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ECLAP provides services and tools for automated content ingestion, adaptation, metadata ingestion and editing, semantic information extraction, indexing and distribution by exploiting the most innovative and consolidated technologies with the aim of providing high quality content to Europeana and make them accessible to content provider for their users in the area of education, research, and entertainment.

In this document the current ECLAP Overall Scenario is described focussing on the lice-cycle (workflow) of ECLAP content (content ingestion, content management). The solution takes into account metadata and IPR model, the ECLAP workflow services and tools defined to manage them both manually by users and automatically by the back-office. All this refers to the three main areas of the ECLAP architecture for content and metadata management and the corresponding developed services and tools (Metadata Ingestion Server, ACXP back office services and ECLAP front-office tools available on the ECLAP Portal). In this report is also detailed the *IPR Wizard tool* and the *IPR Logic Model* adopted to guide the Content Providers on creating an *IPR Models* and on making the association <IPR Model; content>. This tool has been realized to simplify and make systematic and standard the work of the *IPR Managers* of each CP.

According to ECLAP workflow, the content ingestion starts taking metadata and content files from any kind of archive and/or database or by providing them via FTP and/or web based utilities. Once the metadata area ingested, an intelligent content processing back office is capable of collecting and automatically repurposing content for distribution via pc and mobiles, coping with more than 500 digital file formats. The content uploaded/ingested is initially accepted and made available on the ECLAP BPN front end with a set of restrictions and the obtained metadata sets are sent to Europeana only after that the metadata have been enriched and linked to a reachable digital resource and when the IPR issues have been correctly defined with the needed quality level.

The ECLAP metadata enrichment activities can be performed by humans via suitable interface and tools or automatically performed by using a freeware AXCP media grid used as back office to run automated procedures as services (the automation parts are scripted). The typical metadata enrichments performed by ECLAP can be the addition of technical descriptors of source files, indexing, vip names extractors, the addition of more languages, the geo localization passing from location named into metadata and descriptors to formal GPS position, the production of QR codes for museum inspection and linkage (see it as augmented reality first step), the content aggregation, the addition of comments and tags, the association of taxonomical classification and so on. Nevertheless, enrichment activity could be performed by ECLAP user by using Metadata editor available as front-office tool.

The IPR management and the assignment of access restrictions is a way to enable the increment of possible available content on the internet. Permissions as IPR models can be enforced on content by each ECLAP institution (content owner), by using the IPR Wizard tool. An ECLAP IPR Model can be associated with each single content or collection. The IPR model has been derived from the work performed on MPEG-21 standard taking into account the ontologies and relationships among different content distribution and access rights. This means that access rules are imposed to restrict and regulate the content access taking into account: content format (video, audio, document, etc.), actions/rights (play, download, stream, embed, etc.), device (PC, mobile, mobile application), users' type (private, public, educational, etc.), location (nationality, university...), resolution (HD, high quality, medium, low, etc.). This model for content distribution with IPR management is associated with a strong legal model as Terms of Use and privacy policy (see them on the portal).

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Finally, with the aim of providing the evidence of the performed validation and usage, this report includes an analysis of workflow activities performed on the content, metadata and IPR until May 2013 has been conducted to validate the use of services and tools involved in the lice-cycle of ECLAP content and metadata and results and numbers.

The usage analysis put in evidence the whole activities of ECLAP on content, metadata and IPR until April 2013. It underlines that the huge activity on content and metadata aggregation, analysis and validation to match the Europeana requirements has been mainly automated and performed by the back-office. Regarding the front office side, the most used tools by content providers have been associated with IPR, namely IPR Wizard and the Content Management since they allow users to finalise the rights and to provide a connection of the content versus Europeana. Most of the metadata provided were already in a good shape and less than the 1% of content has been corrected from that point of view. On the other hand, the IPR details requested by Europeana constrained the content provider to associate to the 100% of the content a new IPR model. This huge effort has been kept under control by exploiting the IPR Model, and applying only 67 models to the whole set of more than 120.000 different content coming from more than 35 different collections and institutions.

The document is organized as following. Section 2 provides an overview of workflow that each ECLAP Content Providers followed to publish their contents on ECLAP and then on Europeana Digital Library. Section 3 describes more in detail the ECLAP workflow and tools used in the metadata and content management. Section 4 provides the description about the ECLAP IPR underlining models definition, application, association and management. The description of IPR Wizard tool is reported in section 5. Section 6 reports the ECLAP workflow validation activity and analysis that allowed understanding and evaluating the usage of tools during the ECLAP project.

The reviewer comments stated: "A section needs to be added that specifies the improvements that need to be made to the usability of the tools produced by the project". According to the reviewer requests this deliverable has been improved by adding Section 8. In more details, Section 8 provides reports and comments regarding the enhancements performed on the ECLAP platform on the basis of the usability tests. This section highlights how usability improvements recently performed after the review meeting and project conclusion. The ECLAP portal and service management is a complex process continuously is performed on the platform with the aim to enhance the user experience. Moreover, the improvements and actions performed to solve the pending issues has been validated by user interface and usability experts in January 2014. These results are also reported in the tables added in Section 8.

2   ECLAP Overall Scenario

In order to better understand the content and metadata management, it is useful to summarize the ECLAP Overall Scenario in terms of workflow, rules, procedures, etc., that each Content Provider follows to publish content on ECLAP and then provide it to Europeana (Figure 1.).
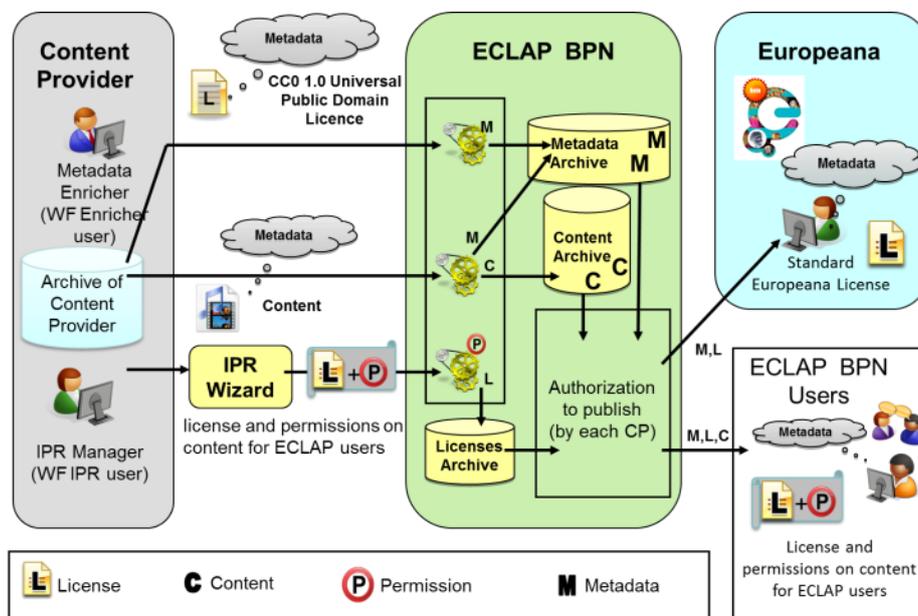

Figure 1 - ECLAP Overall Scenario

All content managed in the ECLAP must be associated with a specific workflow before it can be connected to Europeana via its metadata. In event of Europeana based ECLAP workflow, content has to be:

- uploaded;
- enriched through metadata (some metadata must be sent to Europeana and others are necessary to describe and manage the content in the ECLAP);
- associated to an IPR Model (through the IPR Wizard, as described in next sections).

The content uploaded/ingested is initially available on the ECLAP BPN with maximum restrictions, while metadata are immediately available for indexing and searching for all kind of ECLAP users. Only content presenting a (i) sufficient set of metadata (e.g., Europeana mandatory metadata) and (ii) IPR information and a license defined (one from the set admitted by "europeana:rights"), will be published on Europeana. In ECLAP, many different set of permissions on the content are available and take into account both ECLAP Content Providers' needs. For example: content and metadata upload methods; metadata standards and formats; IPR on content (licenses, permissions, etc.); collection topics; etc. So for the pdf/images/ animations/html/etc. three permissions are present while for the audio and video permissions and their relations are more articulated (see Figure 2). Permissions managed on the ECLAP Portal can be referred to the following aspects:

- access to the content (e.g., the content can be accessible via progressive download and/or download)

- user device (e.g., the content can be played via a PC and/or a mobile device, iPad, etc.)

- content resolution (e.g., the content can be accessible only in a reduced Low Resolution and/or in High resolution).

Moreover, many users with different roles and permissions are involved in the ECLAP knowledge workflow. An important thing to be noticed is the concept of **group**: in ECLAP each CP has its own group (distribution channel) and can manage only the content uploaded by a user registered to its group. This is a guarantee that the contents uploaded on the portal are only managed by who has the rights to do so.
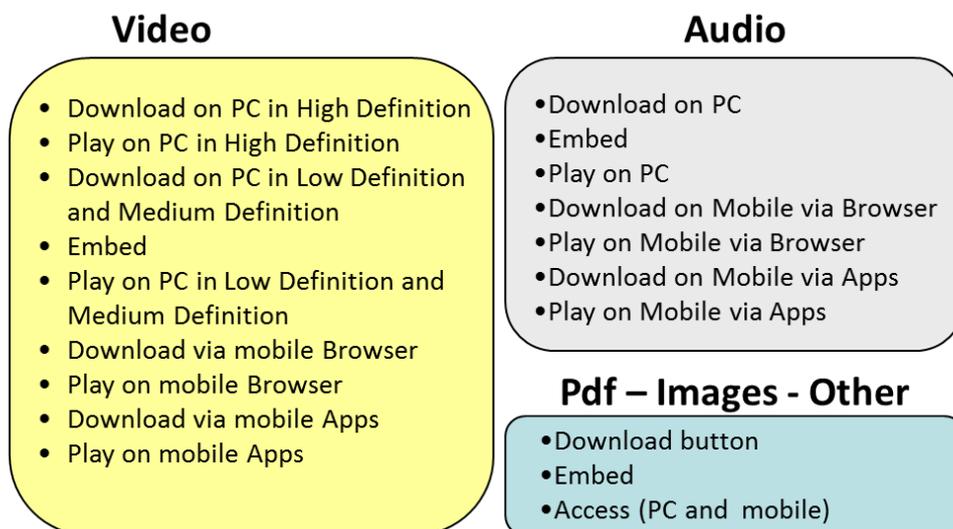
Figure 2 - ECLAP Permissions

3 ECLAP Workflow, Content and Metadata Management

The ECLAP architecture for content and metadata management (see Figure 3) consists of three main areas: Metadata Ingestion Server, ACXP back office services and ECLAP Portal. The Metadata Ingestion Server collects massive metadata provided by digital archives and libraries (using external metadata mapping tools as MINT). Metadata coming in different schema are mapped according to the ECLAP metadata schema and are made available through the OAI-PMH protocol. ACXP back office services provide automated procedures for content and metadata processing (harvesting, ingestion, analysis, production, adaptation, validation, publishing, etc…). The ECLAP portal is the front end and provides front-office tools to work on content and metadata, IPR models definition, content management and Europeana publishing.

Figure 3 - ECLAP Back Office and Portal architecture

3.1 ECLAP Back-Office Services

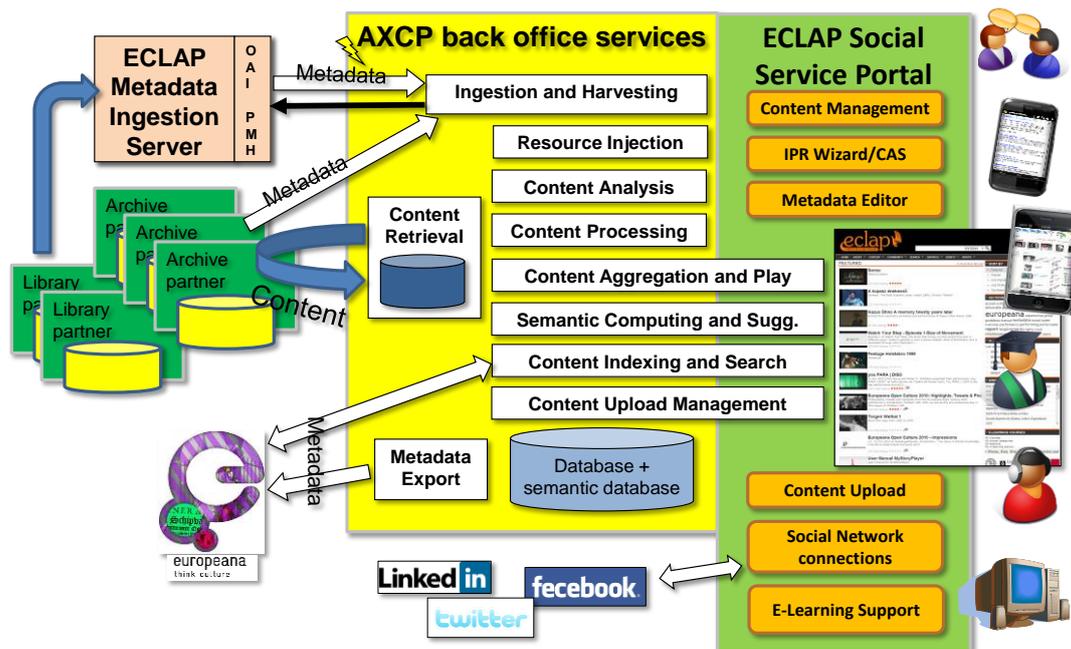The ECLAP back-office tools consist of a set of grid processes that run automated workflow processes both on a single and on multiple contents.

Automated ingestion – It ingests both massively and singularly metadata and digital resources coming from ECLAP partners and Digital Archives and from the external metadata mapping tool MINT.

Content/Metadata production and adaptation - This process works with the digital resource and metadata uploaded via web or ingested. To make the incoming digital resource accessible by different devices Content Adaptation processes are exploited: (i) Content adaptation to different resolutions produces content accessible by different devices (iPhone, iPad, Android, Windows Phone, etc. and on the ECLAP portal, any browser.); (ii) Video adaptation produces the Low, Medium and High Definition versions of a video; (iii) Metadata Translation translates Dublin Core metadata and missing metadata in different languages by using tool or web service for text translation.

Content/metadata management - During the life-cycle of content, massive actions on content could be needed: changes in the workflow status, changes in the metadata, addition of details in the metadata sets, etc. Specific actions are also needed to maintain and manage the content and work both on single content and multiple such as: delete content, update metadata, and publish content uploaded by common users.

3.2 ECLAP Front office tools

The following front office web tools of ECLAP allow users covering the whole content life-cycle: content upload, enrichment, validation, IPR modelling and editing, content and metadata assessment and management, publication, etc...

WEB based content upload allows users uploading content and metadata on the portal through the Upload web page.

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Metadata Editor is the tool for enriching and validating metadata. According to the user role, the editor works in Enrichment mode for enricher users and in Validation mode for validator user.

IPR wizard allows creating IPR Model that takes into account all the issues related to publishing content online in the ECLAP context.

Content Management tool allows users to manage content and publish them to Europeana.

3.3   ECLAP Workflow Model

Front-office tools allow working on metadata in different ways. In order to avoid the production of mistakes and problems specific accesses and roles can be granted only to skilled people and any action has to be tracked to trace and assess quality about the performed activities. To this end, specific roles have been defined:

- **WFIPR (CP):** responsible for the definition and validation of IPR models, and IPR assignment to the content; by using the IPR Wizard and during the Upload for the IPR Model Assignment.
- **WFENRICHER (CP, {languages}):** responsible for the metadata enrichment and changes in the specified languages (add, edit metadata) by using the **Metadata Editor** in Enrichment mode.
- **WFVALIDATOR (CP, {languages}):** to validate the metadata for the identified language. The metadata fields can be singularly validated until the object may pass the whole approval phase. Validation and invalidation are made by using the **Metadata Editor** in Validation modality.
- **WFPUBLISHER (CP):** to take the final decision for publishing on ECLAP and on Europeana. The publishing of single or groups of content can be performed by using the **Content Management Tool and AXCP,** together with much other functionalities, plus eventual new actions to be programmed on the same tools.

Back-office services are not associated with specific user role since they are performed by rules on AXCP computing grid background automated processes on content and metadata.

ECLAP back-office services and front-office tools work both on content and metadata. However, such processes have to work in concurrency: back-office content processing are accessing and processing content in parallel to the user activities on the front-end. Activities of translation, enrichment, validation, IPR definition and assessment cannot be performed by more than one process at time on the same content. On the other hand, sequential processing is too expensive and time consuming to sustain the content workflow and ingestion. In ECLAP, several thousands of new content per days have to be processed. To this end, a workflow state diagram has been modelled, formalized and implemented. Therefore, to manage the concurrency and to guarantee a safety access to the content a mechanism of lock-unlock access has been defined. The general workflow state diagram is coded as described in Figure 4.
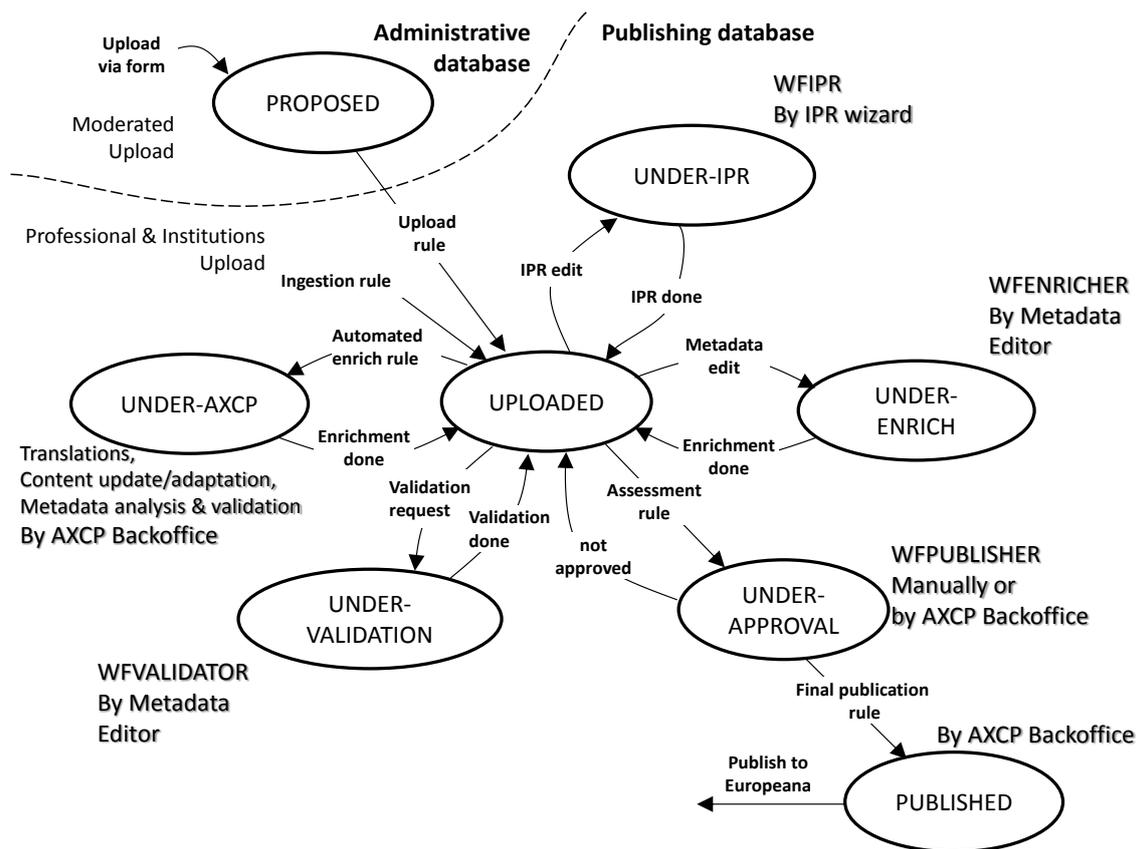
Figure 4 - ECLAP Workflow diagram

4   ECLAP IPR Management

In the ECLAP service, Content Providers provide both content files and metadata. According to ECLAP workflow, the obtained metadata sets are sent to Europeana only after that the metadata have been enriched and linked to a reachable digital resource and when the IPR issues have been correctly defined. The main problems related to the IPR management, are described in the following sections.

4.1   Content Providers and Rights

Avoid that the Content Partners (CPs) can incorrectly assign licenses to the contents is the point from which the work on the IPR management started. In fact the first step made by the ECLAP Consortium was to help the CPs to: (i) understand their rights on digital contents, (ii) guide them on choosing what type of restrictions, if needed, they wanted to impose on their content once having put it online, (iii) inform them about available technologies and on the IPR issues related to them, (iv) avoiding the definition of inconsistent rights on objects (*Inconsistency* can be due to the definition of limitations that cannot be enforced in a given context. For example, they may request to avoid images to be copied if they are visualized on a computer). As it has happened in other studies or in the development of standards, the relationships among the rights identified have been analysed, formalized and the logic that relates them has been implemented in the ECLAP IPR Wizard which is based on ECLAP IPR model.

Once the CPs have understood, from a legal point of view, their position with respect to the content and its reuse on the web, the next stage was to guide them on defining licenses using the tools provided by ECLAP in order to formalize the IPR Models with related access restriction/permissions.

4.2   IPR Models Definition

Given the diversity of CPs and of the related needs on their contents, a general and flexible IPR model has to be defined. The solution can produce specialized IPR models for each CP. In this way it is possible to customize the binding of licenses and permissions based on the specific needs and with the greatest flexibility. An ***IPR Model*** contains:

- *model details: IPR Model name, description, etc.;*
- *a set of permissions such as: play, download, embed, etc. and differently defined for PC (web) and mobile devices; Different permissions for*
  - *different content kind (audio, video, images, document, etc.);*
  - *different resolutions, etc.*
- *a license (Creative Commons, etc.);*
- *a Publisher ECLAP page (related to the Content Provider, right owner);*
- *an IPR ingestion identifier (needed to assign the IPR Model to the contents).*

In ECLAP, the users that can create and manage *IPR Models* are called *IPR Managers*.

4.3   Application of IPR Models

An *IPR Model*, once defined, can be associated with a content manually from the interface of the ECLAP workflow or automatically. If a CP has the needs to change the access permissions or licenses associated with content may do so by going directly to change the *IPR Model*. The association <IPR Model; content> remains unchanged: the permissions on content are instantly updated to all content.

This was performed by giving the possibility to each CP to provide content with initial maximum restrictions: the content, at first, is accessible only for *Trusted Users*. Moreover, ECLAP gives to the public users the visibility of some metadata (those in public domain) on the regular user. While, public users cannot access the digital content until the content is not associated with an *IPR Model*, but can see their existence with the possibility of contacting the CP in case they were interested in the content. By associating an *IPR Model* to one or more content, each CP can change the initial maximum restriction access allowing external users to possibly access content depending on the conditions expressed in the model.

4.4   Association of IPR Models at Ingestion Time

ECLAP CP has to manage a huge quantity of digital contents, so the modality of make the association <IPR Model; content> one by one, is not sufficient. For this reason, the presence of an IPR ingestion identifier (IPR_id) in the IPR Model has been provided. This identifier is obviously also connected to the contents as metadata. In this way, a CP can associate an IPR Model with contents also in case of massive ingestion and workflow that in ECLAP is the standard way to upload content. Each CP could create several IPR Models, and may put the corresponding IPR_id as metadata on the content and the system automatically manages the association.

4.5   IPR Model's Additional Conditions

Each *IPR Model* is made in such a way that even the definition of additional conditions is allowed, in line with the standard MPEG-21, ODRL, OASIS XAMCL. Some of these data may be, for example: the expiration date, the duration of the validity, etc.

5   IPR Wizard Tool

The *IPR Wizard tool* has been realized in order to guide the CP (or more precisely, the *IPR Managers* chosen by each CP) on creating an *IPR Models* and on making the association <IPR Model; content>. This tool is realized starting from the *IPR Logic Model* that takes into account all the issues related to publishing content online in the ECLAP context, described in synthesis in the previous paragraphs, and is created to simplify and make systematic and standard the work of the *IPR Managers* of each CP. The *IPR Logic Model* is based on the following two main aspects, approved by the 35 ECLAP international partners:

- relationships among user roles;

- relationships among permissions.

5.1   Relationships among user roles

The users involved in the IPR management can be users registered to the ECLAP or not (e.g., *public users*). Each registered user may have additional roles: each role can have a set of IPR permissions associated to it. The *IPR Manager* can establish the set of permissions for digital content through the IPR Wizard. It is possible to establish a hierarchy among the user roles, that are: *Public User* (PU, not registered), *Group User* (registered and enrolled to the CP's group), *Group and Educational Users* (registered, enrolled to CP's group and that has declared in his/her user profile to be an educational/research user), *Trusted User* (TU, user that belong to ECLAP partners). It should be noted that the *IPR Managers* are *Trusted Users* with the specific task on IPR. The hierarchy is explained in Figure 6, in which the arrows representing the relations on how to assign the permissions to the users. For example: if an *IPR Manager* assigns a permission to a *Public User*, the system has to automatically associate the same permissions to all the registered users (*Group Users and Group and Educational Users*). Note that the *Trusted Users* always have all the permissions.

Permissions	Trusted User	Public User	User subscribed to groups	
			Group User	Group and Educational User
Perm_1	✔	✔ →	✔ →	✔
Perm_2	✔	☐	✔ →	✔
Perm_3	✔	☐	☐	✔

Figure 5 - Relationships among user roles.

5.2   Relationships among permissions

The relationships among the permissions (or rights) identified have been analysed on the basis of the content type to which they are applied and modelled basing on logical and technical aspects. In Figure 7**Errore. L'origine riferimento non è stata trovata.**, the arrows are posed to explain that some permission implicitly involves other permissions.
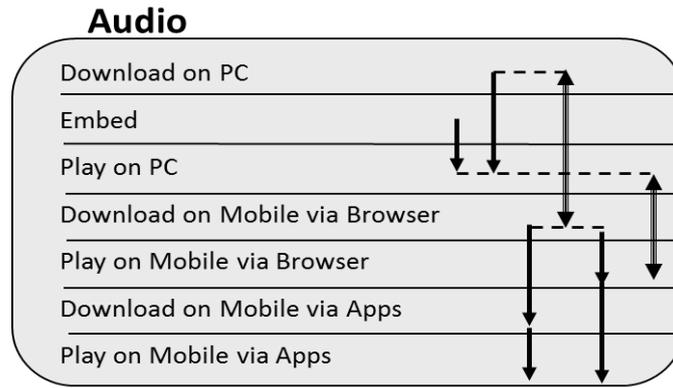
Figure 6 - IPR permissions relations on Audio content

Here after two samples on audio content (same samples can be done also for the pdf/images/other or video content), useful to describe the permission relations. The relations among permissions are represented as different arrows:

Unidirectional arrow between 'Audio download-PC' → 'Audio play-PC': if a Content Partner allows an ECLAP user to download the audio content, the CP implicitly allows also to play it (play via streaming and/or progressive download). This because, from a technical point of view: if someone downloads a content (without encryptions or protection) from the web he can play/view it on his PC whenever he wants.

Bidirectional arrow between 'Audio download-PC' ←→ 'Audio download-mobile-Browser': if a Content Partner allows an ECLAP user to download content from PC, implicitly allows him also to download the same content from a mobile device. This because the users can download a content via a browser in their PC, then transfer the content into a mobile device, so that the application of a restriction to avoid the download via mobile can be easily moved around and has no sense to be applied. It is also true the vice-versa.

5.3 The Wizard Tool

The *IPR Wizard* creates a new *IPR Model* starting with: "All permissions for TU and no permissions for the other users" as default values. The *IPR Logic Model* implemented takes decisions for the *IPR Managers* according to the hierarchy of relationships (see previous sections). The manager has just to select one or more permissions that he/she wants to associate to an *IPR Model* (and therefore to a set of contents) and the wizard automatically selects also the permissions strictly connected to those chosen by the *IPR Manager*.

Figure 7 - IPR Wizard: audio sample.

This mechanism has two main advantages: the *IPR Manager* does not need to know the relationships among the permissions; the probability of error for inconsistency is null.

A sample, in Figure 8: "If a CP allows all *Group Users* to embed an audio content", the *IPR Wizard* directly implies the following permissions on audio content:

Step 1 ('Embed' → 'Play-PC'; relationships among users): (i) all the users (*Public, Group, Group and Educational*) can play the content on PC; (ii) *Group and Educational Users* can embed the content;

Step 2 ('Play-PC' → 'Play-mobile-browser'; relationships among users): (i) all the users (*Public, Group, Group and Educational*) can play the content on mobile via Browser;

Step 3 ('Play-Mobile-Browser' → 'Play-mobile-app'; relationships among users): (i) all the users (*Public, Group, Group and Educational*) can play the content on mobile via ECLAP Applications.

In this case not all permissions to all users are allowed: the Creative Commons Licences cannot be associated with this *IPR Model*, so the user can choose the licence from one of the restricted licences allowed by Europeana ("Unknown copyright status" or "Right Reserved – Restricted access"), 19. While if a CP creates an *IPR Model* in which all the permissions are allowed to all the users, it is possible to choose one of the CC Licences.

6   ECLAP Workflow Validation Report

In this section the analysis of workflow activity performed on the content, metadata and IPR until May 2013 is reported. The number of workflow transitions from state X to state Y and their distribution in the time period put in evidence the whole activity of the portal on content and metadata and allow analyzing singularly both the back-office and the user activities. Some results are reported in the temporal domain considering the "month" as a time period unit.

6.1   Workflow Users

Actually, there are 29 workflow users. Each user could have single or multiple workflow roles. The workflow user roles are distributed as: 24 enrichers (WFENRICHER), 6 validators (WFVALIDATOR), 23 IPR users (WFIPR) and 9 publishers (WFPUBLISHER).

6.2   Workflow Transitions

The number of transitions from state X to state Y and their distribution in the time period are reported in the following tables.

From	To	Number of Transitions
'Uploaded'	'Under-AXCP'	179912
'Under-AXCP'	'Uploaded'	179912
'(creation)'	'Uploaded'	117861
'Uploaded'	'Under-Approval'	113549
'Under-Approval'	'Published'	111362
'Uploaded'	'Under-IPR'	929
'Under-IPR'	'Uploaded'	929
'Uploaded'	'Under-Enrichment'	611
'Under-Enrichment'	'Uploaded'	611
'Under-Approval'	'Uploaded'	212

'Uploaded'	'Under-Validation'	38
'Under-Validation'	'Uploaded'	38
'Published'	'Uploaded'	3

Table 1 - Number of transitions from state X to state Y

Year/month	Number of workflow state transitions
2011/05	882
2011/06	315
2011/07	4030
2011/08	33171
2011/09	3089
2011/10	20737
2011/11	317
2011/12	3877
2012/01	2197
2012/02	4033
2012/03	40916
2012/04	172250
2012/05	113921
2012/06	66741
2012/07	33868
2012/08	27089
2012/09	26612
2012/10	36660
2012/11	43800
2012/12	11489
2013/01	6866
2013/02	9632
2013/03	17575
2013/04	23477
2013/05	2508

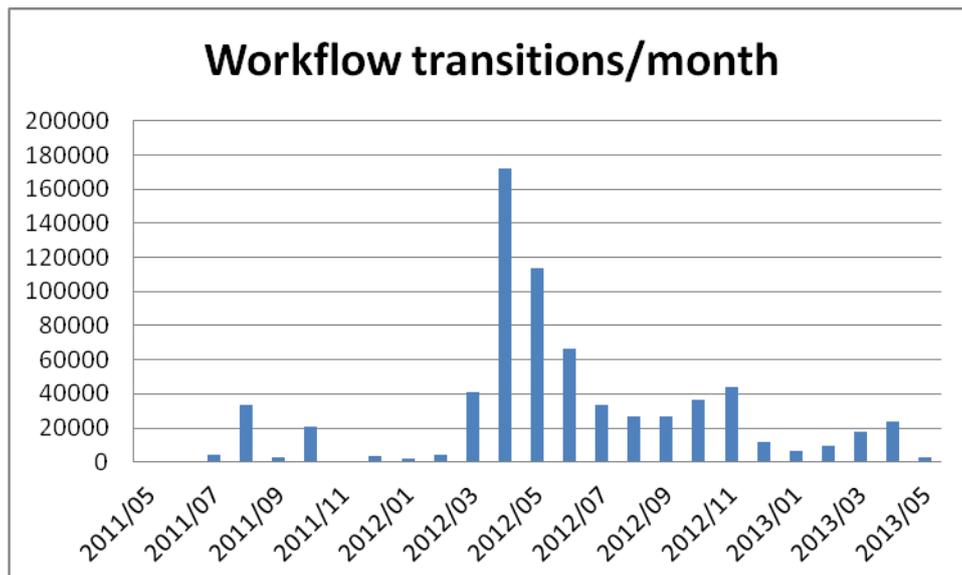**Table 2 - Number of workflow transitions per month**

Figure 8 - Chart of workflow transitions per month

The following table shows some absolute values obtained from the analysis of workflow data stored during the ECLAP project.

Metric	Value
Average value of workflow transitions per content	6.0037
Max value of workflow transitions per content	104
Maximum peak of workflow transitions per day	13162 ('2012-05-28')
Maximum peak of workflow transitions per month	172250 ('2012-04)
Total Number of content uploaded on the portal	117861

Table 3 – Absolute values obtained from workflow data

7 Workflow Tools Usage

The workflow transitions analysis mixed to information stored in the ECLAP database allowed evaluating the activity on metadata performed by ECLAP back-office (automated) and user (manually) by means front-end tools. Obtained results are reported in the following sections.

7.1 Back-office services

The ECLAP back-office services consist of a set of grid processes that run periodically automated workflow processes both on a single and on multiple contents.

7.1.1 Content and Metadata Ingestion

It ingests metadata and content coming from ECLAP partners and Digital Archives and from the external metadata mapping tool MINT. The following table reports the number of content ingested and processed by the back-office. At the end of ingestion the workflow state of content is put to UPLOADED.

Number of processed content via ingestion	106525

Table 4- Number of ingested content by the back-office

7.1.2 Metadata Analysis

Every time the back-office has to perform the metadata analysis for assessment or automated translation it performs a transition to the UNDER-AXCP in order to lock the content and avoid that a user could be access to it for manual editing or validation. These transitions distributed in the time (by month) provide a measure of the activity on metadata running in the back-office as reported in the following table.

Year/month	BackOffice Metadata Analysis
2012/03	12098
2012/04	54226
2012/05	17855
2012/06	11359
2012/07	11014
2012/08	10897
2012/09	11073
2012/10	14040
2012/11	12442
2012/12	3555
2013/01	2173

2013/02	2478
2013/03	6488
2013/04	8960
2013/05	1254

Table 5 - Back Office Metadata Analysis by month

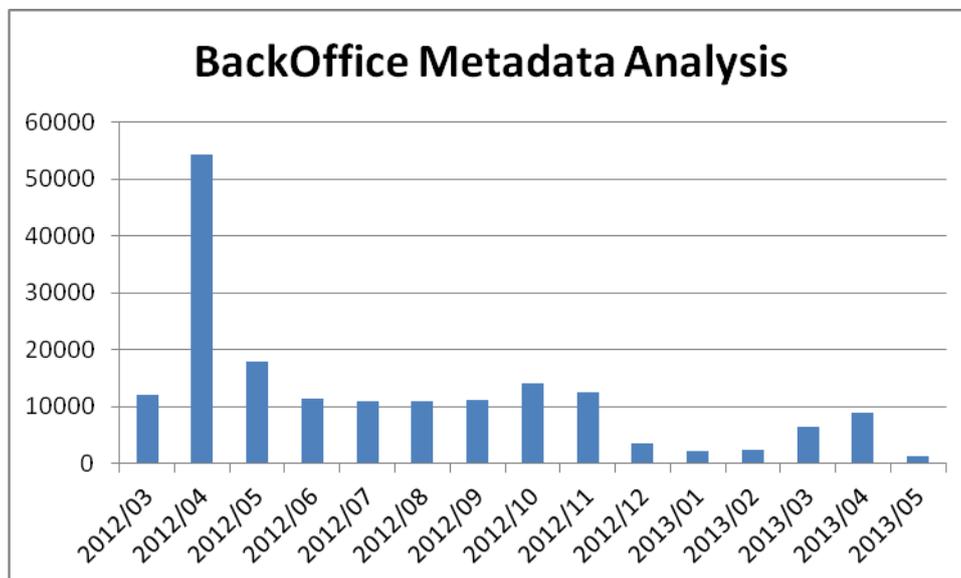**Figure 9 – Chart of Back Office Metadata Analysis by month**

Regarding the automated translation of metadata has been measured:

Automatic translation of at least one metadata per content	**337**

7.1.3 Metadata Validation

Every time content passed the metadata analysis the back-office performs a transition to the UNDER-APPROVAL. These transitions distributed in the time (by month) provide a measure of the metadata validation activity running in the back-office as reported in the following table.

Year/month	BackOffice Metadata Validation
2012/03	12040
2012/04	52985
2012/05	16793
2012/06	9481
2012/07	3927
2012/08	1707
2012/09	1140
2012/10	1716
2012/11	7102
2012/12	1583
2013/01	587
2013/02	1206
2013/03	1450

2013/04	1832

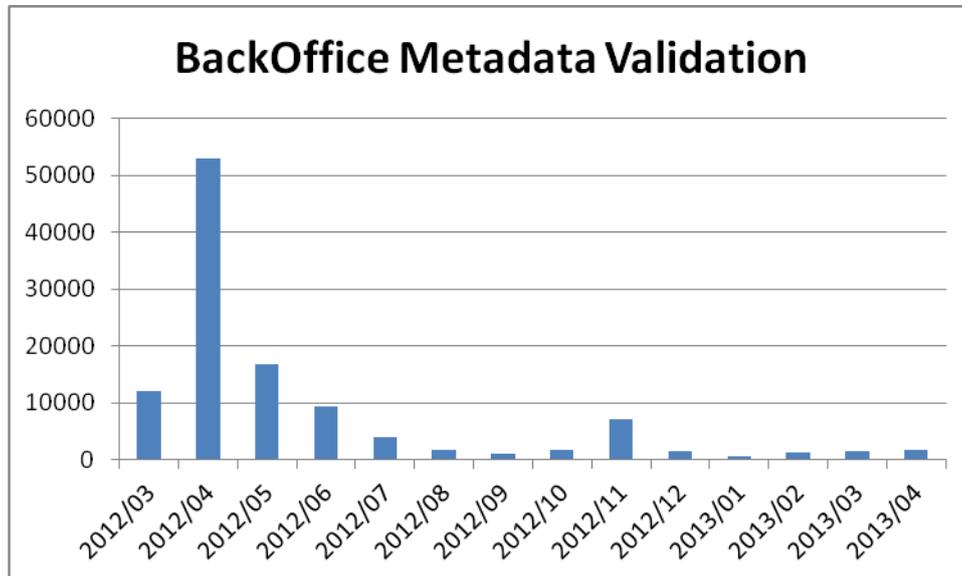**Table 6 - BackOffice Metadata Validation**

Figure 10 - Chart of BackOffice Metadata Validation

7.1.4   Content Publication

Every time the back-office performs the publication of content in the UNDER-APPROVAL workflow state it performs a new transition to the final state: PUBLISHED. These transitions distributed in the time (by month) provide a measure of the publication activity running in the back-office as reported in the following table.

Year/month	BackOffice Content Publication
2012/03	1
2012/05	57121
2012/06	29127
2012/07	2262
2012/08	1191
2012/09	1202
2012/10	4207
2012/11	6837
2012/12	1297
2013/01	382
2013/02	1043
2013/03	1347
2013/04	1581
Total	**107598**

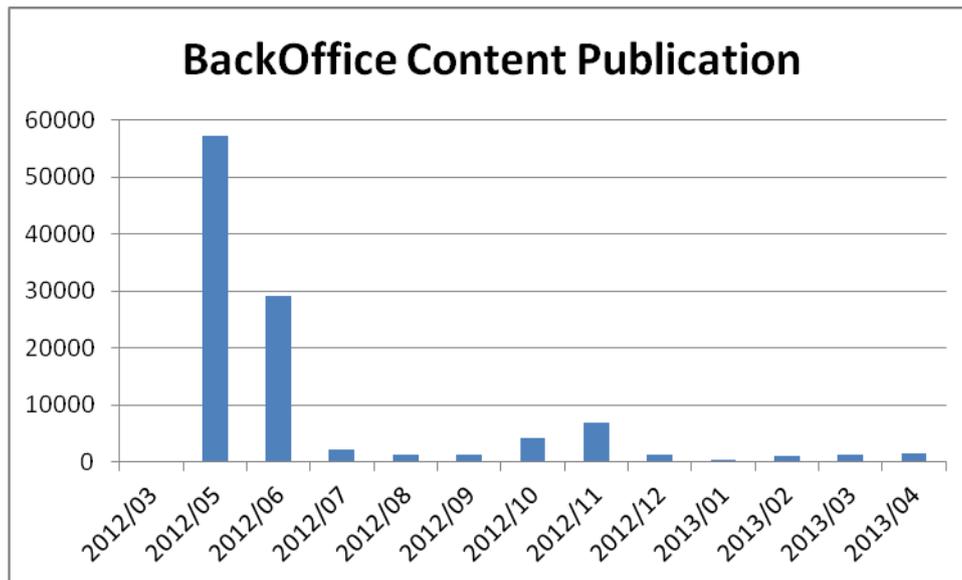**Table 7 - BackOffice Content Publication**

Figure 11 - Chart of BackOffice Content Publication

7.2 Front-office tools

In this section the analysis of the activity performed by users via front-office tools is reported.

7.2.1 Web Page Upload

The number of processed content uploaded manually by users via the Web Page Upload is given by considering the total number of content ingested by the back-office and total number of workflow transitions from 'creation' to 'UPLOADED' state.

|	
Number of processed content via web upload	**11336**

7.2.2 Metadata Editor: Enrichment Mode & Validation Mode

To evaluate the usage of Metadata Editor in enrichment and validation activity both in the time and by partner, we measured the number and the event time of workflow transitions from UPLOADED to UNDER-ENRICH and from UPLOADED to UNDER-VALIDATION. The former transition gives a measure of enrichment activity and the latter of the validation activity. Event time has been grouped by month and then distributed by partners who made them.

The following table reports the values for transitions grouped by month.

Year/month	Enrichment Activity	Validation Activity
2011/05	43	7
2011/06	55	4
2011/07	17	0
2011/08	2	0
2011/09	5	0
2011/10	18	0
2011/11	7	5
2011/12	6	1
2012/01	8	1

2012/02	3	0
2012/03	7	0
2012/04	12	0
2012/05	17	0
2012/06	38	0
2012/07	83	0
2012/08	25	2
2012/09	12	2
2012/10	15	0
2012/11	134	0
2012/12	8	0
2013/01	17	0
2013/02	7	0
2013/03	12	1
2013/04	60	15
Total 611		**38**
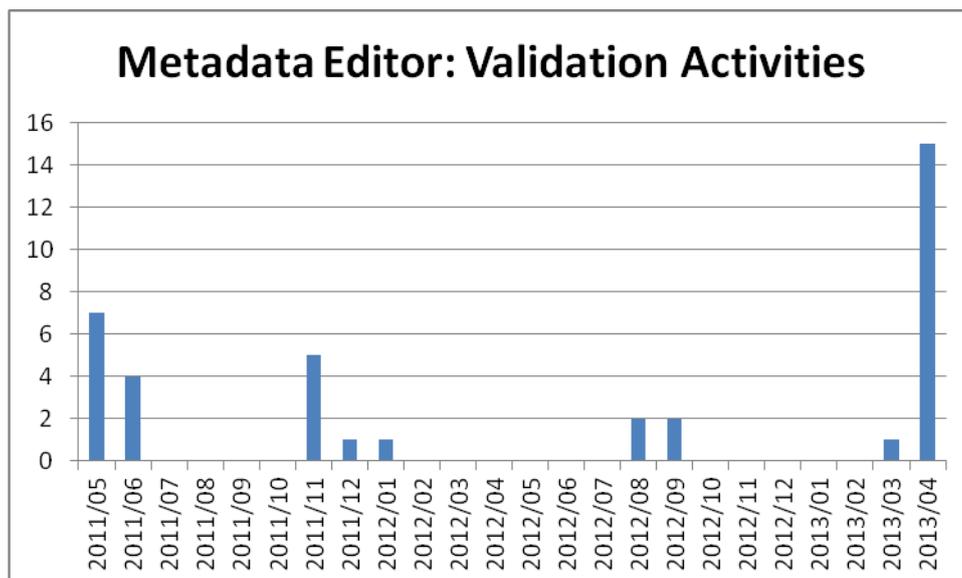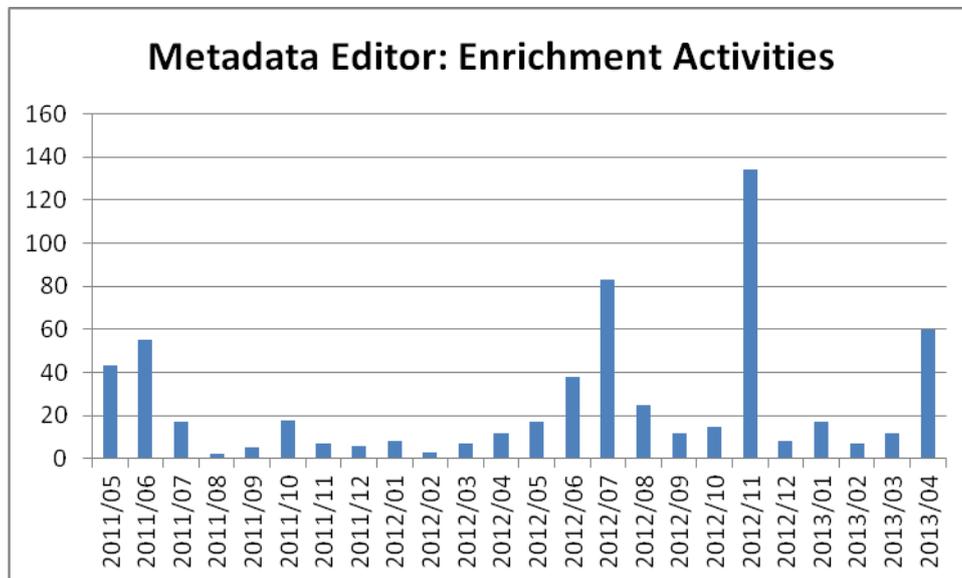
The distribution of enrichment and validation activity by partner is reported in the following charts:

ECLAP project
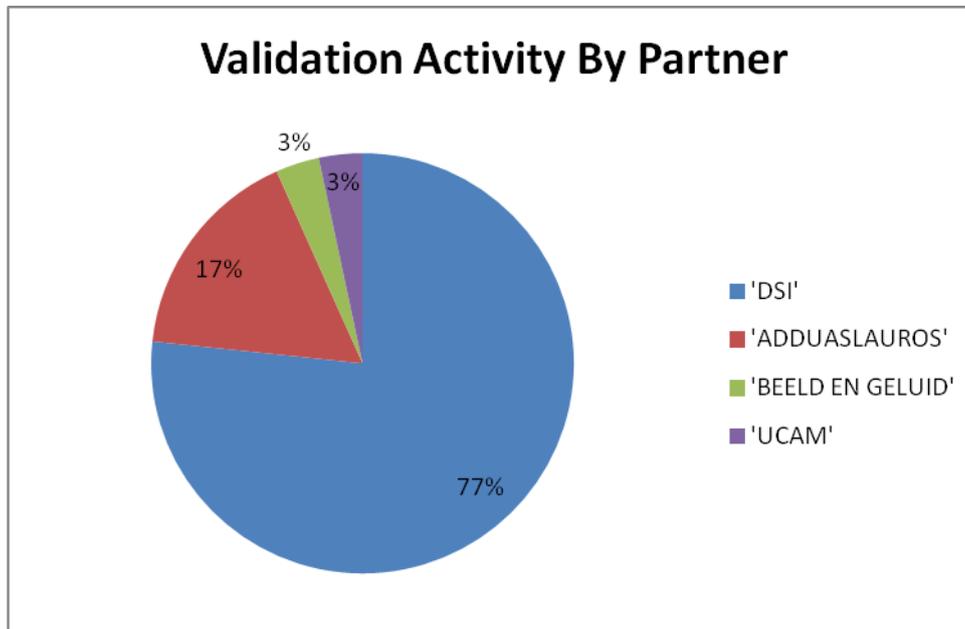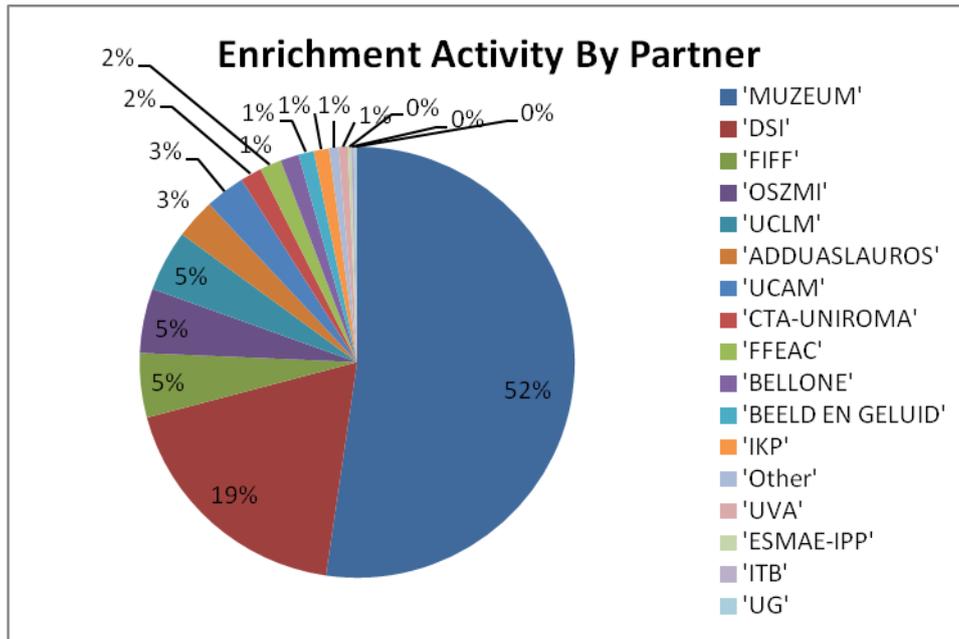
7.2.3   IPR Wizard Usage

To evaluate the usage of IPR Wizard both in the time and by partner, we measured the number and the event time of workflow transitions from UPLOADED to UNDER-IPR. Event time has been grouped by month and then distributed by partners who made them.

The following table reports the values for transitions grouped by month.

Year/month	IPR Wizard Activities
2011/05	93
2011/06	28
2011/07	29
2011/08	14

2011/10	26
2011/11	7
2012/01	1
2012/02	24
2012/03	5
2012/04	12
2012/05	10
2012/06	15
2012/07	43
2012/08	80
2012/09	139
2012/10	101
2012/11	74
2012/12	48
2013/01	144
2013/03	1
2013/04	35
Total	**929**
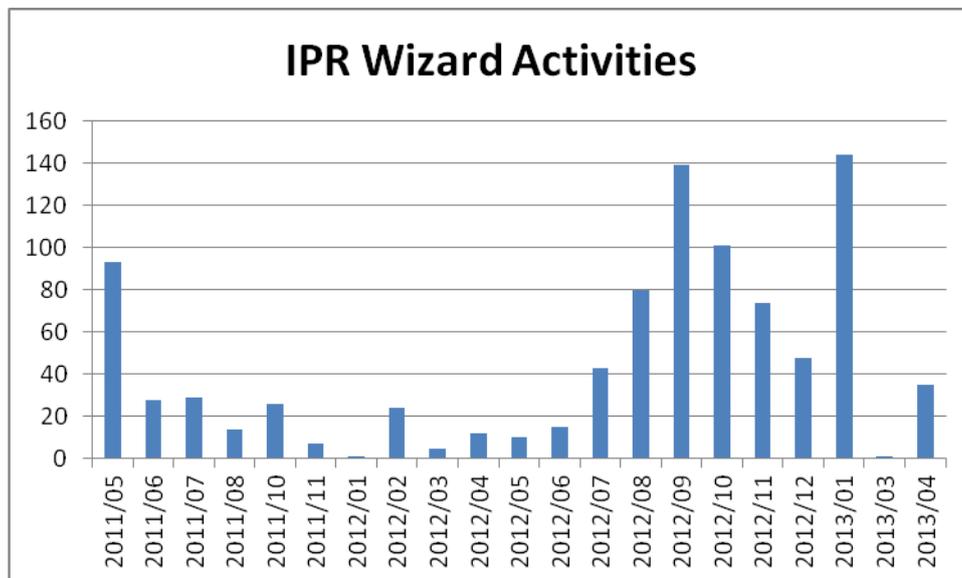
The distribution of IPR activity by partner is reported in the following charts:
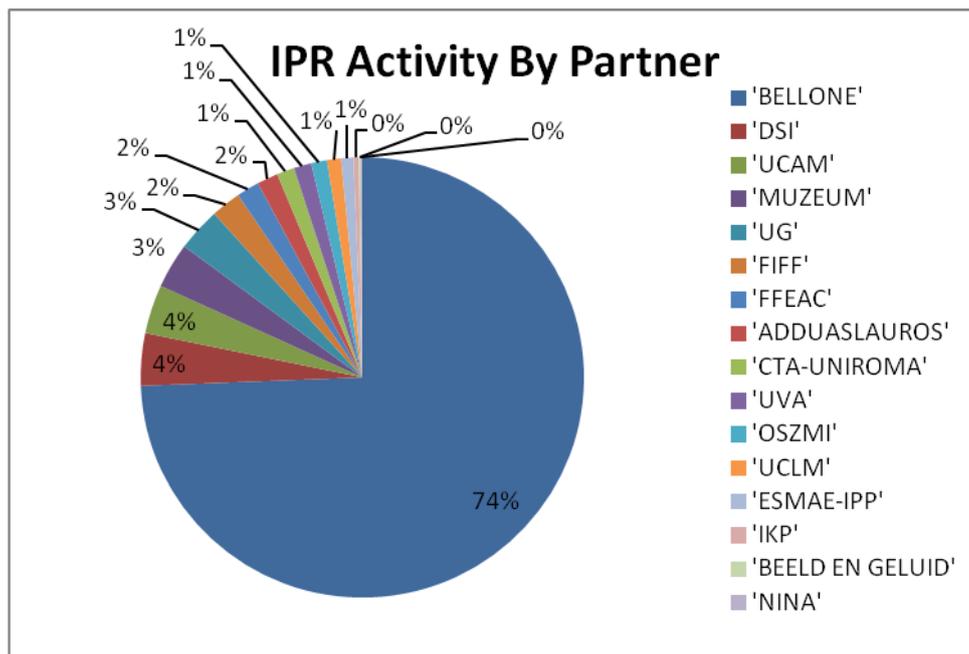
7.2.4 IPR Models Used

As reported in the table below, there are in use 67 IPR models, 40 are restrictive not public models while 27 are public models. Most content providers used 1, 2 or 3 models for their content but there some partners used even 4, 8 or 12 models.

§	Eclap Content Provider	Rights url	Public	Count
1.	CTFR	http://www.europeana.eu/rights/rr-f/	1	41335
2.	ITB	http://www.europeana.eu/rights/rr-r/	0	22945
3.	OSZMI	http://creativecommons.org/publicdomain/mark/1.0/	1	8762
4.	UG	http://www.europeana.eu/rights/rr-f/	1	5121
5.	BEELD EN GELUID	http://creativecommons.org/licenses/by-sa/3.0/	1	3047
6.	FIFF	http://www.europeana.eu/rights/rr-r/	0	2889
7.	LIBERLIBER	http://creativecommons.org/licenses/by-nc-nd/3.0/	1	2467
8.	CTA-UNIROMA	http://www.europeana.eu/rights/rr-r/	0	2450
9.	MUZEUM	http://creativecommons.org/licenses/by-nc-nd/3.0/	1	2300
10.	ESMAE-IPP	http://creativecommons.org/licenses/by-nc-nd/3.0/	1	2223
11.	IKP	http://www.europeana.eu/rights/rr-r/	0	1401
12.	UCAM	http://creativecommons.org/licenses/by-nc-nd/3.0/	1	1370
13.	IKP	http://www.europeana.eu/rights/rr-r/	0	1120
14.	IKP	http://www.europeana.eu/rights/unknown/	0	940
15.	UCLM	http://www.europeana.eu/rights/rr-r/	0	845
16.	BELLONE	http://www.europeana.eu/rights/rr-f/	1	495
17.	IKP	http://www.europeana.eu/rights/rr-r/	0	477
18.	UCLM	http://www.europeana.eu/rights/rr-r/	0	449
19.	DSI	http://www.europeana.eu/rights/rr-f/	1	396
20.	IKP	http://www.europeana.eu/rights/rr-r/	0	342
21.	BELLONE	http://www.europeana.eu/rights/rr-r/	0	341
22.	ESMAE-IPP	http://creativecommons.org/licenses/by-nc-nd/3.0/	1	324
23.	IKP	to be defined	0	320
24.	ARCHIBRAILLE	http://creativecommons.org/publicdomain/zero/1.0/	1	269
25.	OSZMI	http://www.europeana.eu/rights/rr-r/	0	255

26.	UCAM	http://creativecommons.org/licenses/by-nc-nd/3.0/	1	250
27.	IKP	http://www.europeana.eu/rights/rr-r/	0	244
28.	IKP	http://www.europeana.eu/rights/rr-r/	0	201
29.	UVA	http://creativecommons.org/licenses/by-nc-nd/3.0/	1	183
30.	UVA	http://creativecommons.org/licenses/by-nc-sa/3.0/	1	133
31.	UCLM	http://creativecommons.org/licenses/by-nc-nd/3.0/	1	112
32.	FFEAC	http://creativecommons.org/licenses/by-nc-nd/3.0/	1	102
33.	IKP	to be defined	0	94
34.	DSI	http://www.europeana.eu/rights/rr-r/	0	69
35.	DSI	http://www.europeana.eu/rights/rr-f/	1	67
36.	IKP	http://www.europeana.eu/rights/rr-r/	0	61
37.	ESMAE-IPP	http://creativecommons.org/publicdomain/mark/1.0/	1	52
38.	IKP	http://www.europeana.eu/rights/rr-r/	0	41
39.	IKP	to be defined	0	25
40.	DSI	http://www.europeana.eu/rights/rr-r/	0	18
41.	DSI	http://www.europeana.eu/rights/unknown/	1	14
42.	IKP	http://creativecommons.org/licenses/by-nc/3.0/	1	9
43.	MUZEUM	http://www.europeana.eu/rights/rr-r/	0	9
44.	ADDUASLAUROS	http://www.europeana.eu/rights/unknown/	1	7
45.	IKP	http://www.europeana.eu/rights/rr-r/	0	7
46.	OSZMI	http://www.europeana.eu/rights/rr-r/	0	6
47.	NTUA	http://www.europeana.eu/rights/rr-r/	0	5
48.	CTFR	http://www.europeana.eu/rights/rr-f/	1	4
49.	CTFR	http://www.europeana.eu/rights/rr-r/	0	3
50.	IKP	http://www.europeana.eu/rights/rr-r/	0	3
51.	AXMEDIS Cross Media Finder	http://www.europeana.eu/rights/unknown/	1	2
52.	AXMEDIS Cross Media Finder	http://www.europeana.eu/rights/rr-f/	1	2
53.	BEELD EN GELUID	http://www.europeana.eu/rights/rr-r/	0	2
54.	CTA-UNIROMA	http://www.europeana.eu/rights/rr-r/	0	2
55.	DSI	http://www.europeana.eu/rights/rr-r/	0	2
56.	IKP	http://www.europeana.eu/rights/rr-r/	0	2
57.	ITB	http://www.europeana.eu/rights/rr-f/	1	2
58.	MUZEUM	http://www.europeana.eu/rights/rr-r/	0	2
59.	UVA	http://www.europeana.eu/rights/rr-r/	0	2
60.	AXMEDIS Cross Media Finder	http://www.europeana.eu/rights/rr-r/	0	1
61.	CTA-UNIROMA	http://www.europeana.eu/rights/rr-r/	0	1
62.	DSI	http://www.europeana.eu/rights/rr-r/	0	1
63.	DSI	http://www.europeana.eu/rights/rr-r/	0	1
64.	IKP	http://www.europeana.eu/rights/rr-r/	0	1
65.	IKP	http://www.europeana.eu/rights/rr-r/	0	1
66.	MUZEUM	http://creativecommons.org/licenses/by-nc-sa/3.0/	1	1
67.	UVA	http://www.europeana.eu/rights/unknown/	0	1

IPR Models
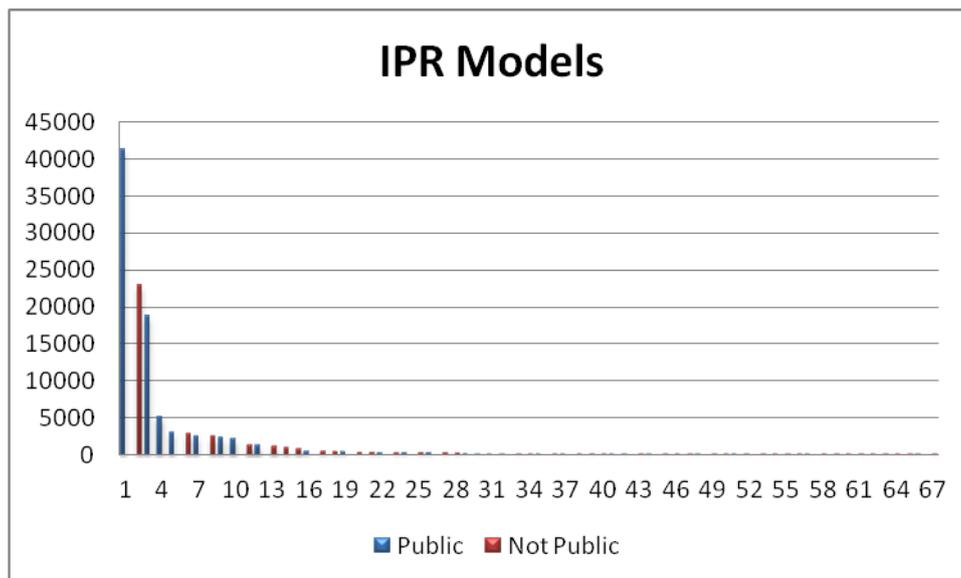
Cumulative value for Rights url

Rights url	Count
http://www.europeana.eu/rights/rr-f/	47422
http://www.europeana.eu/rights/rr-r/	34199
http://creativecommons.org/publicdomain/mark/1.0/	18814
http://creativecommons.org/licenses/by-nc-nd/3.0/	9331
http://creativecommons.org/licenses/by-sa/3.0/	3047
http://www.europeana.eu/rights/unknown/	964
to be defined	439
http://creativecommons.org/publicdomain/zero/1.0/	269
http://creativecommons.org/licenses/by-nc-sa/3.0/	134
http://creativecommons.org/licenses/by-nc/3.0/	9

7.2.5   Content Management Tool

To evaluate the usage of Content Management tool for publication activity both in the time and by partner, we measured the number and the event time of workflow transitions from UNDER-APPROVAL to PUBLISHED. Event time has been grouped by month and then distributed by partners who made them.

The following table reports the values for transitions grouped by month.

Year/month	Publication Activities
2012/05	158
2012/06	1215
2012/07	1110
2012/08	3
2012/09	305
2012/10	25
2012/11	213
2012/12	16
2013/01	322
2013/02	17
2013/03	51
2013/04	329
Total	**3764**

27
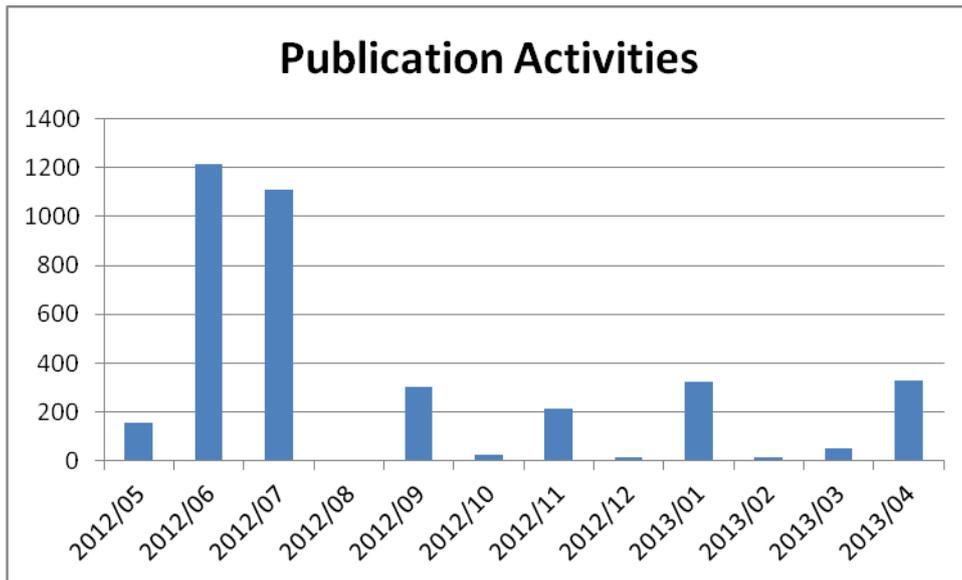
The distribution of Publication activity by partner is reported in the following charts:
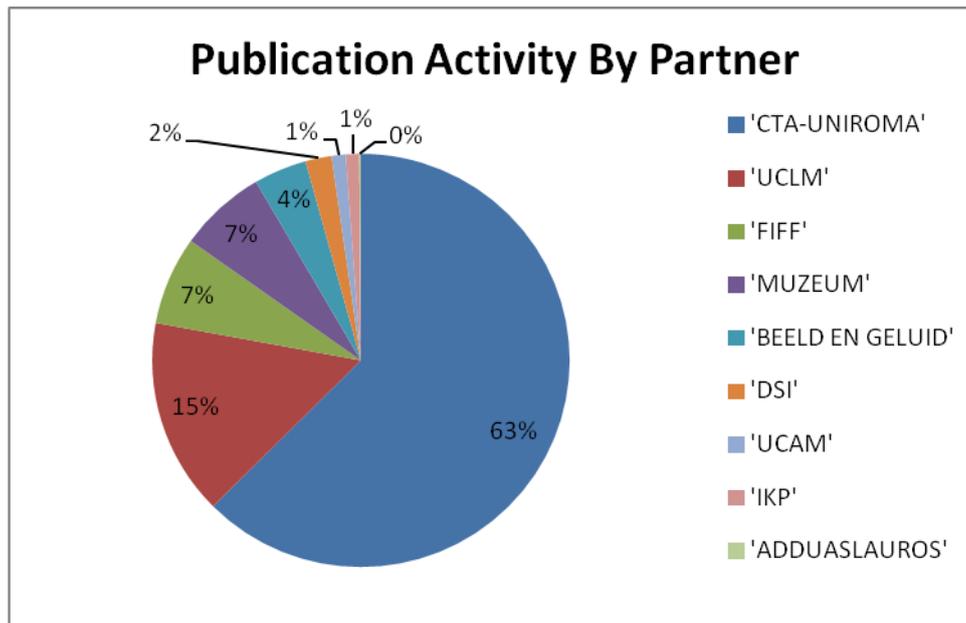
8 Improvements in the usability of the ECLAP portal

This section reports the evidence about the:

- the time schedule of the validation and usability tests performed on the portal in the last period;

- the issues that have been identified during the above mentioned activities, when and by whom;

- improvements that were made to solve the issues identified on the basis of the usability tests performed;

- improvements made on the basis of comments received during the final review meeting and reported in the review report;

- the final validation activity that has been done in January 2013 by and external group and that has been performed to validate the usability improvements.

Hence this section shows the continuing efforts that have been made by the consortium in order to enhance the user experience on the basis of suggestions received. As such it reflects the situation on January 13th 2014.

Please note that the assessment activities performed in February 2013 are reported in the DE6.2.2 ANNEX X provided by CLS Lab in June 2013, so that the usability tests performed by CLS Lab are referred to the status of the ECLAP portal in Feb 2013. On the basis of these results, the ECLAP portal has been strongly improved as reported in Section 3.6 of D6.2.2. In section 3.6.2 of DE6.2.2, the actions performed to solve the criticisms identified and mentioned in Annex X and in other assessment actions are mentioned. Those actions were immediately published on the portal at the web page http://www.eclap.eu/130961, to give evidence to the community of the work done in reply to their comments and performed polls.

8.1 Time schedule of the usability tests and validation activities

To clarify the time schedule of the activities performed the following image is provided.

Soundage with the partners	Start of usability tests performed by CSL groups		ECLAP Conference		CSL report			ECLAP Final review			ECLAP final validation from CSL
gen-13	feb-13	mar-13	apr-13	mag-13	giu-13	lug-13	ago-13	set-13	ott-13	nov-13	dic-13	gen-14
		Continuous improvements				Improvements update				Improvements update		

As first activity, the collections of comments from ECLAP partners started in January 2013 with the idea to collect pros and cons regarding ECLAP platform and services. the results of this activity are reported in two different web pages published on the ECLAP portal: "What ECLAP Users like about":

http://www.eclap.eu/121817 and "ECLAP solved and pending problems and desiderata, FAQ" http://www.eclap.eu/130961

At the same time, in February and March 2013 an usability analysis has started with the support of the Communication Strategies Lab (http://www.csl.unifi.it/) of the University of Florence with the aim to provide a usability assessment and suggestions for usability improvements of the ECLAP portal.

These activities have been performed on the basis of the status of the portal in that period (Feb 2013).

On the basis of the comments received from the questionnaire submitted to partners and to the first results provided informally from the CSL Lab, in March 2013 the consortium started the activity of continuous improvements of the usability of the portal. It is very important to point out that improvements have been implemented before the formal publication of the CSL report that has been provided in June 2013. This was necessary to avoid to start improvements too close to the end of the project (end of June).

After the publication of the CSL report, the activity of improving the usability of the portal continued and also additional improvements have been implemented after the comments received during the ECLAP final review meeting in Sept 2013.

To improve the ECLAP usability and interface, the following actions have been performed after the final review meeting:

- improvement of the user interaction in several different contexts: mystoryplayer, social graph, registration, comment to media, content access,

- new and improved version of social graph with increased number of relationships, also promoted by Europeana,

- new and improved version of MyStoryPlayer with improved synchronizations quality, also promoted by Europeana.

- removal of the static metadata for web pages,

- removal of the splash page for anonymous users,

- reduction of menu items number,

- reduction of the number of blocks on the right side,

- simplification of the registration procedure,

- creation of a more dynamic home page for registered users,

- improvement of the play experience and interaction with comments and social icons close to the player frame and not on the right blocks,

- LOD export and distribution, including relationships

- In January 2014 the graphic shape of the ECLAP portal has been improved and reshaped with the aim to enhance the readability and usability of the portal.

30

- Addition of a block on the right side to present the Twitter flow regarding performing arts.

Moreover, the improvements and actions performed to solve the pending issues have been validated by user interface and usability experts in January 2014, by the same people of CSL that identified the problems in April 2013. These results are also reported in the tables added in Section 8.2.

8.2   Usability tests results, actions performed and comments

The following tables summarize the problem detected during the various activities described in the previous section and describe the corresponding improvements made to the portal with the status. Note that many of these actions were taken even before the formal publication of DE 6.2.2. Annex X; on the basis of draft versions of that Annex and as well as by taking into account received comments/suggestions during the ECLAP conference. This was necessary in order to avoid that the consortium would have been forced to perform corrections too close to the formal closure of the project (end of June).

The **following problems detected and suggestions** reported in the first column have been collected during user trials and tests, and from a past questionnaire. The texts are mainly reported as they were written and **DO NOT REFER to the portal in the present version** but to the version at the time of testing.

The table highlights the result of the validation activity done by external users in January 2014.

Area	Problem detected or suggestion	Identified by and date	Comments and eventual action performed	When it has been performed and a note (if any)	Validated by external experts in Jan 2014
GUI	The home page of the user is rigid and the social graph is not needed, If the options like social graph, calendar etc. are necessary it should be very easy to disable them. The home page of the person should be more personally shaped.	Partners, Feb 2013	The Home Page of the user can be fully customized with the order of segments, suggestions, content lists, etc., to be presented and with the possibility of closing them, including the closure of the Social Graph. Most of the users appreciated the Social Graph, so that we left them the possibility to close it on/off. The selection and the movement of section is very easy and drag and drop. The configuration is remembered from one section to another and from one computer to another. The users can also define which block on the right side they would like to have. The selection can be performed on their profile.	SOLVED as described in May 2013.	SOLVED
GUI	Animated icons for video are distracting, too many impulses when enter the portal: too many things move and change giving the impression of chaos	Partners, Feb 2013	Static icons are now the only available. The animated icons for videos have been removed.	SOLVED in May 2013	SOLVED
GUI	See preferably with larger font size for a better reading experience (for example for seeing-impaired visitors) and less distracting elements,	Partners, Feb 2013	The whole portal page can be scaled up and down in fonts by pressing button Ctrl and the SCROLL. ECLAP is fully compliant on this directive of accessibility and compatibility with browsers. In Jan 2014 the graphic layout of the portal has been reshaped and the fonts have been enlarged.	Improved in May and SOLVED in Jan 2014	SOLVED
Content	The address of content items/pages in the address	Partners, Feb 2013, and April	A short link can be taken from the metadata block on right side in the form:	The number has been reduced in March, and	SOLVED

	bar of the browser shows lengthy names. Is there a way to create a field in the meta data editor to bypass this method and create the opportunity to overrule this name	2013	http://www.eclap.eu/92987 ALSO: a short link to content of different kind can be in the form of http://www.eclap.eu/urn%3Aaxmedis%3A00 000%3Aobj%3Ab9076a6c-23f1-42d6-af73- 9b6f97599eeb	then also reduced again April, and recently in January 2014: SOLVED	
Networ k	The registration process seems to be too complex, the captcha not really easy to understand, the fact that the registration is performed in two step and there is the need of clicking in the received email to confirm the registration is not clear.	Partners, Feb 2013	The captcha has been simplified, larger fonts and easier to be read. In any case, due the high number of fake registrations, the captcha has to be maintained sufficiently complex to prevent automatic registrations. COMMENT (November 2013): the registration process is going to be simplified, with better and more evident comments about the steps to be performed, and the fact that the user has to respond to an email to confirm the registration process. All the comments and alerts have to be more visible and clear for the users.	SOLVED in June 2013 and also revised in November 2013	SOLVED
GUI	In most cases, important messages to the users are reported in normal text on top of the central page. They are not much visible to the user that need to be informed of relevant action that he has to do or that have been done successfully for him.	Partners, Feb 2013, and assessment in April 2013	A new modality of messaging to the user from the portal has been created. BLUE Rounded boxes are shown to inform the user and help in getting the message immediately. They automatically disappear when context is changed.	SOLVED in June 2013 as described.	Improved
Content	The presentation of metadata elements needs to be reconsidered, turning to a focus on the few most	Partners, Feb 2013	They have been restructured according to the indication of users	SOLVED in June 2013.	SOLVED

	important ones. Suggestion: skip the different tabs, chose two presentations: an simple, elementary one plus a complete overview of all metadata together.				
GUI	The logos on the home page are making a very bad impression. They should be hidden in ABOUT or PARTNERS section	Partners, Feb 2013	The logo of the partners have been moved immediately and are now accessible on: http://www.eclap.eu/3578	SOLVED in March 2013	SOLVED
GUI	The Automatically Translated texts should be only shown in English. Multilinguism needs to be improved or removed from the user interface and kept in the infrastructural depths of the search functionality.	Partners, Feb 2013	All the texts in the user interface has been validated by language experts. Those text have been updated into the user interface step by step starting from English, Spanish, Francoise, German, Italian, etc. The query expansion generate the translations to increase the precision and recall of query performed, without affecting the readability of metadata.	PARTIALLY SOLVED in March for major languages, othger languages have been polished in May 2013.	PARTIALLY SOLVED
Content	Make it easy possible to separate trusted content/metadata from user generated content/metadata.	Partners, Feb 2013	At the moment we do not have any user generated content presently. All the content has been provided by qualified content providers. All the user generated content provided would be assessed and passed to the portal only if approved.	This comment is out of context and unmotivated.	N/A
GUI	All logos should be moved to information about project/partners or down to the bottom of the page. The worse is that all logos are visible not only on the main page but also when i work	Partners, Feb 2013	Partner logos have been removed from the homepage. The remaining logos have been moved on the bottom. We cannot remove all of them since the logo of Europeana, European Commission and ICT are mandatory for all EC projects. Moreover, we have also some logo	SOLVED in January 2014	SOLVED

	directly with content material. It makes my work as researcher very inconvenient.		as credits to avoid paying licensing.		
Search	The search capabilities for content sometime seems that one searched and the results are not shown. The results of the query sometime seems to the wrong. For instance if I search in the frontal search box by wiring: Alberto Sordi. The results obtained contain also record that do not perfectly match	Partners, Feb 2013.	Now every time one performs a query from the frontal text box or by using a preformed query (such as, clicking on featured, etc.) the page is aligned/scrolled to show precisely the point in which the search results are shown. Moreover, an help on search capability has been realized to allow user to understand. The search capability is more sophisticated then the simple Google and present a syntax very similar to Google NOW. The search engine has been assessed and validated by using scientific measurements and criteria in September 2012 and November 2013 (two articles have been submitted and published on relevant journals[1]). During these assessments and measurements the search system has been optimized and it has demonstrated globally very good performances. As example, when you write two words *Alberto Sordi* the system works like Google. This means that first you will get record with both keywords *Alberto* and *Sordi*, then those	SOLVED in May 2013	SOLVED

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[1] P. Belllini, D. Cenni, P. Nesi, "*On the Effectiveness and Optimization of Information Retrieval for Cross Media Content*", Proceeding of the KDIR 2012 is part of IC3K 2012, International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management, 4-7 October 2012, Barcelona, Spain. Pierfrancesco Bellini, Daniele Cenni, Paolo Nesi, "*Optimization of Information Retrieval for Cross Media contents in a Best Practice Network"*, submitted to IJMIR in December 2013. Under evaluation.

			that contains only *Alberto* and only *Sordi*, then those that contains similar words, such as: Albero, Sardi, Surdi, Aleberto, etc... for a total of more than 6000 results. If you would like to search for a perfect match, please write *Alberto AND Sordi*, thus obtaining only 1600 records now, or even less if you search for the precise string match "Alberto Sordi"		
GUI	The interface of the portal is too heavy and cluttered, clean up, too match functionality which sometimes makes it not user friendly.	Partners, Feb 2013	We hope to have solved it. The number of menu subitems has been strongly reducing removing duplications and the number of functionalities exposed at the first level into the menu. Those that have been removed from the menu items are now accessible only in the contextual menus. The graphic layout, interaction, colours, and fonts have been reshaped in January 2014.	Improved in June 2013 and according to reviewers comments also revised for Jan 2014	Improved
Tools	Rich content & meta/data editor for content owners, although a quick and extended mode would improve and simplify/fasten uploading experiences.	Partners, Feb 2013	The fast upload interface has been implemented: http://www.eclap.eu/drupal/?q=ugc/fastupload	SOLVED in May 2013	SOLVED
GUI	Too many functionalities presented at once: the drop-down menus on the home page alone contain more than 42(!!!!) options. Most people will get lost on ECLAP immediately.	Partners, Feb 2013	The number of items on the menu has been reduced progressively. The 42 was referring to the Early version and for anonymous users. Now we have in the same conditions: 32 items.	SOLVED progressively and in May 2013	SOLVED
GUI	Black and orange background of ECLAP portal.	Partners, Feb 2013	Colors have been identified by a large soundage among the partners. Who participated selected the shape and the combination of colors among 8 different	SOLVED in Jan 2014	SOLVED

			solutions. A new graphic layout with different colors has been published in Jan 2014.		
Content	The time to see passing content from ECLAP to Europeana is too high.	Partners, Feb 2013	it does not depend on ECLAP. Europeana is taking the content once per month. So that it may depend on the day in which you provide the content.	Europeana loaded the ECLAP content in July 2013 as stated at the review meeting. The numbers reported in the reports are those of June 2013. On this action we did any control	N/A
Tools	MyStoryPlayer you cannot edit your annotations. You need to delete them and then start over what makes work more difficult.	Partners, Feb 2013	You can delete your annotations, you can save your experiences: http://www.eclap.eu/3748	SOLVED in May 2013.	SOLVED
Content	The presentation of the collection content needs to be separated from other content, like project documents. In the structure and handling of documents a clear distinction should be made between heritage collection files and project files. This will improve the search functionality and will result in a better match for users only searching for collection content and not management files.	Partners, Feb 2013	The mix of documents and cultural documents is blurred in some cases. See for example the several technical cultural content provided by UG. To that the mixt has been considered a strong fact from other content providers and final users. Some of the project content (technical content) has been also requested by the EC to be posted on Europeana, as it is since May 2013.	Solved since the beginning. The technical documents are associated to technical groups.	SOLVED
GUI	The institutions and workgroups are shown as the	Partners, Feb 2013	Groups have been divided in two kinds: thematic and content providers, the users	SOLVED in June 2013	SOLVED

	same thing when looking at groups. It's really hard to find your way when you have all groups mixed up and you don't know the difference as a person from outside the project.		can see those list on TWO distinct right side blocks.		
GUI	The splash page is confusing and distracting, in the end it will not result in happy users. Users (new users we guess) should land on a nice, clean starting page with some visual entry points to the ECLAP collections, in which they can also see there is a possibility to register and interact with other performing art lovers.	Partners, Feb 2013	The splash page has been definitively removed. It was included with the aim of pushing more people to get registered.	SOLVED in Dec 2013, after the review meeting	SOLVED
Content	Reduction of number of metatags *keyword* and *description* and	CSL report (performed on the portal in April but provided in June 2013), pag. 7	Metatags *keyword* and *description* have been reduced as suggested.	SOLVED in Dec 2013, after the review meeting	Improved
Content	Reduction of repeated titles	CSL report (performed on the portal in April but provided in June 2013), pag. 7	Repeated titles have been reduced. In many cases, the presence of many content with the same or similar titles depends on the content providers. In some cases, images of the same collection have been presented with the same title	Partially solved editing content titled in June 2013.	Improved
Content	Reduction of links in the webpages	CSL report (performed on the portal in April but provided in June	The links have been simplified and are now shorter.	Solved in June 2013. Now all the ECLAP content can be identified by its IDs in	Improved

				the form of http://www.eclap.eu/xxxxxx where XXX X is a number	
		2013), pag. 7			
Content	Some of the analyzed webpages have more than 2000 words, especially in the SERVICES section of the main menu.	CSL report (performed on the portal in April but provided in June 2013), pag. 9	Some of the web pages have been simplified. In some cases this depends on the content provided. ECLAP cannot trim the content description contained in metadata provided by the content providers. So that this cannot be structurally solved without manipulating and counterfeiting the original metadata of content.	Partially solved editing content when possible in June 2013.	Improved
Content	Discrepancies between the language set and the affective language. Many webpages have not been translated or they are only partially translated.	CSL report (performed on the portal in April but provided in June 2013pag. 9	ECLAP manages 21 different languages for the user interface. The translation mechanism is very time consuming and the translations have to be validated. As many cultural portal (also Europeana) we present content in the original language or English if the translation in the requested language is not accessible. See for example Europeana, Euscreen, etc. etc. etc.	Not solvable.	Not solvable.
Search	The search produces results that seems to be not relevant.	CSL report (performed on the portal in April but provided in June 2013), pag. 9	The search engine has been assessed and validated by using scientific measurements and criteria in September 2012 and November 2013 (two articles have been submitted and published on relevant journals[2]). During these assessments and measurements the search system has been optimized and it has demonstrated globally	Solved	The search criteria has been clarified

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[2] P. Belllini, D. Cenni, P. Nesi, "*On the Effectiveness and Optimization of Information Retrieval for Cross Media Content*", Proceeding of the KDIR 2012 is part of IC3K 2012, International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management, 4-7 October 2012, Barcelona, Spain. Pierfrancesco Bellini, Daniele Cenni, Paolo Nesi, "*Optimization of Information Retrieval for Cross Media contents in a Best Practice Network*", submitted to IJMIR in December 2013. Under evaluation.

			very good performances. As example, when you write two words *Alberto Sordi* the system works like Google. This means that first you will get record with both keywords *Alberto* and *Sordi*, then those that contains only *Alberto* and only *Sordi*, then those that contains similar words, such as: Albero, Sardi, Surdi, Aleberto, etc... for a total of more than 6000 results. If you would like to search for a perfect match, please write *Alberto AND Sordi*, thus obtaining only 1600 records now, or even less if you search for the precise string match "Alberto Sordi"		
Search	Many filters are available in the faceted search block on the right but they are not really useful since also resources with a low relevance value are considered	CSL report (performed on the portal in April but provided in June 2013pag. 10	The faceted search provides to the users a very high granularity so that the effectiveness of it depends on the experience of the single user that has to compose a query that has to be really efficient on the basis of its expectation. This has been strongly reduced in number	Solved June 2013	SOLVED
GUI	The main menu is overloaded with 9 main sections and 73 sub-items that also are sometimes replicated	CSL report (performed on the portal in April but provided in June 2013pag. 10	SOLVED: Menu items have been reduced and duplications have been removed. In November 2013 a new redefinition of the main menu has been performed. In June the main menu has 9 main section and 46 sub-items (for registered users). Now they are 42 in all	SOLVED in Nov 2013, additionally reduced in November 2013	SOLVEDNow they are 33 for anonymous users.
GUI	Two menu "Actions" are available with different menu items.	CSL report (performed on the portal in April but provided in June 2013pag. 10, pag. 12	Removed one. The social network promotion icons have been included in the player as requested by the users.	Solved, removed in June 2013	Solved and validated in Jan 2014
GUI	The links for the promotion	CSL report	SOLVED. The links for the promotion to social	Solved in June 2013	Solved and validated

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	to Social Networks are not below the player, as typical in this kind of application, but it is available on a block on the right of the page.	(performed on the portal in April but provided in June 2013), pag. 11	Networks has been moved below the player as suggested.		in Jan 2014
GUI	Some items in the main menu have not been translated and are available only in English, independently with the language set. These create confusion and the perception that it is an error.	CSL report (performed on the portal in April but provided in June 2013), pag. 11	SOLVED, since all the texts in the user interface has been validated by language experts.	Solved in June 2013	Solved and validated in Jan 2014. It has to be considered that some technical and consolidated terms are not translatable.
Search	Multilinguism needs to be improved or removed from the user interface and kept in the infrastructural depths of the search functionality.	CSL report (performed on the portal in April but provided in June 2013), pag. 11	The query expansion generate the translations to increase the precision and recall of query performed.	Solved in June 2013	Not completely verified without specific additional tests
GUI	In the Main Menu there are links with different names that refer to the same pages.	CSL report (performed on the portal in April but provided in June 2013), pag. 11	Duplications have been removed. The Main menu has been redesigned to avoid duplications or inconsistencies.	Solved in June 2013	Solved and validated in Jan 2014
GUI	Some items in the Main Menu are not easily interpretable since it is not clear what the function entails (for ex. "IPR Wizard")	CSL report (performed on the portal in April but provided in June 2013), pag. 11	The name of the items have been revised and reduced in number	Solved in June 2013	Improved
search	The search functionality provides results classified according to a relevance value that seems not to refer to a clear reference scale. It seems that some results are	CSL report (performed on the portal in April but provided in June 2013), pag. 12	since content in ECLAP is continuously updated and added, the relevance value has not a maximum value. If a maximum value had been set, it should be recalculated in case of inclusion of new content with a greater number of occurrences. The	Solved in June 2013	The search criteria has been clarified

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			relevance value is calculated on the basis of the number of occurrences and according to the relevance of some of the metadata fields, since different metadata fields have a different weight (for example, if the searched string is contained in the title it has a greater weight). The gray bar is full for values greater than or equal to 20.		
	not pertinent to the search terms inserted.				
GUI	Some pages are editable by not logged-in users.	CSL report (performed on the portal in April but provided in June 2013), pag. 13	Verified and solved	SOLVED in May 2013	Solved and validated in Jan 2014
Search	Highlight in a different manner the possibility to sort the search results	CSL report (performed on the portal in April but provided in June 2013), pag. 28	The font size has been increased and the tabs have a more evident background color.	---	Solved and validated in Jan 2014
GUI	To add the link to vote or comment a resource below the player	CSL report (performed on the portal in April but provided in June 2013), pag. 28	SOLVED. The links to vote or comment has been moved below the player as suggested.	Solved in June 2013	Solved and validated in Jan 2014
Area	**Urgent actions from the CSL report**	**Identified by and date**	**Comments and eventual action performed**	**When it has been performed and a note (if any)**	**Validated by external experts in Jan 2014**
GUI	To enhance the homepage clearness by including more information	CSL report (performed on the portal in April but provided in June 2013), pag. 27	Home page has changed considerably – see also below	SOLVED in Dec 2013	Improved, the homepage layout has been rationalized

GUI	In the subscription procedure, make the system messages more readable	CSL report (performed on the portal in April but provided in June 2013), pag. 27	a new modality of messaging to the user from the portal has been created. BLUE Rounded boxes are shown to inform the user and help in getting the message immediately. They automatically disappear when context is changed.	SOLVED in June 2013	SOLVED
GUI	Modify the CAPTCHA images to make it more readable to avoid errors during the registration procedure.	CSL report (performed on the portal in April but provided in June 2013), pag. 27	The captcha has been simplified, larger fonts and easier to be read. In any case, due the high number of fake registrations, the captcha has to be maintained sufficiently complex to prevent automatic registrations.	SOLVED in June 2013, and successively improved	Improved, the captcha has to be maintained sufficiently complex to prevent automatic registrations.
search	Add the results of a new search below the player and not below the Social Graph, or alternatively highlight in some manner to the user that there are search results to be consulted.	CSL report (performed on the portal in April but provided in June 2013), pag. 27	When a user perform a search, the page scroll down to the results list.	SOLVED in June 2013	SOLVED, the users are guided.
GUI	To add the link for the Social Network promotion in the Action menu in the player block or make it more visible by using a graphic icon.	CSL report (performed on the portal in April but provided in June 2013), pag. 27	Social network promotion icons have been moved below the player.	SOLVED in June 2013	Solved and validated in Jan 2014
GUI	To delete some duplicated functions in the navigation menu.	CSL report (performed on the portal in April but provided in June 2013), pag. 28	Duplicated menus have been removed. The Main menu has been restructured.	SOLVED in June 2013, and also reduced successively in November 2013	Solved and validated in Jan 2014
GUI	To translate all the navigation menu items in a	CSL report (performed on the	All the texts and menus in the user interface have been validated by language experts.	SOLVED in June 2013	Solved and validated in Jan 2014. It has to

Area	Important actions from the CSL report	Identified by and date	Comments and eventual action performed	When it has been performed and a note (if any)	Validated by external experts in Jan 2014
	coherent manner according to the language set in the user interface.	portal in April but provided in June 2013), pag. 28			be considered that some technical and consolidated terms are not translatable.
GUI	To complete the translation of all the web page content.	CSL report (performed on the portal in April but provided in June 2013), pag. 28	Very time consuming and difficult to do.	PARTIALLY SOLVED in June 2013	Improved
GUI	In the registration procedure, insert the subscription of the groups in the second phase of the procedure.	CSL report (performed on the portal in April but provided in June 2013), pag. 28	During the registration, the list of groups has been moved as suggested.	SOLVED in Jan 2014	Solved and validated in Jan 2014
Area	**Important actions from the CSL report**	**Identified by and date**	**Comments and eventual action performed**	**When it has been performed and a note (if any)**	**Validated by external experts in Jan 2014**
GUI	In the registration phase: clarify the advantages of subscribing to groups and give the possibility to understand in advance what are the discussion items	CSL report (performed on the portal in April but provided in June 2013), pag. 28	A sentence to clarify the advantages of the subscription has been added.	SOLVED in Jan 2014	Done
GUI	In the search results provide resources more in groups	CSL report (performed on the portal in April but provided in June 2013), pag. 28	The rendering results have been better tuned with the search validation performed in May 2013	SOLVED in June 2013	SOLVED The group coordinator may decide the policy to allow searching into the group or on the whole portal. (in any case the user is informed)
GUI	Make the registration procedure shorter	CSL report (performed on the	the registration process has been simplified, with better and more evident comments	SOLVED in June 2013. Recently improved	Done

		portal in April but provided in June 2013), pag. 28	about the steps to be performed, and the fact that the user has to respond to an email to confirm the registration process. All the comments and alerts have to be more visible and clear for the users	(November 2013) adding more information and removing the Splash page.	
GUI	Reduce the text in some textual web page content available in the main menu	CSL report (performed on the portal in April but provided in June 2013), pag. 28	Many informative web pages have been cleaned and polished.	SOLVED in June 2013, the text is also cleaned and updated continuously.	Improved

8.3   Ongoing Validation

The validation of the improvements as described above is an on going process as is attested by the fact that some of the changes suggested by the usability tests and by the comments in the Porto conference that were implemented before July 2013 have since become obsolete and/or have been superseded by the changes made in view of the comments provided by the reviewers, many other changes and improvements have been performed recently after the review meeting. The consortium is aware that the validation of these changes and improvements is an on going process and will do its utmost to inventorize user comments and to enhance the usability and ease of performance of the portal wherever possible.

In Jan 2014 a final validation has been performed by external users that assed the results of the improvements performed. Due the limited time it has not been possible to organise a completely new usability test session. Again we noticed the space for additional improvements, while the time was limited and the strong improvements performed acceptable by usability experts.

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