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D3.1 – Specifications for Implementing the Content Layer of the Extended Europeana Licensing Framework

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D3.1 – Specifications for Implementing the Content Layer of the Extended Europeana Licensing Framework

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0.10	July 23, 2013	Max Kaiser, ONB Katharina Holas, ONB	Project Coordinator Project Manager

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1.0	August 12, 2013	Max Kaiser, ONB	Project Coordinator

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This deliverable contains original unpublished work except where clearly indicated otherwise.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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Figures

1. Introduction

This document formulates the specifications for implementing the Content Layer of the Extended European Licensing Framework (hereafter referred to as *Content Reuse Framework*). The work undertaken on the Content Reuse Framework builds on top of the work on the overall Europeana Licensing Framework that is taking place in WP5 of the Europeana Awareness project. It is closely aligned with the work that is undertaken in the Europeana Cloud project on a cloud-based storage infrastructure and access to rich metadata. Over the last months it has become clear that there is demand for access to high quality re-usable content via Europeana. This demand is not only resulting from the Europeana Creative project, but has also been identified by projects such as Europeana Awareness (WP4 Tourism) and in discussions on the overall strategy within the Europeana Network.

This Deliverable is based on the Milestone 8 of Europeana Creative (MS8, see Annex I) that describes the requirements for extending the Europeana Licensing Framework to enable creative reuse of high-quality cultural objects that are available via Europeana.

In this document the requirements that have been defined in MS8 are further developed into technical specifications. This work has been undertaken in close collaboration with WP5 of Europeana Cloud and WP5 of Europeana Awareness. As part of this process a workshop with key technical stakeholders from these projects has taken place on July 3, 2013 in The Hague (see Annex II for the meeting notes).

2. Specifications for Implementing the Content Reuse Framework

Based on the requirements set forth in Milestone 8 and the stakeholder workshop, the following specifications have been drawn up. There has been consensus among the participants of the workshop that the recommendations are viable and can be implemented in line with the requirements of the other work packages of the Europeana Cloud project.

The specifications are based on the following three conditions that determine if a Digital Object that is available via Europeana will be exposed via the Content Reuse Framework.

1. The metadata for the Cultural Heritage Object contains at least one **direct** link to a Digital Object itself (as opposed to a page where the object is available).

2. The Digital Object meets the following minimum technical quality requirements:

    - **Images:** image resolution of 2,048 × 1,536 pixels; file types: jpg, png and tiff; no visible watermarks.
    - **Video:** resolution of 704 × 576 (576p); file types: MP4, mov or WEBM.
    - **Audio:** sample rate of 41,100 khZ, 16 kbits; file types: MP3 and all lossless file formats like FLAC, WAV and APE.
    - **Texts:** full-text searchable; file types: pdf, txt, epub, xml or rtf.

3. The Digital Object is provided with a rights statement that allows **reuse** of the object. (as opposed to rights statements that only allow access)

In the following section these requirements are broken down into four main tasks: Checking Digital Objects for technical quality, creating access mechanisms for Digital Objects, changes to the Europeana Data Model pertaining to rights and access control mechanisms for Digital Objects. The first three tasks are broken down in subtasks and for each task or subtask a task owner has been identified who will work together with the WP3 coordinator on the implementation.

Task 1: Checking Digital Objects for Technical Quality

Europeana currently relies on the data providers to provide metadata about the Digital Objects that they make available via Europeana. The technical metadata that is necessary to determine if a Digital Object meets the requirements of the Content Reuse Framework is almost never provided by the data providers. As a result this metadata will need to be collected automatically by Europeana as part of and in addition to the existing enrichment activities.

Task 1.1: Develop and Deploy a Media File Checker

A software agent (Media File Checker) will be developed that performs automated checking and gathering of technical properties linked to EDM entities (edm:WebResources). The Media File Checker software must be able to examine all Digital Objects linked from Europeana (including edm:object and edm:isShownBy) and:

- Recognise the following file formats: jpg, png, tiff, MP4, mov, WEBM, MP3, FLAC, WAV, APE, pdf, txt, epub, xml and rtf.
- Determine the resolution of still images and video files.
- Determine the sample rate and bit depth of audio.
- Determine if a text file can be fully searched.

The Media File Checker is hosted by the Europeana Foundation and will run continuously to be able to run against the entire Europeana dataset. It can also be directed to specific collections to determine the above-described data and will store the resulting metadata as (enriched) metadata related to the edm:WebResource.

Table 1

Owner	Vassilis Tzouvaras (National Technical University of Athens)
Deadline	End of M9 of the project (October 2013)
Dependencies	None
Out of scope	The following requirements identified as part of Milestone 8 have been declared out of scope: checking image and video files for visual watermarks. Adding checks on these would require resources that Europeana does not have at the moment.

Task 1.2: Store Enriched Data of edm:WebResource

The technical metadata about a edm:WebResource that has been produced by the Media File Checker or that has been provided by a data provider together with the edm:WebResource needs to be unambiguously stored as metadata related to edm:WebResource. This metadata should be compliant with e.g. EXIF, IPTC or other media metadata standards.

The following metadata will need to be stored:

- File format (always)
- Resolution (only for images and video)
- Sample rate (only for audio)
- Bit depth (only for audio)
- Full-text searchable (only for text)

To enable to store this data, the output of the Media File Checker will need to be mapped to the relevant fields in the EDM metadata specification. This needs to be reflected in the EDM specification.

Table 2

Owner	Antoine Isaac (Europeana Foundation)
Deadline	End of M10 of the project (October 2013)
Dependencies	Task 1.1

Task 2: Creating Access Mechanisms for Digital Objects

The Content Reuse Framework effectively acts as a filter for all Digital Objects available via Europeana. The Content Reuse Framework limits user queries to the subset of Cultural Heritage Objects that link to Digital Objects that meet the requirements established by the Content Reuse Framework. As part of this task access mechanisms are implemented that allow end users to limit queries to Digital Objects that are part of the Content Reuse Framework.

Task 2.1: Create "Macro-Query" to Enable a Content Layer

Using the technical quality metadata produced in Task 1, a query mechanism will be implemented that returns all Digital Objects (edm:WebResource) that meet the requirements of the Content Reuse Framework.

Minimum Technical Quality:

- Images: image resolution of 2,048 × 1,536 pixels or higher; file types: jpg, png and tiff.
- Video: resolution of 704 × 576 (576p); file types: MP4, mov or WEBM.
- Audio: sample rate of 41,100 kHz, 16 kbits; file types: MP3, FLAC, WAV and APE.
- Texts: full-text searchable; file types: pdf, txt, epub, xml or rtf.

Authorisation for Reuse:

- Rights edm:rights needs to be one of edm:rights statements that allow reuse (Public Domain Mark, CC0, Out of Copyright – noncommercial reuse[1] or one of the six Creative Commons licenses) or a conditional rights statement.

Note that the reuse and technical quality requirements are expected to change over time. As a result the implementation of the macro query must allow changes to the requirements as well as addition or removal of specific requirements.

The returned search results to need meet both the reuse and technical quality requirements.

[1] As recommended by the Europeana Licensing Framework review. Expected to be available in Europeana in September 2013.

Table 3

Owner	Vassilis Tzouvaras (National Technical University of Athens)
Deadline	End of M11 of the project (December 2013)
Dependencies	Task 1.2, Task 3.1

Task 2.2: Create a Facet to Access the Material Marked for Reuse

Create a facet on the Europeana portal that limits search results to the results of the macro-query above. This will allow individual end users to search within the Content Reuse Framework via the Europeana portal. This will allow users of the portal and API (application programming interface) to search with the Content Reuse Framework.

Table 4

Owner	David Haskiya (Europeana Foundation)
Deadline	End of M11 of the project (March 2014)
Dependencies	Task 2.1

Task 3: Modifications to the Europeana Data Model for Finer-Grained Rights

Finally, the implementation of the Content Reuse Framework requires some modifications and additions to the way rights information about Digital Objects is stored in the Europeana Data Model (EDM). The introduction of the Content Reuse Framework means that EDM needs to be able to model Cultural Heritage Objects that reference multiple Digital Objects (edm:WebResource) with heterogeneous edm:rights statements. In addition, the Content Reuse Framework supports conditional access rules that can be used by data providers to limit access to specific Digital Objects to end users that meet predefined conditions (such as: the end user is an educational user).

Task 3.1: Modify the EDM Specification to Add edm:rights to edm:WebResource

Currently, the Europeana Licensing Framework relies on an atomic representation of rights. The edm:rights statement is applied to the ore:aggregation and thus applies to all Digital Objects (edm:WebResources) included in the aggregation:

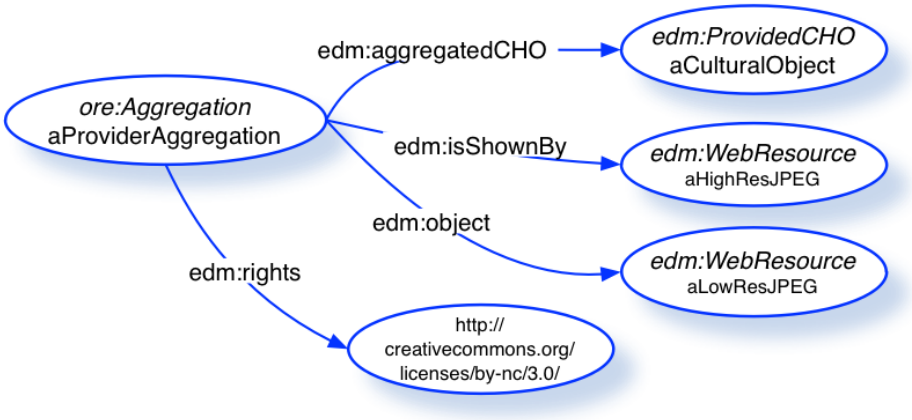

Fig. 1: Current situation: one edm:rights statement per metadata record (ore:Aggregation)

The Content Reuse Framework requires that the rights status of each Digital Object is being checked and that only those Digital Objects that carry a rights statement that allows reuse are included in the Content Reuse Framework. As a result it is necessary to allow data providers to record a edm:rights statement for each individual Digital Object that they provide.

This requires modifying the scope of the edm:rights statement from the level of the metadata record (ore:Aggregation) to also apply at the level of the individual Digital Objects (edm:WebResource):[2]

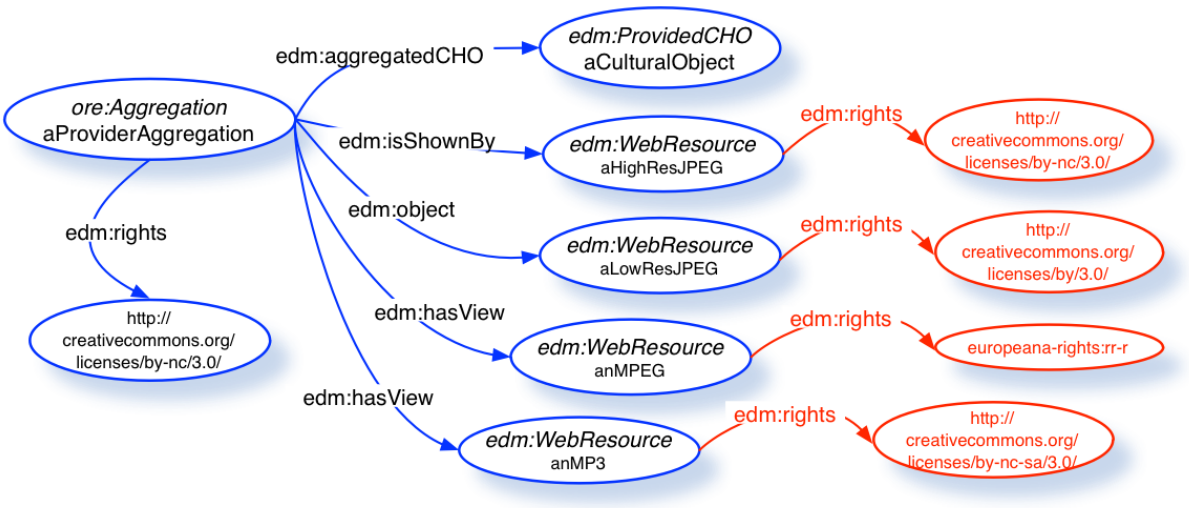

Fig. 2: New situation: one edm:rights statement per Digital Object

Since it will be impossible to obtain rights statements per Digital Object for all existing collections in Europeana, it is necessary to implement a fallback mechanism for Digital Objects that do not have an edm:rights statement or a conditional rights statement directly attached to them. These Digital Objects must be assumed to inherit the edm:rights statement that is attached to the metadata record.

Table 5

Owner	Antoine Isaac (Europeana Foundation)
Deadline	End of M11 of the project (December 2013)
Dependencies	none

[2] Note that this task is in line with recommendation number 7 that is part of the Evaluation Report on the Europeana Licensing Framework that has been carried out by WP5 of the Europeana Awareness project.

Task 3.2 Add Conditional Rights Statements to the Europeana Data Model

In addition to the existing edm:rights statements, Digital Objects can be included in the Content Reuse Framework if they carry a conditional rights statement that limits access (and subsequent reuse) to end users that meet predefined conditions.

- Conditional rights statements (temp:conditionalRights or similar) apply to individual Digital Objects in the same way as edm:rights statements.
- An edm:WebResource can have both a conditional rights statement and an edm:rights statement. If a data provider wishes to make the same Digital Object available under both a conditional rights statement and an edm:rights statement, then two instances (edm:WebResource) of the Digital Object must be provided.
- This task includes the development of a mechanism (such as a controlled list of values for temp:conditionalRights) that ensures that only approved conditional rights statement can be applied to Digital Objects.
- In addition there must be a mechanism that ensures that each metadata record (ore:Aggregation) in Europeana contains at least one Digital Object (edm:WebResource) that carries a valid edm:rights statement. This is to prevent that Europeana contains metadata records related to Cultural Heritage Objects without a publicly available Digital Object.

Table 6

Owner	Antoine Isaac (Europeana Foundation)
Deadline	End of M14 of the project (March 2014)
Dependencies	Task 3.1. Task 3.3

Task 3.3 Develop a Syntax for Conditional Rights Statements

A syntax to express the conditions for access and reuse of a conditional rights statement needs to be developed.

- This syntax needs to be flexible to allow the modeling of various types of access conditions.
- In addition, the rights statement needs to be able to express the conditions under which an authorised user may reuse the Digital Object.[3]

Both elements need to be encoded in the conditional rights statement in a way that allows users to clearly understand under which conditions they can access and reuse a Digital Object. And that allows storage providers[4] that host these Digital Objects to determine if access should be granted to a particular user. The conditional rights statement is not intended to let a storage provider or the data provider enforce the reuse conditions (they are not intended to be used as DRM/TPM).

Table 7

Owner	Antoine Isaac (Europeana Foundation)
Deadline	End of M18 of the project (July 2014)
Dependencies	Task 3.2. Task 3.4

[3] It is important to note here that at this stage it is not possible to warrant that the actual implementation will be able to handle all possible conditions.
[4] The term storage provider is used to indicate any entity that stores (hosts) Digital Objects that are made available through Europeana. In most cases the storage provider will be the same as the Data Provider. The term includes dedicated storage platforms such as the one developed as part of the Europeana Cloud project and the temporary storage infrastructure being deployed as part of the Europeana Creative project.

Task 4: Specify and Implement Access Controls

Digital Objects that carry a conditional rights statement are not publicly available. As such there is a need for an access control mechanism that corresponds to the access conditions expressed in the conditional rights statement that are part of the Content Reuse Framework. The access control mechanism will reside at the storage level: A user who follows a link to a specific edm:webResource will need to provide credentials matching the conditional rights statement before access to the edm:webResource is granted by the storage providers. This task will create two deliverables:

- A specification for implementing an access control mechanism by storage providers.[5]
- A reference implementation of the access control mechanism as part of the Europeana Creative storage infrastructure.

Table 8

Owner	Breandán Knowlton (Europeana Foundation)
Deadline	End of M18 of the project (July 2014)
Dependencies	Task 3.3

[5] Likely in the form of a federated identity solution such as http://shibboleth.net/.

3. Next Steps

On September 11 and 12 2013 there will be a joint workshop that brings together participants from WP1, WP2, WP3, WP4 and WP5 to discuss and prototype the integration of the Content Reuse Framework into the online infrastructure of the Open Labs (WP1). For the implementation the specifications developed in this document will be used.

Annex I: Europeana Creative Milestone 8 – Requirements for the Content Layer of the Extended Europeana Licensing Framework

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MS8 – Requirements for the Content Layer of the Extended Europeana Licensing Framework

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Revisions

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Approval

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0.2	June 12, 2013	Julia Fallon, EF	Europeana Foundation, IPR & Policy
1.0	June 26, 2013	Max Kaiser, ONB	Project Coordinator

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1. Introduction

In this milestone document we formulate the requirements for the content layer that have been gathered during the first four months of the Europeana Creative[1] project. This should be seen in relation to the review of the overall framework that is taking place in WP5 of the Europeana Awareness[2] project, and the larger extension of the framework that is undertaken in the Europeana Cloud[3] project that works in parallel to Europeana Creative on a cloud-based storage infrastructure. For an overview of all issues related to the extension of the existing Europeana Licensing Framework we kindly refer you to the discussion document "Extending the Europeana Licensing Framework" (Annex 1).

In order to gather requirements we organised a workshop with thirteen relevant partners from the Europeana Creative consortium (content providers, creative industries and technical development partners) on February 22, 2013 at the Austrian National Library in Vienna. To follow up the workshop we circulated a discussion paper, "Extending the Europeana Licensing Framework" (Annex 1), between April 23 and May 13, 2013 to twenty-six key partners in the Europeana Creative, Europeana Awareness and Europeana Cloud projects as well as to Europeana Foundation staff members to further discuss the efforts to extend the overall framework.

In addition we conducted a survey addressing the minimum technical quality requirements for Digital Objects. This survey was circulated by Europeana Creative WP3 partners from May 13 until May 31, 2013. The survey gathered responses from twenty-eight key representatives from across the creative industries, the Europeana Creative consortium and wider stakeholder communities (see Annex 2 for a report on the survey results).

[1] http://pro.europeana.eu/web/europeana-creative; accessed June 19, 2013.
[2] http://pro.europeana.eu/web/europeana-awareness; accessed June 19, 2013.
[3] http://pro.europeana.eu/web/europeana-cloud; accessed June 19, 2013.

2. Requirements

The Content Re-use Framework will need to work on top of the Europeana Licensing Framework. Partners may make Digital Objects available via the Content Re-use Framework voluntarily, and the Content Re-use Framework will be on an opt-in basis for all data providers.

The Content Re-use Framework will make available – via an API, a facet on the portal or similar mechanisms – Digital Objects that are available via Europeana and meet the following conditions (see Annex II for more information):

1. The metadata for the object contains a direct link to the Digital Object itself (as opposed to a page where the object is available).

2. The Digital Object meets the following minimum technical quality requirements:

- Images: image resolution of 2,048 × 1,536 pixels[4]; file types: jpg, png and tiff. No visible watermarks.
- Video: resolution of 704 × 576 (576p); file types: MP4, mov or WEBM.
- Audio: sample rate of 41,100 kHz, 16 Kbits; file types: MP3 and all lossless file formats like FLAC, WAV and APE.
- Texts: full-text searchable; file types: pdf, txt, epub, xml or rtf.

3. A rights statement connected to the Digital Object that allows re-use of the object (as opposed to rights statements that only allow access):

- Currently the list of available rights statements for edm:rights includes eight rights statements that allow re-use: the Public Domain Mark[5], Creative Commons Zero[6] and the six Creative Commons licences[7].
- In addition, the Content Re-use Framework requires conditional rights statements (such as “the Digital Object may only be re-used by educational users” or “the Digital Object may only be re-used after condition x has been met”). These conditional rights statements are further described below.

Conditional Rights Statements

Conditional rights statements enable a data provider to restrict access to and re-use of Digital Objects to a specific group of users (for example, researchers or educational publishers). The syntax of such conditional rights statements still needs to be determined. With regards to the

[4] This resolution deviates from the median value (1,280 × 800) measured in the survey to compensate for the trend that the researchers see in increasing resolution in (mobile) devices. For comparison, the measured median value can fit two times on the most current iPad and we can expect even larger screen resolutions become commonplace before the end of Europeana Creative. Anything lower than 2,048 × 1,536 pixels would not make sense.
[5] http://creativecommons.org/publicdomain/mark/1.0/; accessed June 25, 2013.
[6] http://creativecommons.org/publicdomain/zero/1.0/; accessed June 25, 2013.
[7] http://creativecommons.org/licenses/; accessed June 25, 2013.

technical implementation, the presence of conditional rights statements requires the ability to enable selective access to the Digital Objects referenced by the Content Re-use Framework. To ensure that the Content Re-use Framework is compatible with the existing Europeana Licensing Framework, the following design principles will need to be established:

- All access control mechanisms for Digital Objects that are not publicly available need to be implemented at the storage level and not at the metadata level. All metadata that is published by Europeana (including the URLs of restricted access Digital Objects) are published by Europeana under the terms of CC0.
- Each metadata record in Europeana needs to contain a link to at least one publicly available Digital Object. This means that Europeana will not publish metadata related to cultural heritage objects that are not publicly available. The Content Re-use Framework enables data providers to add additional Digital Objects that are not publicly available.

If implemented in this way, the Content Re-use Framework can coexist with the existing Europeana Licensing Framework and can effectively become a voluntary extension of the framework, without interfering with the operation of Europeana as a metadata aggregator. Digital objects that are available via the Content Re-use Framework can reside on the websites of the data providers or they could be cached in the storage infrastructure developed by Europeana Creative and Europeana Cloud.

3. Next Steps

In the coming months, the requirements in this milestone document will be further developed into specifications for implementing the content layer of the extended Europeana Licensing Framework (deliverable D3.1). In defining the specifications, the following issues are going to be addressed:

- viability of the minimum technical quality requirements;
- syntax of conditional rights statements;
- implementation of access control at the storage level (in close collaboration with WP2).

Deliverable D3.1 will be written on the basis of implementing the framework in the technical WP2 of Europeana Creative and will be made available to the wider Europeana Network to encourage members to make available content.

Annex I: Discussion Paper Extending the Europeana Licensing Framework

By Paul Keller, with thanks to Julia Fallon, Antoine Isaac and Maarten Zeinstra.

1. Introduction

This paper attempts to provide an overview of a number of separate but interlinked efforts to extend the *Europeana Licensing Framework* – the framework that governs the copyright aspects of Europeana. This paper summarises a number of ideas with regards to such extensions and is intended to start a discussion with key stakeholders with the objective of validating approaches to these extensions. The author is the work package lead for the Europeana Awareness work package that is tasked with overseeing the *Europeana Licensing Framework*. The ideas in this paper are based on a number of informal discussions with key stakeholders but do not represent official positions of the Europeana Foundation or any of the governing bodies of the Europeana project.

1.1 The Existing Europeana Licensing Framework

The existing *Europeana Licensing Framework*[8] is built on three design principles. One of them applies to how Europeana deals with metadata and another applies to how Europeana deals with content (the Digital Objects that are described by the metadata that is published by Europeana). The latter establishes how Europeana deals with previews that are displayed on Europeana. This framework has been developed based on the fact that Europeana is a metadata aggregator and not a content aggregator and does not host the actual Digital Objects that can be accessed via the services provided by Europeana:

- **All metadata that is published by Europeana must be available under the same terms that encourage re-use.** This design principle has been implemented by publishing all Europeana metadata under the terms of the CC0 Universal Public Domain Dedication. Data providers grant Europeana the right to do so via the *Data Exchange Agreement* that must be concluded before they contribute metadata to Europeana. Likewise The

[8] In this paper the term *Europeana Licensing Framework* applies to the overall framework that governs the relationship between Europeana, its data providers and its users. This includes the Europeana Data Exchange Agreement, the Europeana Terms for User Contributions and also the Europeana Public Domain Charter. All information about the *Europeana Licensing Framework* can be found in a special section of the Europeana Professional website (http://pro.europeana.eu/web/guest/licensing). A subset of this information was published in October 2011 in a brochure with the same title (http://pro.europeana.eu/c/document_library/get_file?uuid=b16bdaf6-4e53-4f58-968a-9d4943a5d297&groupId=858566).

Europeana Terms for User Contributions[9] establish that all metadata contributed by users can be published by Europeana under the terms of CC0.

- **Each Digital Object that is available via Europeana must carry its own rights statement**. This design principle has been established by introducing a mandatory rights field ('edm:rights') into the *Europeana Data Model*. Each metadata record needs to contain a rights statement (taken from a limited list of allowed statements[10]) that describes the rights status of the Digital Object described by that metadata record.
- **Previews are treated as an instance of the Digital Objects from which they are derived**. The *Europeana Licensing Framework* assumes that any previews provided to Europeana are covered by the same rights statement as the Digital Objects to which they belong. As a result, the preview files are not covered by the CC0 Universal Public Domain Dedication that applies to metadata published by Europeana.

These design principles (and the first two in particular) are primarily influenced by the objective to minimise operational complexity for Europeana and to provide users (both human and machine) with easy-to-process information regarding the rights status of information they encounter on/via Europeana. As a result of this, they place limitations on how data providers can manage rights in the information that they make available via Europeana. These limitations are important drivers for some of the extensions discussed in the remainder of this document.

In spite of these limitations, the *Europeana Licensing Framework* is proving to work very well. While the decision to introduce the *Framework* in October 2011 was highly controversial (primarily related to the decision to publish all metadata under CC0), the adoption has not led to any significant loss of metadata and/or data providers from Europeana.[11] Europeana is currently involved in a catch-up operation to obtain rights statements for metadata records that had been contributed before the rights statements became mandatory. This is progressing well: in March 2013, 70% of all 26.8 million metadata records in Europeana contained a rights statement (up from 50% in August 2012). 21% of all Digital Objects that are available via Europeana carry a public domain rights statement and another 9% are available under one of the Creative Commons licences. This means that 30% of all Digital Objects available via Europeana are clearly labelled for re-use by third parties.

This highlights a unique (to our knowledge) aspect of the *Europeana Licensing Framework*. The rights statements provided by cultural heritage institutions (the data providers) are checked by an independent entity (Europeana) to ensure that that the data providers do not falsely claim rights to Digital Objects that actually reside in the public domain.[12]

[9] http://www.europeana.eu/portal/rights/terms-for-user-contributions.html
[10] http://pro.europeana.eu/web/guest/available-rights-statements
[11] In total, three existing data providers have opted not to sign the *Data Exchange Agreement* (DEA) and have stopped contributing metadata to Europeana.
[12] This mechanism exists to ensure that Europeana and its data providers comply with the principles of the Europeana Public Domain Charter. See http://www.publicdomaincharter.eu/.

1.2 Licensing Framework Review

The *Europeana Licensing Framework* is currently being reviewed. This review is primarily intended to identify issues and to address them. The review is part of WP5 of the Europeana Awareness project. Preliminary work has been done in the 'edm:rights' Task Force of the Europeana Network that was established to assess whether the current list of rights statements that can be used with 'edm:rights' is in line with the requirements of Europeana and its data providers. This review has so far identified the following issues:[13]

- There is a need for an additional rights statement that can be used with works that have been identified as orphan works in accordance with Directive 2012/28/EU of the European Parliament and of the Council of 25 October 2012 on certain permitted uses of orphan works.[14][15]
- There is a need for an additional rights statement for use with digital representations of public domain objects that have been digitised in a public-private partnership wherein the parties have agreed to contractual limitations that prohibit commercial re-use by third parties.
- There is a need for a mechanism (a new metadata field) that can be used to indicate the expiry date (year) of a rights statement. This field can be used to record when a Digital Object will become part of the public domain.
- There is a need for guidelines on how to deal with situations in which the actual object is in the public domain, but the Digital Object is covered by copyright (as the result of the digitisation process).
- A number of data providers have indicated that they would want to provide metadata related to geo-locked Digital Objects that can only be accessed from a particular territory (generally the jurisdiction of the data provider). Currently, Europeana does not accept metadata related to geo-locked Digital Objects.
- There are a number of other small communication-related issues for which the wording of the Framework can be improved.

In addition to the above issues (the fact that new rights statements can be added to the list of existing rights statements had been foreseen when the *Europeana Licensing Framework* was designed), there are three areas that require a more fundamental rethinking of parts of the *Europeana Licensing Framework*: opening up parts of the *Europeana Licensing Framework* to

[13] The review is ongoing and needs to result in a set of recommendations that are delivered to the European Commission by the end of June 2013. The issues listed here are issues that have been encountered so far and may or may not be included in the review recommendations.
[14] This directive creates a special legal status for works that have been identified as orphans after a diligent search, and as such, these works require a separate rights statement that is more specific than the general 'unknown rights' statement.
[15] In addition to this, Europeana is currently involved in discussions with the European Commission and the Office for the Harmonisation of the Internal Market to see if Europeana can provide parts of the infrastructure that powers the Single European Database that is foreseen in the directive. If there is a role for Europeana this may result in additional requirements for the *Europeana Licensing Framework*.

similar projects; extending the Framework to handle rich, text-like metadata;[16] and providing a content re-use framework.

1.3 Opening the Framework for Other Aggregation Platforms

The current *Europeana Licensing Framework* is a mix of agreements (the Europeana Data Exchange Agreement (DEA)[17], the Europeana Terms for User Contributions (UCC)[18] that have been specifically drafted for Europeana, rights statements that have been specifically drafted for Europeana, rights statements (licences) that are provided by Creative Commons and usage guidelines that have been specifically drafted for Europeana.

We currently have four Europeana-specific rights statements and two Europeana-specific usage guidelines:

- Rights Reserved – Free Access rights statement
- Rights Reserved – Restricted Access rights statement
- Rights Reserved – Paid Access rights statement
- Unknown copyright status rights statement
- Europeana Usage Guidelines for public domain works
- Europeana Usage Guidelines for Metadata

All of these have been drafted to answer a specific need identified as part of establishing the *Europeana Licensing Framework*, all of them are hosted by Europeana (in the Europeana namespace) and all of them can be used as rights statements by others.

With the emergence of undertakings similar in nature to Europeana, chief among them the Digital Public Library of America (DPLA),[19] the question arises whether it is desirable to have rights statements that are (a) specific to Europeana and (b) reside in the Europeana namespace.

From an interoperability perspective, it would be desirable for similar projects to use the same rights statements for Digital Objects with the same underlying rights status. For example, a Digital Object described on Europeana that is freely accessible but may not be re-used will be labelled with 'Rights Reserved – Free Access' on Europeana and it is desirable for objects with the same rights status available via the DPLA to carry the same rights statement.

This works well with the rights statements provided by Creative Commons. Given that the Europeana rights statements are Europeana-branded and reside in the europeana.eu namespace, they are not really optimised for re-use by projects other than Europeana. Given this, it has been suggested to move the current Europeana rights statements to a 'neutral' namespace that is jointly maintained by Europeana and the DPLA. This namespace could host rights statements that are used by both parties (for example, a 'Rights Reserved – Free Access' statement) but also rights statements that can only be used by one of the projects (for example,

[16] This refers to extensive descriptions of Digital Objects or scholarly texts related to them.
[17] http://pro.europeana.eu/documents/900548/8a403108-7050-407e-bd00-141c20082afd
[18] http://www.europeana.eu/portal/rights/terms-for-user-contributions.html
[19] http://dp.la/

the orphan works statement mentioned in the preceding section which only applies to the member states of the EU and thus does not make sense for the DPLA).

A first step in this process is to examine whether there is indeed an intention to collaborate on this. Given the clear benefits of interoperability and existing contacts between the two projects, this appears likely. Once the intention has been established, it needs to be decided who maintains the neutral namespace. In addition to maintaining it as a joint project, we should also ascertain whether a third party with experience in this areas (such as Creative Commons[20]) can contribute to this.

1.4 A Content Re-use Framework

The Europeana Creative project, which started in February 2013, has the creation of a content re-use framework as one of its core objectives. The project attempts to increase creative re-use of cultural heritage content that is available via Europeana by making a subset of these available via the content re-use framework.

The content re-use framework has still to be specified but based on the initial discussions within the Europeana Creative consortium, the following has been identified as a likely approach:

- The content re-use framework will need to work on top of the *Europeana Licensing Framework*. Making Digital Objects available via the content re-use framework will be voluntary on an opt-in basis.
- The content re-use framework will make available (via a separate API, a facet on the portal or similar mechanisms) Digital Objects that are available via Europeana and meet the following conditions:
    - The metadata record for the object contains a direct link to the Digital Object itself (as opposed to a page where the object is available).[21]
    - The Digital Object meets minimum technical quality requirements (still to be defined per type of object, one obvious example would be a minimum pixel count for still images).
    - The Digital Object is available under a rights statement that allows re-use of the object (as opposed to rights statements that only allow access).

The Europeana Creative project has also indicated the need for conditional rights statements (such as 'the Digital Object may only be re-used by educational users' or 'the Digital Object may only be re-used after condition x has been met'). The current list of rights statements for 'edm:rights' does not include such rights statements.

Instead of adding conditional rights statements to the list of allowed statements for 'edm:rights' (which would mean that they could also be applied to Digital Objects that do not meet the above requirements), it has been suggested to create a new metadata field to store such conditional

[20] http://www.creativecommons.org/
[21] This could either be the link that is currently used (in the 'edm:isShownBy' field) or a link in a new metadata field ('edm:contentReuseRessource' or similar) that would contain a link to a cached copy of the Digital Object in its optimal quality stored in the cloud.

rights statements.[22] If a metadata record meets the conditions outlined above and no conditional rights statement is provided, the new field would contain a copy of the rights statement in 'edm:rights'. This additional rights field would serve two primary functions:

- A value in this field identifies the Digital Object described in the metadata record as being available via the content re-use framework.
- The rights statement in the field establishes the conditions for the re-use of the Digital Object.

The syntax of such conditional rights statements still needs to be determined (in this context it has been suggested to take a look at the Rights Reference Model[23] published by the Linked Content Coalition[24]). With regards to the technical implementation, the presence of conditional rights statements requires the ability to enable selective access to the Digital Objects reference by the content re-use framework (for example, via special classes of (API) users).[25]

To ensure that the content re-use framework does not interfere with the existing *Europeana Licensing Framework*, the following design principles will need to be established:

- All access-control mechanisms for Digital Objects that are not publicly available need to be implemented at the storage level and not at the metadata level. All metadata that is published by Europeana (including the URLs of restricted access Digital Objects) are published by Europeana under the terms of CC0.
- Each metadata record ('ore:Aggregation') in Europeana needs to contain a link to at least one publicly available Digital Object. This means that Europeana will not publish metadata related to cultural heritage objects that are not publicly available. The content re-use framework enables data providers to add additional Digital Objects that are not publicly available.

If implemented in this way, the content re-use framework could exist on top of the *Europeana Licensing Framework*, effectively becoming a voluntary extension of the Framework, without interfering with the operation of Europeana as a metadata aggregator. Digital Objects that are available via the content re-use framework can reside on the websites of the original data providers or they could be cached in the Europeana Cloud infrastructure that is currently being developed.

[22] Including multiple rights statements per metadata record. It is very likely that we need to support situations where the Digital Object can be re-used under combinations of conditional re-use statements. For example, a combination of a CC-BY-NC licence and a rights statement that allows commercial re-use for educational users.
[23] http://media.wix.com/ugd/bff7bc_739b7aa7f0d4b4b2c8e7929aa3f07868.pdf
[24] http://www.linkedcontentcoalition.org/
[25] Note that the content re-use framework would only enable the possibility to provide selective access; the actual access mechanisms supporting this would need to be developed as part of WP2 of Europeana Creative.

1.5 Extending the Framework to Handle Rich Metadata

The final extension of the Framework is related to the Europeana Cloud project[26]. This project will not only work on a cloud-based storage infrastructure but will also provide tools for researchers. Given the focus on research, the project needs to provide a way of making rich metadata available via Europeana. As discussed above, the *Europeana Licensing Framework* requires that all metadata be published under CC0. This has resulted in some data providers removing more extensive metadata fields (such as long descriptions) from Europeana.

In order to encourage data providers to make rich metadata (such as long-form descriptions, academic papers and other non-factual materials) available, the *Europeana Licensing Framework* will need to be able to ensure that such materials can be made available under rights statements other than CC0.

However, allowing data providers to specify separate conditions for richer metadata would violate the first design principle of the *Europeana Licensing Framework* ('All metadata that is published by Europeana must be available under the same terms'). As a result, it would create unwanted operational complexities and would undermine the effort to provide straightforward rights information to end-users.

Given these drawbacks, it has been suggested to treat rich metadata as digital text documents which are treated like all other Digital Objects. These digital text documents will be linked to the primary Digital Objects that they relate to (the *Europeana Data Model* already allows relationships of this type between different Digital Objects). Being Digital Objects, these digital text documents need to carry their own rights statements (taken from the same list of available rights statements described above). This approach could also be combined with the conditional rights statements proposed for the content re-use framework, effectively enabling scenarios wherein access to rich metadata can be limited to accredited researchers.[27]

Implementing this approach would preserve some of the fundamental principles of the *Europeana Licensing Framework* but will likely require substantial modifications of how related Digital Objects are presented on Europeana.

[26] http://pro.europeana.eu/web/europeana-cloud
[27] Note that if this scenario needs to be supported, then the first policy question identified in the preceding section has been answered affirmatively.

Annex II: Survey Report

1. Introduction

Europeana is a European funded initiative that gives access to the trusted sources of more than 2,200 cultural institutions across Europe. Currently, the Europeana Creative project works on increasing the creative re-use of the content by making a subset of these available via a Content Re-use Framework.

One of the key requirements that has been identified by the Europeana Creative consortium at the start of the project in February 2013 is that the available content should meet a minimum of technical quality to be reusable according to the standards of the creative industry sector and wider stakeholders (e.g., educational or touristic re-users).

In order to determine what this minimum technical quality is and to generate clear recommendations to Europeana Creative, project partners in WP3 have identified and invited key players in the creative industries sector and a wider group of stakeholders, or players representing them, to share their view through a survey.

A first version of the survey was circulated to WP3 partners in the first week of May 2013 (May 3–10, 2013). With feedback from the partners the survey was updated to a final survey (see Annex I). The final survey was distributed by WP3 partners from mid-May until the end of May 2013 (May 13–31, 2013). Within a period of three weeks, twenty-eight completed surveys were gathered:

- 19 out of 28 responses came from outside the consortium (68%);
- 20 out of 28 responses are directly working in the creative industries (media, software development, design, games, music, tourism sector) (71%);
- 6 out of 28 responses came from the educational sector (21%);
- 2 out of 28 responses came from the cultural heritage sector / creative industries representing organisation (7%);
- 14 out of 28 responses came from Dutch-based organisations (50%).

This report was composed in the first week of June 2013 (June 3–7, 2013). The results that are presented in this report can by no means be considered as representative for the creative industries and wider stakeholders of Europeana Creative. The survey results must be seen as indicative for what can be seen as minimum technical quality.

2. Survey Results

2.1 Images

For images, the survey indicates that the minimal technical quality standards are an image resolution of 1,280 × 800 pixels, file types jpg, png and tiff, and no watermarks.

- There seems to be a minimum image resolution for two types of use: (1) to browse and research which can be a lower quality (web quality) and (2) for commercial use which should be high quality (print quality). This is reflected in the chart below in two clusters of answers, roughly one cluster between 200–1,000 pixels and one cluster between 1,000–2,200 pixels.

Table 1: Image resolution

- For web quality the cluster of minimum quality indicators ranges from 200 × 200 pixels to 700 × 1,166 pixels. For commercial print quality, the cluster ranges from 1,024 × 768 pixels to 2,048 × 2,048 pixels. The resolution of 1,280 × 800 pixels was indicated most. As the lower web quality can be derived from a higher quality file, a minimum quality for images is indicated in the survey at 1,280 × 800 pixels.
- The most wanted file types are jpg (17×), png (14×) and tiff (6×). Other files types that were only mentioned once were pdf, tga, BMP, raw and webp.
- Respondents have a strong opinion that there should be no watermarks visible in images (24 out of 28 responses or 86% of the responses).

- Other quality indicators that were mentioned are:
  - Permalinks
  - Proper file names
  - Downloadable
  - Resizable
  - English image title
  - Accessible according to the W3 standards
  - Colour calibration / neutral colour balanced / evenly lit
  - Geometrical distortions have to be controlled
  - No DOF (depth of field)
  - Correct basic metadata, which should at least include information about the creator, date, source type, location and licensing information

2.2 Video

For video, the survey indicates that the minimal technical quality standards are a resolution of 1,280 × 720 pixels (720p), 2 Mbit, file types MP4, mov, WEBM, and no watermarks visible.

- There seems to be a technical quality standard for two types of use: (1) for mobile phone use that can be a lower quality and (2) for commercial use that has to be of higher quality. This is reflected in the chart below in two clusters of answers, roughly one cluster between 300–800 pixels and one cluster between 1,000–1,300 pixels

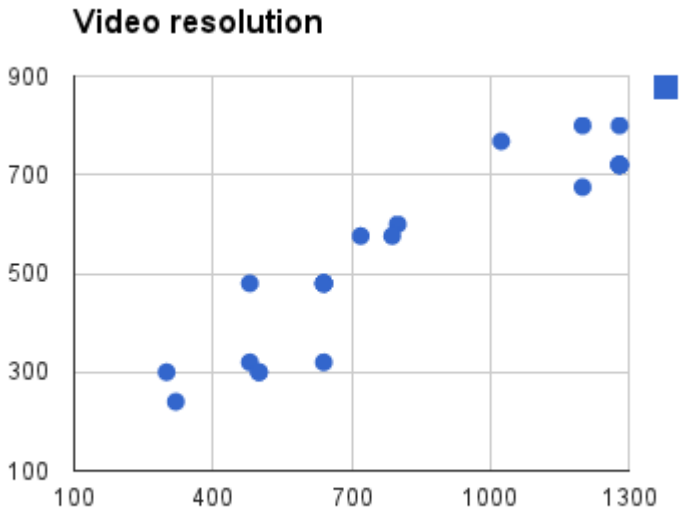

Table 2: Video resolution

- For mobile phone quality, the cluster of minimum quality indicators ranges from 300 × 300 pixels to 800 × 600 pixels. For commercial use, the cluster ranges from 1,200 × 675 pixels to 1,280 × 800 pixels. The resolution of 1,280 × 720 pixels was indicated most. As the lower web quality can be derived from a higher quality file, a minimum quality for video is indicated in the survey at 1,280 × 720 pixels (720p).
- The median bitrate for video is indicated (3 out of 11 responses) at 2,000 Kb/s (2 Mbit). Therefore, for commercial use the technical quality should be 2 Mbit at a minimum, which is Full HD. However, this is contradictory to the previous findings, because 2 Mbit is a higher resolution than 720p.

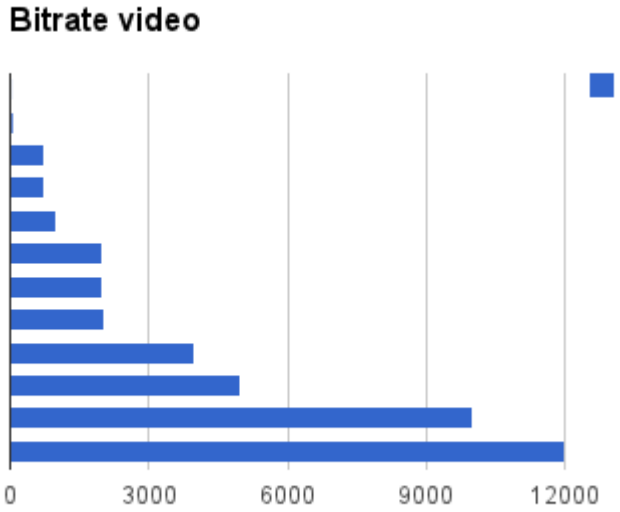

Table 3: Bitrate video

- Nobody expressed minimum quality indicators for the frame rate of a video.
- The most wanted file types are MP4 (15×), mov (8×), WEBM (4×), h.264 (3) and OGG (3×). Other files types that were only mentioned once were WMV, M4V, MXF, PRORess, VP6, MPEG-DASH, MPEG4, Quicktime and OGV.
- Respondents have a strong opinion – but not as strong with regards to images – that there should be no watermarks visible in images (23 out of 28 responses or 82% of the responses).
- Other quality indicators that were mentioned are:
    - Permalinks
    - Proper filenames
    - Open lossless codec
    - Stereo audio
    - Key frames every 2nd second (with transcript and keywords added)

- Fragmented mp4
- Transcript
- Accessible according to the W3 standards
- Correct basic metadata, which should at least include information about the creator, date, source type, location and licensing information

2.3 Audio

For audio, the survey indicates that the minimal technical quality standards are a sample rate of 41,100 kHz, 16 Kbits, file type at least MP3.

- The technical quality for audio seems to be less important for the respondents, as they recognise that heritage audio will have been mostly recorded on low quality originally; it is indicated that only for commercial use (download/sales) high quality is needed.
- A sample rate of 41,100 kHz was mentioned most of the time (5 out of 10 responses), therefore the minimum sample rate should be 41,100 kHz.

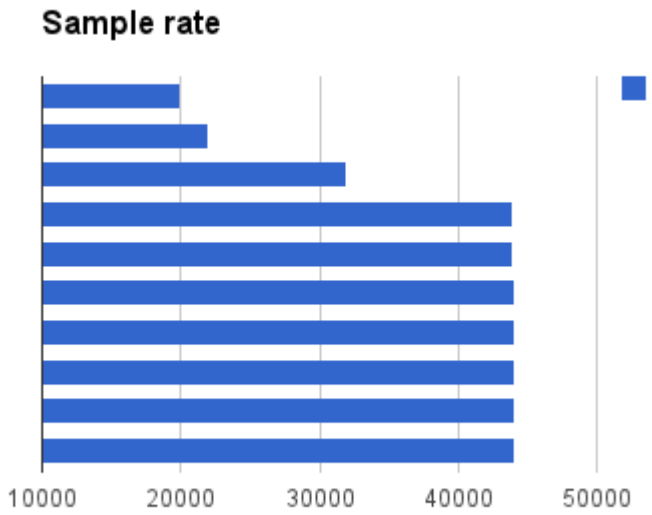

Table 4: Sample rate

- A bit depth of 16 Kbits was mentioned most (7 out of 11 responses) which corresponds to the quality of an Audio-CD (in comparison: the quality of DVD-Audio is 24 bit).

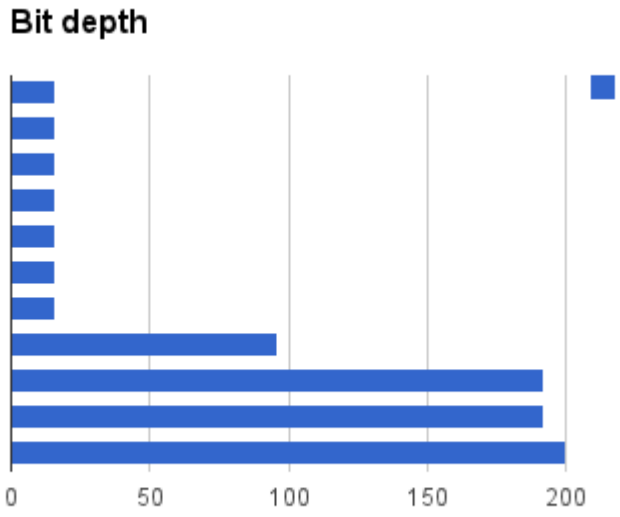

Table 5: Bit depth

- The most indicated file type that was mentioned was MP3 (10×). Other files types that were mentioned were WAV (5×), FLAC (4×), OGG (4×), AIFF (2×), AAC (2×) and HE-AAC (2×).
- Other quality indicators that were mentioned are:
    - id3 tags (metadata standard for audio)
    - Transcription (English) of what is being said
    - Clarity (no noises, hissing, idle phase before it starts)
    - Correct basic metadata, which should at least include information about the creator, date, source type, location and licensing information

2.4 Texts

For texts, the survey indicates that the minimal technical quality standards are that texts should be full-text searchable and file types should be pdf, txt, epub, xml and/or rtf.

- It seems to be very important that texts are machine-readable and that re-users can copy and paste texts themselves, so they rather have not image scans.
- The most wanted file types that were mentioned are pdf (9×) and txt (8×). Other file types that were only mentioned once or twice were epub (2×), xml (1×) and rtf (1×).
- Respondents have the opinion that text objects should be full-text searchable (8 out of 12 completed responses on this question).

- Other quality indicators that were mentioned are:
    - Abstract in English
    - Image resolution of minimum 600 dpi
    - Correct basic metadata, which should at least include information about the creator, date, source type, location and licensing information

2.4 3D Objects

A minority of respondents answered questions in this section. For 3D objects, the survey indicates that the minimal technical quality standard is that it should at least be available in a file type like OBJ and BLEND.

- It seems like 3D objects are not so much used by the respondents at this moment yet. Only 6 out of 28 respondents (21%) filled out questions in this section.
- The most wanted file types that were mentioned are OBJ (5×) and BLEND (2×). Other file types that were only mentioned once were MAX, Cinema4D, DAE, 3DS, CAD, FBX.
- Other quality indicators that were mentioned are:
    - Printability
    - Textures in medium or high res
    - Animation should be included
    - Poly-count not too high
    - Clean and triangulated mesh

3. Conclusion and Recommendations

The survey indicates that there are some minimal technical quality standards that are articulated by the creative industries and wider stakeholders of Europeana Creative. Although Europeana can capture, but currently does not store technical metadata about the resolution, bit depth or sample rate of content items, we were able to compare these outcomes with the current practice of Europeana and availability of quality content from the cultural heritage sector.

We draw the following recommendations for each Digital Object type:

a. Images

The minimum quality of images is indicated at:

- image resolution of 1,280 x 800 pixels
- file types jpg, png and tiff
- no visible watermarks

These requirements are in line with the current practice and availability of content in Europeana.

b. Video

The minimum quality of video is indicated at:

- a resolution of 1,280 × 720 pixels (720p)
  However, the reality of video content provided by the heritage sector (digitised television content) is that this excludes all content from the SD era. Therefore we recommend a somewhat lower minimum quality of 704 × 576 pixels (576p).
- a bitrate of 2,000 Kbs (2 Mbit)
  However, this quality is much higher than the previously indicated resolution of 720p. Because of the contradictory nature of this outcome, we recommend not taking this as a requirement to build upon.
- file types MP4, mov, WEBM
- no visible watermarks
  I t will be hard to enforce this requirement for digitised television content, as television broadcasters often use watermarks. We therefore do not recommend to include this as a hard requirement, but as something that would be nice to enforce, whenever possible.

c. Audio

The minimum quality of audio is indicated at:

- a sample rate of 41,100 kHz
- 16 Kbits
- file type MP3
  We recommend that besides MP3 all lossless file formats like FLAC, WAV and APE should be added as requirement for the minimum technical quality of audio objects.

d. Text

The minimum quality of texts is indicated at:

- full text searchable
- file types pdf, txt, epub, xml and/or rtf

e. 3D Objects

The minimum quality of 3D Objects is indicated at:

- file types OBJ and BLEND

As too little people have answered questions in this section of the survey, we recommend that more research is needed to come to hard conclusions on minimal quality requirements for this type of Digital Object and do not include this as a minimum requirement yet.

Annex 1: Survey Questions

eCreative Survey: technical quality of content

Dear reader,

You have been selected by one of the consortium members of the Europeana Creative project (pro.europeana.eu/web/europeana-creative) as one of the key players in the creative industries sector or wider group of stakeholders to re-use cultural heritage content (e.g. historical photos, audio, video and 3D objects) available via Europeana, or as one representing them.

Europeana is a European funded initiative that gives access to the trusted sources of more than 2200 cultural institutions across Europe. Currently, the Europeana Creative project works on increasing the creative reuse of the content by making a subset of these available via a Content Re-use Framework.

One of the key requirements that has been identified by the consortium is that the available content should meet a minimum of technical quality to be re-usable according to your standards, i.e. the standards of the creative industry sector and wider stakeholders (e.g. educational re-users).

In order to determine what this minimum technical quality is and generate clear recommendations to Europeana Creative, we invite you to share your view through the below survey. We ask you to kindly give your opinion on at least image and video. If you feel not confident giving your opinion on audio, text or 3D objects, you can skip these questions.

To complete our online survey, shouldn't take you more than 10 minutes. Please complete the online survey before May 31, 2013.

We thank you very much for your kind participation. We will share the outcome of our findings through a public report that we will circulate before summer.

Kennisland

*Mandatory

PARTICIPANTS INFORMATION

First name *

What is your first name?

Last name *

What is your last name?

Job title *

What is your job title?

Organisation name *

Which organisation do you represent?

E-mail address *

What is your e-mail address? (we only use this to be able to send you the public report)

Type of organisation *

What is the type of your organisation?

Other type of organisation if you have indicated 'Other', please specify

IMAGES

What are the minimum technical quality requirements for the reuse of *image* files (photos, maps, illustrations, etc.)?

Please indicate a minimum size in pixels *width* (px) *

Please indicate a minimum size in pixels *height* (px) *

Please indicate if visible watermarks should be part of the minimum quality *

YES, visible watermarks are acceptable

NO, there should be no watermarks visible

Please indicate file types (e.g. JPG, TIFF, PNG)

Please indicate if there are any other minimum quality indicators that are important

VIDEO

What are the minimum technical quality requirements for the reuse of *video* material?

Please indicate a minimum size in pixels *width* (px) *

Please indicate a minimum size in pixels *height* (px) *

Please indicate if visible watermarks should be part of the minimum quality *

YES, visible watermarks are acceptable

NO, there should be no watermarks visible

Please indicate a minimum bitrate (in kbps)

Please indicate a minimum frame rate (in fps)

Please indicate the file types/ codec (e.g. MOV, WEBM, MP4, OGV)

Please indicate if there are any other minimum quality indicators that are important

AUDIO

What are the minimum technical quality requirements for the reuse of *audio* material (music, sound recordings, spoken word)?

Please indicate a minimum sample rate (in kHz)

Please indicate a minimum bit depth (in bits)

Please indicate a file types / codec (e.g. MP3, FLAC, OGG, WAV)

Please indicate if there are any other minimum quality indicators that are important

TEXT

What are the minimum technical quality requirements for the reuse of *texts* (books, papers etc.)?

Please indicate a minimum size of the image resolution of the scan in pixels *width* (px)

Please indicate a minimum size of the image resolution of the scan in pixels *height* (px)

Please indicate file types (e.g. PDF, TXT, EPUB)

Please indicate if a minimum quality should be that the text should be full text searchable

YES, full text search is a minimum quality

NO, full text search is not a minimum quality

Please indicate if there are any other minimum quality indicators that are important

3D OBJECTS

What should be the minimum technical quality of *3D objects*?

Please indicate file types (e.g. PDF, BLEND, CAD, OBJ)

Please indicate if there are any other minimum quality indicators that are important

Thank you!

Thank you for taking the time to participate in our online survey. Please forward this to contacts you know, e.g. colleagues who specialize in certain object types or people (representing) relevant stakeholders. We keep you posted about the outcomes of the survey.

If there are areas that you think have not been covered in this survey and are important to bring to our attention to determine minimum technical quality requirements for the re-use of content in Europeana, please share that with us below.

Annex II: Minutes Viability Meeting Europeana Creative MS8

Wednesday, July 3, 2013 at the Europeana Office

Attendees

- Antoine Isaac (Europeana)
- Vassilis Tzouvaras (Europeana / Europeana Creative)
- Breandán Knowlton (Europeana / Europeana Creative)
- Pavel Kats (Europeana / Europeana Cloud)
- Maarten Zeinstra (Kennisland)

Introduction

Europeana Creative has set some initial requirements for the content reuse layer of the extended Europeana Licensing Framework (Europeana Creative / MS8). These requirements need to be implemented to further the Europeana Creative project. In this meeting we have gathered stakeholders from different Europeana projects and internal roles to create the minimum technical requirements for the content layer. We have discussed the possible syntax of conditional rights statements and how to create access controls at the storage level, which is also important in the Europeana Cloud project.

Minimal Technical Quality Requirements

MS8 sets three high level minimal requirements for the content layer that can be described as a directly accessible technical high quality cultural object provided under an open license or a conditional rights statement.

This leads to several technical questions:

- How can we find high-quality material for the content layer?
- How can we indicate which objects belong to the content layer?
- How can we maintain the quality of the content layer?

How can we find high-quality material for the content layer?

With the current Europeana Data Model it is relatively easy to find objects that are directly accessible and that are provided under open licenses and in the future a conditional rights statement. It is currently not possible to search for technical high-quality material, because descriptive metadata of the digital representation of the cultural objects are not gathered.

A brief discussion took place about whether this content layer should be manually selected (by the ingestion team) or that a technological solution should be created to do this automatically. Given the nature of the content layer and the reason why high-quality objects should be easily accessed for reuse the group quickly decided that a long-term technological solution is preferable. It should be noted that the drawback of a technological solutions is that quality is measured on a highly objective level and that it would not be possible to detect watermarks.

Breandán Knowlton indicated that a system to analyse digital files to gather this information is already on the roadmap for general Europeana Development. A crawler tool is on the roadmap to determine the technical qualities of objects. Breandán Knowlton indicated that Europeana Creative should in the short term work on technical requirements for this crawler on the roadmap to make the crawler applicable for the content layer of Europeana Creative.

Vassilis Tzouvaras indicated that with tools it will probably be relatively easy to determine the quality of images and texts; however, streamable formats like audio and video could prove to be difficult to implement.

Vassilis Tzouvaras also indicated that changes need to be made to the Solr index to be able to map the metadata about the digital files. He indicated that this will probably not be very difficult.

How can we indicate which objects belong to the content layer?

Once we have metadata present to determine which objects qualify for the content layer we need to be able to access this metadata. Again this could be done automatically through a tag in the Solr index or through a predefined query that uses the API.

Vassilis Tzouvaras indicated that both would be viable options, but that tagging objects in the Solr index gives us more flexibility for human control on watermarks that could exist within collections, but that solution needs to be maintained by humans and will be more costly.

How can we maintain the quality of the content layer?

Maintaining the quality of the content layer depends on whether we are developing a solely technical solution or a mixed technical and human-controlled solution. The preference is definitely on the former, due to resources constraints, despite some drawbacks. A crawler that creates metadata about Digital Objects can run constantly if resources allow human checking and if it can be embedded in policy and kept up.

Conditional Rights Statements

Conditional Right Statements allows data providers greater flexibility in offering access and reuse permissions to specific third parties. A syntax for these rights statements needs to be described on the level of the metadata model. This work has been partially done in Europeana Awareness and Antoine Isaac will follow up on this. These changes to the data model are scheduled for Q4 of 2013.

Antoine Isaac indicates that he needs feedback on the conditions, examples and commitment that those are very realistic to finalise the design for the addition of the data model. Breandán Knowlton will ask content providers for more detailed examples for the terms under which he wants this to be available.

Access Controls on the Storage Level

Both Pavel Kats as Breandán Knowlton agreed that Europeana should enforce as minimum technical barriers as possible for access to content and will preferably not develop access controls on their storage solutions.

A brief discussion about possible access control was held based on API keys, adding to the current user infrastructure of Europeana. The development of Europeana Creative and Europeana Cloud will determine if and how access controls are implemented.

Action Points

Breandán Knowlton:

- Follows up on data providers about what kind of specific access restrictions are necessary.
- Will determine which (sub-)projects does the development of the quality checker, shows Maarten Zeinstra the ticket system.

Vassilis Tzouvaras:

- Looks into the macro-query approach or the flag approach. Determines which is most viable and sustainable.