



DELIVERABLE

Project Acronym: Europeana Cloud
Grant Agreement number: 325091
Project Title: Europeana Cloud: Unlocking Europe's Research via The Cloud

D5.1 Minimum requirements for Europeana Cloud

Revision: Final

Authors:

Maarten Zeinstra (KL)
Lisette Kalshoven (KL)
Alastair Dunning (TEL)
Julia Fallon (EF)
Louise Edwards (TEL)

Project co-funded by the European Commission within the ICT Policy Support Programme	
Dissemination Level	
P	Public

Revision History

Revision	Date	Author	Organisation	Description
0.9	11/11/13	<i>Julia Fallon (EF)</i> <i>Maarten Zeinstra (KL)</i> <i>Lisette Kalshoven (KL)</i> <i>Alastair Dunning (TEL)</i> <i>Louise Edwards (TEL)</i>	Europeana Foundation (EF) Kennisland (KL) The European Library (TEL)	Initial version in Template, Earlier versions cooperatively written in Google Docs
	15/11/13	Maarten Zeinstra Julia Fallon		Final review of draft ready for external review.
	28/11/13	Maarten Zeinstra		Incorporated comments from external reviewers
	03/12/13	Maarten Zeinstra		Changed the wording of requirement 1,2 and 3 to match work in other Europeana Projects.
	11/12/13	Julia Fallon		Further editing of requirements 1, 2 and 3

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This deliverable contains original unpublished work except where clearly indicated otherwise.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

Executive Summary

Europeana Cloud is developing a cloud-based infrastructure capable of storing, sharing and providing access to the metadata of Europe's cultural heritage institutions. Underpinning the development of this infrastructure are a number of key legal, strategic and economic requirements that shape its technical design and implementation.

These initial minimum requirements are the result of a consultation with data providers, infrastructure providers and end users. The consultation was undertaken through a series of workshops that had the aim of developing an initial understanding of what the minimum requirements should be for Europeana Cloud.

To develop the minimal initial requirements we used the Europeana Cloud High Level Principles to guide the topics of discussion, and the Europeana Cultural Commons Principles to guide the manner and nature of the discussions. These two sets of principles are explained further below. The results of the workshops were aggregated, analysed and condensed to form the basis of the initial minimum requirements.

The foundations of Europeana Cloud have been defined so far by technical requirements, and supported by contributions from representatives of end users and those developing tools and services; the requirements of data providers help us to complete the picture.

These two perspectives bring a list of 12 initial minimum requirements:

1. To develop a Licensing Framework that provides continuity to existing standards for sharing cultural heritage metadata by establishing a set of minimum metadata fields for which it is mandatory to publish under CC0.
 2. To recommend an extension to existing frameworks and data models that enables data providers to manage their metadata by allowing for the release of metadata under terms other than CC0.
 3. To recommend a structured method for sharing information about metadata that is shared with Europeana Cloud by communicating access permissions that are consistent with the Europeana Data Model.
 4. To develop a framework that regulates the participation in Europeana Cloud by providing a service level agreement between Europeana Cloud and both infrastructure providers and data providers.
-

5. To develop a governance structure and model that is transparent and led by a community of stakeholders applying the Cultural Commons Principles.
6. To identify the manner of providing the initial core services offered through Europeana Cloud by establishing the primary route and method of aggregation of metadata.
7. To develop a governance model that is founded upon the principles of openness throughout its infrastructure, source code and access conditions to metadata and digital objects.
8. To develop a cultural commons that serves the community by advocating, delivering and sharing best practice.
9. To develop a business model that can reduce the cost to data providers of processing and storing, aggregating and sharing metadata and content by delivering a shared infrastructure.
10. To supply data providers with the facilities to increase the effective dissemination of metadata and content by providing access to metrics and statistics.
11. To deliver a platform that facilitates the removal of barriers to using and extending the platform by adhering to open interoperability standards.
12. To develop a business model that where the Data Providers provide a financial contribution towards the long-term sustainability of the platform.

The requirements identified in this document form the basis of the frameworks, models and structures that will be continue to be developed under WP5 throughout the project. Six key aspects of the requirements need more research. The Europeana Cloud Strategic Taskforce will address these key aspects. In addition, the operating principles and the results from the use cases will be used to validate the development of the Europeana Cloud infrastructure (WP2) and Tools and Services (WP3). Following these checks and measures, a final set of operating principles will be delivered in July 2014 (D5.2).

Table of Contents

1. INTRODUCTION	6
2. GLOSSARY	7
3. BACKGROUND	8
3.1 Europeana Cloud: High Level Principles	8
3.2 Europeana: Cultural Commons Principles	9
4. THE FOUNDATIONS OF EUROPEANA CLOUD	10
4.1 Technical requirements	10
4.2 End-User Requirements	11
4.3 Tools and Services	11
5. THE INITIAL MINIMUM REQUIREMENTS FOR EUROPEANA CLOUD	12
5.1 Legal Requirements	12
5.2 Strategic Requirements	14
5.3 Economic Requirements	16
6. DELIVERING THE REQUIREMENTS	19
7. ANNEX 1: WORKSHOP ANALYSIS	21
8. ANNEX 2: HIGH LEVEL PRINCIPLES	3

1. Introduction

Europeana Cloud is developing a cloud-based infrastructure capable of storing, sharing and providing access to the metadata of Europe's cultural heritage institutions. A shared infrastructure that could enable Europe's cultural heritage institutions to better execute their missions by lowering costs, improving effectiveness and efficiencies, and expanding dissemination options as well as improving cooperation across Europe.

Using a cloud-based infrastructure means that it no longer matters where the physical digital storage servers are located. With developing technologies like high bandwidth connections and new possibilities using software, servers that are physically separate can be linked to each other as if they were one machine. Several institutions can pool their resources into one virtual server: a cloud. In addition to providing virtual storage options, this virtual server can also run software which is accessible via the Internet, which can replace locally stored and run software.

In addition to the cloud-based infrastructure, Europeana Cloud will enable the supply of metadata and access to content and services to meet the needs of defined research communities in the humanities and social sciences. Called Europeana Research, it will deliver services that are built on top of the cloud-based infrastructure of Europeana Cloud and serves as an exemplar for other services that can be built using Europeana Cloud.

Underpinning the development of Europeana Cloud are a number of key legal, strategic and economic requirements that shape its technical design and implementation. The purpose of this document is to define the initial minimum requirements of delivering an effective cloud-based infrastructure.

2. Glossary

The Europeana Glossary¹ defines several terms related to the key activities of Europeana and its projects. This document uses the following terms from that glossary.

Access: The ability to view a Digital Object or Metadata that is available online. Guideline: A User has Access when they can view a Digital Object online.

Aggregator: An organisation that collects, formats and manages Metadata from multiple Data Providers, providing services such as offering their own Portal and acting as Data Provider to Europeana.

Content: A physical or Digital Object that is part of Europe's cultural and/or scientific heritage, typically held by a Data Provider.

Data Provider: An organisation that contributes Metadata describing Content that it is offering online.

Digital Object: A digital representation of an object that is part of Europe's cultural and/or scientific heritage. The Digital Object can also be the original object when born digital.

Metadata: The textual information and hyperlinks that serve to identify, discover, interpret and/or manage Content.

User or End-user: A person or entity making use of the services offered by Europeana through the Europeana Portal, Europeana API, third party services or social networks.

¹ <http://pro.europeana.eu/glossary>

3. Background

The initial minimum requirements are the result of consultation with data providers, infrastructure providers and end users. The consultation was undertaken through a series of workshops that had the aim of developing an initial understanding of what the minimum requirements should be for Europeana Cloud.

To do this we used the Europeana Cloud High Level Principles² to guide the topics of discussion, and the Europeana Cultural Commons Principles³ to guide the manner and nature of the discussions. These two sets of principles are explained further below. The results of the workshops were aggregated, analysed and condensed to form the basis of the initial minimum requirements. These workshops are described in Annex 1.

3.1 Europeana Cloud: High Level Principles

To guide the initial design of the new infrastructure, Europeana Cloud defined a set of high-level principles. The eight principles, published in June 2013, cover technological, strategic, legal, economic and governance factors. These principles establish that Europeana Cloud:

1. Primarily **serves Europe's cultural heritage institutions**, enabling them to provide audiences with access to their Digital Objects
2. Promotes **openness**
3. Delivers a **more efficient solution** to the current methods of storing, sharing and providing access to digital cultural heritage objects
4. Operates under a **sustainable** business model
5. Provides the **infrastructure** to access metadata and content
6. Is accessible through **standardised data models**
7. Supports a **legal framework** to govern access and re-use
8. Is **governed** and led by the **community**

² Published on <http://pro.europeana.0065u/web/europeana-cloud/blog/-/blogs/europeana-cloud%3A-establishing-the-high-level-principles> See also Annex 2.

³ Edwards, Louise. The Commons; from concept to action. Europeana Network Annual General Meeting, 27th November 2012, Berlin

See also: <http://pro.europeana.eu/web/guest/cultural-commons>

3.2 Europeana: Cultural Commons Principles

To explore the potential of using the commons principles as a mechanism to foster community and collaboration Europeana Cloud is applying the Europeana Cultural Commons Principles. The Europeana Network defined these set of principles, upon which it recommends a Cultural Commons should be based on:

1. *Mutuality* – Create a community of organisations and individuals, based on the principle of achieving **mutual benefit**, acting in good faith and presuming it on behalf of others
 2. *Access* – Provide a set of **high-quality reusable content, tools and services** to enable creativity and innovation
 3. *Attribution* – Commit to the principle of **respecting rights** through acknowledgement and attribution
 4. *Consistency* – Build on the **existing values and principles** of our sector
 5. *Engagement* – As members of the community, commit to **use the commons proactively** and to contribute to it.
-

4. *The foundations of Europeana Cloud*

The foundations of Europeana Cloud are built on not just the High Levels Principles, or the requirements that we will go on to describe, but also upon the technical specifications developed under Work Package (WP) 2. In addition to developing a technical infrastructure for aggregators and data providers to store and share metadata, Europeana Cloud will provide services for others to build tools upon the metadata. Europeana Research will provide a set of tools and services that particularly focus on the research community within the arts and humanities and social sciences.

To set the scene for the initial minimum requirements we will first describe the contributions of these WPs to the development of the foundations of Europeana Cloud.

4.1 *Technical requirements*

WP2 has produced an initial set of functional technical requirements⁴ of the shared infrastructure that will form the foundation of Europeana Cloud:

1. A **unique identifier service** for each record about data in Europeana Cloud.
2. The ability to **store multiple versions and formats** related to a single record (e.g. a EDM and MARC version of a catalogue record).
3. The ability to **group data records** into sets.
4. The ability **see changes made** to records over time.
5. **Access control** to upload, amend, download and delete records.
6. The ability to **annotate data records** in Europeana Cloud.
7. The ability to download data in bulk.
8. The ability to **verify records** as they are uploaded (e.g. to test they confirm to a format).
9. The ability to **convert records** for different formats.

The design of this technical architecture⁵ will be continuously monitored against the work undertaken throughout the project, but in particular the development of the initial minimum

⁴ See section 3 of Deliverable 2.2, at <http://pro.europeana.eu/documents/1414567/1861920/D2.2+Europeana+Cloud+Architectural+Design>

⁵ See: <http://pro.europeana.eu/web/europeana-cloud/blog/-/blogs/europeana-cloud-shared-infrastructure-for-european-cultural->

requirements⁶. A beta version of Europeana Cloud will be released in early 2014 with a small set of features⁷. This will allow data providers to experiment with the infrastructure within the safe confines of the project.

4.2 End-User Requirements

The needs of the end users are taken into consideration by Work Package 1 which takes responsibility for gathering the needs of the research communities. In particular how the community wishes to access and exploit the metadata in Europeana Cloud; what content the community would like to see made available to them as part of the project; and what digital tools could assist them in their research work. A series of expert forums is exploring the potential of Europeana Cloud to ingest specific corpora of data and to allow the creation of third-party tools. The results of this work will be used to validate the initial minimum requirements and contribute to the ongoing development of tools and services available via the Europeana Research Platform.

4.3 Tools and Services

Putting the research community's requirements into practice and developing research-focused tools that access Europeana Cloud are the challenge of Work Package 3. These tools will form the basis of the Europeana Research Platform. The feedback gained from this Work Package will allow for the refinement of the Cloud so that tool building is facilitated: for example, by adjustment to the functionality of APIs.

[content?_33_redirect=http%3A%2F%2Fpro.europeana.eu%2Fweb%2Feuropeana-cloud%2Fblog%3Fp_p_id%3D33%26p_p_lifecycle%3D0%26p_p_state%3Dnormal%26p_p_mode%3Dview%26p_p_col_id%3Dcolumn-1%26p_p_col_count%3D1](http://pro.europeana.eu/web/europeana-cloud/blog?p_id%3D33%26p_p_lifecycle%3D0%26p_p_state%3Dnormal%26p_p_mode%3Dview%26p_p_col_id%3Dcolumn-1%26p_p_col_count%3D1)

⁶ See Milestone 27 of Europeana Cloud here: http://pro.europeana.eu/web/europeana-cloud/results/-/document_library_display/p6BV/view/1861924

⁷ More information about the timetable can be found in D2.2

5. The Initial Minimum Requirements for Europeana Cloud

Building on the foundations of Europeana Cloud as established so far by the technical requirements, and supported by contributions from representatives of end users and those developing tools and services, the requirements of data providers help us to complete the structure. These initial minimum requirements below represent the main outcomes of a series of consultations, and form the basis of the further work that will be undertaken to refine the requirements.

These initial minimum requirements are structured according to the three themes used consistently throughout the project: Legal, Strategic and Economic principles of Europeana Cloud.

5.1 Legal Requirements

The legal requirements of Europeana Cloud focus on developing the ideals of providing open access to metadata and digital objects through a structured licensing framework. These legal principles will be used as the basis to extend the Europeana Licensing Framework, originally published under the EuropeanaConnect project⁸ in 2009 and subsequently revised through EuropeanaAwareness⁹.

The current Europeana Licensing Framework¹⁰ describes a suite of agreements that facilitate the exchange of metadata, as well as defining the expectations for data providers and user-contributed content and best practice for the sharing of metadata and content. It is based on the current operating principle that all metadata will be made available under a Creative Commons Zero Public Domain Dedication Waiver (CC0), and that all users have equal access and re-use rights.

The current Europeana Licensing Framework, which requires that all metadata is released under CC0 licence, is a potential barrier for the adoption of the infrastructure. Europeana Clouds Data Providers need to be able to publish different types of metadata under terms

⁸ See <http://www.europeanaconnect.eu/results-and-resources.php?page=8>

⁹ See http://pro.europeana.eu/web/europeana-awareness/outcomes/-/document_library_display/5Qtl/view/982551/63706?_110_INSTANCE_5Qtl_redirect=http%3A%2F%2Fpro.europeana.eu%2Fweb%2Feuropeana-awareness%2Foutcomes%2F-%2Fdocument_library_display%2F5Qtl%2Fview%2F982551

¹⁰ See <http://pro.europeana.eu/web/guest/licensing>

than CC0. For example,, the metadata that specifically enables the discoverability of other Metadata and Content within Europeana Cloud should be published under the most open and free terms possible, but there may also be a requirement to limit access to other types of metadata.. To strike a balance between these two the Licensing Framework should establish a minimum set of metadata that is mandatory to release under a CC0 licence.

Requirement 1: To develop a Licensing Framework that provides continuity to existing standards for sharing Cultural Heritage Metadata by establishing a set of minimum metadata fields for which it is mandatory to publish under CC0 .

A requirement of the data providers is the ability to share Metadata and Content on different terms to different users. To generate trust and to enable sharing between specific parties, many data providers see a need for access controls for certain user groups to manage offering differing terms and permission on a collection and object level. Data providers indicated that access controls should be in place, depending on the jurisdiction of the user location.

Requirement 2: To recommend an extension to existing frameworks and data models that enables data providers to manage their metadata by allowing for the release of metadata under terms other than CC0.

To structurally make this access control information available and usable by the Europeana Network, a connection needs to be made with the Europeana Data Model. All metadata shared with and via Europeana Cloud Infrastructure needs a clear statement that describes the access, terms and permissions that are granted, and that statement needs to be communicated in a structured manner, similar to the Europeana Data Modelrights statements (EDM:rights).

Requirement 3: To recommend a structured method for sharing information about metadata that is shared with the Europeana Cloud Infrastructure by communicating access permissions that are consistent with the Europeana Data Model.

in addition to the sharing of metadata, which is currently governed between Europeana Foundation and its data providers under the Europeana Data Exchange Agreement, data providers and infrastructure providers require their participation with Europeana Cloud to be regulated. The aspects of participation that relate to the level of service needs to be guaranteed from an operational perspective. It also must make provisions for non-performance of either party, and ensure that all Europeana legislative requirements are met, such as those establish in the Electronic Commerce Directive 2000/31 EC.¹¹

Requirement 4: To develop a framework that regulates the participation in Europeana Cloud by providing a service level agreement between Europeana Cloud and both infrastructure providers and data providers.

5.2 Strategic Requirements

The strategic requirements extend the ideals that Europeana Cloud should promote openness and is governed and led by the community of users. The principles of the Cultural Commons, developed by the Europeana Network, have been applied in the development of these requirements and will become embodied in the governance, operational and social structures within Europeana Cloud.

It is an initial requirement that a legal entity responsible for the functions and operations of Europeana Cloud must be identified and, if not an existing entity, it must be legally incorporated. This legal entity manages the interactions of partners, agreements and contracts, handling questions concerning the liabilities and obligations of data providers and infrastructure providers of Europeana Cloud.

The Data Providers and Infrastructure Providers of Europeana Cloud will predominantly support its growth by contributing resources, as well as being institutional users of the infrastructure, tools and services. The governance structure of Europeana Cloud must adequately balance the needs and interests of the institutional user with those of the end users. By applying the Cultural Commons Principles Europeana Cloud will ensure that the resulting structure is transparent, encourages participation and can represent the community.

¹¹ See http://ec.europa.eu/internal_market/e-commerce/directive/index_en.htm

Requirement 5: To develop a governance structure and model that is transparent and led by a community of stakeholders, applying the Cultural Commons Principles.

A key aspect of establishing the governance structure is to identify core features of the services provided by Europeana Cloud, as well as secondary or tertiary features that may be enabled through Europeana Cloud. For example, the primary route of aggregation and publication of metadata will be defined as a core feature. Establishing a primary method and route of aggregation of metadata is essential so that the route by which the Data Providers can provide their metadata to Europeana via Europeana Cloud is well understood and usable, ensures continuity as well as supports the long-term strategic planning of sharing Cultural Heritage metadata and content.

Requirement 6: To identify the manner of providing the initial core services offered through Europeana Cloud by establishing the primary route and method of aggregation of metadata.

Looking next at the management of the mechanisms that technically enable the sharing of metadata, Europeana Cloud will use Application Programming Interfaces (APIs) as a means of sharing and providing access to metadata for the tools and services that will be built. The API and the source code upon which Europeana Cloud is based should be made open and accessible to any user of Europeana Cloud. By openly publishing the source code of the project, Europeana Cloud can not only share best practice but also enable derivative products, tools and services to be built.

Requirement 7: To develop a governance model that is founded upon the principles of openness throughout its infrastructure, source code and access conditions to metadata and Digital Objects.

Europeana Cloud delivers both a software-as-a-service platform and starts an Infrastructure-as-a-service, supported by a strong community that collaborates towards building an innovative cultural heritage sector in Europe. Europeana Cloud should be a platform for best practice, collaborative ideas and projects. For example, stakeholders

indicated a need for best practices for attribution norms when reusing material from Europeana Cloud, such as providing methods to trackback reuse.

Requirement 8: To help develop Europeana Cloud as a cultural commons that serves the community by advocating, delivering and sharing best practice.

5.3 Economic Requirements

The economic requirements describe the minimum requirements of Europeana Cloud that contribute towards delivering a more efficient solution to the current methods of storing, sharing and providing access to digital cultural heritage metadata and content, whilst operating under a sustainable business model.

Defining a more efficient and sustainable solution requires a deep understanding of the possibilities for empowering cultural heritage institutions to create and deliver value added activities and services on top of Europeana Cloud. These can be broadly defined as occurring within one of the following four categories:

- lowering costs;
- increasing effectiveness;
- delivering efficiencies;
- improving dissemination.

A common understanding of cloud-based computing services is that it lowers costs by reducing reliance on local or physical storage systems by enabling a single dynamic and on-demand infrastructure solution for the processing and storage of metadata and content. Content aggregation systems are usually internal and managed at a single organisational level. The duplication of these systems through the Cultural Heritage domain increases the barriers to accessing and disseminating metadata and content.

However, achieving lower costs is not limited to storage systems. Data providers anticipate that by participating in a shared infrastructure such as that proposed by Europeana Cloud, they will also benefit from shared resources. For example, a single mechanism to share metadata with multiple services such as Europeana and Wikipedia could reduce the duplication of effort in harvesting, ingesting and mapping metadata to multiple schema and aggregators.

Requirement 9: To develop a business model that can reduce the costs for aggregators and data providers of processing and storing, aggregating and sharing metadata and content by delivering a shared infrastructure.

From the efficient management through a cloud-based infrastructure of metadata and content comes a requirement from data providers to understand and measure how widely metadata is being disseminated. A better understanding of how metadata, and the digital object it associates with, is discovered, accessed and shared is important to stakeholders. For example, knowing the number of times a digital object is accessed and the metadata terms used to find it creates an awareness of the demand for a particular object or collection.

Requirement 10: To supply data providers with the facilities to increase the effective dissemination of metadata and content by providing access to metrics and statistics.

Functioning as a hub for publishing, distributing and sharing metadata, it is essential that Europeana Cloud deliver an infrastructure that facilitates efficient access to that metadata. Europeana Cloud must ensure that there are low barriers to entry for those wishing to utilise the infrastructure and build tools and services. For example, Europeana Cloud needs to be able to use existing authentication infrastructures such as Shibboleth¹².

Requirement 11: To deliver a platform that facilitates the removal of barriers to using and extending the platform by adhering to open interoperability standards.

Establishing the long-term sustainability of the platform and its services is dependent on its uptake by data providers. It was felt strongly by data providers, infrastructure providers and end-users alike that the data providers should offer financial or other support for the infrastructure, as they would reap the financial benefit. In addition, business models where end users need to pay for access to content contradict the desire to share European Cultural Heritage as freely as possible.

¹² See <http://www.internet2.edu/products-services/trust-identity-middleware/shibboleth/>

Requirement 12: To develop a business model where the Data Providers contribute towards the long-term sustainability of the platform.

6. Delivering the Requirements

The requirements identified in this document form the basis of the frameworks, models and structures that will be continue to be developed in WP5 throughout the project.

Throughout the process of identifying and validating the requirements it became clear that a deeper and more detailed understanding of six key aspects of the requirements were necessary. To address these, the Europeana Cloud Strategic Taskforce made up of Europeana Cloud project members will be given the task to develop a use case template that will address these key aspects.



The use-case template employs the requirements outlined in this document to further explore key issues, enabling stakeholders to provide concrete examples of their expectations and perceived benefits. These use cases will be completed during the next

three months, and they will be analysed and presented at the Europeana Cloud General Assembly meeting in March 2014.

The results of the use cases will be fed directly into the implementation of the legal, strategic and economic operating principles. In addition, the operating principles and the results from the use cases will be used to validate the development of the Europeana Cloud infrastructure (WP2) and Tools and Services (WP3). Following these checks and measures, a final set of operating principles will be delivered in July 2014 (D5.2).

7. ANNEX 1: Workshop Analysis

Introduction

In order to determine what the requirements for Europeana Cloud should be, we held three workshops to gain input from the various stakeholder groups. The requirements were split up into three groups: the social principles, the legal principles and the economic principles.

The methodology used in all three workshops was first gaining a broad picture of the possible requirements for Europeana Cloud and then defining them through group-based exercises.

Social workshop

The social workshop began by identifying requirements stakeholders wanted Europeana Cloud to solve. We then listed the expected benefits from resolving those requirements. Finally, we thought about practical ways to tackle the requirements and deliver the associated benefits. The outcome was a clear list of priorities for the consumers and providers of Europeana Cloud.

Legal workshop

Participants identified legal requirements and then refined them through a series of exercises to clarify requirements around ownership, responsibility, and liability. Also, the issue of access within the Cloud was addressed by creating different scenarios for the openness of Europeana Cloud.

Economic workshop

Participants identified and discussed ways of realising opportunities presented by Europeana Cloud. In the social workshop we had already deduced that the four main priorities for stakeholders were:

- Lowering costs
- Increasing effectiveness
- Delivering efficiencies
- Improving data distribution and uptake.

Based on these criteria, workshop participants identified how each of these critical success factors could be achieved, and in what context.

Workshop 1: social principles

Identifying the difficulties that Europeana Cloud can help you solve

The workshop started by identifying the requirements we all had that we wanted Europeana Cloud to solve. Next we moved onto addressing the benefits we expected from resolving those requirements, and finally, we thought about solutions that would resolve the requirements and deliver the benefits that we wanted. We also spent time looking at our requirements from a different perspective - we asked stakeholders to swap groups and look at each others problems and think of different solutions. Establishing this different perspective helped to reinforce that Europeana Cloud will be governed according to the Cultural Commons principles, where ensuring mutual benefit is a key principle.

The requirements and solutions that were discussed were wide and varied: enlarging the research community that uses heritage data and content; increasing the number of citations of cultural works; tailoring access to part of collections according to defined user groups; having higher quality content and metadata (through sharing and enrichment possibilities); more content is more cost-efficient for data providers; having cheap storage; and having metrics to see how data/content is being used.

Establishing the common ground

A key principle that kept cropping up was the idea that Europeana Cloud needs to be governed by its stakeholders. This notion of a shared ownership of Europeana Cloud is in line with the Europeana Cultural Commons Principles. Meaning that each data provider not only owns and controls their own data on the cloud, but they also participate in determining how other users interact with the tools and services available through Europeana Cloud.

It was agreed that these tools and services should enable efficient online storage and the sharing of cultural heritage content with users, including other institutions and researchers. This should be enabled through a suite of Application Programming Interfaces (APIs) that allows different groups of users to create new tools and services on top of the data stored in Europeana Cloud.

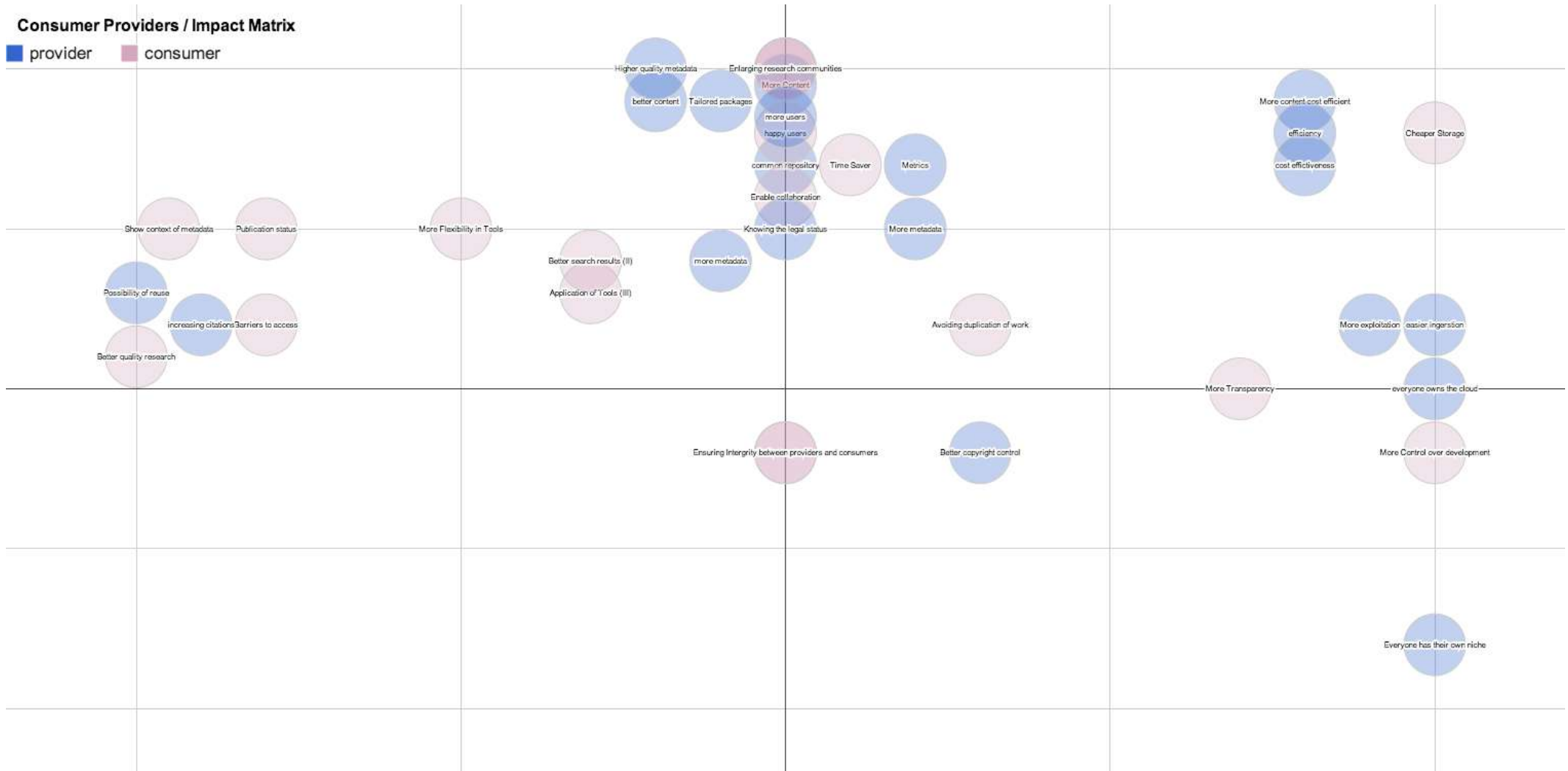
Operating under a coherent governance model, and a robust technical infrastructure, Europeana Cloud should deliver easier ways to publish datasets to a sharing platform that shows the authority and integrity of its providers.

Output

The output of the first workshop was the matrix digitised below with a clear list of priorities for the consumers and providers of Europeana Cloud. The priorities were created by analysing and plotting the benefit written down by the workshop participants. The results flowed into the next workshops on the legal and economic principles, as well as flowing into the requirements of Europeana Cloud.

Consumer Providers / Impact Matrix

■ provider ■ consumer



Workshop 2: Legal Principles

Defining the Legal requirements

After taking into account the results from the social requirements workshop we began the day with a broad definitions of the legal requirements the different represented stakeholders had in four different groups. These requirements were set to refine during the day. Examples were: 'who has ownership of the Cloud?' and 'How is access managed within the Cloud?'

In order to give the participants as much information as possible to refine their requirements, we had two presentations from different areas: one technical, one legal.

Technical Infrastructure & the Europeana Licensing Framework

Pavel Kats from WP2 gave us an overview of the technical infrastructure of Europeana Cloud as it stands, which gave the the participants a clearer idea on what the cloud is and can become. After which Paul Keller from Kennisland gave an introduction the the changes made in the Europeana Licensing Framework and the Content Reuse Framework. Important from his presentation was that we have a directive from 2000 about caching and hosting (e Commerce Directive) that we need to take into account. This means that Europeana Cloud will most likely not introduce any content restriction on data providers.

Refining the Legal requirements

After these presentations we reviewed, revised and categorised the legal requirements in the structure 'Europeana Should...'. This way we have a clear task, as Europeana, to take on. After this exercise, which yielded statements like:

Europeana should address notice and takedown procedures and Europeana should provide documentation on copyright requirements as many providers have no in-house expertise

We divided the statements up in three categories. Namely, 'Europeana', 'Europeana Cloud', and 'Other'. This way we make sure the right entity is addressing the requirements.

Access within Europeana Cloud

One issue kept popping up during the discussions during the morning, which was addressed in the afternoon. This was the debate on access. How open should the cloud be? Who has and should have access to the content? Who can use it?

The four groups were asked to define their positions on this issue. Interestingly these yielded very different results. Though all groups expressed to be in favor of open access to the cloud, the compromises needed to make the cloud work gave several possible scenarios. For example, there was an idea to restrict access to researchers only as a starting point, this 'researchers trojan horse scenario' would only allow in data that can be shared within the cloud. Another group wanted to allow everything to be stored within the cloud and enticing providers to make more content available for sharing by creating excellent tools for them.

Output

The output of the legal workshop was a list of phrases starting with 'Europeana should' which we split up in categories. Those are: responsibility/governance, legal, infrastructure, clarification and other. These results flowed into the next workshop on economic requirements, as well as forming the basis for the requirements of Europeana Cloud.

Workshop 3: Economic requirements

Defining the proposition

The economic requirements workshop, lead by Harry Verwayen, focussed on identifying and realising the opportunities of Europeana Cloud. In the social workshop we had already deduced that the four priorities the stakeholders represented have: lowering costs, increasing effectiveness, delivering efficiencies and improving dissemination. We took this information and had the workshop participants identify in what way this value could be achieved, and in what context. Herman Weeda was helping us with visualising the complex matter by sketching the future cloud and its process.

Case Study: Danish Museums

By way of inspiration Merete Sanderhoff from the Statens Museum for Kunst gave us insight on how the Danish Museums were working towards a more open oriented business model. The title of her presentation was 'Not just data, content too', which was received very well in the workshop.

Identifying and Realising the opportunities

The group discussion about how the value of Europeana Cloud could be achieved was structured in defining benefits, opportunities, and who benefits from those opportunities. For example, one benefit was defined as 'increasing find- and usability' of content. The opportunity would be to create an easy to use and practical API for Europeana Cloud. The people who would benefit from this are researchers, other end-users, and content providers as their content is used more often.

The input from the workshop participants was put into a matrix of priorities and worked into the requirements of Europeana Cloud.

Taskforce

The three workshops answered a lot of questions, but also raised several fundamental issues that need to be answered. Therefore, the Europeana Cloud Strategic Taskforce was created. One of the questions that the taskforce will answer is: will an Europeana Cloud member be able to use the cloud just for storage, or will they actually commit to something more by uploading data e.g that the data can be re-used for any purpose?

Output

The output from the economic workshop, besides defining the task force, a list of questions that still need to be answered about Europeana Cloud, and a list of the most important benefits the workshop participants would like from Europeana Cloud These naturally flowed into the minimum requirements of Europeana Cloud.

8. ANNEX 2: Europeana Cloud High Level Principles (MS26)

Introduction

A set of high level requirements is required to shape the development of all areas of Europeana Cloud project. Following an initial workshop that was held on March 5th in the Hague, and subsequent Skype meetings, a basic brief for high level principles is presented:

“Europeana Cloud serves Europe’s Cultural Heritage Institutions by delivering a more efficient solution to the current methods of storing, sharing and providing access to CH objects. It does so by providing an open source system that stores and enables services for accessing structured metadata and content with the intention of sharing and re-using this material to its users and participants. EuropeanaCloud will be available under a sustainable business model and governed by its users.”

The elements of this are explained in more detail below. This document will be revised in the light of what is technically feasible and other requirements that come out of a series of workshops that obtains input from other Europeana Network members and large scale networks such as Clarin and Dariah, that are deploying Cloud strategies. These initial outcome will be continually matched against technical progress of WP2.

Principles

Europeana Cloud primarily serves Europe’s Cultural Heritage Institutions, enabling them to provide access to their digital objects to their audience

Driven by the needs of the cultural heritage industry, Europeana Cloud provides the services to enable the sharing of metadata and content for the purposes of providing access to digital objects. This delivers improved services to providers with low barriers to entry and exit.

Europeana Cloud promotes openness

Openness supports reuse and sharing of cultural heritage objects as well as providing an infrastructure with low barriers for expansion and further development. Europeana Cloud produces open source software, has a preference for open standards, open file formats and promotes open content. Closed standards and closed formats can only be viewed as long as there is software available that can read proprietary file formats proof difficult to access on future operating systems/devices.

Europeana Cloud delivers a more efficient solution to the current methods of storing, sharing and providing access to digital cultural heritage objects

Europeana Cloud delivers efficiencies to cultural heritage providers along the lines of: a reduction of IT costs as compared to classic hosting technologies, avoiding IT infrastructure costs, enabling more time to focus on strategy and innovation, and the pooling of resources. Efficiencies are also be expected in terms of saving time, speed of delivery, better integration across the network to offer services with high availability, reliability, and security and better interoperability, easier management, and greater automation.

Europeana Cloud operates under a sustainable business model

To ensure the long term sustainability of the services provided by Europeana Cloud, Europeana Cloud will operate under a sustainable business model. A variety of options will be discussed in light of EU funding availability and the need to become self sustaining. This may allow for a reduction on the reliance of competitive funding rounds, and will encourage long term investment.

Europeana Cloud provides the infrastructure to access to metadata and content

Europeana Cloud delivers storage and services to provide secure, robust, technology neutral and sustainable access to metadata and content. These services include but are not limited to programmatic read/write access to Europeana Cloud, controlling the access to Europeana Cloud, connecting to other data services and systems and version control of data in Europeana Cloud.

Europeana Cloud is accessible through standardized Data Models

Europeana Cloud believes interoperability is crucial for cooperation and for the use of materials in its service. Europeana Cloud makes all metadata accessible using internationally recognised standard data models. Although standards are important for reuse and interoperability Europeana Cloud understands that source formatting is important. Europeana Cloud does not remove contributed source documents in favor of standardized models.

Europeana Cloud supports a legal framework to govern access and reuse

Europeana Cloud is linked to the Europeana Licensing Framework that enables the access to - and reuse of - metadata and content according to differing provider and user profiles. Each user and providers provides, makes available and reuses metadata and content in different ways with, and for, different purposes. The legal framework ensures that these requirements are met.

Europeana Cloud is a governed and led by the community

Europeana Cloud serves the needs of its community: the providers, members and users of the services provided, making use of and building on the Cultural Commons [principles](#). The community is self-regulating and has responsibility for establishing the boundaries of the community as well as the services provided. These services includes raising awareness, offering and enabling access to resources and tools as well as ensuring Europeana Cloud is a trusted and secure resource and service for the community.
