 - OAI-ORE resource maps – not yet established as the accepted solution
 - Dereferencable HTTP URI design – difficulties in persistence between the pilot and the Europeana system
 - RDF Storage and Scalability
 - Only tested for some SPARQL queries so far
-

Thank you!
robinaclayphan@kb.nl

Moving to EDM

- Migration of existing data to EDM
 - Default mapping from existing ESE data to EDM
 - Needs fine tuning for different sectors (and maybe collections)
 - Finalise definition of which properties belong to which class
 - Object templates
 - Finalise XML schema
 - Finalise which parts of EDM will be implemented first
 - Providers can continue to supply ESE – it is a subset of EDM
 - Use controlled vocabularies where possible
 - Ideally use identifiers for e.g. names and places where available
 - Use standard representations of dates etc
 - consistent values in text strings
-

Enrichment work

- <http://www.europeanalabs.eu/wiki/EDMPrototypingTask21>
- EConnect Gazetteer
 - <http://europeana-geo.isti.cnr.it/gazetteer/homepage.action>
- And Geoparser
 - http://www.europeana.eu/portal/thoughtlab_enrichingmetadata.html
- Alignment of controlled vocabularies for subject
 - <http://europeanalabs.eu/wiki/WP12Vocabularies>
- Authority files for Names
 - VIAF
 - EFG and HOPE

- URLs to enrichment work

- <http://europeanalabs.eu/wiki/EDMPrototypingTask21#RelevantWorkdone:EuropeanaOffice>

- <http://europeanalabs.eu/wiki/EDMPrototypingTask21Annocultor>

- An example of enriched object for concept and period is at

- <http://europeana.eu/portal/record/09405o/452A91DE6E574B3130449A41FB00D34E5A06EA43.html>

And one for place and agent is at

<http://europeana.eu/portal/record/02428/C5F60468B9B2C138A8D9E746D01B4558F91F286B.html>

On these pages, you must click on "More" and then "Show Enrichment Fields"

Read about it

<https://version1.europeana.eu/web/guest/technical-requirements/>

- All ESE documents and Guidelines

<http://version1.europeana.eu/web/europeana-project/technicaldocuments/>

- EDM v5.2
- EDM Primer