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EUROPEANA INSIDE

Production Version of Europeana Inside

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Statement of originality:

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

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1. Introduction

This document provides evidence that the software components which were developed during the Europeana Inside project, collectively known as the Europeana Connection Kit (ECK) were delivered within the planned timeframe of the project. The nature of the deliverable which constitutes the production version of the software (D5.1) was redefined as 'Other' in an amendment to the Description of Work.

The software components are divided into 2 main categories. This document focuses on the common or shared modules which are used to some extent in all the implementations of the ECK. In addition to these components, each individual technical partner with a Collections Management System or similar system also embedded functionality within that system. Those partners are listed in the Annex to this report. More detail of integration of ECK functionality into individual systems is provided in the Technical Integration Report (D5.2) and is therefore not reproduced here.

The ECK modules are designed to be invoked via a machine to machine interface (API) and therefore do not have standard user interfaces. However some modules have help pages and home pages listing the functions available. In the following section we reproduce screen shots from each module to demonstrate the availability of the functionality. It should be stressed that the screens shown are, for the most part, intended for use by developers integrating the modules into their own workflow and not for use by end users.

In terms of the sustainability of these components, we refer to the forthcoming Europeana Inside Forward Plan, D 5.4. The section on "Sustaining the Europeana Connection Kit" that will be elaborated in this Forward Plan is also applicable with regards to the components discussed in this deliverable.

2. ECK Modules

The table below shows the ECK modules and describes the functionality they deliver.

Module	Functional Description
CMS: ECK supporting functionality	All functionality that must be provided within or alongside a CMS in order to meet the functional requirements set out in D2.4, including Data Push and/or OAI-PMH repository and content re-ingestion.
ECK Core	The gateway to the various modules, so supports all interfaces that all the other modules support.
Metadata Definition	Provides definitions for metadata elements within profiles and error messages in the different languages
Data Mapping / Transformation	Converts between formats, e.g. Native format to LIDO or LIDO to EDM
Preview	Provides a preview of how the record will be rendered in the Europeana user interface
PID Generation	Provides a persistent id for the record
Set Manager	Manages the sets and records
Statistics	Provides statistics about the performance of modules
Validation	Validates the record to ensure it conforms to a provided profile (of either LIDO or EDM).
Aggregator: ECK supporting functionality	Accepts data via data push or OAI-PMH, supplies data to Europeana via OAI-PMH and provides management information and enriched records for re-ingestion

Table 1: Summary of ECK functionality

As reported in section 1, CMS:ECK supporting functionality (i.e. the software components that are specific to an individual partner's implementation of the ECK) is not covered in this deliverable.

2.1. ECK Core

The reference version of the ECK core module is installed at <http://euinside.k-int.com/ECKCore2/help/core>.

The following screen shot shows the help page for the module:

EUInside - Core

Description

The primary role of the core module is to act as a gateway for all the other modules, as a secondary role it will provide a generic interface for obtaining statistics from the Aggregators

The table below lists the modules / interfaces that core knows about and the path to access that module / interface

Module / Interface	Path	Example
Aggregator	Aggregator	http://euinside.k-int.com/ECKCore2/Aggregator/20223/*statistics/Europeana
Data Mapping	DataMapping	http://euinside.k-int.com/ECKCore2/DataMapping/Libis/my_tansfer/Transform
Data Transformation	DataTransformation	http://euinside.k-int.com/ECKCore2/DataTransformation/Libis/LeuvenLibData/Transform
Metadata Definition	Definition	http://euinside.k-int.com/ECKCore2/Definition/errors
PID Generation	PIDGenerate	http://euinside.k-int.com/ECKCore2/PIDGenerate/generate
Preview	Preview	http://euinside.k-int.com/ECKCore2/Preview/chas/single/preview/lido
Set Manager	SetManager	http://euinside.k-int.com/ECKCore2/SetManager/Set/chas/second/update
Statistics	Statistics	http://euinside.k-int.com/ECKCore2/Statistics/setManager/commit/update
Validation (monguz)	Validate	http://euinside.k-int.com/ECKCore2/Validate/CultureGrid/single/validate/lido
Validation (semantika)	Validate2	http://euinside.k-int.com/ECKCore2/Validate2/CultureGrid/single/validate/lido

To use any of the modules through the core gateway, build up the URL as follows

- Start with the url for the ECKCore eg. <http://euinside.k-int.com/ECKCore2>
- Now append the path that is relevant for the module from the above table eg. <http://euinside.k-int.com/ECKCore2/SetManager>
- Now append the appropriate path from the module api document for what you want to do. eg. <http://euinside.k-int.com/ECKCore2/SetManager/Set/default/default/status>
- The url has now been built up, do not forget post / append any arguments / files that are required by the modules api

2.2. Metadata Definition

The reference implementation of the metadata definition module is installed at <http://euinside.k-int.com/ECKCore2/Definition>.

The following screen shot shows the help page for the module with links to a test form:

Welcome to the ECK Definition prototype module

This module allows you to obtain the definitions for Profiles and Errors

Available operations

- [Error Definitions](#)
- [Languages Supported](#)
- [Profile Definitions](#)

A simple test form is available [here](#)

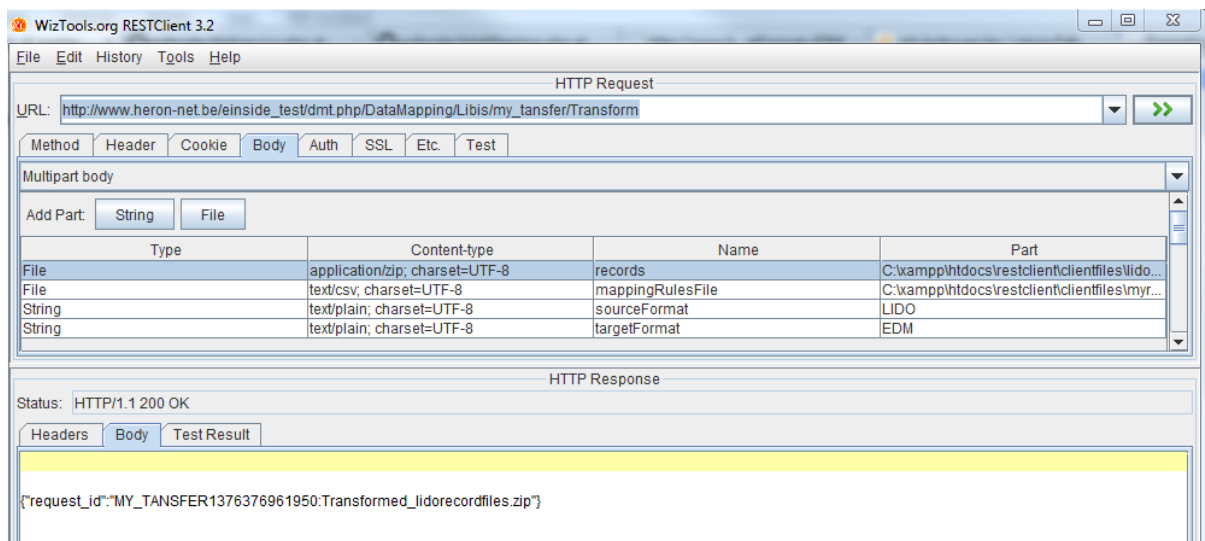
2.3. Data Mapping/ Transformation

The reference implementation of the data mapping and transformation modules are installed at:

Mapping: http://www.heron-net.be/einside_test/dmt.php

Transformation: <http://services.libis.be/euInside/dmt.php>

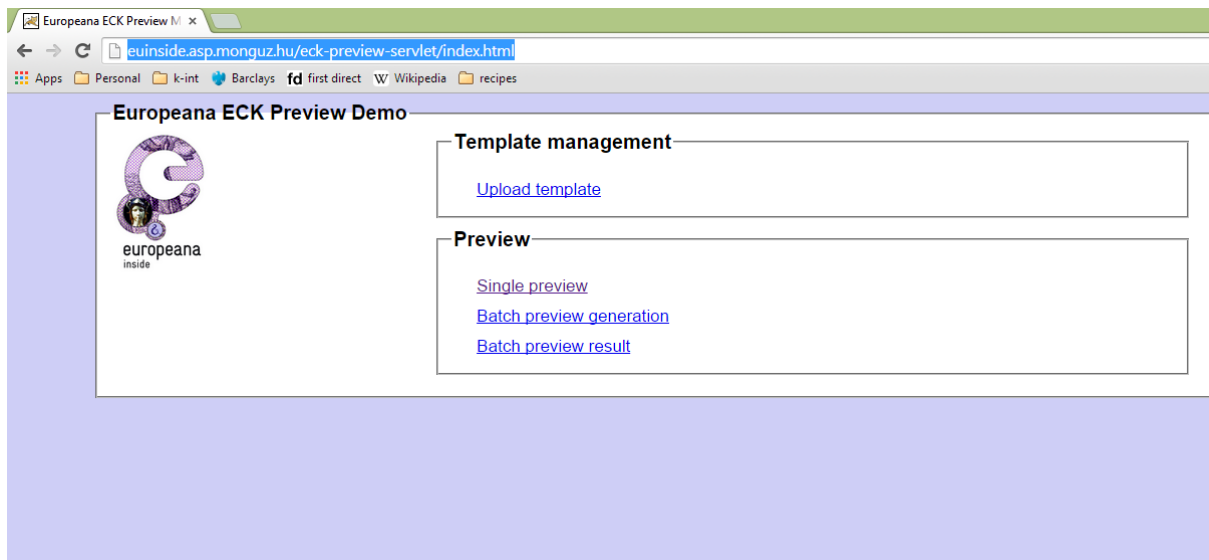
The following screen shot shows the data mapping service being accessed using a simple REST client:



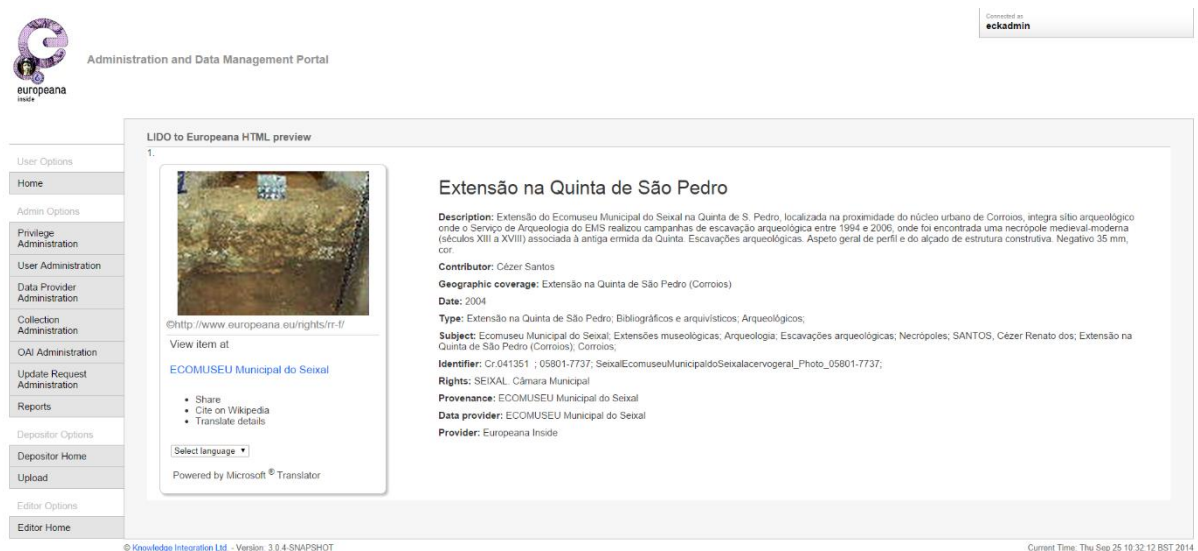
2.4. Preview

The reference implementation of the preview module is installed at <http://euinside.asp.monguz.hu/eck-preview-servlet/index.html>.

The following screen shot shows the home page for the service:



Here is an example of the output of the module, embedded in the project Dark Aggregator:



2.5. PID Generation

The reference implementation of the PID generation module is installed at <http://euinside.semantika.si/pid>.

The following screen shot shows the home page for the service:

PID service

URL (pattern)	Request body	HTTP Method	Function	Response body
/pid/generate	InstitutionUrl, RecordType, AccessionNumber (JSON format)	POST	Generate PID	JSON
/pid/lookup/{pid}	-	GET	PID reverse	JSON

|

Example: /pid/generate

Request:

```
POST http://euinside.semantika.si/pid/generate HTTP/1.1
User-Agent: Fiddler
Host: euinside.semantika.si
Content-Type: application/json; charset=utf-8
Content-Length: 61

{"AccessionNumber": "c", "InstitutionUrl": "a", "RecordType": "b"}
```

Response body:

```
"a_b_c"
```

Example: /pid/lookup/{name}

Request:

```
GET http://euinside.semantika.si/pid/lookup/a_b_c HTTP/1.1
```

Response body:

```
{"AccessionNumber": "c", "InstitutionUrl": "a", "RecordType": "b"}
```

2.6. Statistics

The reference implementation of the statistics definition module is installed at <http://euinside.k-int.com/ECKCore2/Statistics/>.

The following screen shot shows the help page for the module:

Management of Module Statistics

Invocation

The url for the module takes the form `/Statistics/<module>/<group>/<action>/<queryType>?parameters` Where:

URL Part	Description
module	Is the module the statistics are for
group	This is the group or action within the module that the statistics for
action	The statistics action to be performed
queryType	If this is a query, this is the query to be performed

The action pages lists the possible parameters that are applicable for that action

The possible actions are:

- [Query](#)
- [Update](#)

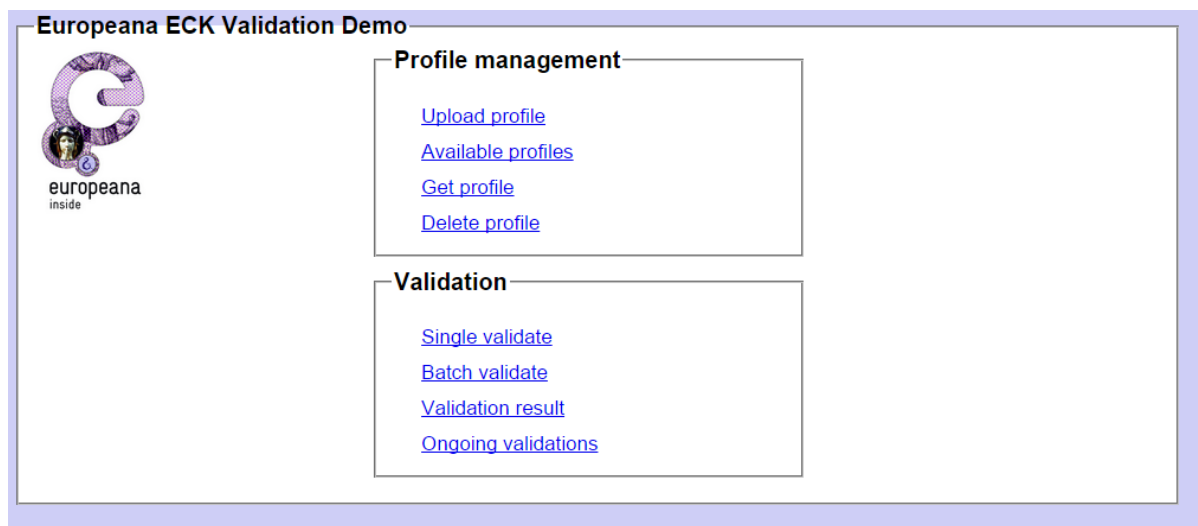
Testing

In order to allow simple testing of the ECK Statistic interface, a test form is available [here](#) which performs actions against the default modules default group.

2.7. Validation

There are two reference implementations of the validation module. These are installed at <http://euinside.asp.monguz.hu/eck-validation-servlet/index.html> and <http://euinside.semantika.si/Validation>

Screen shot of the Monguz home page:



Screen shot of the Semantika home page:

Validation service

URL (pattern)	Request body	HTTP Method	Function	Response body
/validation/profiles	-	GET	List of profiles	JSON
/validation/profiles/{name}	-	GET	Profile by name (xsd schema)	JSON
/validation/validate	Name, XmlDocument (JSON format)	POST	Record validation	JSON

Example: /validation/profiles

Request:

GET /validation/profiles HTTP/1.1

Response body:

[{"lido", "edm"}]

Example: /validation/profiles

Request:

GET /validation/profiles/lido HTTP/1.1

Response body:

...(long to show here)

Example: /validation/validate

Request:

Header:

User-Agent: Fiddler

Host: localhost:13987

Content-Type: application/json; charset=utf-8

Content-Length: 33

Body:

{"Name":"lido","XmlDocument":"a"}

Response body:

```
{
  "BrokenRules": [
    {
      "BrokenRuleCode": "#",
      "Message": "Error validating document. \u000d\u000aData at the root level is invalid. Line 1, position 1.",
      "Severity": 0
    }
  ],
  "IsValid": false,
  "Message": "Correct errors and then try again."
}
```

2.8. Set Manager

The reference implementation of the Set Manager module is installed at <http://euinside.k-int.com/ECKCore2/SetManager/>.

The following screen shot shows the help page for the module:

Management of Sets and Records

Parameters / invocation

The url for the module takes the form /Set/<provider>/<setName>/<action>/<recordId>?parameters Where:

URL Part	Description
provider	Is the code for the provider of the data (it will be restricted by client IP address as to which machines can provide/request data for a provider)
setName	The set that is to be manipulated or information is to be provided for, if the set does not exist, it will be created, for compatibility with iteration 1 the set name of "default" will be created for any data persisted in iteration 1.
action	The action to be performed on the set
recordId	is the record to be actioned, this is not applicable for all actions and will be ignored if supplied where it is not relevant.

The possible parameters are:

Parameter	Description
delete	A comma separated list of records to be deleted from the set
deleteAll	Delete all records from the set first (ie. Recreate the set from the supplied data) Yes / No
historyItems	Number of items to show in the history section of the Status action
setDescription	A description that can be used for the set, if the set is being created
statisticsDetail	How much detail to provide in the statistics report for this set, no values are defined for this yet, this will be revisited when we look at what statistics are required and presented

All posted files where the content type contains zip or xml for the actions Update and Commit will be examined to see if they contain records that need to be added to the set, it is assumed the files will be in LIDO format

The possible actions are:

- [Commit](#)
- [Edit](#)
- [List](#)
- [Preview](#)
- [Push](#)
- [Record](#)
- [Statistics](#)
- [Status](#)
- [Update](#)
- [Validate](#)

Testing

In order to allow simple testing of the ECK import interfaces, etc. a test form is available [here](#) which actions data for the default provider using the default set.

2.9. Aggregator: ECK supporting functionality

This group of functionality is not an ECK module as such, but represents the features that have been integrated with the two Aggregators used as part of the project (Culture Grid and the project Dark Aggregator) to facilitate the preferred workflows for technical partners.

The integration of the preview service has already been illustrated.

The screen shot below shows the integration of the statistics module and the enrichment elements of the ECK Core Aggregator interface:

The Europeana Validation / Translation Statistics

PROCESSED 9519

Europeana Sets

Name	Record Updated	Import			Enrichment	
		Created	Status	Published Deleted	Status	Processed Total
2032003_Ag_EU_Elinside_NatGalleryAlexandrosSoutzos	12/05/2014 13:35:36	2014-02-13 11:58:26	Ingestion complete	3032	0 COMPLETED	2859 2859

The following screen shot shows an example of the diagnostic messages available within the aggregator when investigating why records have failed validation:

CULTURE GRID Administration and Data Management Portal

Resource Home

Identifier: http://collections.rmg.co.uk/collections/objects/53775
Authoritative: true
Creation Date: 21-05-2014
By: OAIService
Last Modified Date: 21-05-2014
Source: Royal Museums Greenwich

Actions: [View resource](#)

Id	Checksum	ECK Actions
solr		
oai_dc		
CultureGrid_Item		
lido_raw	1ee6f1254f0142bfa87af67dbd940bed	Preview Validate

Validation Failed

plugin	Error
resourceValidator	Resource link missing!

Attached objects: [Filename](#) [Instances](#)

Annex – Partners providing ECK implementation

Adlib Information Systems

iMinds

KE Software

Knowledge Integration

Libis (KU Leuven)

Mobydoc

Monguz

Postscriptum

Semantika

Skinsoft

System Simulation

Zetcom