

INTRO INTO WORKING WITH MINT

TOOLS TO MAKE YOUR COLLECTIONS WIDELY VISIBLE
BERLIN – 16/02/2016

Nikolaos Simou – National Technical University of Athens

What is MINT?

2

- Mint is a herb having hundreds of varieties that is mostly known as a mouth and breath freshener.



Basic Concepts

3

- Metadata
 - ▣ Data about data
- Interoperability of metadata
 - ▣ Transformation of heterogeneous metadata into one inter-operable metadata standard
- Europeana
 - ▣ www.europeana.eu is an internet portal that acts as an interface to millions of books, paintings, films, museum objects and archival records that have been digitized throughout Europe

What is MINT?

4

- MINT is an open source, web based platform for Metadata INTeroperability
 - ▣ <http://mint.image.ece.ntua.gr>
 - ▣ It has been successfully used in more than 15 Europeana feeder projects
 - 120 cultural organizations
 - 200 users
 - ▣ More than 8.000.000 metadata records have been produced by it and published on Europeana

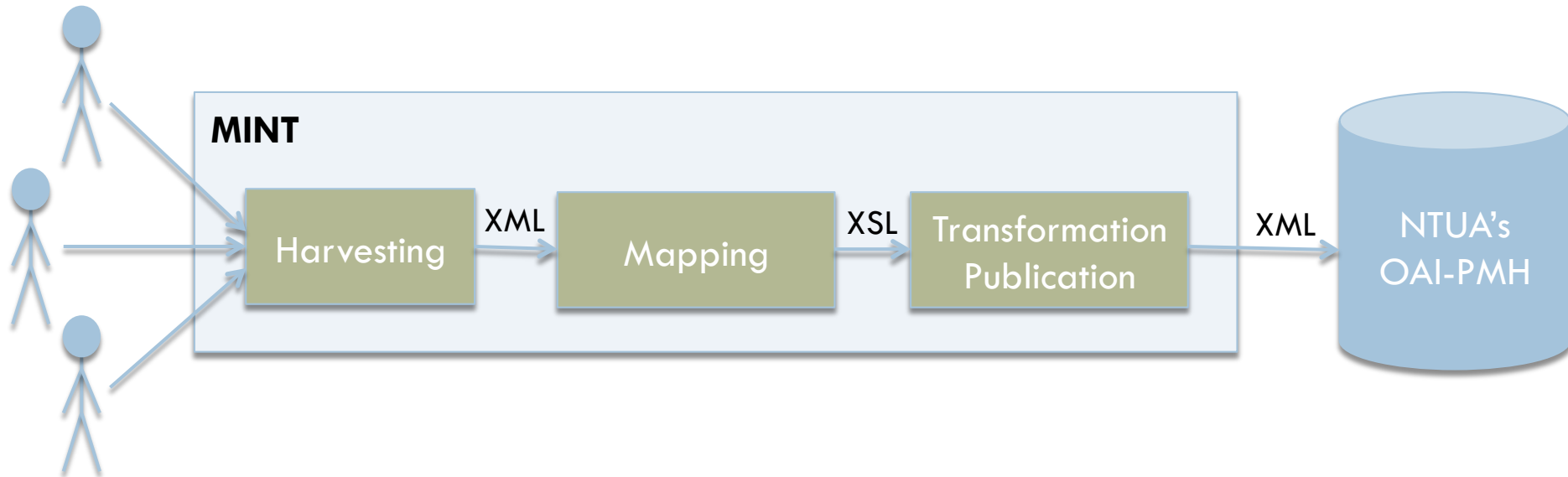
Scope

5

- Familiarize the audience with MINT metadata aggregation workflow
 1. Register
 2. Import
 3. Map
 4. Transform
 5. Prepare for Publish
 6. Publish
- Highlight the importance of high-quality metadata

MINT – Simplified Workflow

6




1 – Registration

- MINT Instance for Museu

- <http://mint-projects.image.ntua.gr/museu/>

- Click on “I want to register”



 **MINT Ingestion Server - Museu**

Username:

Password:

[I want to register](#)

[I forgot my login/password](#)

2 – Import

- Different metadata models
 - ▣ Standards e.g. Dublin Core
 - ▣ In house metadata models
- Different File formats
 - ▣ XML
 - ▣ CSV (UTF-8 encoding only)
- Different delivery protocols
 - ▣ File upload (i.e. HTTP)
 - ▣ Open Archives Initiative - Protocol for Metadata Harvesting (OAI-PMH)

2.1 – Import XML

□ Import options

- ▣ XML file with metadata about a digitized record
- ▣ XML file with metadata about many digitized records
- ▣ ZIP or TGZ compressed file containing many XML files each of them corresponding to a digitized record

☒ **Local upload** First upload the file:

EuPhoto.zip 4.0kB

(.csv, .txt, .zip, .xml files allowed)

☐ **This is a CSV upload**

2.2 – Import CSV

□ Import options

▣ CSV file in **UTF-8 encoding**

- Each line holds metadata about a digitized record
- Contains header: if first line of CSV is the header
- Separator: The character used for splitting values

☒ **Local upload** First upload the file:

EuPhoto.csv 0.9kB
(.csv, .txt, .zip, .xml files allowed)

☒ **This is a CSV upload**
The file must be encoded using UTF-8 (Unicode). Other encodings are not supported.


☒ **Contains header**
If checked first line of CSV will be used as header

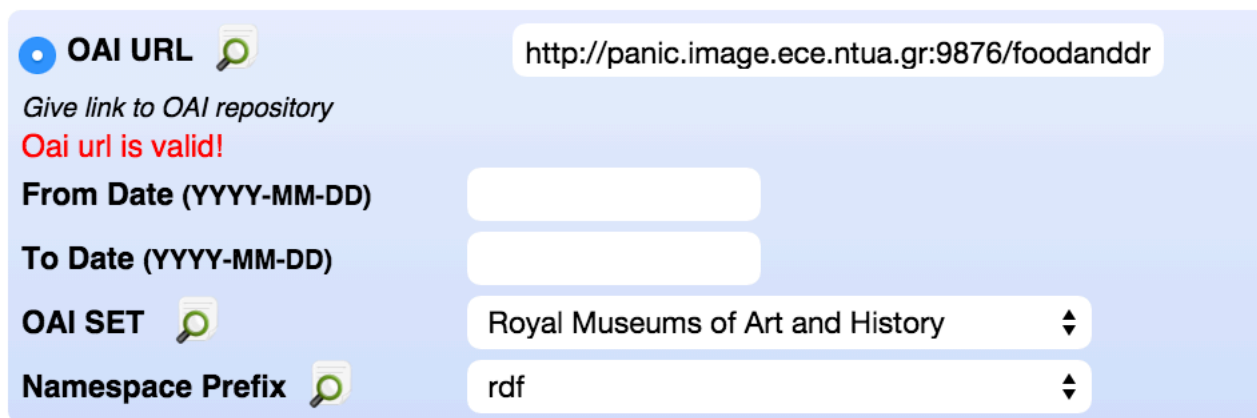
Define the field separator

Define the escape character




2.3 – Import OAI-PMH

□ Import options

- ▣ Import the OAI-URL and then click on  to check if it is valid
- ▣ Select data by
 - OAI-Set
 - Namespace
 - Date



The screenshot shows a web form for importing OAI-PMH data. It has a light blue background and contains several input fields and labels. The 'OAI URL' field is selected with a radio button and contains the URL 'http://panic.image.ece.ntua.gr:9876/foodanddr'. Below it, a message says 'Give link to OAI repository' and 'Oai url is valid!'. There are two empty input fields for 'From Date (YYYY-MM-DD)' and 'To Date (YYYY-MM-DD)'. The 'OAI SET' field is a dropdown menu showing 'Royal Museums of Art and History'. The 'Namespace Prefix' field is a dropdown menu showing 'rdf'. Each dropdown menu has a magnifying glass icon to its left.

<input checked="" type="radio"/> OAI URL 	<input type="text" value="http://panic.image.ece.ntua.gr:9876/foodanddr"/>
<i>Give link to OAI repository</i>	
Oai url is valid!	
From Date (YYYY-MM-DD)	<input type="text"/>
To Date (YYYY-MM-DD)	<input type="text"/>
OAI SET 	<input type="text" value="Royal Museums of Art and History"/>
Namespace Prefix 	<input type="text" value="rdf"/>

2.4 – Additional import options

☐ Direct schema upload

☒ This import conforms: LIDO v1.0

Select this option in addition to your import method in case your upload already conforms to the selected schema and no mapping is necessary.



☐ Marc styled XML upload

☒ This is a *MARC* style xml




☐ JSON upload

☒ This is a *json* upload

2.5 – Define Items



My workspace



My workspace

An overview of all the datasets per organization and per uploader:

Import new archive

▶


Create empty dataset

▶

Filter by Organization:

NTUA

⌵



Filter by User:


-- All uploaders --


⌵

Prev


1


Next

 EuPhoto.zip





▶




 EuPhoto-Extended2.tgz_.tgz.tgz




▶



Dataset Options




EuPhoto.zip

 [Show details](#)

Status: [Data Upload successful](#)

Define Items


▶

 Dataset Statistics

▶

Show log

▶

 Delete Data Upload

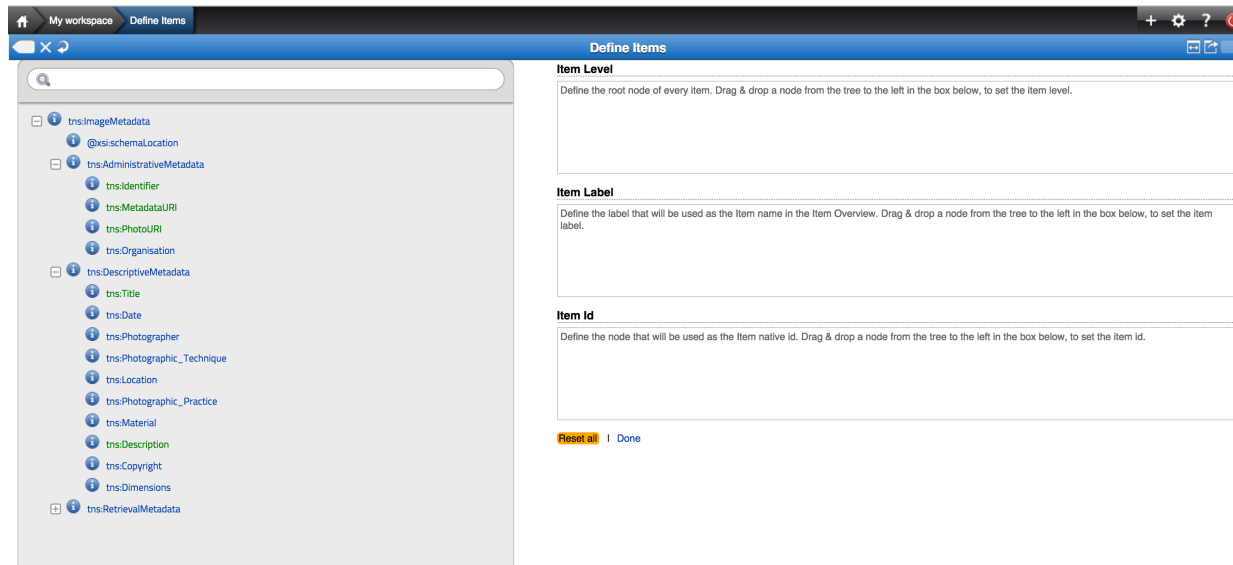
▶

▶ Downloads

2.5 – Define Items

- Set the
 - ▣ item level of your import (root item)
 - ▣ item label of your import (title)
 - ▣ identifier of your import

by dragging and dropping the appropriate elements to the appropriate textboxes.



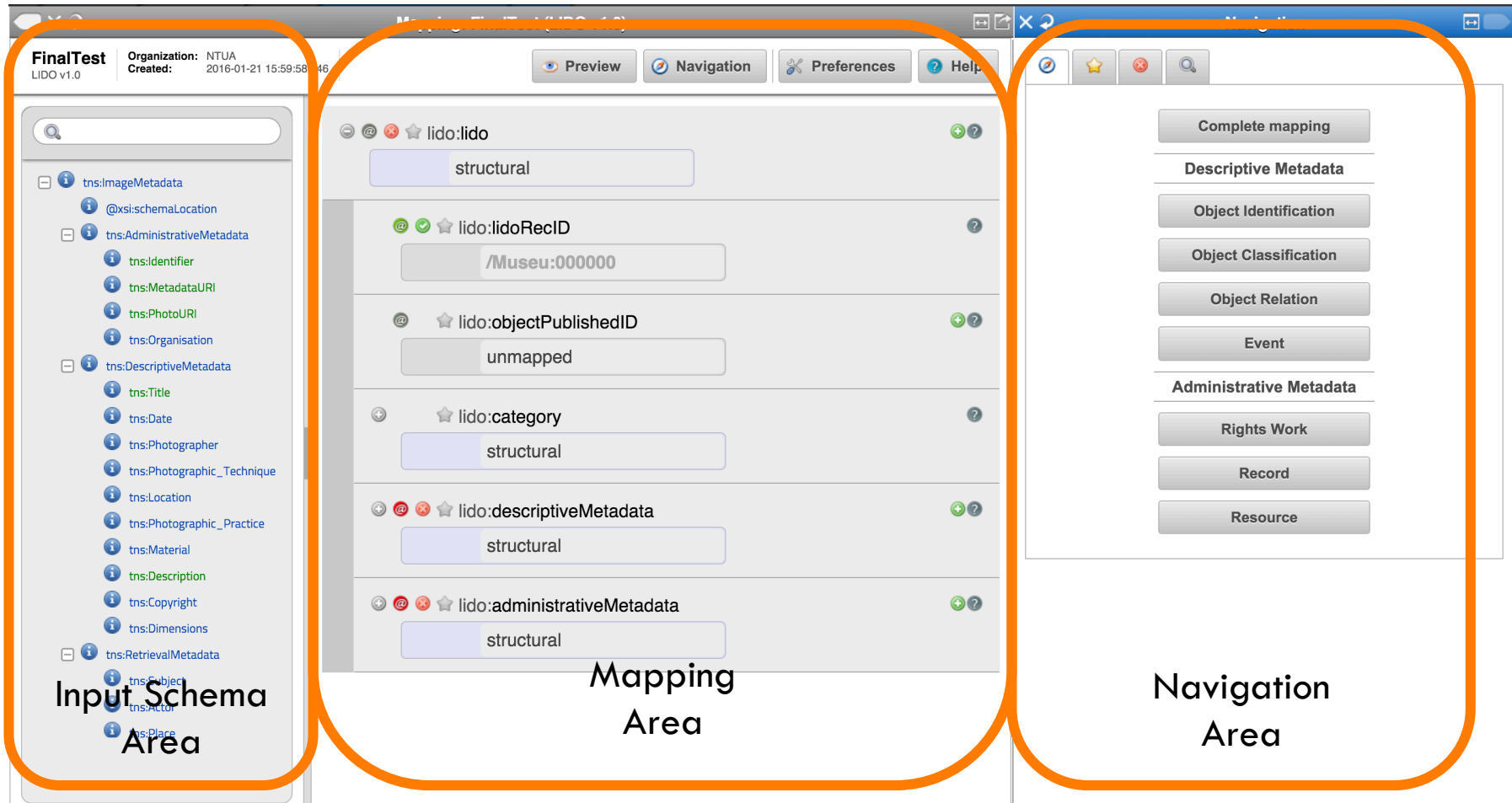
3 – Mapping

15

- Agnostic to metadata input
- Target schema based on a metadata model
 - ▣ XSD support
- Crosswalks between known schemas
 - ▣ LIDO to EDM
- User friendly interface
 - ▣ Most of the content providers did not have any technical background, they were (in most cases) well aware of their metadata

3.1 – Mapping Editor

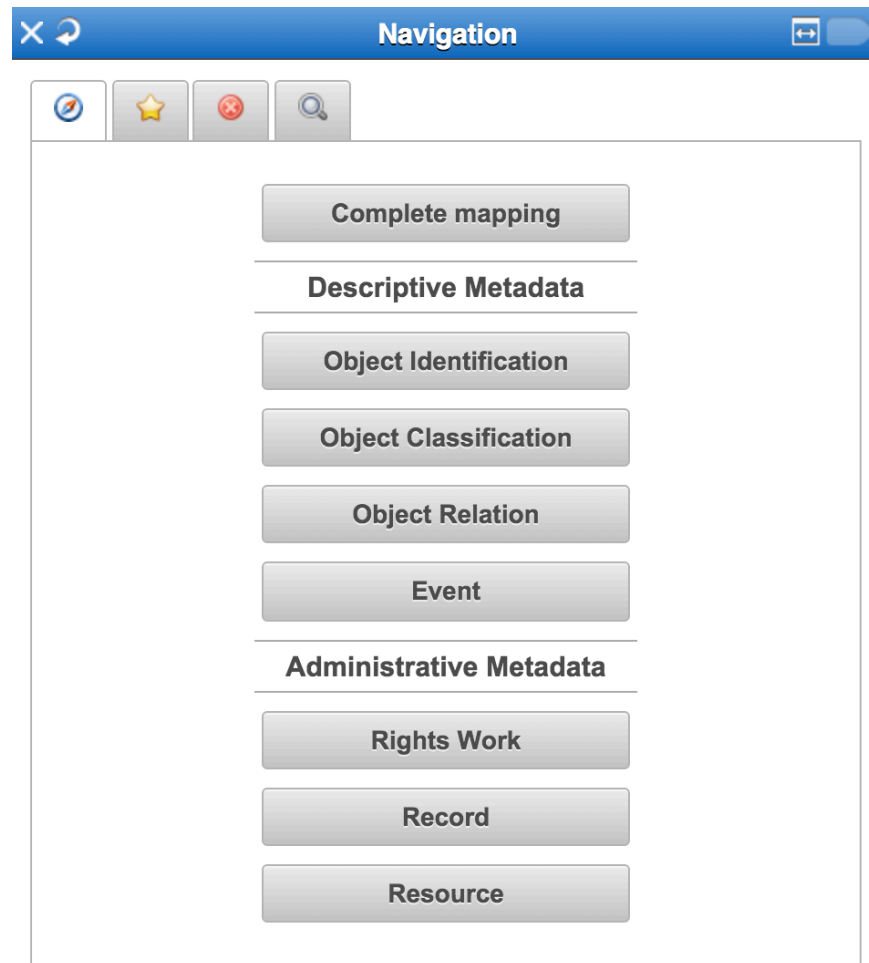
16



3.2 – Navigation Area

17

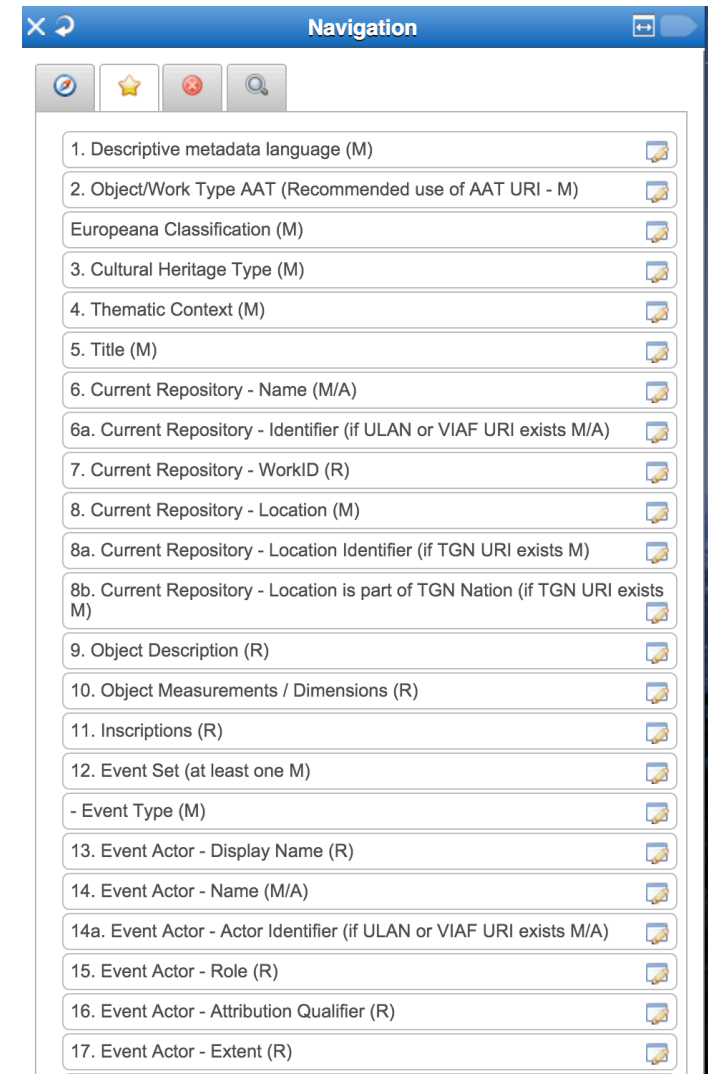
- Shortcuts to the LIDO complex types



3.2 – Navigation Area

18

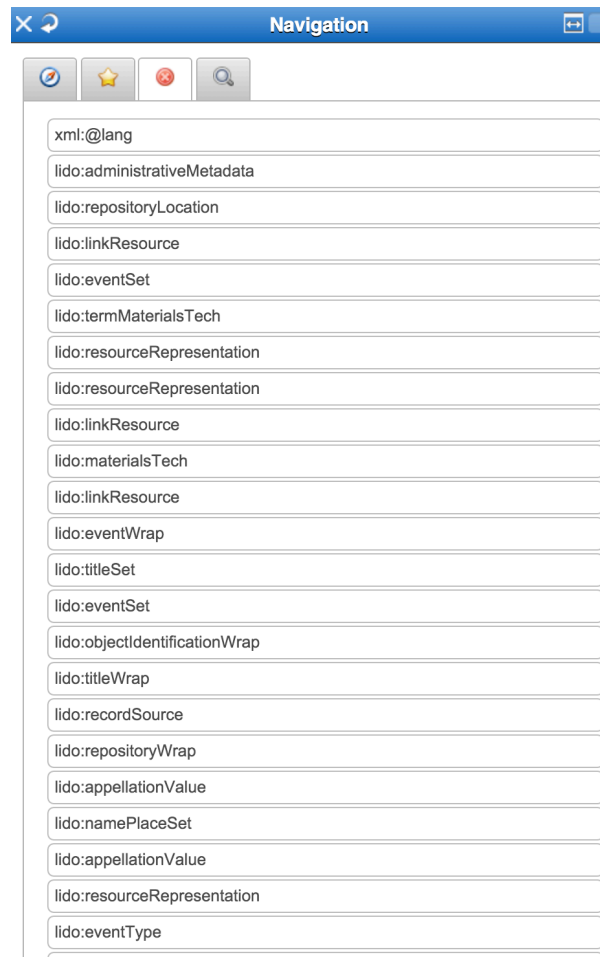
- Bookmarks
 - ▣ User friendly names to LIDO elements
 - ▣ A user can set/unset a bookmark to an element by clicking on the star (★) on its right



3.2 – Navigation Area

19

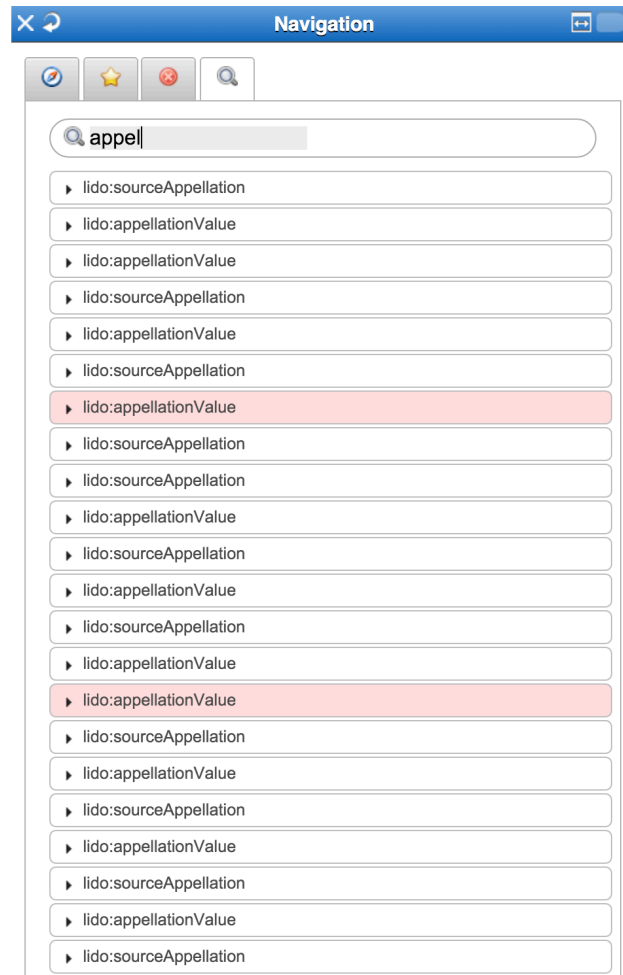
- Mandatory elements that are not mapped



3.2 – Navigation Area

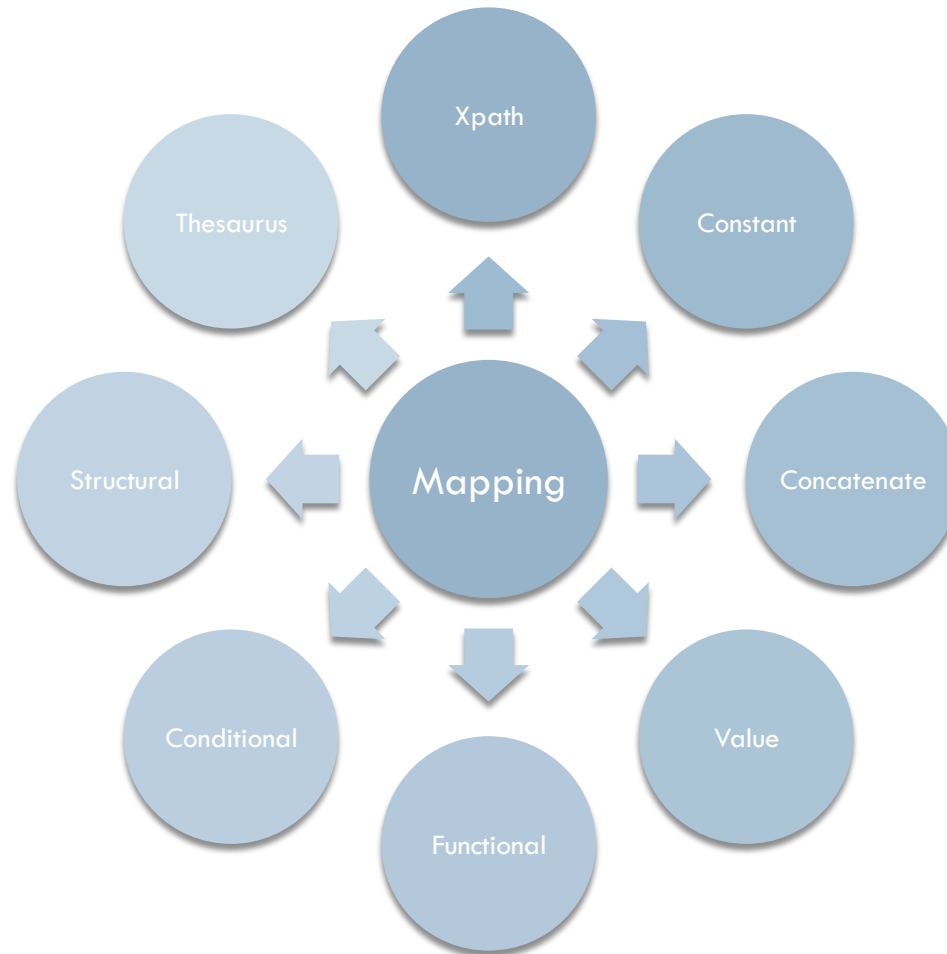
20

- Search the target schema



3.3 – Mappings

21



3.3.1 Xpath mapping

22

- Drag the xpath from the input tree and drop it to the desired element of the mapping area.

The screenshot displays the 'Mapping: TestMapping (LIDO v1.0)' application window. The interface is divided into several sections:

- Header:** Shows the title 'Mapping: TestMapping (LIDO v1.0)' and navigation buttons: 'Preview', 'Navigation', 'Preferences', and 'Help'.
- Left Panel (Input Tree):** A tree view of LIDO elements. The 'tns:DescriptiveMetadata' section is expanded, showing a list of elements including 'tns:Title', 'tns:Date', 'tns:Photographer', 'tns:Photographic_Technique', 'tns:Location', 'tns:Photographic_Practice', 'tns:Material', 'tns:Description', 'tns:Copyright', 'tns:Dimensions', and 'tns:RetrievalMetadata'.
- Center Panel (Mapping Area):** Displays the current mapping context. It shows a path 'Up to lido:titleSet' and a selected element 'lido:appellationValue'. Below this, a text input field contains the XPath expression 'tns:Title'.
- Right Panel (Navigation):** A list of 18 LIDO elements with their cardinalities, each accompanied by a small icon. The elements are:
 1. Descriptive metadata language (M)
 2. Object/Work Type AAT (Recommended use of AAT URI - M)
 3. Cultural Heritage Type (M)
 4. Thematic Context (M)
 5. Title (M)
 6. Current Repository - Name (M/A)
 - 6a. Current Repository - Identifier (if ULAN or VIAF URI exists M/A)
 7. Current Repository - WorkID (R)
 8. Current Repository - Location (M)
 - 8a. Current Repository - Location Identifier (if TGN URI exists M)
 - 8b. Current Repository - Location is part of TGN Nation (if TGN URI exists M)
 9. Object Description (R)
 10. Object Measurements / Dimensions (R)
 11. Inscriptions (R)
 12. Event Set (at least one M)
 - Event Type (M)
 13. Event Actor - Display Name (R)
 14. Event Actor - Name (M/A)
 - 14a. Event Actor - Actor Identifier (if ULAN or VIAF URI exists M/A)
 15. Event Actor - Role (R)
 16. Event Actor - Attribution Qualifier (R)
 17. Event Actor - Extent (R)
 18. Event Cultural Context (M/A)

3.4 – Preview

Preview Options

Select a mapping:
TestMapping

Select item views for the first and second column:
Item Mapping XSL EDM Europeana Mapped Item

Remember selected views

Search everything

Item

The Parthenon
Parthenon South Peristyle
Caryatids
Parthenon
Parthenon East Pediment

Prev 1 Next

Show: 151001000

Item Mapping XSL Mapped Item Expand

XML is valid based on LIDO v1.0

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <lido:lidoWrap xmlns:gml="http://www.opengis.net/gml"
3   xmlns:lido="http://www.lido-schema.org" xmlns:xal="http://www.lido-schema.org/xal"
4   <lido:lido>
5     <lido:lidoRecID lido:type="Museu">/Museu:000000</lido:lidoRecID>
6     <lido:descriptiveMetadata xml:lang="en">
7       <lido:objectClassificationWrap>
8         <lido:objectWorkTypeWrap>
9           <lido:term lido:addedSearchTerm="no">AA</lido:term>
10        </lido:objectWorkTypeWrap>
11      </lido:objectClassificationWrap>
12    </lido:descriptiveMetadata>
13    <lido:classificationWrap>
14      <lido:classification lido:type="universal">
15        <lido:conceptID lido:type="URI">http://
16      </lido:classification>
17      <lido:classification lido:type="object c1">
18        <lido:conceptID lido:type="URI">http://
19      </lido:classification>
20      <lido:classification>
21        <lido:term lido:addedSearchTerm="no">IM</lido:term>
22      </lido:classification>
23    </lido:classificationWrap>
24    <lido:objectIdentificationWrap>
25      <lido:objectIdentificationWrap>
26        <lido:titleWrap>
27          <lido:titleSet>
28            <lido:appellationValue>The Parthenon</lido:appellationValue>
29          </lido:titleSet>
30        </lido:objectIdentificationWrap>
31      <lido:repositoryWrap>
32        <lido:repositorySet lido:type="current">
33          <lido:repositoryName>
34            <lido:legalBodyName>
35              <lido:appellationValue>NTUA</lido:appellationValue>
36            </lido:legalBodyName>
37          </lido:repositoryName>
38          <lido:repositoryLocation>
39            <lido:namePlaceSet>
40              <lido:appellationValue>Current Loca
41            </lido:namePlaceSet>
42            <lido:partOfPlace>
43              <lido:placeID lido:type="URI">
44            </lido:partOfPlace>
45          </lido:repositoryLocation>
46        </lido:repositorySet>
```


EDM Europeana Expand

XML is valid based on EDM

```
1 <?xml version="1.0" encoding="UTF-8" standalone="yes"
2   <rdf:RDF xmlns:ore="http://www.openarchives.org/ore/
3     xmlns:owl="http://www.w3.org/2002/07/owl#"
4     xmlns:rdaGr2="http://rdvocab.info/ElementsC
5     xmlns:rdfs="http://www.w3.org/1999/02/22-rdf
6     xmlns:rdfs="http://www.w3.org/2000/01/rdf-s
7     xmlns:crms="http://www.cidoc-crm.org/rdfs/ci
8     xmlns:skos="http://www.w3.org/2004/02/skos/
9     xmlns:dc="http://purl.org/dc/elements/1.1/"
10    xmlns:wgs84="http://www.w3.org/2003/01/geo/
11    xmlns:dcterms="http://purl.org/dc/terms/"
12    xmlns:xalan="http://xml.apache.org/xalan"
13    xmlns:edm="http://www.europeana.eu/schemas/
14    xmlns:foaf="http://xmlns.com/foaf/0.1/">
15    <edm:ProvidedCHO rdf:about="http://mint-projects.
16      <dc:contributor rdf:resource="http://vocab.get
17      <dc:creator xml:lang="en">Petros Katsaros</dc:
18      <dc:creator xml:lang="en">Petros Katsaros</dc:
19      <dc:description xml:lang="en">The west facade
20      <dc:format rdf:resource="http://vocab.getty.ed
21      <dc:identifier>108_0851b</dc:identifier>
22      <dc:rights>All rights reserved NTUA</dc:rights
23      <dc:subject xml:lang="en">Ancient Greece</dc:s
24      <dc:subject xml:lang="en">The Parthenon</dc:su
25      <dc:title xml:lang="en">The Parthenon</dc:titl
26      <dc:type xml:lang="en">AAT term</dc:type>
27      <dc:type rdf:resource="http://udcdata.info/065
28      <dc:type rdf:resource="http://vocab.getty.edu/
29      <dc:terms:created>2013-09-14</dc:terms:created>
30      <dc:terms:extent>400x323</dc:terms:extent>
31      <dc:terms:medium rdf:resource="http://vocab.get
32      <dc:terms:provenance>NTUA, Current Location</dc
33      <dc:terms:spatial>Athens</dc:terms:spatial>
34      <edm:type>IMAGE</edm:type>
35    </edm:ProvidedCHO>
36    <edm:WebResource rdf:about="http://www.image.ntua
37    <edm:WebResource rdf:about="http://www.image.ntua
38    <edm:WebResource rdf:about="http://www.image.ntua
39    <skos:Concept rdf:about="http://udcdata.info/0653
40    <skos:Concept rdf:about="http://vocab.getty.edu/a
41    <skos:Concept rdf:about="http://vocab.getty.edu/a
42    <skos:Concept rdf:about="http://vocab.getty.edu/a
43    <skos:Concept rdf:about="http://vocab.getty.edu/a
44    <ore:Aggregation rdf:about="http://mint-projects.
45    <edm:aggregatedCHO rdf:resource="http://mint-p
46    <edm:dataProvider>NTUA</edm:dataProvider>
```

3.4 – Preview

EDM **Europeana** **Show all**



© Ancient-Greece.org

© Rights Reserved - Free access

View item at
NTUA [↗](#)

[Share](#)

[Cite on Wikipedia](#)

[Translate details](#)

The Parthenon

Description: The west facade of the Parthenon

Subject: Ancient Greece The Parthenon

Creator: Petros Katsaros Petros Katsaros

Contributor: <http://vocab.getty.edu/aat/300181199>

Place: Athens

Date: 2013-09-14/

Type: AAT term <http://udcdata.info/065307>
<http://vocab.getty.edu/aat/300179869>

Format: <http://vocab.getty.edu/aat/300386812>
<http://vocab.getty.edu/aat/300127358> 400x323

Identifier: 108_0851b

Rights: All rights reserved NTUA

Provenance: NTUA, Current Location

Data provider: NTUA

Provider: Museu

Search also for:

Title
The Parthenon

Who
Petros Katsaros
Petros Katsaros

What
AAT term
Ancient Greece
The Parthenon

Provider
NTUA
Museu

4 – Transform

My workspace

Dataset Options

Tra...

My workspace

Dataset Options

Transform

My workspace

An overview of all the datasets per organization and per uploader:

Import new archive

Create empty dataset

Filter by Organization: NTUA

Filter by User: -- All uploaders --

EuPhoto_2.zip.tgz

EuPhoto 2.zip

EuPhoto_2.zip.tgz

Status: [Data Upload successfull](#)

Show all items 5 items

Mappings

Transform

Define Items

Dataset Statistics

Show log

Delete Data Upload

Downloads

Select Mapping

Locked mappings

Shared mappings

Filter by Organization: -- All mappings --

Prev 1 Next

Organization: NTUA

TestMapping (LIDO v1.0)

FinalTest (LIDO v1.0)

Prev 1 Next

5 – Prepare for Publish

My workspace

My workspace

An overview of all the datasets per organization and per uploader:

Import new archive

Create empty dataset

Filter by Organization:

NTUA

Filter by User:

-- All uploaders --

Prev 1 Next

EuPhoto_2.zip.tgz

EuPhoto 2.zip

Prev 1 Next

Dataset Options

EuPhoto_2.zip.tgz

Show details

Status: Data Upload successfull. Successfully transformed.

Prepare for Publish

Show all items 5 items

Mappings

Retransform

Dataset Statistics

Show log

Delete Data Upload

Downloads

Transformations

LIDO v1.0 Transformation 2/16/16 11:14:13 AM.120

6 – Publish to NTUA's OAI-PMH

My workspace

My workspace

An overview of all the datasets per organization and per uploader:

Import new archive

Create empty dataset

Filter by Organization: NTUA

Filter by User: -- All uploaders --

Prev

1

Next

EuPhoto_2.zip.tgz

EuPhoto 2.zip

Prev

1

Next

Dataset Options

EuPhoto_2.zip.tgz

Show details

Status: Data Upload successfull. Successfully transformed.

Publish

Show all items 5 items

Mappings

Retransform

Dataset Statistics

Show log

Delete Data Upload

Downloads

Transformations

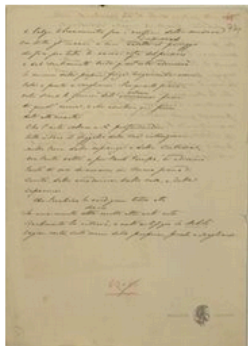
LIDO v1.0 Transformation 2/16/16 11:14:13 AM.120

Auto Crosswalk to EDM 2016-02-16 11:16:59.29


Metadata Quality


28


□ Link to record





View item at
[Academy of Athens - Research Center for the Study of Modern Greek History / Ακαδημία Αθηνών - Κέντρο Ερεύνης της Ιστορίας του Νεωτέρου Ελληνισμού](#)

 Share

 Cite on Wikipedia

 Translate details

Select language 

Powered by  Microsoft® Translator

Αυτόγραφα Σολωμού - Σατιρικά

Identifier:
local 100005 [Metadata]

Rights:
Academy of Athens; Ακαδημία Αθηνών

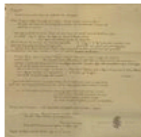
Source:
Academy of Athens - Research Center for the Study of Modern Greek History; Ακαδημία Αθηνών - Κέντρο Ερεύνης της Ιστορίας του Νεωτέρου Ελληνισμού

Data provider:
[Academy of Athens - Research Center for the Study of Modern Greek History / Ακαδημία Αθηνών - Κέντρο Ερεύνης της Ιστορίας του Νεωτέρου Ελληνισμού](#)

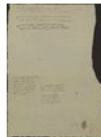
Provider:
Athena

Providing country:
Greece


Other items you may be interested in:



Αυτόγραφα Σολωμού -
Σατιρικά



Αυτόγραφα Σολωμού -
Σατιρικά διάφορα.



Αυτόγραφα Σολωμού -
Σατιρικά διάφορα


[Show all 156 items](#)



Can you **identify** this record?

Can you **discover** this record?

Can you **re-use** this record?

29

[View item at
Parissienne de Phot
ographie](#) 

 Share
 Cite on Wikipedia
 Translate
[details](#)

Select language

Powered by
Microsoft®
Translator

[Place Label]:
 Det forente kongerike Storbritannia og Nord-Irland.
 Storbritannia (no); [Gru-Britannien] (g); [Storbritannia] (nn);
 An Ríochtach Aonaichte (g); [An Ríocht Aontaithe] (g);
 [Reiame Unit] (ic); [Sto-Britania], [Yhdystynyt kuningaskunta]
 (fi); [Storbritannien] (sv); [Storbritannien] (da); [Storbritannien]
 (fr); [Stóra Breitland] (fo); [Стрѣ Британіа] (ru); [הממלכה
 המאוחדת] (he); [Reino Unido, Reino Unido] (es);
 [United Kingdom] (g); [Reenaght Unnayeysht, Rynaweth Unys]
 (gv); [Britannien, Zjednoczona Królestwa, Zjednoczone
 Królestwo] (pl); [Storbritannien] (de); [Ingeblätt] (li); [Vuong
 quốc Anh, Vương quốc Liên hiệp Anh và Bắc Ireland] (vi);
 [Ἡνωμένη Βασιλεία] (gr); [Apwvnoto Karaliai, Liepibritania]
 (lt); [United Kingdom, Apwvnoto Karaliai] (lv);
 [Dizidjo Britanija, Zjedniha Karalysty, Jan] (eng);
 Großbritannien, Großbritannien und Nordirland, Vereinigtes

Concept Label:
[diemobile negative] (sl); [sort-hvide negative] (da);
[Чорно-білі негатив] (uk); [白色黒] (zh); [negativ blanc i
negre] (ca); [negativo in bianco e nero] (it); [balta juodi
negatyvai] (lt); [Schwarz-weiß Negative] (de); [negatyv
czarno-biały] (pl); [чёрно-белъ негативъ] (bg); [Négatif en noir
et blanc] (fr); [Black-and-white negatives] (en); [Чёрно-
белые негативы] (ru); [negativos blanco y negro] (es);
[Zwart-wit negatief] (nl)

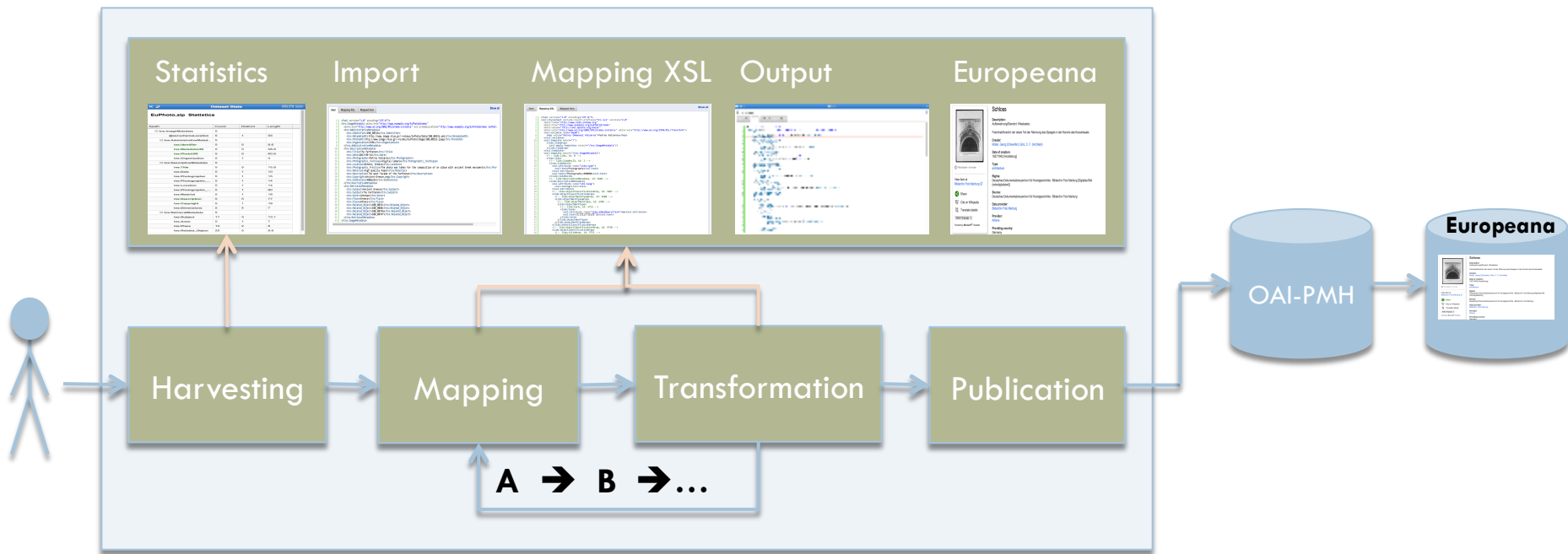
Concept Label:
 [justitiē] (no); [adalet] (ru); [rettfærdighet] (no); [igazság, pártatlanság] (hu); [tšieskusims] (lv); [teisīgums] (lt); [Rech] (de); [justice, 正義] (def); [loikus] (fi); [rättvisa; rätt] (sv); [justice] (fr); [справедливост] (bg); [pravīcnost/zakonitost, pravosodje/sodstvo/sodna oblast] (sl); [justicia] (sk); [justiā] (eu); [rettfærdighed] (da); [gustia] (it); [gustizija] (mt); [δικαιοσύνη] (el); [system právní] (cs); [giustizi] (ro); [Justice] (pt); [praworządzość] (pl); [justicie] (en); [справосудие] (ru); [gustiz] (et); [justicia] (es); [gerechtigheid] (nl)

Concept Label:
[element de grupa II (metale alcalino-pământoase)] (ro);
[grup II elementleri (toprak-alkali metaller)] (tr);
[jordalkalimetall] (no); [II. főcsoport elemei (lúgos földfémek)]

MINT – Workflow

30

MINT



EDM Classes and Properties

31

□ Classes

- edm:ProvidedCHO
- edm:WebResource
- edm:Agent
- edm:Place
- edm:Timespan
- skos:Concept
- ore:Aggregation

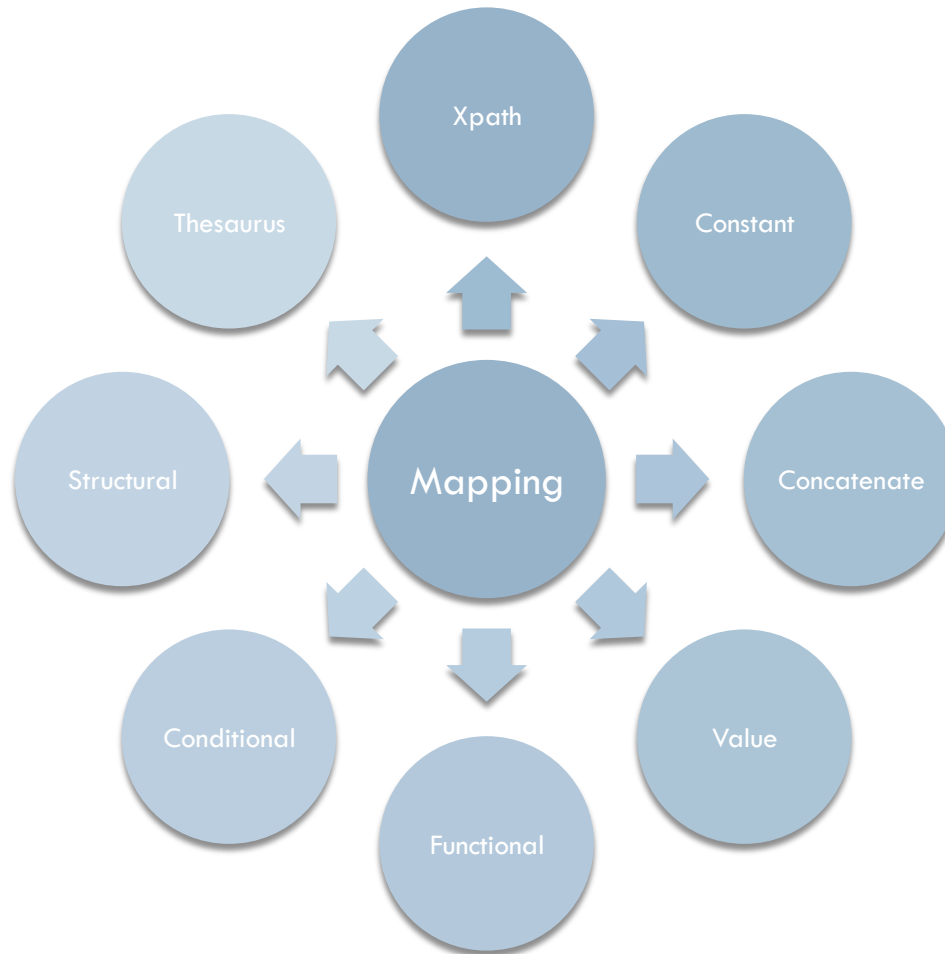
□ Properties

- dc:title or dc:description
- dc:language for text objects
- dc:subject or dc:type or dc:coverage or dcterms:spatial
- edm:type
- edm:dataProvider
- edm:isShownAt
- edm:isShownBy
- edm:object
- edm:provider
- edm:rights

EDM full documentation at <http://pro.europeana.eu/page/edm-documentation>

Mappings

32



Mappings – Xpath mapping

33

- Drag the xpath from the input tree and drop it to the desired element of the mapping area.

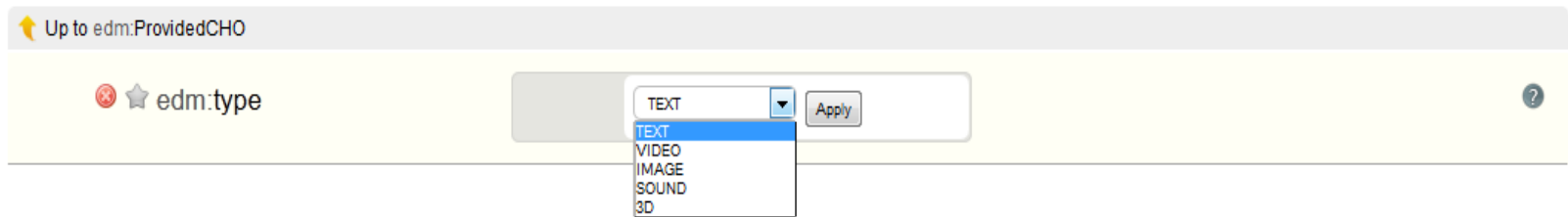
The screenshot displays the 'Mapping: TestMapping (LIDO v1.0)' application window. The interface is divided into several sections:

- Header:** Shows the title 'Mapping: TestMapping (LIDO v1.0)' and navigation buttons: 'Preview', 'Navigation', 'Preferences', and 'Help'.
- Left Panel (Input Tree):** A tree view showing the LIDO schema structure. The 'tns:DescriptiveMetadata' section is expanded, showing elements like 'tns:Title', 'tns:Date', 'tns:Photographer', etc.
- Center Panel (Mapping Area):** Displays the current mapping configuration. It shows a path 'Up to lido:titleSet' and a mapping rule: 'lido:appellationValue' mapped to 'tns:Title'.
- Right Panel (Navigation):** A list of 18 elements from the LIDO schema, each with a small icon. The elements are: 1. Descriptive metadata language (M), 2. Object/Work Type AAT (Recommended use of AAT URI - M), 3. Cultural Heritage Type (M), 4. Thematic Context (M), 5. Title (M), 6. Current Repository - Name (M/A), 6a. Current Repository - Identifier (if ULAN or VIAF URI exists M/A), 7. Current Repository - WorkID (R), 8. Current Repository - Location (M), 8a. Current Repository - Location Identifier (if TGN URI exists M), 8b. Current Repository - Location is part of TGN Nation (if TGN URI exists M), 9. Object Description (R), 10. Object Measurements / Dimensions (R), 11. Inscriptions (R), 12. Event Set (at least one M), - Event Type (M), 13. Event Actor - Display Name (R), 14. Event Actor - Name (M/A), 14a. Event Actor - Actor Identifier (if ULAN or VIAF URI exists M/A), 15. Event Actor - Role (R), 16. Event Actor - Attribution Qualifier (R), 17. Event Actor - Extent (R), 18. Event Cultural Context (M/A).

Mappings – Enumerated Mapping

34

- Double click on an element that takes values from an enumerated list.



Mappings – Constant Mapping


35

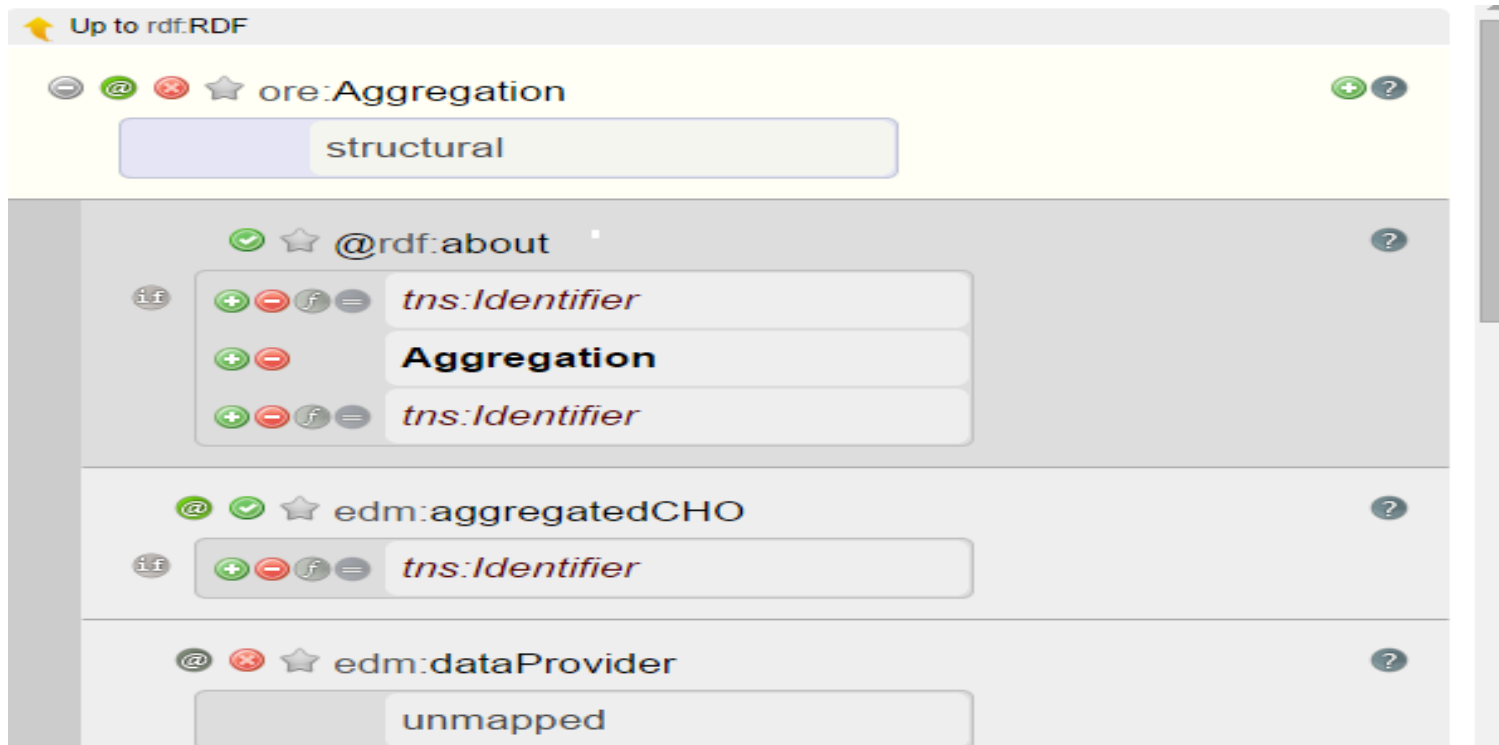
- Double click on the unmapped area, then type a constant value that will be applied to all items.



Mappings – Concatenate mapping

36

- Click on the  icon to combine more than one mappings for producing a new mapping.



The screenshot shows a web interface titled "Up to rdf:RDF". The main section is titled "ore:Aggregation" and contains a "structural" tab. Below this, there are three rows of mappings:

- @rdf:about**: This row has a green checkmark icon and a question mark icon. It contains three conditions:
 - if**: A condition with a green plus icon, a red minus icon, and a grey 'f' icon, followed by the text *tns:Identifier*.
 - Aggregation**: A condition with a green plus icon and a red minus icon, followed by the text **Aggregation**.
 - tns:Identifier**: A condition with a green plus icon, a red minus icon, and a grey 'f' icon, followed by the text *tns:Identifier*.
- @edm:aggregatedCHO**: This row has a green checkmark icon and a question mark icon. It contains one condition:
 - if**: A condition with a green plus icon, a red minus icon, and a grey 'f' icon, followed by the text *tns:Identifier*.
- @edm:dataProvider**: This row has a red 'x' icon and a question mark icon. It contains one condition:
 - unmapped**: A condition with a grey 'f' icon, followed by the text **unmapped**.


Mappings – Value Mappings


37

- Click on the  icon to map specific values of your input metadata to specific values that you type.

Input:


Output:

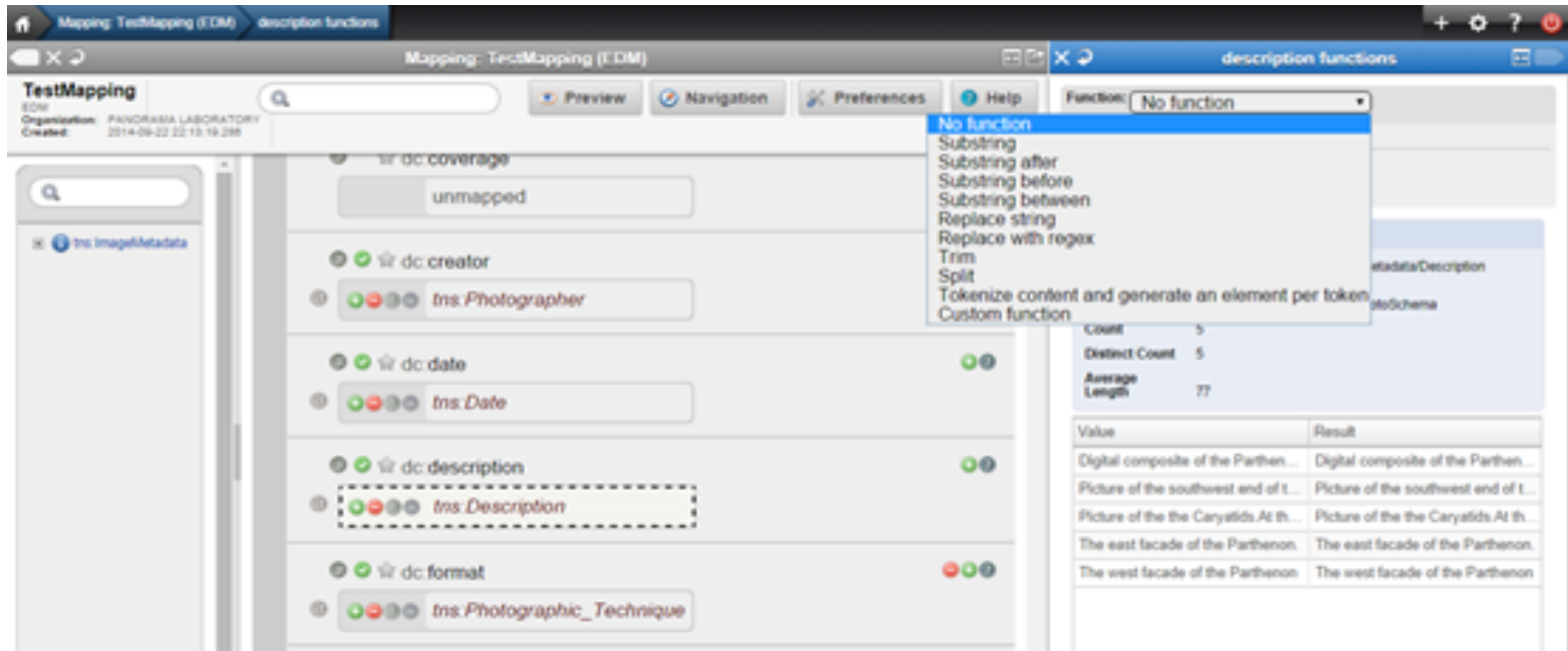


Input	Output	
Petros Katsaros	Petros Emmanuel Katsaros	

Mappings – Functional Mappings

38

- Click on the  button to modify the value of an input xpath by applying a string manipulation function to it.



The screenshot shows the TestMapping (EDM) application interface. The main window displays a mapping configuration for 'dc:coverage'. The 'Function' dropdown menu is open, showing a list of functions: 'No function', 'Substring', 'Substring after', 'Substring before', 'Substring between', 'Replace string', 'Replace with regex', 'Trim', 'Split', 'Tokenize content and generate an element per token', and 'Custom function'. The 'dc:coverage' field is currently set to 'unmapped'. Other fields in the configuration include 'dc:creator' (mapped to 'ins:Photographer'), 'dc:date' (mapped to 'ins:Date'), 'dc:description' (mapped to 'ins:Description'), and 'dc:format' (mapped to 'ins:Photographic_Technique').

Value	Result
Digital composite of the Parthen...	Digital composite of the Parthen...
Picture of the southwest end of L...	Picture of the southwest end of L...
Picture of the the Caryatids.At th...	Picture of the the Caryatids.At th...
The east facade of the Parthenon.	The east facade of the Parthenon.
The west facade of the Parthenon.	The west facade of the Parthenon.

Functional Mappings

39

- ▣ **Substring** – Set the start and the end index.
- ▣ **Substring after** – Set the substring of the original string after which the value is taken.
- ▣ **Substring before** – Set the substring of the original string before which the value is taken.
- ▣ **Substring between** – Set the substrings of the original string after and before which the value is taken.

Functional Mappings (cont)

40

- ▣ **Replace string** – Set the string to be replaced and the replacement string
- ▣ **Replace with regex** – Set a regular expression and a string that will be used for replacing all the occurrences matching the regular expression
- ▣ **Trim** – Removes the spaces from the values
- ▣ **Split** – Set the delimiter for tokenization and the start index of the original string.
- ▣ **Tokenize content and generate an element per content** – Set the delimiter for tokenization.
- ▣ **Custom function** – Set a custom XSLT function to be applied

Mappings – Functional Mappings


41

Function: Substring

Character indices start from 1.

string from index:


length of selected substring (optional):

 Apply changes

Function: Substring between

select part of string after string:

and before string:

 Apply changes

tns:Description information

XPath	/ImageMetadata/DescriptiveMetadata/Description
Namespace URI	http://www.example.org/EuPhotoSchema
Count	5
Distinct Count	5
Average Length	77

Value	Result
Digital composite of the Parthen...	Digital
Picture of the southwest end of t...	Picture
Picture of the the Caryatids.At th...	Picture
The east facade of the Parthenon.	The eas
The west facade of the Parthenon	The wes


tns:Description information

XPath	/ImageMetadata/DescriptiveMetadata/Description
Namespace URI	http://www.example.org/EuPhotoSchema
Count	5
Distinct Count	5
Average Length	77

Value	Result
Digital composite of the Parthen...	the Parthe
Picture of the southwest end of t...	the southwest e
Picture of the the Caryatids.At th...	the the Caryatids.At the south p...
The east facade of the Parthenon.	the Parthe
The west facade of the Parthenon	the Parthe

Mappings – Conditional Mapping

42

- Click on the  button to set conditions for the mapping to be performed based on the value of an input xpath. On the left the drop down menu with the type of condition appears that can be AND or OR. A condition is set using one of the following functions.
 - ▣ **Is equal to** – sets a condition that is satisfied when the values of the given xpath are equal to the given value.
 - ▣ **Is not equal to** – sets a condition that is satisfied when the values of the given xpath are not equal to the given value.
 - ▣ **Exists** – sets a condition that is satisfied if the given xpath exists. It is important to note at this point that the xpath of an element may exist in the input tree but this does not mean that it exists for all the data in the imported collection. (In other words the input tree shown on the left aggregates all the possible xpaths found in the input data).
 - ▣ **Does not exist** – sets a condition that is satisfied if the given xpath does not exist.

Mappings – Conditional Mapping (cont)

43





- ▣ **Contains** – sets a condition that is satisfied if the given xpath contains the given value.
- ▣ **Does not contain** – sets a condition that is satisfied if the given xpath does not contain the given value.
- ▣ **Starts with** – sets a condition that is satisfied if the given xpath starts with the given value.
- ▣ **Does not start with** – sets a condition that is satisfied if the given xpath does not start with the given value.
- ▣ **Ends with** – sets a condition that is satisfied if the given xpath ends with the given value.
- ▣ **Does not end with** – sets a condition that is satisfied if the given xpath does not end with the given value.






Mappings – Conditional Mapping






44






- Click on the  button next to the  button to create If, else-if, else conditions





Up to edm:ProvidedCHO






@   dc:title  

 AND {    *tns:Title* contains  **Parthenon**

    **Parthenon** 

 AND {    *tns:Title* contains  **Caryatids**

    **Caryatids**

     *tns:Title*

Mappings – Structural Mapping

45

- Use structural mappings if you want to reproduce/exploit the structure of an input complex type to the structure of an output element of the target schema.
 - ▣ The structured elements of the target schema have the label “structural” (the simple elements have the label “unmapped”).
 - ▣ Make the mapping of the complex input element there and then map the simple elements.

Mappings – Structural Mapping

□ Input

```
<tns:Actor>
  <tns:ActorName>Actor One</tns:ActorName>
  <tns:ActorRole>Role One</tns:ActorRole>
</tns:Actor>
<tns:Actor>
  <tns:ActorName>Actor Two</tns:ActorName>
  <tns:ActorRole>Role Two</tns:ActorRole>
</tns:Actor>
</tns:DescriptiveMetadata>
```

□ Output

```
<mrel:std>
  <edm:Agent>
    <skos:prefLabel>Actor One</skos:prefLabel>
  </edm:Agent>
</mrel:std>
<mrel:std>
  <edm:Agent>
    <skos:prefLabel>Actor Two</skos:prefLabel>
  </edm:Agent>
</mrel:std>
</edm:ProvidedCHO>
```

□ Mapping

The screenshot shows a mapping tool interface with a header "Up to edm:ProvidedCHO". The main area displays a mapping from `mrel:std` (set designer) to `edm:Agent`. The `mrel:std` node is expanded, showing a "Toggle children" button and a text input field containing `tns:Actor`. The `edm:Agent` node is also expanded, showing a text input field containing `structural`. Below the `edm:Agent` node, there is a `skos:prefLabel` node, which is further expanded to show a text input field containing `tns:ActorName`. The interface includes various icons for editing and toggling nodes.

Contact

47

Nikolaos Simou

National Technical University of Athens

Email: nsimou@image.ntua.gr

LinkedIn: <http://www.linkedin.com/pub/nikolaos-simou/68/31a/9aa>