Europeana Space – Spaces of possibility for the creative reuse of Europeana's content

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1 EXECUTIVE SUMMARY

This deliverable is a merger of deliverables D3.2 – *Europeana Space: final report on Content* Space - and D3.4 – *Report on legal aspects – final release* - outlined in the DoW. A full explanation for this merger is given below in section 2.1. The combined deliverable D3.1/3.3[1] was focussed on the E-Space project pilots and hackathons. This deliverable, while containing information and material for the pilots and hackathons, also contains advice, resources and guidelines for content owners and cultural entrepreneurs beyond the E-Space project. In particular it includes a series of E-Space case studies narrating the process that each pilot has undergone, moving through the hackathon and business modelling workshop to incubation. In each case the role of IP has been highlighted, and the range of solutions and IP strategies that have been chosen by the participants when developing tools and digital cultural content for commercial purposes, have been detailed.

The key questions that underpin this combined deliverable and for which the E-Space IPR team aim to provide answers are as follows:

- How should IP be considered and what tools would be helpful for business modelling and incubation?
- What are the benefits and possibilities for open content?
- How can a protected space be provided by the integration of legal and technical frameworks?
- What IP strategies have been chosen in the E-Space pilots and hackathons so far and why?
- What role could digital watermarking play in tracking infringement of copyright?

This deliverable includes the documents, tools and resources introduced in chapter 3, which can be found in the Content Space,[2] hosted on the E-Space server and displayed on the main E-Space website. The Content Space is an area of the E-Space website which links to the main E-Space repository and contains all the copyright tools for cultural heritage,[3] including an IPR toolkit, rights-labelling advice and new technical standards, an Open Content Exchange Platform, and the E-Space case studies.

Chapter 4 by Open Knowledge defines what it means to be 'open', explains the terms of open licences, and introduces the Open Content Exchange Platform. The Open Content Exchange Platform consists of a set of collated resources, including an overview of available openly licensed content and documentation, and materials on the reuse of open content, as well as blog posts and articles on open content.

In Chapter 5, this deliverable explains the terms and conditions for the re-use of content in the E-Space protected space, details on access permissions and login, terms and conditions for general users of the Technical Space's WITH platform and terms and conditions for hackathon attendees. These will form the texts of the pop-ups that will appear on the WITH platform. The chapter builds on the explanation in the D3.1/3.3 of how the protected space can allow those wary of opening up high quality digital cultural content such as high resolution photographs, to see what benefits can ensue from allowing specific high tech creative companies to re-use the data in innovative ways, without taking the risks associated with opening up their content to the general public.

[1] D3.3/D3.1 Europeana Space IPR: First Report on Legal Aspects and the Content Space: http://www.europeana-space.eu/wp-content/uploads/2014/04/Europeana-Space-D3.1-and-D3.3-merged.pdf
[2] See http://www.europeana-space.eu/content-space/
[3] See http://www.europeana-space.eu/content-space/copyright-tools-for-cultural-heritage/

It provides details of how technical protection measures are being put in place on the WITH platform to implement the legal framework for the protected space. The protected space is an E-Space innovation for hackathons such as the E-Space photography hackathon, which are unusual in that they will include the use of both open and proprietary content.

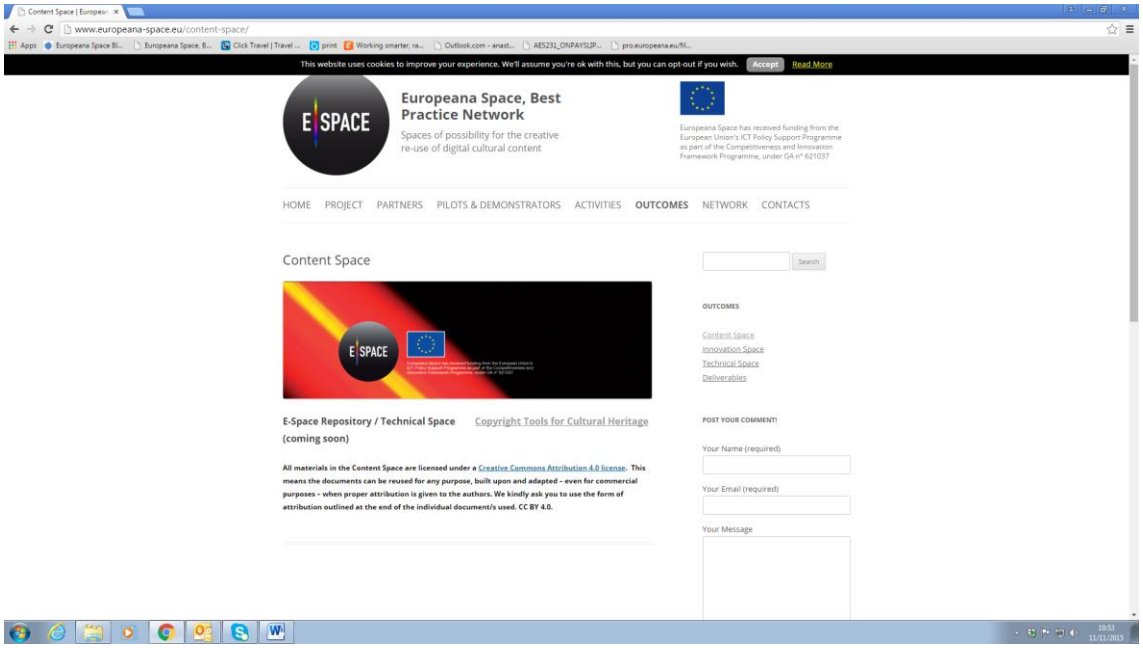
Chapter 6 contains the first two thematic IP Case Studies on TV and photography, both of which have yet to be completed.[4] TV has been included in this deliverable as it was the first to hold the hackathon, the winners were announced, the business modelling workshop has taken place, and the winner is in incubation. The case study narrates this process, and highlights the IP questions that arose and the decisions made. The purpose is to enable the reader to learn from these processes when undertaking their own commercial uses of cultural heritage. The case study will be updated once the incubation process is complete. Photography is included as a draft case study because the organisers had to broach number of questions around IP during the course of the pilot. The Photography hackathon will take place in February 2016 at which point the case study will be updated. Thereafter the winners will be tracked into business modelling and incubation. The same process will take place with the other pilot projects, which will be made available when possible. Each of these case studies will be made available for individual download in the content space.

Chapter 7 contains information on digital watermarking. This information is included as a consequence of the IP seminar held in Coventry in 2015. It is included for the user to consider as a part of an overall strategy to prevent, minimise and monitor infringements of copyright. It provides an introduction to digital watermarking and its application in cultural heritage scenarios. It specifically focuses on the applicability of watermarking techniques for the detection of digital art reproduction copyright infringements and is written for the use of rights holders and content providers who wish to allow access to and certain restricted uses of their digital cultural content. It will be made available in the content space as a stand alone document.

Three substantial appendices can be found at the end of this document. Appendix 1 describes content and functionality of the Open Content Exchange Platform. Appendix 2 contains a document entitled 'IP and the E-Space Project' which is published in the Content Space, and focuses on the place of IP within the E-Space workflow and the copyright legal framework as it pertains to the E-Space activities and thematic areas. Appendix 3 contains the most recent versions of the copyright tools for cultural heritage that have been created by the E-Space IPR team and published in the E-Space Content Space IPR toolkit.[5]

The screenshot below is of the Content Space landing page from where you can access both the E-Space repository and the fully branded 'Copyright Tools for Cultural Heritage', which includes the IPR toolkit, Open Content Exchange Platform, E-Space Case Studies, rights labelling new technical standards and the document on IP and the E-Space project. These tools can be easily downloaded and printed as handouts for use at hackathons and other events and will be made available as stand-alone tools at the project review in April 2016.

[4] It is important to note that these case studies are works in progress and are being continually developed as the project progresses. Preliminary versions are published in the Content Space and final versions will replace these
[5] See http://www.europeana-space.eu/content-space/ipr-toolkit/



Screenshot of the Content Space landing page

The E-Space content and collections can be accessed via the E-Space repository, otherwise known as the Technical Space or WITH Platform. The Content Space landing page contains a link to the E-Space repository as shown in the screenshot above. Alternatively, clicking on 'Copyright Tools for Cultural heritage' enables access to all the materials as listed above including the IPR toolkit. The IPR toolkit provides the following guidelines and tools for content holders, entrepreneurs and creative companies on how to manage IPR when re-using digital cultural heritage content.

- Valuing your IP – a tool for entrepreneurs
- Creative Commons – a Guide to Proper Attribution
- Rights clearance guidelines
- Glossary of Frequently Used Terms
- Basic IP Definitions
- Frequently Asked Questions for Hackathon Organisers
- Frequently Asked Questions for Hackathon Attendees
- Internet Resources
- CC Licence Chooser
- Software Open Source Licence Chooser
- Licensing Factsheet
- Risk Management: NTD Policy and Clauses (Notice to Take Down)
- New Rules on Orphan Works
- New Rules on Public Sector Information
- Twelve Point Code of Ethics for the Sourcing and Use of Digital Cultural Heritage Content
- Digital Watermarking and Cultural Heritage

The tools in this deliverable, including the case studies and the information on watermarking, will be made available individually and collectively on the E-Space content space.

2 INTRODUCTION

2.1 MERGING D3.2 AND D3.4

In the DoW, the E-Space IPR team (WP3) requires the following two deliverables to be submitted in month 24.

D3.2 - Europeana Space – final report on Content Space: this deliverable will give an updated description of the platform, composed of recommendations, guidelines and technical tools (developed in WP2) which will support seamless, effective and safe exchange of content between content holders and CI. A special chapter will cover open licensing and open content more generally [month 24]

D3.4 - Report on legal aspects – final release: this deliverable will provide a fully updated written report on D3.3 'The use and re-use of creative digital content: managing the legal aspects; a blueprint for conversion into online tools that will be integrated in the Content Space. This will include generic tools – including use case scenarios documenting the work done in WP3 in an appropriate form as an example for future content providers – and specific tools customised on the needs and requirements which have emerged during the pilots.

For the following reasons and with the agreement of the Project Officer, IPR team partners have found that it would be preferable to merge the two documents into one document.

2.1.1 Protected Space Proposal

During discussion on the development of the pilots and running of the hackathons it became clear that there were a variety of IP strategies being pursued both in relation to the tools to be developed and the content to be used. While there was a preference for the use of open content and tools, it was clear that this was not going to be possible for all, or even a majority, of the pilots and hackathons. How then could E-Space encourage the greatest possible innovation? Open licensing is equally protective of copyright as all rights reserved licences. The protected space, rather than respecting copyright protection, is more of a risk mitigation mechanism (infringement may still take place, but is less visible and more controlled).

The suggestion of the protected space was offered as a technical and legal space in which the pilots and the hackathons could innovate with tools and content. There would be a preference for the use of open tools and content in this space, but where this was not possible, bespoke licences would be negotiated for these purposes only. No content or tools could move out of the protected space until agreement on the IP had been reached. It is, in other words, a space where it is intended that innovation should be demand led rather than content driven.

Due to of this innovation around the protected space, it became clear that splitting the deliverables into two - D3.1 and D3.3, and then the final updated versions D3.2 and D3.4 – was unworkable: two separate deliverables in the way proposed did not reflect the workflow that was developed and being pursued by the pilots, supported and underpinned by the IP strategies, recommending 'open' where possible, but recognising that as the pilots move towards developing business models for the tools, so other strategies would develop such as proprietary IP strategies; consultancies; bespoke services among others.

Merging the two into one, ultimately longer, deliverable also has the advantage of avoiding overlap. Because of the focus on open, IPR team partners found that some ideas were being repeated in different parts.

It also has the benefit of streamlining the process, starting from a description of the contested space in which the projects work; moving along strategies to pursue 'open'; through developing tools and FAQs for the pilots and hackathons on how best to manage IP and respond to recent developments; and detailing the recommendations and guidelines on the technical tools that will underpin the protected space enabling the innovation to happen.

In its first release in month 12 of the project (January 2015), this deliverable was specifically directed to the partners contributing to the E-Space pilots. In this second version for month 24 (January 2016), the scope of the toolkit has been broadened so as to target stakeholders outside the project consortium as well. The toolkit helps to facilitate ease of provision, use and re-use of Europeana and other cultural heritage content. It is accessible via the E-Space website, and found in what is known as the Content Space.[6] The IPR team has developed the Content Space as a platform of guidelines and tools for facilitating the following:

- Improving content rights labelling, including the use of new technologies for embedding of IPR information within content and keeping content secure, in liaison with the Europeana Licensing Framework
- Developing sustainable models of rights clearance for re-use
- Developing strategies for entrepreneurs and start-ups to better value and exploit their IP
- Developing appropriate strategies for risk management
- Navigating existing licensing options
- Providing examples of bespoke licences to underpin business models
- Standardising best IPR practice in the context of co-creative processes such as hackathons and when dealing with sensitive heritage

The most significant method of deliverable creation used here was desk based research, combined with feedback collection from the E-Space partners, and pilot coordinators in particular.

Some texts within this final deliverable are similar to texts within the first iteration of the deliverable (D3.1/3.3)[7]. These are updated versions of the original texts and tools and some have been re-worked and are now included in the Content Space, and therefore are also included in the appendices of this document.

2.2 ROLE OF THIS DELIVERABLE IN THE PROJECT

This deliverable represents the progress made by the E-Space IPR team with regard to meeting the challenges posed by questions of intellectual property that have arisen during the course of the project thus far, with regard to the six pilot projects, the two hackathons in TV and dance that have taken place (in May 2015 and November 2015 respectively) and the business modelling workshops and incubation process that has taken place for the TV hackathon winners. The work represented here has contributed to the overall progress of the project by providing an intellectual property framework that has supported and will continue to support the development of the pilot, and winning hackathon ideas and inform the decisions made by the pilots and hackathon winners as to the content they will use and the ways in which it will be exploited.

[6] See http://www.europeana-space.eu/content-space/
[7] See http://www.europeana-space.eu/wp-content/uploads/2014/04/Europeana-Space-D3.1-and-D3.3-merged.pdf

In addition to the core work of UNEXE and PACKED in developing the intellectual property framework and toolkit, this deliverable includes input from Open Knowledge on the Open Content Exchange Platform (OCEP).

This work supports, in particular WP4, the development of the pilots in the six thematic areas, WP5, the planning of their respective hackathons and incubation processes, and WP2, in the implementation of the legal framework through the technical/WITH infrastructure. The E-Space IPR team will continue to provide this support but will increasingly support the work of WP5 especially as we go on to address IP issues arising at the business modelling and incubation stages of the project. We will also continue to work closely with WP2 so that the developing infrastructure and tools for content access, use and storage adequately reflects the relevant IPR considerations.

The appendices to this deliverable and the case studies within it (chapter 5) are stand-alone tools and resources for use both within and beyond the project. They are accessible to those without legal backgrounds or knowledge of the E-Space project. The case studies and IPR tools will enable creative companies and entrepreneurs to re-use both open and proprietary materials while respecting IPR and abiding by the rules of best practice. They will also assist content holders in opening up their collections through collaborations with creative partners. The tools and guidelines facilitate ways of re-using digital cultural content, and importantly, the ways of doing so commercially, which will create new employment opportunities and give a boost to the economy.

2.3 APPROACH

During the course of the second year of this project, the E-Space IPR team continued to support the six pilot projects as they developed their open, closed or hybrid IP strategies for both pilots and hackathons. In addition the E-Space IPR team

- further explored the strategies for integration of the legal and technical aspects of the Content Space in collaboration with WP2 and produced the terms and conditions for use of the WITH platform and the protected space;
- provided further suitable tools including a guide on how start-ups and entrepreneurs should value their IP and a tool on proper attribution of works;
- broadened and enhanced the existing IP toolkit so that it now provides a comprehensive approach to IPR in the much broader environment of commercial exploitation of digital cultural content beyond the E-Space project;
- developed the IP case studies based on the pilot themes using information obtained from meetings and electronic communications with each of the pilots – all the case studies are currently works in progress with TV and photography the most advanced hence their inclusion in this deliverable;
- started up support to add more re-usable content to Europeana (Task 3.5); 2 providers from Italy have been identified;
- incorporated the materials developed by E-Space partner PostScriptum into the contribution by Open Knowledge;
- planned our final outputs on the website which reflect on the pilot process;
- converted the tools from the deliverable into a usable form, for example, for handouts at hackathons;
- finalised the story board and text for a video introducing the Content Space;
- reviewed the Content Space materials and the OCEP, and finalised the branding for all our tools and resources in collaboration with Promoter.

During this second year of the project, discussions were held with WP2 by email, and over Skype regarding the integration of the Content Space and Technical Space infrastructure and the 'Spaces in E-Space' document which clarified the way the spaces fit together and explained the spaces to non-technical members of the consortium. A 'Spaces in E-Space' paper was prepared and circulated among partners, in collaboration with WP2. Regular meetings were held to discuss the progress of the E-Space IPR team, to plan the work ahead, and to discuss the integration of the spaces in E-Space, IPR issues, user analysis, meta-data modelling, APIs, the branding of the E-Space portal and webpages and the relationship with Europeana. We also held meetings to discuss this, our final deliverable, including any additions and corrections to the Content Space and Open Content Exchange Platform, finalisations of the TV and photography Case Studies, and the implementation of legal protection measures on the WITH platform.

In collaboration with COVUNI, the WP3 team organised the E-Space IPR workshop in Coventry, held on 2nd March. The following day WP3 presentations were made to the E-Space General Assembly, with participation in discussion around the pilots and demonstrators. Following this up, a note was circulated among E-Space consortium members reminding them of the provisions in the DoW and consortium agreement regarding ownership of IP and appealing to them to engage more closely with IPR. There was ongoing engagement with Europeana, including attending the Europeana re-use meetings.

Work began on the pilot case studies and re-purposing the tools for the Content Space at the beginning of the year, and discussions were had with Promoter via email and Skype regarding the branding for the content space and tools. The TV hackathon case study was made ready and shared among project partners to help them with ideas and decisions around the subsequent hackathons. Tools for the Content Space were organised, adapted, branded and are now available on the website. The terms and conditions for the protected space were drawn up and circulated among relevant pilots for comment. They were then edited and can be found in Chapter 4. Terms and conditions for general users of the Technical Space WITH platform and specifically for hackathon attendees were also drawn up for the relevant pop-ups for user agreements on WITH and can also be found in Chapter 4. The following new tools were also created during this period: a rights clearance tool[8] (which includes flow diagrams), a guide to valuing IP for entrepreneurs[9] and a guide to proper attribution[10] when using Creative Commons Licences.

Open Knowledge is working on case studies detailing the museums and open & hybrid publishing pilots. They met with the people involved during the Coventry General Assembly and IPR workshop and their case studies are also works in progress and due to be submitted for review and publication in the Content Space in April 2016. Open Knowledge has continued their blogging series with blogs on the IPR and technical workshop, the Curator's Choice series highlighting open collections as well as partner blogs on Project Mosul and the Photomediations book of the open & hybrid publishing pilot. They also implemented the new version of the Open Collections platform as a test case for the development of the Open Content Exchange Platform. Open Knowledge also delivered draft documentation and information on the Open Content Exchange Platform in March, as well as a first version in May: development of the OCEP is ongoing. Discussion also took place on the OCEP via email and Skype around how it will be integrated with E-Space Content and Technical Spaces and IPR team partners reviewed both the OCEP and the Content Space.

[8] See http://www.europeana-space.eu/wp-content/uploads/2015/07/spa_content_rightclearance.pdf
[9] See http://www.europeana-space.eu/wp-content/uploads/2015/07/spa_content_valuingyourip.pdf
[10] See http://www.europeana-space.eu/wp-content/uploads/2015/07/spa_content_cc.pdf

Questionnaires for the pilots on IP were circulated during this period and meetings set up with each of the pilots to discuss their needs in terms of IPR tools and deliverables. These meetings enabled the first drafts of the case studies to be developed. The first took place with the open and hybrid publishing (OHP) pilot in May. A discussion has followed this initial meeting about how the IPR tools being developed by the OHP pilot and those the IPR team have and are still developing may be complementary and mutually beneficial rather than overlapping. Meetings with all the pilot coordinators were organised and held in June 2015.

The WP3 Leader attended each of the first two business modelling workshops which followed the TV and dance hackathon. Follow up discussions took place after the meeting with the TV Pilot Coordinators with regard to specific IPR concerns. Another meeting was also held with dance prior to their November hackathon to obtain more information for the dance IP case study. There was uncertainty about which tools and content would be used in the dance hackathon at that stage so the focus switched to writing up the photography pilot case study first since there was a great deal of information available on this. Discussion was had with WP5 regarding the IPR considerations around the TV pilot hackathon and a meeting was arranged to discuss IP issues around business modelling and incubation.

3 THE IPR TOOLKIT: COPYRIGHT TOOLS FOR CULTURAL HERITAGE

3.1 INTRODUCTION TO THE TOOLKIT

The IPR toolkit[11] is a collection of factsheets, diagrams, links and 'how to' guides for use by those interested in making available digital cultural heritage material for re-use and those interested in re-using and commercially exploiting digital cultural content. It is available in appendix 3 of this deliverable and in the Content Space, which will also be populated with the metadata and digital objects provided by E-Space partners and which will be built on the infrastructure of the Technical Space. The IPR toolkit supports the overall aim of the project; to make the availability, use and re-use of content by creative enterprises as open as possible, while providing the legal framework necessary to protect the rights of holders of digital content.

The tools are there to help with the clearing of content and the release of content under the most appropriate licences. They are usable by those without any legal background and have been trialled with the E-Space scenarios before being further tested and then refined, disseminated and made available under open licences.

Due to the length and number of tools we have produced for the IPR toolkit, it proved sensible to present this part of the deliverable as an appendix. However, it should be emphasised that the toolkit is a core part of both this deliverable, and the contribution of the E-Space IPR team to the E-Space project and the wider re-use framework beyond E-Space.

3.2 OUTLINING THE CONTENTS OF THE TOOLKIT

The IPR toolkit provides the following 16 guidelines/tools for content holders, entrepreneurs and creative companies, on how to manage IPR when re-using digital cultural heritage content:

1. **Valuing your IP – a tool for entrepreneurs**

This tool outlines what can be protected by intellectual property laws and which laws apply to which types of creations. It explains how intellectual property can be a primary, or even the most valuable asset a business can have. It also explains how to carry out an IP audit on your business in order to understand the future potential for exploiting your IP assets.

2. **Creative Commons – a Guide to Proper Attribution**

This tool is also useful for entrepreneurs and businesses and outlines best practice in the attribution of digital images licensed with Creative Commons licences.

3. **Rights clearance guidelines**

These guidelines explain what is protected by copyright and how long it lasts. It also provides instructions, flow diagrams and template letters showing how to determine whether an object is still subject to copyright and how a creative company or entrepreneur may seek permission to use a work that is still subject to copyright. In addition it provides an example of a due diligence checklist to show what searches constitute a sufficient attempt to identify a rights holder.

4. **Glossary of Frequently Used Terms**

This brief tool highlights some of the terms frequently used in E-Space project outputs in connection with intellectual property.

[11] See http://www.europeana-space.eu/content-space/ipr-toolkit/

5. **Basic IP Definitions**

This tool is a comprehensive list of terms relating to intellectual property and their meaning including terms such as author, owner, orphan works, collective licensing, copyright, moral rights, exemptions, limitations, public domain, infringement and more.

6. **Frequently Asked Questions for Hackathon Organisers**

This is a tool for those considering organising a hackathon and providing materials for participants to build on and modify for innovative purposes. It explains the pros and cons of using open and/or proprietary content, the role of non-disclosure and confidentiality agreements, and the importance of coming to an agreement on how IP arising during the hackathon will be owned and exploited. The tool provides templates for the potential agreements that may be entered into.

7. **Frequently Asked Questions for Hackathon Participants**

This tool explains the significance of IP for the participant in a hackathon, showing how they may be expected to use certain materials within the hackathon context alone and may like to use a confidentiality agreement when bringing their own existing IP to the table. It also highlights the two key strategies for dealing with IP at a hackathon: the use of only open source materials or a benefit sharing strategy.

8. **Internet Resources**

This tool lists the most useful intellectual property resources for all parties that can be found online for those interested in re-using digital cultural heritage content such as those produced by the World Intellectual Property Organisation (WIPO), the Joint Information Systems Committee (JISC), Creative Commons and CREATE.

9. **CC Licence Chooser**

This tool explains which Creative Commons licences are appropriate for which intended re-use purposes. It highlights the importance of obtaining permissions where necessary, shows how and when to use the public domain and CCO labels, and links to the Creative Commons online tools for choosing licences and labelling content. It is intended for use by both content holders and entrepreneurs.

10. **Software Open Source Licence Chooser**

This tool explains the choice of licences for software which are also dependent upon the particular re-use purposes and concerns of the rights holder. It provides an example of copyright information in a licenced code and explains the advantages and disadvantages of an open source strategy. It is intended for use by both content holders and entrepreneurs.

11. **Licensing Factsheet**

The licensing factsheet explains the most important clauses in a licensing agreement that should be considered by all those entering into such an arrangement. It also points to further more detailed information available on line on the anatomy of licensing agreements and things to think about when licensing IP.

12. **Risk Management: NTD Policy and Clauses**

This tool explains how to manage risk and is intended for those who are planning to re-use digital cultural content online. It includes information on (and an example of) notice and take down policy, information on insurance, and a list of best practice guidelines for using text, images and audio-visual content online.

13. **New Rules on Orphan Works**

This tool explains what an orphan work is and what has been stipulated since October 2014 by the Orphan Works Directive, including the definition of diligent search, the institutions to which the directive applies, what counts as within an institution's public interest mission, what works the directive applies to, what uses can be made of orphan works, what to do in cases where remuneration becomes necessary, what the implication is of mutual orphan work recognition and when a work ceases to be an orphan work.

14. **New Rules on Public Sector Information**

This tool explains the new rules most recently updated in July 2015 for public sector information. It explains which institutions the new rules cover, why the rules have been extended to these organisations, which organisations are not covered, what re-use means, what accessible information means, what the rules are on charging, the types of licences that should be used and when the rules will come into force.

15. **Twelve Point Code of Ethics for the Sourcing and Use of Digital Cultural heritage Content**

This tool provides best practice guidelines for the ethical re-use of digital cultural objects online. It explains the importance, for example, of a full and accurate representation of the object and its context in new works and of usage which does not harm those who are the subjects of an image or for whom the image represents important aspects of their cultural heritage.

3.3 FURTHER DEVELOPMENT OF THE TOOLKIT

The E-Space IPR toolkit has been created for use by parties engaged in the provision and re-use of digital cultural heritage content and is particularly targeted at those who are considering opening up their content for re-use and those entrepreneurs and small businesses interested in the commercial re-use of this kind of content.

The IPR toolkit in Appendix 3 and the Content Space remains a work in progress as the pilots and winning teams from the hackathons develop over the course of the remaining year of the project and as further IPR issues come to light. The intention is to add further tools to the toolkit which will help entrepreneurs and start-ups to negotiate business modelling and incubation with regard to tools which are applied to cultural heritage content and/or the re-use of digital cultural heritage content itself.

There is already a great deal of material online concerning IPR and E-Space IPR team partners have been very careful to avoid re-inventing the wheel. Instead, the aim is to bring valuable sources together and contextualise them in the framework of the E-Space project; its over-all goals, and the aims of its individual partners.

The E-Space partners will continue to gain valuable information and guidance from these tools in the process of their pilots, hackathon, business modelling workshops and the incubation of winning ideas, proposals or prototypes from the hackathons. In addition these tools are intended for use beyond the E-Space project as documents which can be understood by those without any background knowledge of the project. This is why certain aspects of these tools and the case study materials may appear repetitive in terms of definitions, references and explanations of basic ideas related to IP and E-Space. Wherever appropriate, links have been made to cross-reference tools so that the duplication of material is kept to a minimum.

4 THE POWER OF OPEN

4.1 OPEN CONTENT, TOOLS, LICENSING AND BUSINESS MODELS

Given the challenges in the contested IP space, the value of open is a key concept within the E-Space Project, through both open content and open source tools. As Melissa Terras writes in her 2015 article Opening Access to Collections: "*opening up access to primary sources in the cultural heritage sector and encouraging them to be published in a way which is as accessible as possible has the potential to change the nature of research outputs in the humanities and social sciences"*[12]. Opening up can also have great value for education, as Peter Kaufman states in his recent blog ''What Could Be': the future of open video collections': *What if all the video produced and published by cultural and educational institutions, but especially recordings of classroom lectures, were available for such purposes, and the entire world of knowledge production from well-funded, often publicly funded learning institutions were being built on such a principle of free access to knowledge? That world is not here, but it could be, and those of us involved in media production at such institutions might want to consider formulating a kind of code of best practices where goals of this nature might be ratified by management teams who recognize the singular power of the web today in advancing a more modern form of enlightenment.*[13]

The availability of open resources it also vital to the creative industries: without them they would be unable to build upon the impressive digital content available in Europeana (millions of items from a range of Europe's leading galleries, libraries, archives and museums, including books and manuscripts, photos and paintings, television and film, sculpture and crafts, diaries and maps, sheet music and recordings). Within the E-Space project prototype services and applications will be developed to optimise reuse of content and to showcase it. Showcasing this content will support the project's aim of increasing and enhancing the creative industries' use of Europeana.

These services and applications may consist of creative multi-platform resources, storytelling apps that allow users to create their own digital story, augmented reality apps that allow historical images to be layered with real images, interactive games, and so on. Each tool will have a business model in mind: many will be available for purchase or to licence; others will have an open strategy and will be considering an open source and openly licensed path: enabling the product's design to be openly available for universal redistribution allowing subsequent improvements by anyone.

Those using an open strategy will be interested in open business models such as:

- Dual licensing
- Selling support services (support, training, installation, integration and customisation)
- Consultation and stewardship
- Future funding

[12] Melissa Terras , (2015) "*Opening Access to collections: the making and using of open digitised cultural content*", Online Information Review, Vol. 39 Iss: 5, pp.733 - 752

[13] Peter Kaufman, '*What Could Be' – the future of open video collections*, OpenGLAM blog, 16 September 2015, http://openglam.org/2015/09/16/what-could-be-the-future-of-open-video-collections/

Ideas related to open business models are provided on the Open Data Institute Website[14] and in the 'Service Innovation Platform: Open business models and intellectual property' report available from the Big Innovation Centre website[15] which concludes that: "*Both creative services and ICT firms report that soft IP are strongly used as a strategy for innovation, especially in relation to innovation methodologies, access to information and standards setting*". The recently closed EU Project Apps4Europe conducted research into open data business models[16] highlighting previous approaches and signposting new ways of thinking. One area they look at is for-profit taxonomies which they see as falling in to 5 main categories:

1. Gaining monetary value: The main objective of these businesses is to capture monetary value through satisfying real existing needs. Hence, R&D has significant share in application development cycle.
2. Capturing reputation: Applications that are classified in this taxonomy, are re-announcing a way to generate revenue. As they realised that the application market is so small and there are not enough customers to get money through advertising. As a result, this type applications work as an advertisement for big companies.
3. Creating awareness: This taxonomy consists of small companies that want to test that the proposition of the application is viable or not.
4. Testing idea: Mostly are single developers that have an idea and want to know if it's good enough to fly or they need to invest more.
5. Personal reputation: Single developers who are working in highly visible open source projects.

4.1.1 Open Knowledge and OpenGLAM

Open Knowledge, sub-contracted to lead in support for openness, co-ordinates over twenty domain-specific Working Groups[17] that focus on discussion and activity around a given area of open knowledge. The OpenGLAM Working Group[18] is a global network of people that work to open up cultural data and content. The group provides documentation for cultural institutions wanting to open up their data and runs workshops and events bringing together groups that are committed to building an open cultural commons. The Working Group Members act as a bridge between different organisations and initiatives, and the global network meet every month virtually to discuss relevant updates, pressing issues, and next steps to be taken. The group is currently co-ordinated by Joris Pekel from Europeana with support from Lieke Ploeger of Open Knowledge.

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[14] See *How to make a business case for open data*, http://theodi.org/guides/how-make-business-case-open-data

[15] See *Service Innovation Platform: Open business models and intellectual property*, http://www.biginnovationcentre.com/Publications/13/Service-Innovation-Platform-Open-business-models-and-intellectual-property

[16] See *Business models for open data applications*, http://www.appsforeurope.eu/article/business-models-open-data-applications

[17] See *Open Knowledge Working Groups*, https://okfn.org/get-involved/working-groups/

[18] OpenGLAM works under a set of core principles related to the power of open and underpinned by the conviction that galleries, libraries, archives and museums have a fundamental role in supporting the advance of humanity's knowledge. They are the custodians of our cultural heritage and in their collections they hold the record of humankind. The internet presents cultural heritage institutions with an unprecedented opportunity to engage global audiences and make their collections more discoverable and connected than ever, allowing users not only to enjoy the riches of the world's memory institutions, but also to contribute, participate and share.

This working group forms part of the wider OpenGLAM community, who promote free and open access to digital cultural heritage held by Galleries, Libraries, Archives and Museums. OpenGLAM offers both off- and online forums for professionals working within the cultural sector to share their experiences around opening up their holdings.

OpenGLAM have supported work around hacking and building on open content including Coding Da Vinci Open Culture Hackathon[19], 1st Swiss Open Cultural Data Hackathon [20], Spaghetti Open data[21] and others. The OpenGLAM community are keen advocates of apps built on open cultural heritage content and have in this role been providing feedback and support in promotion of E-Space work. Existing OpenGLAM resources such as the Documentation page and the Open Collections listing have served as initial input to building up both the Open Content Exchange Platform and the Open Collections database. In addition, the work executed by Open Knowledge within the context of E-Space forms a valuable contribution to the OpenGLAM community, providing a new perspective on reuse of cultural heritage content by the creative industries sector. The OpenGLAM website and social media channels have been used to maximize visibility of the work done within E-Space and push it out to a global audience of open cultural data enthusiasts[22].

In 2011 Vice President for the Digital Agenda of the European Commission Neelie Kroes made the following call to action in her Foreword: Culture and Open Data: How Can Museums Get the Best from their Digital Assets?:

"*I urge cultural institutions to open up control of their data…there is a wonderful opportunity to show how cultural material can contribute to innovation, how it can become a driver of new developments. Museums, archives and libraries should not miss it*."[23]

The majority of cultural heritage institutions have been rising to this challenge and implementing new forms of transparency and public access in their policies. In the past few years there have been an increasing number of initiatives that release GLAM content openly. Some of the most high-profile of these include the release of a million public domain images onto Flickr by the British Library, the release of currently more than 100.000 high-resolution scans of works from the Getty Museum in Los Angeles as open content and the release of currently over 200.000 high-quality images of famous paintings such as the Nightwatch by the Rijksmuseum. Many GLAM institutions have followed suit and there is now a wealth of excellent public domain content. E-Space is dependent on this open content in its quest to understand how money can be made as a result of the re-use of digital cultural heritage.

4.1.2 Open Content and Open Licensing

Open Knowledge and the Open Definition Advisory Council recently announced the release of version 2.1 of the Open Definition[24]. The Open Definition sets out principles that define "openness" in relation to data and content. The definition plays a key role in supporting the growing open ecosystem.

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[19] See *Coding da Vinci 2015,* http://openglam.org/2015/03/16/coding-da-vinci-2015/

[20] See *First Swiss Open Cultural Data Hackathon*, http://openglam.org/2015/03/04/first-swiss-open-cultural-data-hackathon/

[21] See *Spaghetti Open data*, http://openglam.org/2014/07/02/spaghetti-open-data/

[22] See blogposts on *OpenGLAM Open Collections,* http://openglam.org/2015/06/11/openglam-open-collections/ and *Presenting the Open Content Exchange Platform,* http://openglam.org/2015/07/29/presenting-the-open-content-exchange-platform/

[23] See *Closed Doors to Open Gates by Neelie Kroes*, http://www.firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/UC/article/view/3771/3053

[24] See *Open Definition*, http://opendefinition.org/od/

The definition makes precise the meaning of "open" in the terms "open data" and "open content" and thereby ensures quality and encourages compatibility between different pools of open material. Its development and use has been key in the open movement.

Although it would not be appropriate to give a comprehensive overview of open content and open licensing at this point (and there are already many excellent resources available, many of which are provided by or referred to within the tools in Appendix 3 of this deliverable, as well as in the Open Content Exchange Platform) it seems pertinent to give an explanation of some of the noteworthy points.

Throughout this deliverable the term **open** will be used. When referring to content, data or tools the term open will be used in the sense of the Open Definition mentioned above. What is important to note here is that true openness lies in *unrestrictive licensing*.

The terms **open data** and **open content** are also used often in this deliverable. The two terms are occasionally used interchangeably because many key concepts (such as attribution, non-commercial use etc.) apply to both and many organisations deal with both. However it should be noted that in IP law 'data' and 'content' are not considered the same thing, one is protected by the database directive (in the EU) and the other by copyright.[25] For clarity:

- **Open data** is data that can be freely used, reused and redistributed by anyone - subject only, at most, to the requirement to attribute and sharealike. Cultural open data (or meta-data is data) is about cultural works and artefacts — for example titles and authors — and generally collected and held by galleries, libraries, archives and museums.
- **Open content** is a creative work, or work of the intellect, that can be freely used, reused and redistributed by anyone - subject only, at most, to the requirement to attribute and sharealike. Types of open content include videos, images, audio files and text files etc.

A licence is a legal document that allows others to use content or a dataset under certain conditions. Public licences[26] contain a number of conditions that users of the licensed dataset must respect in order to be allowed to use the licensed content. The user is infringing the underlying rights, if he or she uses the content and does not respect the licensing conditions. In general, licenses can be granted to specific individuals (e.g. a licence for an ebook) or addressed to any recipient of the licence (Custom vs Standard licences).

However, not all public licences are also open licences. An open licence is one which grants permission to access, re-use and redistribute a work with few or no restrictions. Restrictions that can be imposed, without losing the ability to freely use this material with other open material include the *"requirement to give credit to the author and/or making any resulting work available under the same terms as the original work"*. If someone wants to publish their content as open content they will need to publish their data under a licence that must allow that the data to be freely used, reused and redistributed by anyone. Licensing conditions such as no derivative work, non-commercial use only are not open licences as these conditions discriminate against certain types of users or prevent meaningful reuse.

There are two widely used families of open licenses: the Creative Commons licences (see the open source and Creative Commons licence choosers and guidelines for proper attribution)

[25] Databases may have copyright protection in the structure where original, and the sui generis right in the contents where the conditions are met.

[26] A general public licence (GPL) is a copyleft license, which means that derived works can only be distributed under the same license terms. This is in distinction to permissive free software licenses, of which the BSD licenses and the MIT License are the standard examples. GPL was the first copyleft license for general use.

and the Open Data Commons licences. The Open Data Commons licences have been specifically designed for use with databases. The Creative Commons licenses are designed to work with data and creative works. A list of Conformant Licences is available from the open definition site.[27]

Public Domain Dedication licences do not establish any conditions that a user has to meet. The Open Data Commons Public Domain Dedication and Licence (PDDL) and the Creative Commons Zero Universal Public Domain Dedication (CC0) allow every user to use the licensed material for all purposes without any restrictions. In addition, the Creative Commons Public Domain Mark allows people to mark a work that is free of copyright restrictions worldwide.

Attribution licences are licences that place a single condition on users of the licensed material: The Open Data Commons Attribution License (ODC-BY) allows the users to copy, distribute and use the database, to produce works from the database and to modify, transform and build upon the database. The user must attribute any public use of the database, or works produced from the database, in the manner specified in the licence. For any use or redistribution of the database, or works produced from it, the licence of the database must be made clear to others, with notices kept intact on the original database. The Creative Commons Attribution License (CC-BY) allows the users to use the licensed material for all purposes. The licence requires users to give appropriate credit, provide a link to the licence, and indicate if changes were made. The users may do so in any reasonable manner, but not in any way that suggests the licensor endorses the user or the specific use made by the user. Attribution ShareAlike Licenses are the open licences with the most restrictions on users of the licensed material. In addition to the Attribution Licenses the Attribution ShareAlike Licenses also require, that the modifications of the original licensed material are licensed under the same conditions as the licensed material. The most common Attribution ShareAlike Licenses are the Open Data Commons Open Database Licence (ODbL) and the Creative Commons Attribution ShareAlike License (CC-BY-SA).

The licences mentioned above are likely to apply to content that will be used in demos, applications, services and/or tools developed as part of the E-Space project.

The prototype services and applications developed in the pilots and hackathons will also need to be licensed. Those that take the open source route will need to navigate countless open source licences. There are a number of 'Anything Goes Licences' which place very few restrictions on what can be done with the code, including using the code in proprietary derivative works. They only require attribution in a specified manner. The most widely-used licences of this type are BSD-style[28]; MIT/X11-style[29] and Apache Software License, version 2[30].

The Copyleft Licences also allow open distribution, modification, and re-use of the code (with attribution), but insist that any derivative works be distributed under the same terms. Thus proprietary (all rights reserved) derivatives by third parties are not possible (unless the copyright holder gives permission). Commercial use and derivation by anyone is permitted, as long as the terms of the licence are honoured. Widely-used licences of this type are GPLv3 (GNU General Public Licence, version 3)[31]; AGPLv3 (Affero GPL, version 3)[32]. There is a comprehensive overview of all open source licensing models at opensource.org and more on licensing in section 8.

[27] See *Open Definition Licences*, http://opendefinition.org/licenses/

[28] See *BSD-style licence*, http://opensource.org/licenses/1. BSD-2-Clause

[29] See *MIT/X11-style licence*, http://opensource.org/licenses/MIT

[30] See *Apache Software licence*, version 2, http://opensource.org/licenses/Apache-2.0

[31] See *GPLv3 (GNU General Public License, version 3)*, http://opensource.org/licenses/GPL-3.0

[32] See AGPLv3 (Affero GPL, version 3), http://opensource.org/licenses/AGPL-3.0

4.2 CHALLENGES TO OVERCOME

Openness is clearly a process as well as a destination, and cultural heritage institutions are learning as they progress. There is a growing recognition, highlighted in the MW2013 paper Open Culture Data: Opening GLAM Data Bottom-up[33], that engagement with external parties is very much the way forward. The paper quotes Waibel and Erway's paper[34] which states: "*for [GLAM] content to be truly accessible, it needs to be where the users are, embedded in their daily networked lives*." Many of the E-Space partners are already practising opening up and reusing cultural content. For example PACKED participated in the Open Cultuur Data België project,[35] which supported of publishing cultural heritage collections as open data, raising awareness about the topic and creating creative applications based on open cultural data, and the WAAG Society runs the Open Design Lab[36] aimed at aimed at sharing knowledge and tools around open design and promoting open license systems that allow guaranteed sharing of ideas.

However, bringing together communities with varying agendas offers up a number of challenges.

4.2.1 Understanding Value and Business Modelling

One of the most cited papers making the case for open cultural content is the Europeana Whitepaper No. 2: The Problem of the Yellow Milkmaid: A Business Model Perspective on Open Metadata[37]. The paper argues that poor replications of Johannes Vermeer's Yellow Milkmaid painting have led to a rethink by Europeana of its Data Exchange Agreement, which governs the rights under which the metadata from Europe's cultural heritage institutions is made available in its repository. Due to the low-quality copies of the painting on the web, according to the Rijksmuseum, "*people simply didn't believe the postcards in our museum shop were showing the original painting. This was the trigger for us to put high-resolution images of the original work with open metadata on the web ourselves. Opening up our data is our best defence against the 'Yellow Milkmaid'* ." The resulting change in the new agreement is the call for a more open licence (Creative Commons CC0), which allows for the re-use of descriptive metadata in a commercial context or by commercial players. Discussions related to the Data Exchange Agreement, took place in a July 2011 workshop held in The Hague, The Netherlands. At this Open Metadata Workshop a number of areas were identified as requiring further investigation. One of these is important relates to 'loss of revenue/spill-over effects':

"*Instead of measuring success by the amount of commercial revenue that institutions are able to secure from the market, new metrics should be developed that measure the amount of business generated (spill-over) based on data made openly available to the creative industries. This requires a change in evaluation metrics on a policy level*."

A recent case study published by Europeana, 'Democratizing the Rijksmuseum'[38], looks at one of the most high-profile open content releases, that of the Rijksmuseum, in more detail, and especially at the results that opening up has brought the museum.

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[33] See *Open Culture Data: Opening GLAM Data Bottom-up by Lotte Belice Baltussen, Maarten Brinkerink, Netherlands, Maarten Zeinstra and Nikki Timmermans*, http://mw2013.museumsandtheweb.com/paper/open-culture-data-opening-glam-data-bottom-up/

[34] Waibel, G., & R. Erway. (2009). "Think global, act local–library, archive and museum collaboration." Museum Management and Curatorship 24(4), 1–14.

[35] See *Open Cultuur Data België project*, http://opencultuurdata.be

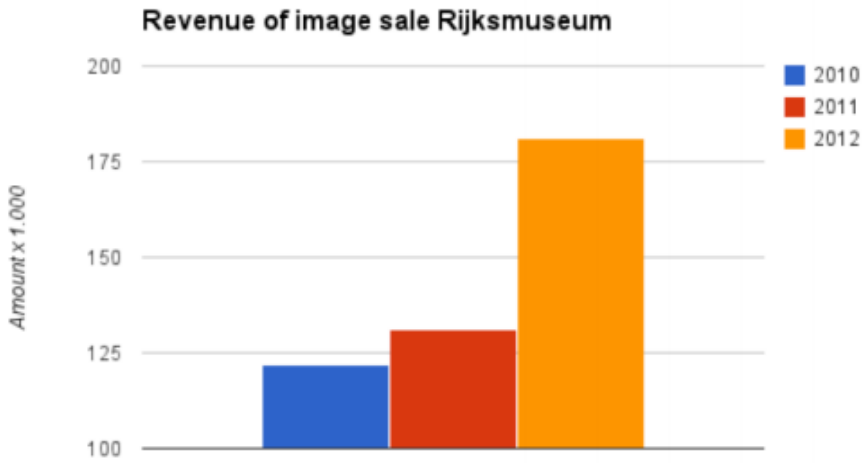
[36] See *Open Design Lab*, https://www.waag.org/nl/lab/open-design-lab

[37] See http://pro.europeana.eu/documents/858566/2cbf1f78-e036-4088-af25-94684ff90dc5

[38] Joris Pekel, Europeana Foundation, "Democratising the Rijksmuseum," August 2014, http://pro.europeana.eu/files/Europeana_Professional/Publications/Democratising%20the%20Rijksmuseum.pdf

Starting from 2011, the Rijksmuseum released images of artworks in their collection (which consists largely of out of copyright works) under a Public Domain license, enabling the public to copy, download, reuse, remix and share these images as they like. In the beginning a CC-BY licence was chosen, but since it proved too time-consuming to check whether the museum was correctly attributed with each reused image, the Rijksmuseum decided to adopt the Public Domain mark.

From 2011 onwards, the medium quality images were available for free, while the museum charged a small fee for the master file. Interestingly, the revenue of images sales actually increased since the release of the open content, as is seen in the graph below[39]:



The case study suggests that this higher revenue may be due to the greater number of people learning about the available material because of the increased visibility of the medium quality images, while commercial parties such as designers and publishers are still willing to pay for the highest possible quality which they need for their work. This could be a good way for other institutions to both open up the images to the public, while also making a profit from the commercial sector. In October 2013 the Rijksmuseum decided to no longer charge for the high quality images, a more radical move increasing their reputation further.

In conclusion, the museum sees great value in the move towards openness, especially with regard to creative reuse: "*What greatly benefitted the museum is that other people started making new creative works with the material and therefore promoting the museum on a larger scale than they had ever been able to do themselves. Releasing the material has resulted in an incredible amount of goodwill from the public and creative industries. Combined with the enormous exposure, reputational benefits and the ability to enter more cost-effective sponsor programmes greatly outweighed the reduced images sales for the museum."*Cultural heritage organisations clearly have a task in redefining value and long-term impact of openly licensed content and tools. This challenge is not dissimilar to that faced by creative industries when justifying the use of open content, open source release of tools and attempts to monetise them. Is success measured in commercial output or can it be judged in more subtle ways, such as in increase in the number of users, marketing impact or elsewhere? The aforementioned for-profit taxonomies discussed in the Apps4Europe paper on open data business models[40] offer different perspectives on value.

[39] Image created by Joris Pekel (CC-BY-SA). All numbers taken from the annual reports that can be found here: https://www.rijksmuseum.nl/en/organisation/annual-reports

[40] See *Business models for open data applications*,

http://www.appsforeurope.eu/article/business-models-open-data-applications

The uniting feature of the creative industries is that their focus is using intellectual capital, ideas and innovation to make money. The idea of wealth creation at times seems misaligned with that of open content. However open content is, in the majority, created by publicly funded bodies, offers up a huge potential to those willing to invest time and effort in building upon shared ideas, images and content. Often the results of this creative activity can then become new open sources for inspiration.

The Open Data Institute (ODI), a private limited company established as a not-for-profit organisation set up by the UK government to catalyse the evolution of an open data culture to create economic, environmental, and social value is a good example here. The ODI aims to unlock supply, generate demand, create and disseminate knowledge to address local and global issues. They will convene world-class experts to collaborate, incubate, nurture and mentor new ideas, and promote innovation. Their initial funding was through the Technology Strategy Board, the UK's innovation agency whose goal it is to accelerate economic growth by stimulating and supporting business-led innovation. The ODI have recently announced an open data development start-up programme to be replicated across Europe with over £11 million funding. The ODI organise a Heritage and Culture Open Data Challenge[41] that considers how open data can be used to engage more people, and more diverse people, in UK heritage and culture.

Monetisation and adding value are clearly connected but there is more work to be done in fully understanding their relationship and the socioeconomic impact of reuse of open content.

4.2.2 Lack of understanding by cultural heritage sector of the requirements of creative industries

As the E-Space project has identified, there are significant barriers to reuse of openly licensed materials by creative industries. These barriers are clearly described in the blog post by Melissa Terras: *So you want to reuse digital heritage content in a creative context? Good luck with that*.[42] In this post Melissa laments how difficult it is for those who are not part of the GLAM bubble to understand licensing and to reuse content. She puts this down to poor interfaces, the shackles of copyright which means content is usually old (pre-20th century) or has restricted use, poor image quality and a failure by others to understand what she calls 'the maker privilege' ("people reusing digital images are putting in significant time and often money to turn them into something else.")

A subsequent discussion on the OpenGLAM mailing list led to the following observations from Maarten Brinkerink from the Netherlands Institute for Sound and Vision:

"To me it reinforces the feeling that there still is a huge gap between institutions and 'makers' that needs to be bridged, before we can actually realize the mythical 'creative reuse' potential (although I do also strongly believe this potential exists)."

The OpenGLAM group discussed what they felt to be the biggest issues. These were primarily related to two factors. Firstly, the licensing assigned to images is not open enough and often too many restrictions apply to allow users to do what they would really like to do with the content. Secondly, images are often of low quality, difficult to access and find and fail to be 'bundled up and ready to go'. So for example on Europeana, while there are many images reported as being open within the database, many of the hits fail to lead to actual image files and even fewer lead to an image file that is large enough to reuse in any significant way.

[41] See *Heritage + Culture Open Data Challenge*, http://www.nesta.org.uk/heritage-culture-open-data-challenge

[42] See http://blogs.lse.ac.uk/impactofsocialsciences/2014/10/10/reuse-digital-heritage-content-in-a-creative-context/

Europeana has recently launched its 'Data' section on the Europeana labs website, showcasing some of the collections that do quality for this kind of re-use and are free from abovementioned hurdles.[43]

'Valuing the Public Domain'[44] is a major research and knowledge exchange project carried out by CREATe, University of Glasgow with the UK Intellectual Property Office, co-funded by the Economic and Social Research Council (ESRC). During the project the research team conducted interviews with managers of 22 creative UK firms that used public domain materials to create commercial products. Research explored why firms made decisions to invest in development of public domain projects, finding 4 main rationales:

1) engagement with fan community of existing literary work,

2) use of public domain material to complement a technological platform or subscription service;

3) a conscious entrepreneurial strategy based on identification of existing demand and

4) partnership with a public institution to celebrate and engage the public about an event or anniversary of significance. They identified the following issues relating to public domain uptake:

- "*Firms working with visual or multimedia content reported difficulties in locating and securing high-quality sources of public domain works (image resolution, digital format). This was a significant challenge to commercialisation.*
- *There was little concern about competition due to non-excludability of source material, but firms worried about costs of marketing and sustaining PD projects when initial development cost and investment was also low.*
- *Clarity on legal use (e.g. requirements for 'diligent search' when using orphan works) would improve commercialisation potential.*"

There is still work to be done to make reuse of content straightforward.

4.2.3 Lack of understanding by creative industries of the restrictions on cultural heritage organisation

It is also important to point out that makers often are unaware of the directives cultural heritage institutions are governed by and the limitations they face in areas such as copyright, funding, knowledge of objects etc. Copyright, and other factors involved in delivering open content, remain complex so keeping all those with a stake in open cultural heritage content happy can prove problematic.

While openness is of great benefit for the creative industries and a much-desired quality, even those with only a rudimentary knowledge of copyright and licensing will know that achieving openness is often difficult and repeatedly complicated. This is especially the case for audio-visual content, open collections are hardly available: OpenGLAM published a series of blog posts on this topic in 2015 and managed to gather together a list of open resources for film, TV and broadcasting.[45]

[43] See *Europeana Labs*, http://labs.europeana.eu/data/ for a selection of available openly licensed media objects - books, photos, art, artefacts, audio clips and more.

[44] See *Create Workshop: Valuing the Public Domain*, http://www.create.ac.uk/blog/2014/09/25/valuing-the-public-domain-a-workshop-for-uk-creative-firms/

[45] Emma Beer, *Television, film and broadcasting – where are the open collections?* OpenGLAM blog, 10 September 2015 http://openglam.org/2015/09/10/television-film-broadcasting-where-are-the-open-collections/ and Peter

Many digital collections contain works for which the parent institution does not own the copyright. This may be because the donor of the physical object did not own the copyright, or maybe the copyright status is unknown - as is the case with orphan works. Providing permission for third–party reuse of orphan works is challenging and resolving the status of orphan works by finding copyright holders is costly and often unsuccessful. In October 2014 the EU Directive on Orphan Works came into effect[46]. The directive sets out common rules on the digitisation and online display of orphan works and provides regulations on how to identify orphan works (also see section 7.2, pages 51-53). The aim of the directive, agreed in 2012, was to make it "*safer and easier for public institutions such as museums and libraries to search for and use orphan works ... Today, digitising an orphan work can be difficult if not impossible, since in absence of the right holder there is no way to obtain permission to do so. The new rules would protect institutions using orphan works from future copyright infringement claims, and thus avoid court cases like that in the US, in which a Google project to digitise and share all kinds of books, including orphan works, was blocked on the grounds that the orphan works question should be settled by legislation not private agreements*." [47]

Unfortunately, the directive has come under criticism for being essentially a compromised proposal and placing huge responsibility and work on cultural heritage institutions. The criticisms are set out in a blog post[48] by Paul Keller, Kennisland. They can be paraphrased as:

- "With regard to the identification of 'orphan works', the directive requires that 'a diligent search is carried out in good faith for each work' by the memory organization attempting to use such a work.[49]
- There is the introduction of a requirement to compensate rights holders for past uses of their works if the rights holders reappear and claim their works (thus ending the works' 'orphan' status).
- The compromise text of the directive does not change the limited list of permitted uses of the Commission proposal.

The compromise text contains the same limited list of beneficiaries as in the Commission proposal: The directive only allows uses of 'orphan' works by 'publicly accessible libraries, educational establishments or museums, as well as archives, film or audio heritage institutions and public service broadcasting organizations' in the context of their public interest missions."

The long-term implications of the EU Directive on Orphan Works are considered in this follow up post [50] written more recently. Keller writes: "*The text also is a legislative train wreck that fails to make any substantial improvements to the situation in which memory institutions engaged in digitization efforts find themselves*". While there are likely to be orphan works released into the public domain it is likely to be a laborious process.

Kaufman, '*What Could Be' – the future of open video collections*, OpenGLAM blog, 16 September 2015, http://openglam.org/2015/09/16/what-could-be-the-future-of-open-video-collections/

[46] *See EU Directive 2012/28/EU on Orphan works,* http://ec.europa.eu/internal_market/copyright/orphan_works/index_en.htm

[47] *See "Orphan" works: informal deal done between MEPs and Council,* http://www.europarl.europa.eu/news/sv/news-room/content/20120606IPR46383/html/Orphan-works-informal-deal-done-between-MEPs-and-Council

[48] *See 'Orphan works' compromise fails to deliver,* http://www.communia-association.org/2012/06/25/orphan-works-compromise-fails-to-deliver/

[49] The problem with the notion of diligent search is that there is no universally acceptable, reliable, methodology for conducting such it as yet.

[50] See *Europe's cultural heritage institutions deserve better,* http://www.communia-association.org/2014/11/06/europes-cultural-heritage-institutions-deserve-better/

Often cultural heritage institutions are put in an awkward position because they weigh up the requirement of reuse alongside the duty to protect the IP of artists. So what happens is that cultural heritage organisations publish orphaned materials on their (collection) websites anyway, but then work with notice and takedown policies (see section 7.3).

Another copyright and licensing challenge is that a considerable amount of open content will be licensed openly to allow reuse and remixing of content, yet requires attribution, so is not in the public domain. This may be due to a requirement of institutions to track uses of their open content and data to show the impact of digitising and publishing content. Other licences allow for reuse but not for commercial gain. Monetisation can be complex as while cultural heritage institutions aim to support innovation and reuse they must also protect against loss of potential income and also against misuse of collections. They have a duty to conserve collections in perpetuity and demonstrate the return on investment of digitisation and opening of content. The institutional setting of cultural institutions requires further investigation in order to understand why licensing models fail.

Finally, another challenge is correct rights labelling: often different terms are confused in different collections, or license information is even unavailable. In 2015 a joint DPLA–Europeana Rights Statements Working Group produced a recommendation for ten simple, flexible and descriptive Rights Statements that can be implemented to communicate the copyright and related restrictions on use of Items in collections to users[51]. These will in the future be hosted on http://rightsstatements.org. The challenges of working with licensed material highlighted above can often lead to limitations in activity and approaches. It is hoped that the E-Space pilots will be innovation led, rather than supply led, hence E-Space proposes the creation of the protected space.

4.3 CASE STUDIES

Reimagining Open Content

In order to demonstrate the benefits of releasing open content and illustrate its potential the OpenGLAM community has been diligent in recording case studies. A series of blog posts[52] have been written about open content release and interesting and innovative approaches to reuse. Case studies offer not only powerful social proof that reuse is taking place but they also engage the wider audience by providing a story for people to tell and inspiration. It is the aim of Open Knowledge that through its work on the E-Space project case studies on the project's pilot trajectories can be added to the growing list.

In 2012, the Statens Museum fur Kunst (SMK) in Copenhagen decided to make a small batch of 160 high quality digital images of their public domain collection openly available on the web. The museum's choice of open licenses was driven by a strong wish to encourage sharing and creative and innovative reuse of their digitized collections. Over the last couple of years the Copenhagen Metro has been expanded, causing frustration for the people living next to the construction sites. As a positive countermove the Copenhagen Metro Company (CMC) decorated the metro fences creatively, often in partnership with local communities. SMK entered into a partnership with CMC and used its charter collection of open images as the raw material. SMK was represented by Young People's Laboratories for Art (ULK) – a community of young "art pilots" who meet at SMK once a week to undertake volunteer work on creative projects.

[51] Europeana & DPLA International Rights Statements Working Group, *Rightsstatements.org White Paper: Recommendations for Standardized International Rights Statements.* October 2015, http://rightsstatements.org/files/151002recommendations_for_standardized_international_rights_statements.pdf

[52] See *OpenGLAM case studies*, http://openglam.org/category/case-studies/

ULK created a series of remixed digitised artworks using mashups, collages and Photoshop manipulations that were used on the fences. The full story is available on the OpenGLAM blog[53].

In 2013 the Rijksmuseum in Amsterdam paired with local dairy Albert Heijn[54] to create a series of milk cartons, yogurt containers, and custard packages that show sixteen artworks from the museum's permanent collection. These included Vincent van Gogh's self-portrait, a cartoonish rabbit figure by Dick Bruna, Rembrandt's Night Watch, Vermeer's The Kitchen Maid and more. The intention of the project was to start family discussions about art at the breakfast table. There was also a supporting web page[55] that aimed to help users to create their own creation from a work of art.

British Library Labs is an initiative that invites researchers and developers to work with the British Library digital collections to address important research questions. Their series of competitions have surfaced some highly innovative uses of openly licensed content[56]. One of the winners for 2014 was the Victorian Meme Machine which has created an extensive database of Victorian jokes that are available for use by both researchers and members of the public. It analyses jokes and semi-automatically pairs them with an appropriate image (or series of images) drawn from the British Library's digital collections and other participating archives[57]. Another interesting reuse of British Library content is the Moments video, a 3d video of public domain images[58] created from the British Library Flickr collection.

In June 2014, the Te Papa Tongarewa Museum of New Zealand made over 30.000 images from their collections freely available, in the highest resolution. More than half of these are openly licensed: the other half currently has a NC (non-commercial) restriction, which the institution aims to remove in the future. In a recent paper[59] presented at the MWA2015: Museums and the Web Asia 2015 (5-8 October 2015, Melbourne, Australia), Adrian Kingston and Philip Edgar show the massive increase in attention and views that the collection received following upon the release, as well as many inspiring examples of how people have been reusing the content. One of these includes the artwork 'Knowledge on a beam of starlight',[60] a vinyl artwork which was created by artist Kerry Ann Lee using thousands of images from the museum collection.

The Apps for Europe Project [61]ran an annual competition to find the best new apps across Europe that could be scaled into viable businesses. These apps had to be built upon open data and open content. Supported apps include the Inventing Europe Museum App[62] which enables users to discover the history, culture, and formation of Europe through the lens of technological objects and (audio-visual) images in a combined real and virtual world; Nostalgeo[63], facilitating the search for old postcards in local neighbourhoods and then

[53] See *Case Study: Remixing Openly Licensed Content in the Public Space*, http://openglam.org/2013/07/08/2353/
[54] See http://www.ah.nl/actie-afgelopen
[55] See *Martijn Pronk Creations*, https://www.rijksmuseum.nl/en/rijksstudio/91--martijn-pronk/creations/899d1d10-5596-4bdc-ad52-2406cbe41ad1
[56] See *British Library Labs*, http://labs.bl.uk/Ideas+for+Labs
[57] See *Victorian Meme Machine*, http://britishlibrary.typepad.co.uk/digital-scholarship/2014/06/victorian-meme-machine.html
[58] See *Moments by Joe Bell*, https://www.youtube.com/watch?v=uiS1cx38rKk
[59] Adrian Kingston and Philip Edgar, *A review of a year of open access images at Te Papa,* MWA2015, http://mwa2015.museumsandtheweb.com/paper/a-review-of-a-year-of-open-access-images-at-te-papa/?mu=published
[60] See http://arts.tepapa.govt.nz/on-the-wall/kerry-ann-lee-knowledge-on-a-beam-of-starlight
[61] See *Apps4Europe*, http://www.appsforeurope.eu/apps
[62] See *Inventing Europe Museum App*, https://itunes.apple.com/app/inventing-europe-museum-app/id828023607?mt=8
[63] See *Nostalgeo*, http://www.nostalgeo.com/

comparing them with the current streetview; and Museapp[64], a library of details taken from famous works of art that can added to an online canvas to create a person remix. The 10 finalists showcased their ideas to a jury of experts, investors and other conference delegates. Nostalgeo received venture capital funding.

In the summer of 2015, Maarten Brinkerink of the Netherlands Institute for Sound and Vision presented the initial outcomes of the GLAMetrics project (metrics for gallery, library, archive and museum collections), an initiative of the Dutch Open Culture Data network to measure the impact of open cultural data. In a blogpost[65] he summarises their research into the reach and reuse of culture heritage from The Netherlands through Wikimedia projects. The numbers show that publishing content through Wikimedia greatly enhances the reach: in a six month period, the 580.000 Dutch digital heritage objects that were added to Wikimedia Commons through Open Cultuur Data have been reused close to 100.000 times on a Wikimedia project page.

An initiative closely related to Europeana Space, Europeana Creative,[66] developed "novel applications through the innovative re-use of digitised cultural heritage data". To showcase the data, innovative pilot applications were developed around five theme areas: natural history education, history education, tourism, social networks and design. The project ran a series of "Open Innovation Challenges" between April 2014 and March 2015. These were open to any individual or company wanting to express their creativity in re-using cultural heritage content from Europeana, such as designers, artists, developers and entrepreneurs. The resulting applications include[67] a diverse range of creative reuses of Europeana content, such as through superimposing historical photographs over present day views, displaying historical maps over geolocations or adding the ability to retouch curious public domain images for better usability for creative industry.

One of the difficulties is that finding case studies of creative industry use of open content is problematic. Many working within the creative industries are too busy to document the processes that they go through. However, by looking at services like Etsy[68], Folksy[69] and other online marketplaces that buy and sell unique goods, there is obviously reuse going on. A search for 'public domain images' on Etsy results in 796 items, primarily consisting of downloadable images and digital collage sheets. Many of these images have been improved on by removing backgrounds, reducing marks, improving the colour and so on. This is often a laborious process and so the images have had value added, resulting in them being 'worth paying for'. So if a significant number of images are being directly sold on then countless more are being repurposed and printed on t-shirts, tea towels, cushions, flyers, added to videos etc.[70] Melissa Terras, Director of University College London (UCL) Centre for Digital Humanities, writes on her blog[71] about the process creative industries often go through to create produce suitable for selling and the challenges they face.

[64] See *Muse-app*, http://www.museapp.org/
[65] Maarten Brinkerink, "Dutch cultural heritage reaches millions every month," OpenGLAM blog, 23 June 2015, http://openglam.org/2015/06/23/dutch-cultural-heritage-reaches-millions-every-month/
[66] See http://pro.europeana.eu/europeana-creative/
[67] See http://pro.europeana.eu/page/challenges
[68] See *Etsy*, https://www.etsy.com
[69] See *Folksy*, https://folksy.com/
[70] See http://www.culturelabel.com/ CultureLabel "offers the chance to explore the greatest art and design-led products handpicked from iconic museums, galleries, creative boutiques and direct from artists."
[71] See *Reuse of Digitised Content (1): So you want to reuse digital heritage content in a creative context? Good luck with that*, http://melissaterras.blogspot.co.uk/2014/10/reuse-of-digitised-content-1-so-you.html

She writes "*We also live at a time where it has become increasingly easy to take digital content, repurpose it, mash it up, produce new material, and make physical items (with many commercial photographic services offering no end of digital printing possibilities, and cheaper global manufacturing opportunities at scale being assisted with internet technologies). What relationship does digitisation of cultural and heritage content have to the maker movement? Where are all the people looking at online image collections like Europeana or the book images from the Internet Archive and going... fantastic! Cousin Henry would love a tea towel of that: I'll make some xmas presents based on that lot!*"

Her suggestions are for cultural heritage industries to:

- "Put out of copyright material in the public domain to encourage reuse. Go on! What are you scared of?
- Provide 300dpi images as a minimum.
- Curate small collections of really good stuff for people to reuse. Present them in downloadable "get all the images at once" bundles, with related documentation about usage rights, how to cite, etc.
- Think carefully about the user interface you have invested in. Have you actually tried to use it? Does it work? Can people browse and find stuff? Really?
- Make sure the image quality is good before putting it online. Don't chop bits off illustrations.
- Make rights clearer. Give guidance for rights clearance for in-copyright material, and perhaps provide small collections with pre-cleared rights, to allow some 20th Century Materials to be reusable."

Melissa was also co-author with Isabella Kirton on a paper presented at Museums and the Web 2013 entitled Where Do Images of Art Go Once They Go Online? A Reverse Image Lookup Study to Assess the Dissemination of Digitized Cultural Heritage.[72] The paper explores Reverse Image Lookup (RIL) technologies, usually used to identify unlicensed reuse of commercial photography, to help in assessing the impact of digitised content. It concludes by saying that *"this study has highlighted how little information we have on how digitized images of cultural content are reused in the Web environment, and more importantly the extent to which we lack a frame-work for analysing this type of information."*

Other interesting collections of case-studies on reuse include the Creative Commons GLAM wiki[73] and case-studies[74]. Projects such as Europeana Cloud[75] and the Europeana Creative challenges, run as part of the Europeana Creative project, aimed to identify, incubate and spin off into the commercial sector viable online applications based on the re-use of digital cultural heritage content. A series of pilots are available on the site[76]

Projects like E-Space are so valuable because they showcase the potential of open content and help others to reimagine their cultural heritage.

[72] See *Where Do Images of Art Go Once They Go Online? A Reverse Image Lookup Study to Assess the Dissemination of Digitized Cultural Heritage*, http://mw2013.museumsandtheweb.com/paper/where-do-images-of-art-go-once-they-go-online-a-reverse-image-lookup-study-to-assess-the-dissemination-of-digitized-cultural-heritage/

[73] See *Creative Commons GLAM wiki,* https://wiki.creativecommons.org/GLAM

[74] See *Creative Commons GLAM Case studies*, https://wiki.creativecommons.org/Case_Studies

[75] See *Europeana Cloud*, http://pro.europeana.eu/web/europeana-cloud

[76] See *Europeana Creative pilots*, http://pro.europeana.eu/web/europeana-creative/pilots-and-challenges

4.4 OPEN CONTENT EXCHANGE PLATFORM

Information on open content and licensing is now widely available yet it is often dispersed or only relevant to particular audiences. Much of this information is advocacy material aimed at cultural heritage institutions encouraging them to open up their collections. Much less of this information is aimed at potential users of the content offering advice on how to use open content.

The E-Space project targets new audiences, including creative industries and individuals who are likely to reuse open content and may well want to monetise it. There currently is no collective body of information aimed at them. The *Open Content Exchange Platform* brings together materials on the topic of reuse of open cultural heritage content with this new community in mind. Through a web-publishing platform developed with Omeka software, access is offered to a variety of resources such as guides, case studies, videos, papers, books and presentations for use by a global network of cultural institutions, including content holders, creative industries and hackathon attendees.

The *Open Content Exchange Platform* contains guidelines for licensing with respect to the reuse of openly licensed and public domain materials and the development of open strategies for business modelling. It also contains a directory of sources on openly licensed content (Open Collections) and several high profile blog posts and articles, including those written collaboratively with E-Space content providers. Results from the *Open Content Exchange Platform* will further inform research and policy making in the cultural heritage sphere, specifically around business models for open cultural content.

This chapter gives further information on how the platform was developed: a user guide with more information on the content and functionality is available in Appendix 1.

4.4.1 Trial phase: Open Collections page

Development of the *Open Content Exchange Platform* happened in parallel to that of the OpenGLAM Open Collections page: a page that collates details of open collections and lists of open collections and rate them for openness. While this page already existed on the OpenGLAM website, it needed to be redeveloped to enable showcasing of collections in a more visually attractive way and with better filtering options. It will be in a community-controlled environment (with content added by 'everyone' - though with a moderation layer) with curation elements and opportunities to add comments and tags to all content, a very similar environment to that needed for the *Open Content Exchange Platform*. That is why the development of the renewed *OpenGLAM Open Collections* page functioned as a pilot for the platform development: the live lessons learnt from implementing the new system for the Open Collections page will be passed on to the E-Space technical team in order to ensure the smooth implementation of the *Open Content Exchange Platform* on the E-Space server. Both the OpenGLAM website and the E-Space website are delivered using Wordpress.

The system intended for the *Open Content Exchange Platform* needed to be a database system that can deal with text rich information. The main requirements are that users can Search content, Browse content, Filter content and Tag content. There is also a need for an intuitive user interface, good documentation and consideration of long term sustainability.

A search was carried out for a tool that could deliver both the Open Collections page and the Open Content Exchange Platform. Requests for suggestions were made on the OpenGLAM mailing list and on Twitter. Preference was indicated for open source tools that are easy to implement and have a substantive user community behind them.

The following tools were suggested and investigated:

- Listify - http://okfnlabs.org/listify
- Omeka - http://omeka.org
- Datahub - http://datahub.io
- Various bookmarking services e.g. Pinboard - http://pinboard.in
- RSS feed importer that could be integrated with Wordpress e.g. WP RSS Multi Importer - https://wordpress.org/plugins/wp-rss-multi-importer
- DSpace - http://www.dspace.org

In December 2014, a decision was made to start testing of the Omeka software. Omeka was found to be the only viable option from the suggested tool list, being the only tool able to deliver the full set of requirement needed. Omeka is a free, open source content management system for online digital collections. As a web application, it allows users to publish and exhibit cultural heritage objects, and extend its functionality with themes and plugins. It is a lightweight solution in comparison to traditional institutional repository software like DSpace and Fedora, Omeka has a focus on display and uses an unqualified Dublin Core metadata standard. Omeka was developed by the Roy Rosenzweig Center for History and New Media at George Mason University[77].

While Omeka is specifically designed to showcase collections and items that sit within those collections it is fairly extendable making it suitable for both the Open Collections page and Open Content Exchange Platform. There are also opportunities to edit the PHP and CSS within the site, which allows for significant control over the look and feel of the site.[78]

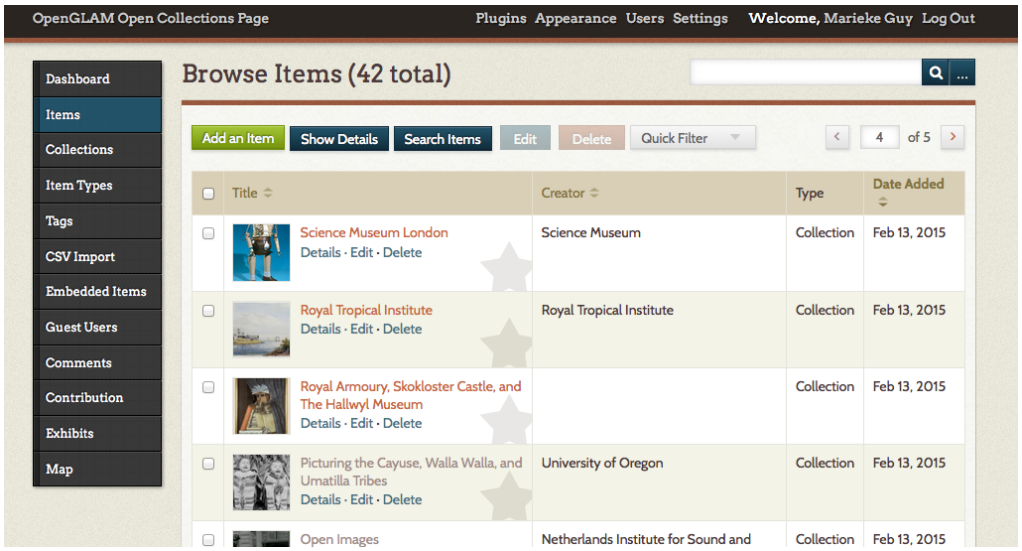


Figure : administrative dashboard for Omeka

Within Omeka each entry is an item. There are a large number of item types including document, still Image, moving image, Sound, website, hyperlink, event, lesson and interactive resource. This list can be extended to include other item types such as blog post, journal article, report etc. Omeka works with Dublin core metadata for each item: the set is also extendable and could include elements for openness rating, country etc. Documentation for the tool is available from the Omeka site[79].

[77] George Mason University: https://www.gmu.edu/
[78] Omeka on Github: https://github.com/omeka/Omeka
[79] Omeka documentation: http://omeka.org/codex/Documentation

In December 2014 a test server was set up at Open Knowledge. After significant testing of the system internally and by members of the Open GLAM community and experimentation with plugins it was agreed to go forward with use of the software. In January 2015 a more stable server was set up at Open Knowledge. All items will be added as 'items' rather than as 'collections' as this allows more functionality.

In March 2015 a working version of the Open Collections Page was delivered with CSS styling at http://open-collections.okfn.org. The page includes navigation with links to:

- Open Collections: All Open Collections on the site, items can also be categorised as lists of collections
- Browse All Items: View all items on the site
- Map: An interactive map of all the Open Collections on the site
- Tags: A word cloud of tags
- Open Up: Collated collections on the site
- Search: A search page for the site
- Contribute an Item: The contribution page

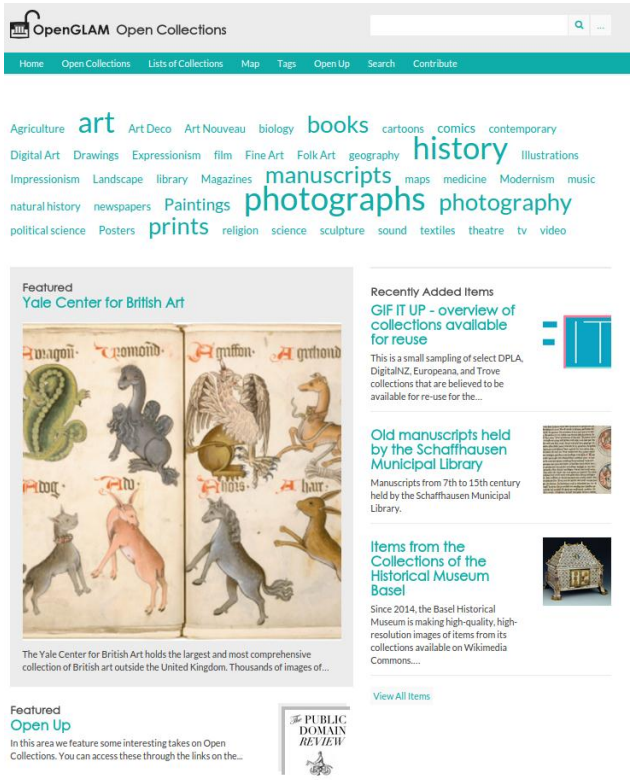


Figure : Frontpage of Open Collections

In April 2015 the OpenGLAM working group ran an 'open collections sprint' during which members of the OpenGLAM community updated and added to the current content, ensuring a good quality data set of open collections with significant added value through tagging, comments and checking existing content. Following the sprint, the community was also asked to submit additional collections and the page was improved based on the user feedback received.

In June 2015 the final version of the Open Collections page was announced on the OpenGLAM blog[80], and the Open Collections area has since been embedded in the OpenGlam website at http://openglam.org/open-collections/. New open collections have since been added on a regular basis: a total of 76 items is in the database at the moment.

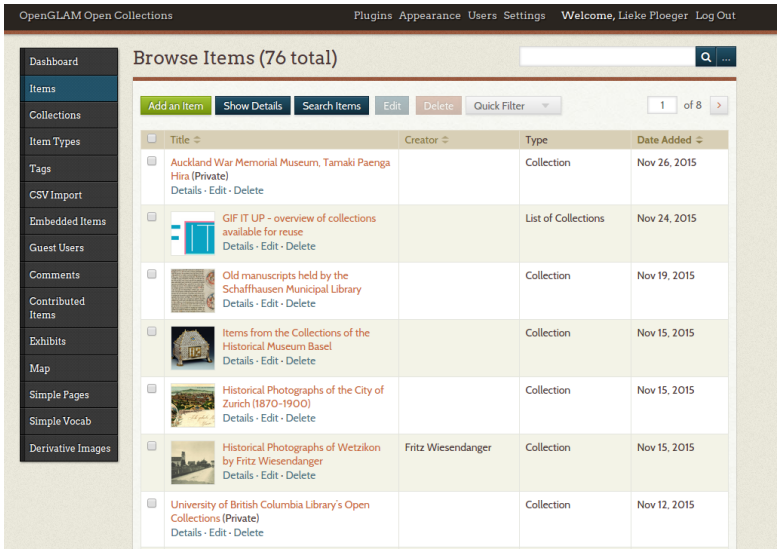


Figure : Omeka backend of Open Collections, showing the most recent additions

4.4.2 Setting up the Open Content Exchange Platform

Similar to the Open Collections page, the *Open Content Exchange Platform* was built using Omeka[81], a free, flexible, and open source web-publishing platform for the display of library, museum, archives, and scholarly collections and exhibitions. Following the beta testing of the Open Collections page from January to March 2015, the *Open Content Exchange Platform* was tested from April to June 2015.

The resources included in the platform address issues that people have when they seek to reuse Europeana content, such as:

- What is available?
- Is there a way I can browse content that might be of interest?
- Is there metadata about the content?
- Is content tagged with understandable keywords?
- Is there lay-persons information about the content?
- Is this item out of copyright?
- What is the license of the content?
- What does the license mean?
- What can I do with the content?
- Can I make money from content?
- How do I give attribution?

[80] Lieke Ploeger, *OpenGLAM Open Collections*, 11 June 2015, http://openglam.org/2015/06/11/openglam-open-collections/

[81] See *Omeka,* http://omeka.org

- Why is content online that can't be reused?
- How do label my own content correctly?
- How can I get legal advice on IPR issues?
- How can I get content cleared to reuse?
- How can I exchange content?
- Do the rules for what I can do differ by country?
- Do the rules vary for the type of content I want to use?
- Are there differences between the licence for physical work or a digital work?

The platform collates links to external resources as well as material being developed within the E-Space project. The focus is on documentation relevant to content holders, for example on the use of open licences for content in E-Space and on the value of openly licensed content more generally. It will also be relevant to tools creators, for example on open source licensing, dual licensing, open business models etc. The following types of resources have been included in the platform:

- **Blog posts** that focus on the reuse of open content and the challenges it poses
- **Books** on releasing or reusing cultural heritage content
- **Case studies** looking at possibilities for the reuse of digital cultural heritage material by cultural institutions
- **Guides** that support those who are sharing or reusing open content.
- **Lists** of resources or documents related to IPR in the cultural heritage sector
- **Papers** that look at release or reuse of digital cultural heritage content and areas including IPR and copyright.
- **Presentations** on the topic of reuse of openly licensed and public domain materials and related issues
- **Policies** that support release or reuse of cultural heritage content
- **Projects** that are working in a related area to Europeana Space
- **Reports** that consider the reuse of open content and the associated challenges
- **Tools** that may be of use for those interested in releasing or reusing open content
- **Videos** of people presenting on areas related to IPR for the Cultural heritage sector

As of December 2015, there are 110 resources in the platform: many of these were discovered through crowdsourcing knowledge using the OpenGLAM working group and network as well as the E-Space consortium. A presentation given by Prodromos Tsiavos of partner PostScriptum at the IPR Workshop that described Value Production Models was reworked into an infographic and added to the platform. All content coming out of the E-Space project has been marked with the tag E-Space to facilitate discovery.

In addition, Open Knowledge also supported the delivery of a series of high-profile blogs and articles on openly licensed content (both from E-Space partners and beyond), through the Curator's Choice series, in which a guest article is written by a curator on a set of open digital works each month.

This can often lead to increased attention: in August 2015, Pat Hadley, Sarah King and Stuart Ogilvy from The Yorkshire Museum (York Museums Trust), presented a fascinating selection of photographs from the collection of Tempest Anderson, the pioneering Victorian volcanologist. The increased attention brought to this online collection led in turn to two national newspaper articles being written about this collection of photographs.

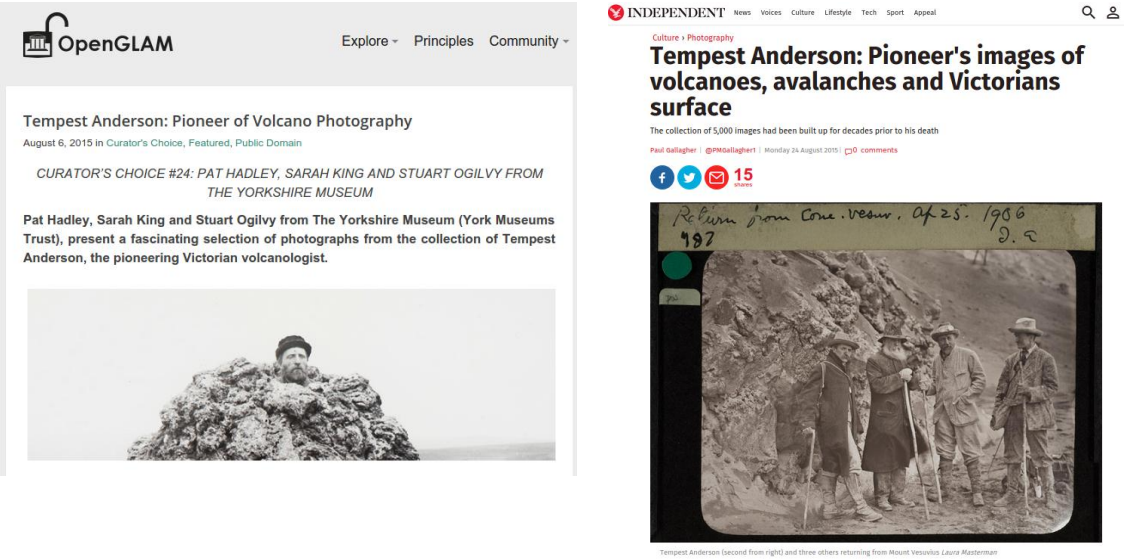


Figure : Curator's Choice on OpenGLAM leading to an article in The Independent, August 2015

The *Open Content Exchange Platform* went live in June 2015 and was announced and promoted through both the OpenGLAM and Open Knowledge channels as well as the E-Space project blog.[82] It is displayed on the main website under the Content Space[83].

[82] See http://www.digitalmeetsculture.net/article/e-space-presenting-the-content-space-and-the-open-content-exchange-platform/ and http://openglam.org/2015/07/29/presenting-the-open-content-exchange-platform/

[83] See E-Space Content space, http://www.europeana-space.eu/content-space/the-open-content-exchange-platform/

5 INTEGRATION OF THE TECHNICAL AND LEGAL FRAMEWORKS

Please note that the terms and conditions in this chapter are a work in progress as they are to be confirmed with partners working on the technical framework or Technical Space (WP2).

5.1 BACKGROUND

Within E-Space, the aim of the IPR team (WP3), in collaboration with the Technical Space team (WP2) was to provide a legal and technical framework to help facilitate the experimentation with and commercial exploitation of digital cultural heritage content.

Many hackathons use only openly licensed copyright material. However, some E-Space partners, especially the dance and photography pilots and hackathons, could not adopt this strategy because much of the content available to them is either not yet openly licensed or not yet available on an online platform. E-Space therefore required agreements to be made with third party content providers which allowed the use of restricted content in the pilots and/or hackathons, and the provision of an online space for the hosting of both content and associated metadata that could, in a subsequent phase, be provided to Europeana.

5.2 THE PROTECTED SPACE

The protected space is a technical and legal space on the WITH platform that has been developed for the pilots and the hackathons within E-Space to enable the participants to innovate with tools and content that are not openly licensed. In the protected space, content of re-usable quality (e.g. high resolution photographs) is made available to hackathon participants but only for use for the duration of the hackathon. This re-use is restricted both by the signing of an agreement that will appear in a pop-up box before access to the content is permitted (see the full text of the agreement below) and by user login permissions. The boundaries of the protected space are thus both legal and technical.

If copyright protected content from WITH is vital for use with an application, rights negotiation can take place with the copyright owner. Copyright owners therefore have the opportunity to see how their content might be re-used for the mutual benefit of their own organisation and the creative company involved before the decision is made to go ahead with commercialisation. It also gives them more time to clear the rights on this content, while at the same time being able to appeal to re-users to increase the likelihood that they will respect not only re-use conditions but the moral rights of the content owners and authors.

The purpose of the protected space is therefore to let people use content that is:

(a) solely licensed for the protected space

(b) used in ways that may go beyond what might be permissible via copyright, e.g. because it is not clear what the law would allow in relation to the experimentation undertaken within the protected space

In this way, the protected space enables innovation to take place with content that the copyright owners might not otherwise give permission to use.

Within E-Space, agreement on how copyright should be managed and exploited by the winners of the hackathons, who then go on to the business modelling workshop, and the winners of the business modelling workshop who then go on to incubation is essential. No tools or content developed within the protected space may leave and enter business modelling or incubation without agreement with the copyright owners.

5.3 COPYRIGHT TERMS AND CONDITIONS FOR THE RE-USE OF CONTENT IN THE PROTECTED SPACE

1. You may use/re-use the content in the E-Space protected space on the WITH platform only after authorisation and authentication by the IPR management layer API of the E-Space Technical Space on the WITH platform.
2. You may remix, transform, and build upon the material in the protected space during the period for which you have legitimate access. Normally this will be for the duration of the E-Space pilot project and/or an E-Space hackathon.
3. For content solely licensed for the protected space your use must be in accordance with the terms of the particular licence associated with that content and you agree to be bound by those terms.
4. You are free to publish, copy and redistribute the material contained in the protected space repository in any medium or format in accordance with the licence agreement associated with the content among project partners and hackathon attendees who have also been authorised by the E-Space Technical Space to use the protected space, during the period they are given access to the protected space i.e. during the hackathon or the duration of the E-Space project.
5. You must give appropriate credit to the author of the content.
6. You agree not to take any tools or content out of the protected space unless and until negotiations have been concluded and permissions secured from copyright owners on ownership and exploitation of content.
7. You may not apply legal terms or technological measures within the protected space that restrict others from doing anything that the general law and the existing licences permit.
8. If you download content from the protected space onto your computer you agree to delete this content once you have finished using it in the context of the E-Space Pilot or E-Space hackathon. The content in the protected space is for use only in the protected space unless permission from the copyright owners is secured as outlined above.
9. Other rights such as publicity, privacy, and moral rights may limit how you may re-use content in the protected space and beyond.

5.4 THE E-SPACE WITH INFRASTRUCTURE

Hackathon participants can call several content sources or APIs, and need to store the content, or links to content, in one place. The WITH platform provides this one infrastructure in which several APIs on platforms holding reusable content can be called upon and users can create and manage their own collections. Users of the platform can search for items they are interested in, retrieving results from both the external data pools and the protected space, and make a selection to create collections which can be shared with other users or user groups, granting them read or write access. They can also be made Public, for any platform user to browse and use them. The rights associated with an individual record and its content, are inherited by its original attached rights statement.

5.5 TERMS AND CONDITIONS GOVERNING THE USE OF THE WITH TECHNICAL SPACE WEBSITE

1. These terms and conditions of use apply to the E-Space website and WITH platform http://www.europeana-space.eu/with/ which is hosted by NTUA. NTUA reserves the right to unilaterally change these terms and conditions.

2. These terms and conditions are governed by Greek law. Disputes in relation to the use of this website can only be submitted to the competent court in Greece.

3. This website is compiled and updated with the utmost care. NTUA accepts no liability for any claims, penalties, loss or expenses arising from: any reliance placed on the website or content; the use or inability to use the website or if the website is not in working order; the downloading of any materials from the website; or any unauthorised access to or alteration to the website. This clause shall not exclude liability for death or personal injury caused by the negligence of NTUA.

4. NTUA assumes no responsibility for hyperlinks on this site that lead to third party sites. The availability of such a hyperlink does not imply any association on the part of NTUA with the organisation concerned, nor that NTUA endorses the content of the website in question.

5. You may include hyperlinks to our website on your website. However, framing pages from this website in your website is not permitted.

6. NTUA assumes no liability whatsoever for reports, messages, information or other content that are posted on this website by third parties. NTUA reserves the right to remove content that has been posted on this website by third parties. In posting notices and content (among which your username, the contents of your WITH project and creations you have uploaded) on this website, you automatically grant permission for use and re-use of the notices or information elsewhere.

7. Non-public domain images and texts and other content on this website are protected by copyright. You must take all care to use the content in line with the licence and/or permissions associated with the content. NTUA accepts no liability for your use of the content found in and on this website. If you are taking part in an E-Space hackathon, or are a general user of the content, you agree to abide by the copyright terms and conditions of the re-use of content in the protected space as outlined below.

8. If you are the owner of the copyright in any of the content on this website and you do not agree to your content appearing on the website, please contact us with the information requested below:

- Your contact details
- Enough information for us to identify the relevant content
- What your complaint is and why you are notifying us
- Confirmation that you are the owner of the copyright in the work or are authorised by the owner to contact us
- When we receive your complaint, we will acknowledge receipt by email
- We will investigate the complaint and depending on our findings may remove the relevant works
- Your complaint can be sent electronically to [**here insert email address**]

9. Other than personally identifiable information, which is covered under our Privacy Policy, any material you transmit or post to the website shall be considered non-confidential and non-proprietary. We shall have no obligations with respect to such material and we shall have the right to use, copy, distribute and disclose to third parties any such material for any purpose.

We also have the right to disclose your identity to any third party who is claiming that any material posted or uploaded by you to the website constitutes a violation of their intellectual property rights, or of their right to privacy.

You are prohibited from posting or transmitting to or from the website any material:

- that is threatening, defamatory, obscene, indecent, seditious, offensive, pornographic, abusive, liable to incite racial hatred, discriminatory, menacing, scandalous, inflammatory, blasphemous, in breach of confidence, in breach of privacy or which may cause annoyance or inconvenience; or
- for which you have not obtained all necessary licences and/or approvals; or
- which constitutes or encourages conduct that would be considered a criminal offence, give rise to civil liability, or otherwise be contrary to the law of or infringe the rights of any third party, in or any country in the world; or
- which is technically harmful (including, without limitation, computer viruses, logic bombs, Trojan horses, worms, harmful components, corrupted data or other malicious software or harmful data).

You may not misuse the website (including, without limitation, by hacking).

10. We have the right to remove any material or posting you make on the website if, in our opinion, such material does not comply with the provisions set out above or for any other reason whatsoever. In addition, we shall fully co-operate with any law enforcement authorities or court order requesting or directing us to disclose the identity or locate anyone posting any material in breach of the provisions set out above. NTUA accepts no liability for the consequences of such removal.

11. NTUA reserves the right to amend or replace these Terms and Conditions at any time.

5.6 E-SPACE WITH PLATFORM LANDING PAGE

Items added as part of the protected space are discovered as part of a collection provided by content owners. This corresponds to a set of items along with a set of metadata describing the collection of items. This metadata is currently limited to the field/theme, title and description.

The WITH platform allows users to filter the combined content by licence type, so that only content that is re-usable is brought together in the platform. The re-usable content can then be available in the same environment as the protected content. Various levels of access rights will determine the availability of items and how they can be re-used.

Access to content on the WITH platform is granted on two levels:

1. On the level of a themed or curated collection: who can see, add or remove records from this collection. This is governed by the creator (curator) of this collection

2. on level of an individual record and its content: what a re-user can do with the content itself. This is governed by the attached original rights statement

The IPR team (WP3), are working with the Technical Space team (WP2) and the photography pilot coordinators, to finalise the user data required for levels of authentication, authorisation and access control, with regard to IPR and both legal and moral considerations.

The IP team is also working with the developers (WP2) to install terms of use and more standardised definitions for roles, users and the different types of licence rights for WITH item searches. See WP2 deliverable D2.3 – *The Europeana Space Infrastructure* - for further details about the Technical Space. http://www.europeana-space.eu/deliverables/

Pop-ups will appear on the E-Space WITH platform, one for general users and one for hackathon participants relating to the protected space (see the full terms and conditions for the protected space above). Thus the terms of use will serve:

a) those agreeing to use WITH in accordance with the rights that are granted to certain collections, and in respect of the existing rights attached to content and metadata (see text below for the WITH pop-up).

b) hackathon participants in agreeing not to use content in the protected space beyond or after the hackathon

5.7 COPYRIGHT TERMS AND CONDITIONS FOR GENERAL USERS OF WITH

1. You agree to abide by the terms of the licences attached to the collections and their associated metadata contained in WITH
2. You must give appropriate credit to the author and provider of the content where possible, even when the material is available under an open licence. (see the guidelines to proper attribution[84])
3. You should consider rights and interests beyond copyright, such as publicity, privacy and moral rights before re-using content obtained from WITH. These rights and obligations may limit how you re-use content. (see the 12 point code of ethics available in the Content Space)

Do you agree to these terms and conditions?

Yes □

No □

5.8 COPYRIGHT TERMS AND CONDITIONS FOR HACKATHON ATTENDEES

1. You agree to abide by the terms of the licences attached to the collections and their associated metadata and the content contained in and obtained through WITH
2. You agree that you will only use the content available on and through WITH for the purposes of this hackathon. You agree not to take any content beyond the protected space unless and until you have reached agreement with the copyright owners on the use and re-use of the content. At the end of the hackathon you agree to delete any content from your computer that you may have been downloaded during the hackathon.
3. You must give appropriate credit to the author and provider of the content where possible, even when the material is available under an open licence (see the guidelines to proper attribution[85])
4. You should consider rights and interests beyond copyright, such as publicity, privacy and moral rights before re-using content obtained from WITH. These rights and obligations may limit how you re-use content. (see the 12 point code of ethics available in the Content Space)

[84] See http://www.europeana-space.eu/wp-content/uploads/2015/07/spa_content_cc.pdf
[85] See http://www.europeana-space.eu/wp-content/uploads/2015/07/spa_content_cc.pdf

Do you agree to these terms and conditions?

Yes □

No □

5.9 PRIVACY POLICY

1. NTUA considers it very important that the data of visitors to the WITH website be handled with due care. Consequently, NTUA's website has been designed with a view to protecting your privacy to the greatest degree possible.

2. Except in exceptional circumstances as outlined in the general terms and conditions of use of this website and, as allowed by law, NTUA will not supply your personal data to third parties without obtaining your express consent. The personal data that you supply shall only be used in connection with your use of this website and content.

3. NTUA does not collect names, addresses, telephone numbers or other personal data, unless this information is provided voluntarily by visitors to this website and in connection with your use of the content on this site. Your personal data are not visible on the website.

5.10 MOVING BEYOND THE PROTECTED SPACE: AGREEMENT ON IP FOR THE BUSINESS MODEL

As part of the business model developed by hackathon attendees to be considered by a panel of experts, as outlined above, there are a number of layers of IP that must be considered

- IP brought to the pilot
- IP generated during the course of the pilot
- IP brought to the hackathon
- IP generated during the course of the hackathon

In relation to the first and third point, as recommended above, as much open material as possible should be used – both tools and content. However there will be proprietary tools and content in relation to which negotiations over the IP will have to take place

In relation to the second and fourth point, as recommended above, the pilots and the hackathons will have agreed how this IP should be dealt with. If that is not the case, then negotiations will need to take place at this point as to the IP strategy to be pursued.

The idea is that if the business models brought to the table by user-creators at the workshops and hackathons are strong enough, protected tools and content providers will have the incentive to enter into an agreement for their content and tools to be used commercially.

6 CASE STUDIES

There are six pilots within the E-Space project and therefore six case studies in development. In this section TV and photography pilot case studies are provided; TV because a great deal of work was undertaken in preparation for the hackathon in May 2015 (and its subsequent business modelling workshop), and photography because of the wide ranging information available on this pilot at an early stage due to the Pilot Coordinator having had considerable experience and information from his involvement in the EuropeanaPhotography project.

Both case studies provide a view of pilot thinking and planning in relation to IP up until the current stage of the E-Space project.

It is important to note that the following case studies are written as stand-alone materials for an external audience with no previous knowledge of the E-Space project.

6.1 INTRODUCING THE E-SPACE CASE STUDIES

This document is a work in progress and will be updated before the end of the project with further information, particularly on decisions made around IP in relation projects/businesses selected for business modelling and ultimately incubation.

When reading the case studies, it is important to understand the IP context in which the work of E-Space is carried out, and in particular the IP arrangements between E-Space and the Commission and as between the pilot projects. These deal with existing IP that is brought to the E-Space project, and IP that is generated during the course of the E-Space project. These are layers of IP that have to be managed in order to know where ownership of IP lies throughout the E-Space process.

The Consortium Agreement (CA) between the E-Space partners and the Description of Work (DoW) established the following key IP principles:

a) all contributors of their own background IP to the development of pilot services and applications would retain full rights,
b) Non-Disclosure Agreements (NDAs) could be signed by all participants in hackathons and workshops
c) for products reaching the incubation stage, contracts would be designed and agreed between all relevant participants/partners.

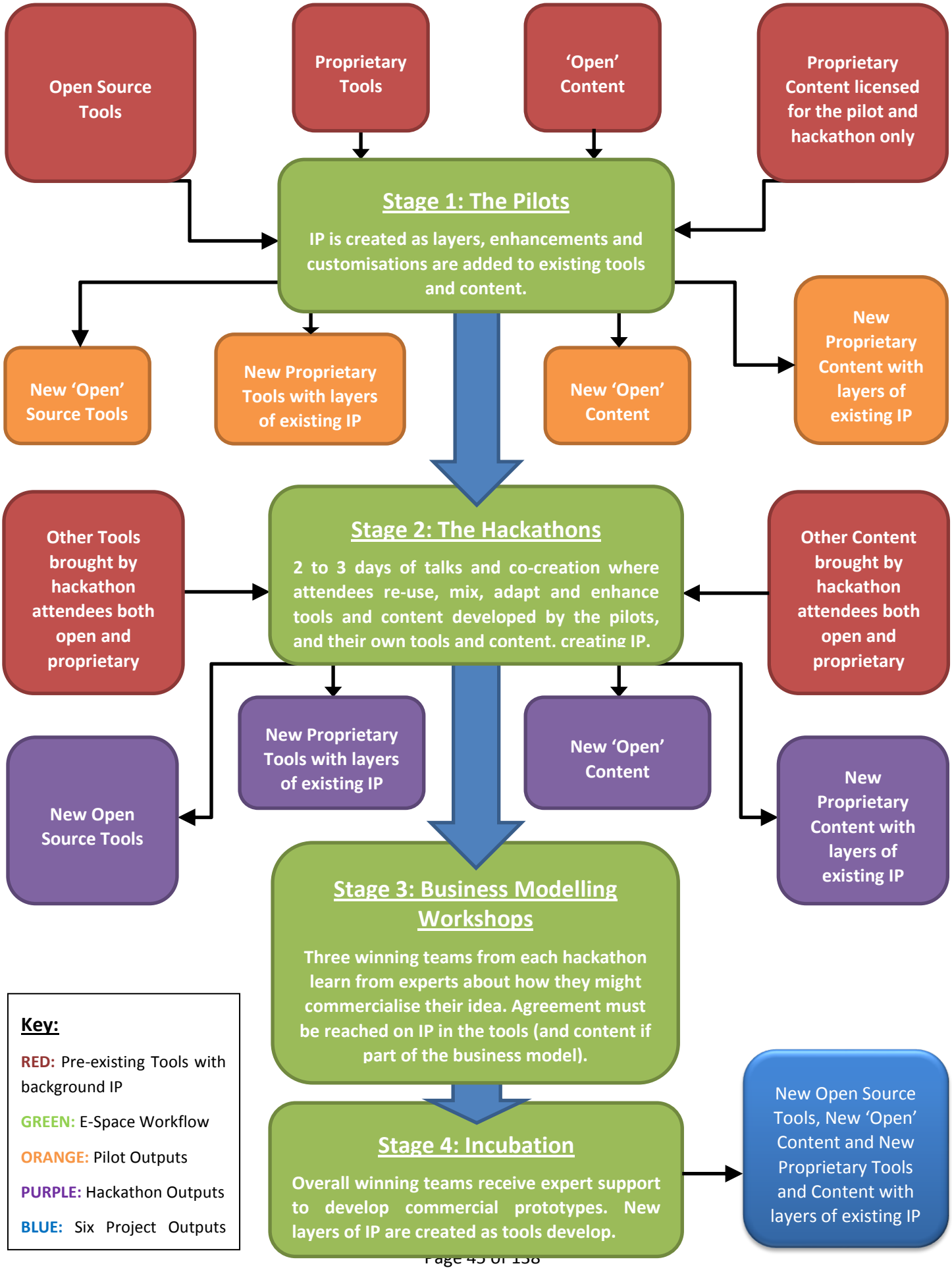
In advance of the start of the project, each partner highlighted any background IP they brought to the project and for which they would retain ownership.

The CA contained provisions for access rights to IP in software and the commercialisation of project outputs, while parties could agree a Memorandum of Understanding (MOU) in relation to software created for the project.

The CA and DoW stated that any tool or software developed during the project (including the hackathon) should be made available on an open source basis and should be open in terms of its re-use, subject to any pre-existing licence terms governing use. All project deliverables listed as 'public', as well as dissemination material and presentations are to be released under Creative Commons licences and made accessible through the project website and other channels.

The thrust of the arrangements between the partners is thus to make the outputs of the project as open as possible, subject to pre-existing proprietary rights.

Creation of IP at the Pilot, Hackathon and Incubation Stages



Television

The E-Space TV pilot exploited the opportunities of re-using Europeana and other digital cultural content in SmartTV applications to create new TV experiences. A technical framework provided an environment to analyse, personalize and present this content. The pilot supported and evaluated two scenarios in which video material was brought out of the archive and onto the viewer's screen.

- The broadcast scenario developed an HbbTV (Hybrid Broadcast Broadband TV) application based on the Berlin Wall. The SmartTV application, targeted a social community, and was based on archive videos about the building of the Berlin Wall in 1961 up to German re-unification in 1990.
- The local community scenario focused on applications for an immersive user experience in the living or class room. It investigated use cases such as the elderly re-living personal memories through TV content or pupils learning about historic events. The content included different themes such as: Arts and Culture, Education, Politics, Religion, Society, Sport and History.
- A Multi-Screen Toolkit with tools, workshop methods and proof of concepts was developed by the pilot, and made available for the hackathon in April 2015.

6.2 THE TV PILOT AND HACKATHON

6.2.1 The TV Pilot and Approaches to IP

The TV pilot used archive video material to develop an HbbTV application based on the Berlin Wall and a Multi-Screen Toolkit for immersive user experiences in the living or classroom. Three technical partners focused on customized and bespoke developments were responsible for the successful delivery of the pilot: Noterik,[86] an Amsterdam based company with over ten years of experience in developing video applications, focused on back-end services and the multi-screen framework, Proton Labs[87] on the front end SmartTV applications and 2nd screen applications with HbbTV compatibility, and NTUA[88] (the National Technical University of Athens) managed the content and metadata connection between the Apps and the Europeana API/E-Space WITH API.

Courtesy of RBB

The TV pilot coordinators decided to use as much 'open' content for the pilot and hackathon as possible to avoid intellectual property (IP) issues arising, or at least to minimise the risk of copyright infringement, disputes over ownership, and a lack of funding to clear rights at the business modelling stage. The pilot decided to develop only the tools so that the content would be inter-changeable. Therefore, specific content would not be crucial in achieving the ultimate aim of the pilot, that is, to showcase how digital cultural content sourced from Europeana and other repositories can be re-used and exploited by the creative industries. Content could always be replaced should IP issues arise without undermining this overall objective. IP was, however, generated in the development of the tools during the pilot. In line arrangements existing before the commencement of the E-Space project, the TV pilot partners retained ownership of copyright in the HbbTV application as this was their background IP. It was agreed that this would then be used only for demonstration purposes during the hackathon. By contrast, the multiscreen toolkit was developed during the course of the pilot and made available on an open source basis.

6.2.2 The TV Hackathon and Approaches to IP

IP is generated in hackathons through additions, enhancements and remixing of content and/or tools. Given the collaborative nature of work undertaken at hackathons it can be unclear as to who owns IP that is generated during the process.

[86] See http://www.noterik.nl/
[87] See https://www.proton-labs.com/
[88] See http://www.ntua.gr/index_en.html

In the case of the TV pilot developments of the tools generated IP and as a result the need to identify ownership. The IPR toolkit contains tools to help hackathon owners think about how IP that arises during a hackathon might be managed; these can be found in the E-Space Content Space IPR toolkit.[89]

The TV Pilot organised two pre-hackathon social events for participants to meet and plan the event. The E-Space IP Team advised that it would be important to highlight to the hackathon participants that IP would arise during the course of the event. Using the hackathon tools, decisions could be taken as to how the IP arising during the hackathon should be managed. The IP team also advised that it would be important to point out to the hackathon attendees that ideas could not be protected. So, if ideas were shared during the event, then, in the absence of a non-disclosure agreement, anyone could take those ideas and re-use them without permission. The IP Team also pointed out that it would be important for ownership of IP to be clear for those projects going on to the business modelling stage and then incubation as any third party investor would want to be clear where ownership of the IP lay. The IP team highlighted that disputes over ownership can arise when IP becomes valuable and starts to generate money.

Ultimately, it was agreed by the IP Team and hackathon organisers prior to the event, that the more the 'IP policy' could be claimed as an organic, 'bottom up' policy the more likely it was to work. The hackathon organisers decided only to highlight the risks at the hackathon, leaving the participants to come to decisions among themselves about what content and tools they would use and about who would own what. The hackathon organisers reasoned that this would preserve the 'open' and 'free' approach that makes hackathons so successful at innovation. Being prescriptive regarding the strategies and decisions that should be made around IP or providing written information on the restrictions associated with re-use of tools and content was considered by hackathon coordinator to be off-putting for participants and risked stifling creativity and taking up precious time for sharing ideas and building new tools.

The IP team reminded the TV hackathon organisers of the Risk Management Tool available in the Content Space and that the IP generated during the hackathon needed to be owned and that both this IP, and IP arising during the incubation phase where tools would be further built upon and developed, needed to be managed. It was noted that it would be possible for hackathon attendees to enter into a non-disclosure agreement, a sample of a non-disclosure agreement (confidentiality agreement) is available in the E-Space Content Space IPR toolkit[90] in both the Frequently Asked Questions for Hackathon Organisers[91] tool and the Frequently Asked Questions for Hackathon Participants[92] tool. This would be useful to stop hackathon attendees from building on ideas contributed by others during the course of the hackathon, and to keep information confidential should a potentially patentable invention arise.

The TV pilot Hacking Culture Bootcamp[93] took place on 8-10 May 2015 in Amsterdam. It was held at Waag Society, and organised by the Europeana TV pilot[94] as part of the E-Space project.[95] The Hacking Culture Bootcamp was a 3-day hackathon event for creatives, entrepreneurs, designers, directors and developers, who had the opportunity to develop innovative ideas in teams of creative thinkers and coders.

[89] See http://www.europeana-space.eu/content-space/ipr-toolkit/
[90] See http://www.europeana-space.eu/content-space/ipr-toolkit/
[91] See http://www.europeana-space.eu/wp-content/uploads/2015/07/spa_content_faqforhackorg.pdf
[92] See http://www.europeana-space.eu/wp-content/uploads/2015/07/spa_content_faqforhackpart.pdf
[93] See http://www.europeana-space.eu/hackathons/europeana-tv-hackathon/
[94] See http://www.europeana-space.eu/europeana-tv-pilot/
[95] See http://www.europeana-space.eu/

Waag Society, Sound and Vision and Noterik, challenged participants to develop prototypes of SmartTV applications, in particular to create new multi-screen experiences with a focus on digitised historical footage and to experiment with Smart Audio/Video formats, in order to come up with inspiring applications that create new TV experiences for the public or private domain, using cultural heritage content available via Europeana and other portals. Participants on the day included game developers, storytellers, interactive designers, and app developers.

A Noterik employee made it clear in the introductory remarks at a pre-hackathon event, that all hackathon outputs would be assumed to be open for further development with a view to commercial re-use, and that if anyone had an idea for something they planned to build and commercialise independently they should not bring it to the hackathon. The thinking was that anything built in the hackathon would be at an early stage of development and that it would not be a finished prototype that was ready for the market.

6.2.3 Content used for Hackathon

Concerns were expressed by the organisers prior to the hackathon that participants would make use of proprietary content or content which was only available to be used in the protected space. The official E-Space protected space with both legal and technical protection measures was not operational at the time of the TV hackathon. A concern was time would have to be spent clearing rights rather than focusing on the further development and the market-readiness of the prototypes. In response the hackathon organisers aimed to make use of openly licensed and public domain content to avoid issues arising around IP. This was helped by the fact that their main focus was on the tools and their ability to showcase how they could make use of digital cultural content rather than on the content. It was noted that any use of specific irreplaceable content might have made the incubation process lengthy and complicated. Furthermore, it had been noted that what the jury would be looking for from the winning teams would be tools rather than content, and specifically tools that could be used with a range of content.

Several content sources were highlighted by organisers for re-use by the TV hackathon participants. These were Europeana, the open data sets on Europeana Labs, Open Cultuur Data, Open Beelden, and EUscreen. Participants of the hackathon were also informed that they had access to content from 3 partners in the project, Sound and Vision – NL, Rundfunk Berlin-Brandenburg[96] (RBB) – DE and Istituto Luce Cinecittà[97] (Luce) – IT. The hackathon organisers compiled documents with information about licensing regarding the content, and tools provided to the hackathon, and made these available in a Google Drive created for the event. This information, including descriptions of what kind and quality of content is in the archives included, which licences are attached to it, and links to example topic collections and metadata, was presented to participants at a pre-hackathon event. It is available in the Content Space.[98]

The Google Drive directed participants first to Sound and Vision open video content provided via the Open Images platform. Open Images[99] gives access to over 4000 videos from NISV and others under a Public Domain or Creative Commons BY-SA license. Also recommended were Sound of the Netherlands[100] which gives access to a collection of about 2,500 historical sound recordings, all available under either a Creative Commons – Attribution-ShareAlike license (CC

[96] See http://www.rbb-online.de/
[97] See http://www.cinecitta.com/
[98] See http://www.europeana-space.eu/content-space/
[99] See http://www.openbeelden.nl/
[100] See http://www.geluidvannederland.nl/

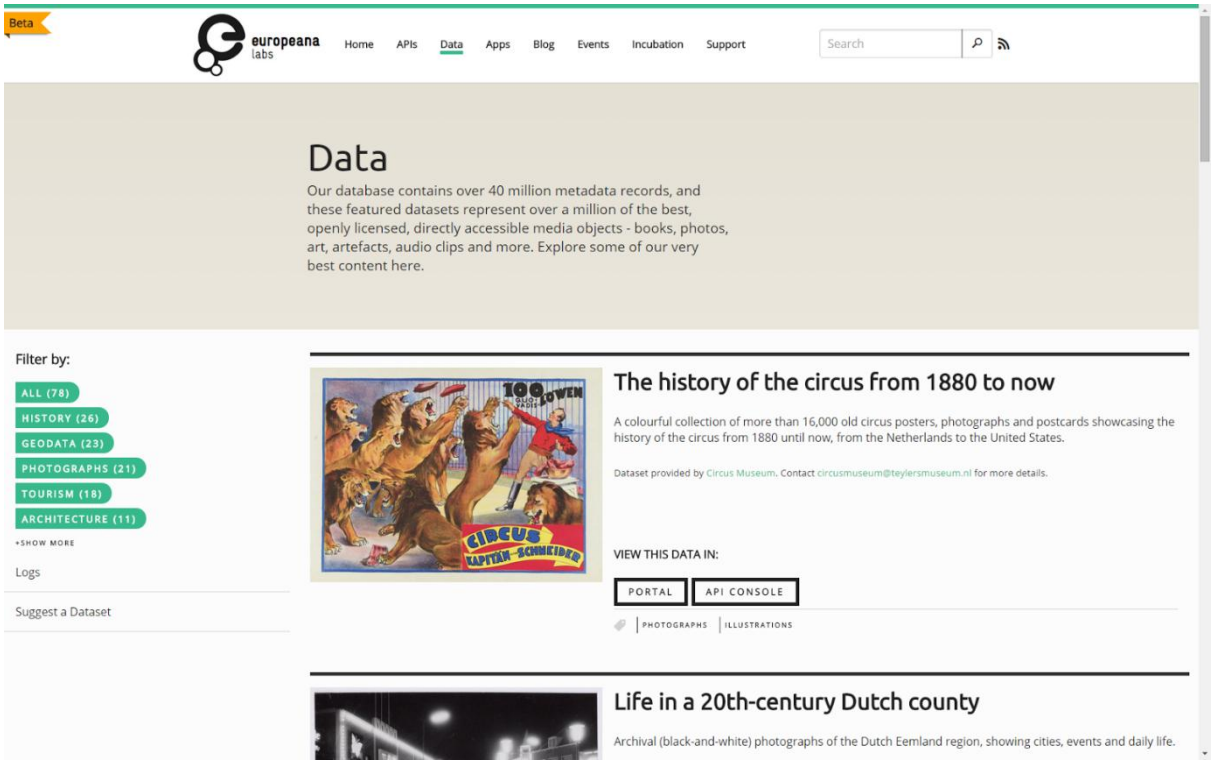
BY-SA) or a Creative Commons – Attribution license (CC BY), and Open Culture Data Search,[101] a search engine built by the Open State Foundation[102] used to search through all the data in the Open Cultuur Data API. Content (images, sounds, videos) from various Dutch cultural institutions were included under an open licence.

RBB provided 500 videos from the German broadcast archive and the former East Germany state TV spanning a timeline from the beginnings of the Cold War in the 1960s to the reunification of Germany in 1990. The videos were available via Noterik's Springfield platform for tests and demonstration purposes only, both at the TV hackathon and the pre-event on 9th April 2015. They had no licence for use at the hackathon events and it was taken on trust that they would not be used outside these events which would be an infringement of the proprietary licences attached to the videos. If these were to be used at the business modelling stage, rights would need to be cleared.

Cine Luce provided access to EUscreen, a collection made up of 2800 video items (to be extended in the next 12 months to about 4000 items) and a uniform set of metadata, with all the videos hosted on the Noterik's Springfield platform. They also provided the collections available on their Cine Luce YouTube[103] channel. Both collections were accessible and usable for both pre-hackathon and hackathon days only. It was agreed verbally, that the images used would be deleted at the end of the hackathon, and a representative from Cine Luce was on hand to make sure this was done as far as was possible. Cine Luce did not provide any openly licensed content but took advantage of the safe space of the hackathon. They made the content they provided to participants free to use in any way they liked but only within the context of the hackathon. This was by verbal agreement during the hackathon discussions which led to the decision that the content would not be used outside this event and RBB was on hand to supervise, making sure as far as was possible that this agreement was honoured. Again it should be noted that the official E-Space protected space was not operational at the time of the TV hackathon so these agreements had to be verbal agreements based on trust.

Participants were pointed to the Europeana database[104] where they could access cultural heritage collections from across Europe, either via the Europeana API,[105] or by browsing open datasets on Europeana Labs.[106] They were also able to do searches on the Europeana portal[107] itself. The Google Drive provided a quick guide on how to do searches on Europeana[108]: advising participants to filter options to narrow down their searches, e.g. by content type (video, image, sound and/or text) or licence. It stated that the datasets available via Europeana Labs are either under a Public Domain, CC0, CC-BY or CC-BY-SA licence and that the datasets have been tagged with topic information to make it easier to search. The TV hackathon Google Drive provided a link to a short screencast introducing the Europeana Labs and the Europeana API.[109]

[101] See http://search.opencultuurdata.nl/#/
[102] See http://www.openstate.eu/
[103] See https://www.youtube.com/user/CinecittaLuce
[104] See http://www.europeana.eu/portal/
[105] See http://labs.europeana.eu/api
[106] See http://labs.europeana.eu/data
[107] See http://www.europeana.eu/portal/
[108] See http://www.europeana.eu/portal/usingeuropeana_search.html
[109] See https://www.youtube.com/watch?v=hTAcyfB6EjI



Europeana Labs - Datasets

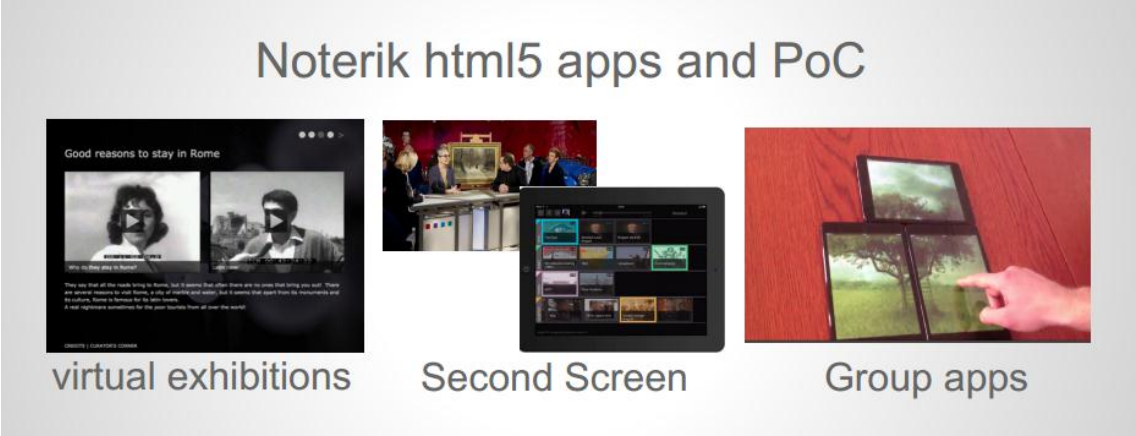
For those new to creative commons licences the link to the Creative Commons website[110] was also provided via the Google Drive, along with an article explaining how to use them.[111] More detailed information is also available in the in the Content Space on the E-Space website, in the CC License Chooser.[112]

A representative of the World Press Photo Archive (WPPA) was present and participated in the hackathon. The World Press Photo Archive contains only proprietary content unavailable for re-use. However, since a partner was present, one team made use of it for a prototype, verbally agreeing to use the WPPA content only within the hackathon. This was not the team that was chosen to progress to the business modelling workshop but nonetheless the team's discussions are ongoing with regard to a prototype and should they wish to use the WPPA materials for a commercial product that will be sold on the open market, they will have to negotiate with those representatives within their team who are members of the WPPA. The content required to showcase the tool in this case is inter-changeable so other content could be used should no agreement be possible.

6.2.4 Tools used for the Hackathon

As noted above, the TV pilot made an open source platform for multiscreen applications available at the hackathon. A broadcast scenario led by Rundfunk Berlin-Brandenburg[113] (RBB) and the local community scenario led by Sound and Vision were presented as inspirational best practices. The aim was for participants to develop prototypes of SmartTV applications which create new TV experiences.

[110] See http://creativecommons.org/
[111] See http://pro.europeana.eu/blogpost/creative-commons-licenses-are-great-but-how-to-use-them
[112] See http://www.europeana-space.eu/wp-content/uploads/2014/04/spa_content_licencechoo.pdf
[113] See http://www.rbb-online.de/



Tools to be provided in the TV hackathon by E-Space partner Noterik

Noterik provided the main software developed as part of the TV pilot as a multiscreen toolkit for the TV hackathon under an open source licence for participants to use. In the event it was mostly the Noterik multiscreen toolkit[114] that was used. While no one was making new content in the TV hackathon, the software being developed had the potential to become proprietary as developers and other participants built upon, remixed, enhanced and otherwise altered the tools provided.

Not all participants made use of the multiscreen toolkit. It was provided on an optional basis, which meant that the hackathon participants could choose to use their own systems if preferred. Noterik also provided access to their tools at Github.[115] The VBOT platform from Proton Labs, which is not open source, was also made available although ultimately it was not used in the hackathon.

6.2.5 Post-Hackathon Reflection

Project partners were keen to share the winners' ideas in blog posts and video. REMIX sought to contain this, since in contrast to a normal hackathon, the winning ideas were intended to be commercialised. It was thought that if too much information was given publicly, then third parties might use these ideas potentially to the prejudice of the winner – ideas are not protectable unless it is agreed that they are not to be used or shared by way of a non-disclosure (confidentiality) agreement. Consequently, there was discussion about whether a non-disclosure agreement amongst hackathon organisers and project partners should be used in future E-Space hackathons to make sure everyone attending is aware that ideas should not be disclosed outside of their hackathon teams and beyond the hackathon. It was also noted that what was developed could be the subject of a patent. Disclosing information about the invention before a patent was applied for would destroy novelty meaning that a patent would be unobtainable.

[114] The Multiscreen Toolkit is based on HTML5 and Java, and provides a foundation for building and prototyping of a wide range of video applications. Among other things, the toolkit enables advanced remote control options, co-viewing and collaboration around videos. In addition to offering reusable software components, the toolkit aims to facilitate easy and quick prototyping of multiscreen application ideas and proof of concepts. Examples of applications built using the toolkit include a second screen application for watching enriched TV programs and a spatial spotting application for pinpointing objects in a co-viewer setup.

[115] See http://noterik.github.io/

It was noted that if there was no intention of applying for a patent, then blogging in general about ideas (rather than the specific detail of what is proposed) such that anyone reading it would not be able to recreate the substance of the idea is fine. As with an emphasis on IP before the hackathon, the challenge with seeking agreement in a non-disclosure agreement between hackathon organisers and project partners is that it brings a formality to the proceedings. This in turn can make people guarded and less willing to share ideas.

Ultimately it was agreed that simple tools with guidelines for engaging in the hackathon would be most appropriate for future project hackathons. The tool Valuing Your IP, for Entrepreneurs[116] explains that if there is the possibility of a patentable invention, this should not be disclosed. Where there is no possibility of a patent, or no intention of applying for one, then general ideas can be shared on social media, but care should be taken that not too much is disclosed that would enable others to recreate the ideas, most particularly in advance of the business modelling workshop and incubation. It would be essential that the winning teams have the time and space to develop their ideas unworried by competition. Other hackathon tools including the Frequently Asked Questions for Hackathon Organisers[117] tool and the Frequently Asked Questions for Hackathon Participants[118] tool, are also available in the toolkit[119] in the Content Space[120] and include a simple statement that any information made available after the hackathon and before the business modelling workshops should be 'approved' by the hackathon judges.

6.2.6 Business Modelling and Incubation

The business modelling workshop, organised by REMIX, took place in London on 26th June 2015.

Three winning teams from the hackathon attended.

We Make Known: an online platform and physical instillation that allows museum and archive visitors to serendipitously explore large collections by using a special algorithm and exhibition management system.

Bosch: an application inspired by the old theatre method of lighting single performers on stage. Bosch applies this method to art allowing users to add their voice to individual characters which can be layered played back to bringing a new method of exploration, conceptualisation and engagement to paintings.

Art(f)inder: a mobile application that empowers users via a swiping left (no) right (yes) action to save their art preferences. With each swipe the Art(f)inder algorithm generates recommendations for museums, galleries, archives and libraries for users to visit in new cities. Art(f)inder offers a second social layer matching users with others who "liked" similar works facilitating social interaction and meet-ups.

Much of the business modelling workshop focussed on the value that could be extracted from the ideas presented by the participants and for whom. The business modelling was broadly based on an exploration of the Business Model Canvas.[121] The objective of the workshop was to focus on and critically evaluate the in depth discussions emerging from this for each team, especially in the context of creative businesses, rather than designing a new framework for business models.

[116] See http://www.europeana-space.eu/wp-content/uploads/2015/07/spa_content_valuingyourip.pdf
[117] See http://www.europeana-space.eu/wp-content/uploads/2015/07/spa_content_faqforhackorg.pdf
[118] See http://www.europeana-space.eu/wp-content/uploads/2015/07/spa_content_faqforhackpart.pd
[119] See http://www.europeana-space.eu/content-space/ipr-toolkit/
[120] See http://www.europeana-space.eu/content-space/
[121] See http://businessmodelgeneration.com/canvas/bmc

On IP, discussion focused at one point on ownership: were the team members individual employees, or working for themselves? This mattered because it would have an impact on who owned the IP in their work. Members of We Make Known and Bosch were students, while the Art(f)inder individual was an employee working for the digital department in a broadcaster. When questioned he was happy that the employer would own (or have a licence of depending on the jurisdiction) the IP in what he was developing.

As regards the IP in the software being developed, there was discussion around proprietary and open strategies. While each participant almost by default had opted for an open approach to what was they were developing, they were questioned as to whether they might consider making it proprietary. While value could, for instance, be extracted from licensing information derived from the use of the 'products' in the GLAM sector, value could also be extracted from licensing the software. Relatedly, a proprietary approach could prevent third parties from using the software/apps for the same purpose and thus competing in the same market with the same product. Ultimately no decisions were made about IP during the business modelling workshop.

In deciding which project should go through to Incubation, REMIX was drawn to We Make Known because it had several different components, and was well placed to capitalise upon several consumer and industry trends. Among other things, it offered an innovative user interface for online catalogues; an algorithm for serendipitous browsing across different disciplines; and a hardware installation for physical environments. One of the most attractive aspects of this proposition were the multiple revenue models and markets available to them, which would be explored with the help of REMIX as part of the Incubation process. The project was most promising with regard to fulfilling the primary objective of the E-Space project which is to create employment opportunities.

The tool Valuing your IP, for Entrepreneurs[122] could be useful for the winning teams as they move into the business modelling and incubation stages. For a detailed guide for entrepreneurs and start-ups in presenting the security and financial worth of their IP when seeking finance and to help banks recognise the value of IP in such businesses see: https://www.gov.uk/government/publications/banking-on-intellectual-property-ipfinance-toolkit

6.2.7 Incubation

As We Make Known move through the incubation process, and as IP questions arise, so this case study will be expanded upon over the coming months.

[122] See http://www.europeana-space.eu/wp-content/uploads/2015/07/spa_content_valuingyourip.pdf

Photography

The E-Space Photography Pilot set out to demonstrate a range of possibilities offered by apps, Europeana APIs, and a multitude of tools developed by the open source community, to come up with innovative models involving historical and present-day photography, with monetising potential and investment appeal.

- The featured applications were grouped around three ideas
  - 1: Museum applications providing access to Europeana and similar resources which can yield new types of visitor-experiences;
  - 2: Storytelling web applications and apps allowing users to create new stories by mixing historical images from Europeana and other public sources with user-generated content;
  - 3: Augmented reality applications enabling historical images to be layered with actual experiences and other material, such as maps and social user data.
- The best ideas and proposals stemming from the hackathon will be channeled through a business modelling event in London. Developers will then be able to showcase their work to selected investors.

6.3 THE PHOTOGRAPHY PILOT AND HACKATHON

Courtesy of KU Leuven

6.3.1 The Photography Pilot Background and Approaches to IP

IP based business models underlying the photography industry have been under increasing pressure since smart phones and the internet enabled ordinary citizens to upload and share millions of images of almost everything and in real time. Private collections still charge individuals for the use of photographs, while individuals want to and increasingly do use, material already cleared for re-use. Photography agencies, archives, museums and galleries have to innovate to stay competitive.

There is increasing clamour for cultural heritage institutions to digitise and make freely available high resolution images of public domain works, and to make available collections of 20th Century images with pre-cleared rights. Re-users would like this content to be easily downloadable with all the relevant documentation on associated rights, proper attribution, and with information on how to clear rights for copyright protected material.

Against this background The E-Space photography pilot,[123] led by Fred Truyen (Associate Professor at the Faculty of Arts,[124] KU Leuven,[125] Belgium),[126] focused on the potential for the photographic heritage available on platforms such as Europeana,[127] Wikimedia Commons[128] and Flickr commons[129] to be exploited commercially by the creative industries for the mutual benefit of both creative companies and content owners. These repositories contain high quality digital images accompanied by useful metadata.

An earlier European funded project, EuropeanaPhotography, had contributed to the upload of nearly half a million images from early photography to Europeana. The information in the analogue source was translated in detail into the digital file, giving and example of high standards of digitisation.

[123] See http://www.europeana-space.eu/photography-pilot/
[124] See http://www.arts.kuleuven.be/
[125] See http://www.kuleuven.be/kuleuven/
[126] Fred Truyen is also President of the PhotoConsortium, the organisation that sustains EuropeanaPhotography see http://www.photoconsortium.net/) and has a blog "Fred Truyen's Digital Culture blog" with further relevant material at http://fredtruyen.com/fred-truyen/
[127] See http://www.europeana.eu/portal/
[128] See https://commons.wikimedia.org/wiki/Main_Page
[129] See https://www.flickr.com/commons

The E-Space Photography pilot sought to enlarge the corpus of re-usable content available in Europeana for use during the hackathon. To this end a Photo Collection Day was organised in Leuven (Belgium) on November 27th 2015. Citizens of Leuven were invited to the City Archive to have their private pictures of the city digitised. Metadata and a content description were recorded, and a licence choice made for the digitised picture. Because an E-Space representative was on hand to discuss licence choices with the citizens, and to explain the differences between the different types of CC licenses, almost all of them chose to apply the Public Domain mark or a CC-BY licence. These pictures were then made available via Europeana.

6.3.2 The Applications and content

The photography pilot has three applications for illustrating to developers and other creatives the possibilities for potentially commercially viable innovations.

First is an existing app that can be used to innovate with existing images - Blinkster[130] - which uses image similarity recognition algorithms to enhance photography exhibition experiences. It can be applied to create easy-to-use repositories for pilot users to create new products, such as storyboards and augmented reality.[131]

Second, the pilot demonstrates how people can create new forms of social interaction based on the remixing of digital photographic cultural heritage. The pilot uses images from Europeana and from photography of early 20th century Leuven to create challenges and events whereby people are invited to look for the areas of the city captured by the old photographs, and to take their own contemporary photographic interpretations on their smartphones. This demonstration makes use of the Omeka front-end[132] (already popular with museums and other cultural heritage institutions) and the E-Space back-end. The pilot has developed a storytelling app on the Omeka server, with its API set up in the E-Space technical structure. This provide a function which is not available in Europeana and by virtue of which end users are able to login to their own profile and upload content available on the Omeka website in order to tell stories using photographic content.

The third application uses old and new images to create augmented reality experiences, where images can be overlaid and mixed to create visual experiences, such as instant time-travel.[133]

The photography pilot uses historical images, both open and proprietary (for which copyright had to be cleared). Pilot content was mostly re-usable content from Europeana with a Creative Commons[134] or Public Domain label.[135] However, the pilot also used more specific collections not freely available, such as the City of Leuven's EuropeanaPhotography dataset, which is kept in the Leuven archive and is not available via Europeana. In the context of E-Space, negotiations are underway with the city archive to review their position on the Rights Labeling of this dataset. This will involves a decision at the city council level.

These applications and content are designed to be available at the photography hackathon[136]which will take place on 25th – 27th February 2016 in Leuven and during which content providers and developers will be invited to test new ideas.

[130] See http://www.blinkster.eu/en
[131] This app is also explored in the museums pilot See http://www.europeana-space.eu/museums-pilot/
[132] See http://omeka.org/
[133] See the image at http://www.europeana-space.eu/hackathons/photography/
[134] See http://creativecommons.org/
[135] See http://creativecommons.org/publicdomain/mark/1.0/
[136] See http://www.europeana-space.eu/hackathons/photography/

6.3.3 User Login

The Europeana portal is a first generation web application and does not yet allow for user login. This limits the possibilities for users to become engaged and prevents content providers from obtaining information about who is using their content and when. The E-Space Technical Space[137] and WITH platform by contrast provides the possibility for users to login and to save their own data on the E-Space server alongside both open and proprietary content made available in the E-Space Content Space.[138] The E-Space API provides functionalities to exploit user login data while protecting privacy.

6.3.4 Using the Protected Space

Some content available through Europeana is labelled as Public Domain[139] or is protected by copyright and available for re-use under CC licenses.[140] However for much material it is unclear how it may be re-used as no licence or rights label is attached to the work. This causes problems for re-use. Two main concerns underpin the hesitancy of content providers to open up content for re-use: one is that others may profit from the content, bypassing the provider. The other is the concern that the material may be used in ways in which the right holder, or subject, may find unsavoury (see the next section below on ethical considerations).

While some memory institutions hope to supplement their revenue through licensing content, increasing numbers are realising that the hope of significant revenue being generated in this way is slim especially when compared with other funding streams and so are becoming less concerned about opening up collections – at least from a financial perspective. There are however institutions that have invested significantly in digitisation programmes and who continue to make their content available only with a non-commercial licence (CC-BY-NC) due to the view that the investment must be recovered by charging a fee for commercial re-use.[141] During the photograph collection day in Leuven noted above most chose to apply the Public Domain mark or a CC-BY licence (for more recent work) to their images. However, during other collection days such as the one held in Pisa during the EuropeanaPhotography project, the choice of a 'Non-Commercial' licence was made by many contributors because there was a desire to prevent others from profiting from the images. In Leuven, the photographs were of locations in the city before and after the World War and so there was a general sense of public ownership of these, whereas in Pisa, the subjects of the photographs were more personal and individuals thus had more of a vested interest in being the ones to profit from them, should any profit be made.

A problem encountered by the Europeana Photography consortium was that of the quality of photographs. Businesses such as Top Photo[142] or Parisienne Photographie[143] shared images that were low quality thumbnails or heavily watermarked thus rendering them largely incapable of re-use. The thumbnail is often visible on the Europeana portal without any associated watermark and bears the Rights Reserved - Free Access rights statement. When enlarged, the picture can still be seen through the Europeana portal but along with a clear, visible watermark displaying the company's name. Commercial agencies use visible watermarks because they showcase their content in the hope that users will follow the link to the agency's website and purchase a digital image that has the watermark removed.

[137] See http://www.europeana-space.eu/technical-space/
[138] See http://www.europeana-space.eu/content-space/
[139] See http://creativecommons.org/publicdomain/mark/1.0/
[140] See http://creativecommons.org/
[141] The Prussian Cultural Heritage Foundation (see https://www.preussischer-kulturbesitz.de/en.html)
[142] See http://www.topfoto.co.uk/
[143] See http://www.parisiennedephotographie.fr/home.aspx

To try and find a solution to these concerns, the E-Space IPR Team offered the idea of the E-Space protected space. This is a space with both legal and technical measures and allows content owners to put high resolution images within the space and allow innovators to experiment with new applications. Negotiation over rights and the discussion of a business model then takes place prior to content or tools leaving the protected space. The E-Space IP Team provided Rights Clearance Guidelines[144] to assist in this process.

The photography pilot intended to use the E-Space protected space for a limited amount of proprietary and un-cleared content, and were keen that the legal aspects of this space be translated into a technical framework, believing the concept of the protected space to be as much a technical one as a legal one. While Europeana rights labelling attached rights to objects rather than people/rightsholders, the E-Space protected space allows you to find specific materials you can experiment with under certain semantic conditions. The photography pilot requested that the metadata on this should be more refined than on Europeana, in addition to having the legal terms and conditions, and that there should be more legal information within this metadata. For example, for the first 100 downloads the software allows, the user/developer can find out whether she can upscale to 10,000 by going to an interface to manage and clear rights online. The user should be able to make a selection of images for use for an application, then go to a calculator tool which will reveal that, for example, 60% of the images are CC re-usable images and 40% are restricted, and then to be able to calculate the risk this entails. It should also give advice such as suggesting, for example, that she tries to change her images until she has, for example, 5-10% restricted images that can be properly budgeted for. The Pilot Coordinator recommended that the protected space should therefore have very precise contractual negotiations on IP sharing but translated into an IT environment. The API described above would, for example, be one part of this technical framework for the E-Space protected space. In E-Space, photo agencies still own their collections, so, if using the calculator tool it turns out that 90% of one end user's collection, for example, is open and 10% is closed, she can click to go straight to the content provider's website to start negotiation.

The Photography pilot developed API calls and metadata structures to allow this technology to be demonstrated but it proved impossible to finish this technical side of the IP protected space within the E-Space project. This kind of structure, however, is not likely to be available elsewhere in the near future.

In the event, the pilot will use the E-Space protected space for about 60 of the restricted photographs in the KU Leuven collection but the rest of the content used will be openly licensed due to the issues highlighted above.

6.3.5 Ethical Considerations for the Re-Use of Photographs

Photography is a sector in which attention to moral rights, or 'responsible use' of material is prominent. Some content owners during the EuropeanaPhotography Collection Day in Pisa were fearful not only of possible loss of revenue, but also of the possibility for misrepresentation of the subjects of the photographs.

In 2011, Europeana released a Network Paper 'Ethics for Europeana', [145] which stated that:

> "The documents and information provided to users must be authentic, without falsification or subjective interpretation. Users should be able to make their own interpretation as they like. Therefore, the information must be provided with sufficient contextual data in order to facilitate such interpretation."

[144] See http://www.europeana-space.eu/wp-content/uploads/2015/07/spa_content_rightclearance.pdf
[145] See http://pro.europeana.eu/files/Europeana_Professional/Publications/Ethics%20Paper%20-%20Network.pdf

However, in a re-use case where metadata (context) and the digital image (content) can get separated the 'risk' involved in making the picture freely re-usable is increased. Archives fear that their historical family photographs could be re-used as, for example, backgrounds in shooting games, or cheapened by their re-use in marketing campaigns.

To address these sensitivities a number of tools are available in the IPR toolkit[146] within the Content Space[147] Copyright Tools for Cultural Heritage.[148] In the Twelve Point Code of Ethics[149] tool for best practice in the re-use of photographic heritage content the importance of moral integrity, authenticity and respect in the re-use of digital cultural content is stressed.

6.3.6 The Photography Hackathon and Approaches to IP

The Photography pilot is planning the Hackathon event to take place in Leuven in February 2016, inviting the developers of the best cultural applications using Europeana photography to share coding experience (APIs), and develop business opportunities.

The challenge for the Photography hackathon is to bring the three applications noted above together such that content providers and users can collaborate in innovative ways with the tools and content. The purpose of the hackathon is to find links between photographic heritage content, the general public, amateurs, pro-ams and professional developers through an intermediate software architecture that provides real role identification, and sharing of tasks. The key challenge is to create "tidal innovation" rather than one bright idea for one new micro business model.

The E-Space IPR Team have reiterated the need for clear guidance at the hackathon and pre-hackathon events as to how issues of IP might be anticipated and monitored throughout the process. Documentation on IP and a slide presentation will be available at the photography hackathon to inform attendees of the options and possibilities in IP for their content and software development. Hackathon teams will be requested to provide a preliminary IP plan together with their concept, which will form part of the evaluation criteria. IP rights are an integral part of both the supply and delivery chains of successful applications, and should thus be taken into account in the design phase. The IP plan should address such questions as ownership of rights coming in to the hackathon, and those developed during the hackathon; how a sustainable model can be developed where all share in any eventual income stream; how producer IP can coexist with existing supplier IP to the benefit of all. Other tools within the Content Space IPR toolkit may be helpful in this planning including those for Hackathon Organisers[150] and Hackathon Participants.[151]

At the hackathon, organisers plan to ask citizens of Leuven to re-use the photographs of Leuven from the KU Leuven collection, re-usable content from Europeana and other new street views of their city, by uploading them to the E-Space WITH platform and managing their own collections and stories, and demonstrating what can be done with this content.

As noted above, it was originally intended that the Blinkster app would be available to be built upon by developers at the hackathon. However, it has a closed licence and no open API for developers to use. It also proved not to be as adaptable as it seemed at the start of the project as it could not generate an IPhone app. It would therefore only serve half the population at public exhibitions – those with Google android.

[146] See http://www.europeana-space.eu/content-space/ipr-toolkit/
[147] See http://www.europeana-space.eu/content-space/
[148] See http://www.europeana-space.eu/content-space/copyright-tools-for-cultural-heritage/
[149] See http://www.europeana-space.eu/wp-content/uploads/2014/04/spa_content_twelvepoints.pdf
[150] See http://www.europeana-space.eu/wp-content/uploads/2015/07/spa_content_faqforhackorg.pdf
[151] See http://www.europeana-space.eu/wp-content/uploads/2015/07/spa_content_faqforhackpart.pdf

Additionally, the most interesting part of the Blinkster app for the photography pilot was an algorithm which had been developed by an employee at KU Leuven. This employee owned the IP in the developments but was not involved in the E-Space project. For these reasons the decision was made that Blinkster would only be used for demonstration purposes at the hackathon. It would showcase the kind of app that could be made but would not itself be built upon during the hackathon. Blinkster would remain available with an alternative business model in mind similar to, for example, the Apple Store, where app developers can earn revenue by selling add-ons to the technology with a percentage going to Apple.

It is anticipated that interesting new apps could emerge from the hackathon for use, for example, in tourist centres, such as augmented reality apps superimposing historic photographs of a particular location over one taken by a tourist visiting the same place.

6.3.7 Content used for the Hackathon

Apart from open content, hackathon attendees may also upload and manage user-generated content, and access protected E-Space content in the protected space.

The photography pilot will provide KU Leuven restricted collection and free content from Europeana. The Pilot Coordinator is attempting to persuade United Archives[152] to release its many images of Cologne in Germany under an open licence so they could also be used for the hackathon.

Name of the content provider	Name of the selected collection/s	Type of content	Approximate amount of the sourced content	Copyright status
Europeana	The European Library	Images	148	CC BY-NC-SA
openbeelden.nl	Open Images	Video	201	CC Attribution – Share Alike
Europeana	Digitising Contemporary Art	Images	65	CC BY-NC-SA

For the storytelling app, developers will have access to the entire Europeana repository through its connection with the E-Space Technical Space API. This API also provides access to the digital content from DigitalNZ,[153] the MINT aggregation platform,[154] and the Rijksmuseum[155]. Users can select items from search results and add them to a personal repository in the protected space to build collections and stories. This tool is undergoing further testing at the time of writing, making it difficult to estimate the numbers of Europeana and non-Europeana items that will be used by the storytellers. The content sources for the pilot demonstration have been Europeana and single-provider content (see the table below). The single-provider content has not yet been filtered on suitability for use at the hackathon.

[152] See http://www.united-archives.com/
[153] See http://www.digitalnz.org/
[154] See http://dm2e.eu/mint-metadata-interoperability-platform/
[155] See https://www.rijksmuseum.nl/en

Name of the content provider	Name of the selected collection/s	Type of content	Approximate amount of the sourced content	Copyright status
Private person / Leuven City Archives*		Images	190	CC BY
Private person / Leuven City Archives*		Images	6	CC-BY-NC
Private person / Leuven City Archives*		Images	32	Public Domain
Europeana	Leuven City Archives	Images	74	Copyright protected

** this content, a total of 228 images, was collected during the Photo Collection Day in Leuven on November 27 2015. The images are donated to the Leuven City Archives, and will be uploaded to the E-Space Technical Space. Their metadata information will also be ingested to Europeana.*

6.3.8 Tools available for the Hackathon

Tools from Europeana Labs[156] will be provided together with the E-Space API, which gives access to the protected space. Open tools will be provided to connect content management system software such as Omeka[157] to this backend environment. As noted above, the Blinkster app will be available but not to build upon, along with augmented reality tools and specific image processing algorithms.

The metadata API and the storytelling API (Omeka developments) software will be made available open source to participating developers at the hackathon, who will obtain a key which will be free of charge, for re-use of the heritage content. Participants will also have access to the JPSearch API.[158]

[156] See http://labs.europeana.eu/
[157] See http://omeka.org/
[158] See http://jpeg.org/jpsearch/index.html

7 STRATEGIES TO MINIMISE AND TRACK COPYRIGHT INFRINGEMENT

Copyright infringement is a regular occurrence, and while it is impossible to stop totally, there are strategies that can be used to help to minimise its occurrence, and if it occurs, to track infringing copies.

The tool on risk management strategies gives information about notice and takedown policies. As noted, this is a useful (and necessary) strategy should infringing material be found on a web site. Incorporating a notice and take down policy means that infringing material can be taken down if notified by the copyright owner. Suggestions have also been made regarding the ways in which infringement might be minimised during the course of the hackathons through the mechanism of having attendees agree to remove proprietary works from hardware that they may have used and downloaded during the course of the event.

This section talks about another strategy that may be used to track infringing works – through the use of digital watermarking.

7.1 DIGITAL WATERMARKING AND CULTURAL HERITAGE

One way to track undesired usage of an image is by invisible watermarking. Digital watermarking allows the embedding of information in a digital image in such a way that it is difficult to remove and almost invisible to the human eye.

7.1.1 Adopting Digital Watermarking in Cultural Heritage Applications

This tool provides an introduction to digital watermarking and its application in cultural heritage scenarios. More specifically it focuses on the applicability of watermarking techniques for the detection of digital art reproduction copyright infringements. The tool is written by E-Space partner iMinds, who have extensive experience in this field within the Department of Electronics and Informatics at the Vrije Universiteit Brussel.[159]

Digital images of art reproductions are often distributed by cultural institutions to printers, press agencies or research institutions. However, in most cases copyright agreements apply. Watermarking techniques provide a means by which the licensee can be easily traced. Rather than embedding the information as textual metadata, a watermark is embedded in the raw image data. The watermark is embedded in such a way that it is nearly invisible to the human eye and difficult to remove.

This tool focuses on three aspects: watermarking techniques, a demonstrative platform for managing licenses and a tracking system. The first topic discusses watermarking techniques and examines the suitability in cultural heritage scenarios with respect to perceptibility and robustness. The second topic presents a platform that develops a proof of concept application framework to assign and manage licenses. Finally, the last topic handles techniques to track back license infringements. The latter adopts the JPSearch API to allow textual and visual search queries for similar images.

7.1.2 Watermarking

Typically, an image file contains metadata, information about the image, and the raw image data itself, as illustrated in Figure 1. Copyright information can be stored within the metadata. However, many software tools can easily remove or modify the embedded metadata. Watermarking allows embedding information in the raw image data itself.

[159] See http://www.etro.vub.ac.be/ for more information.

The information is embedded in such a way that it is difficult to remove and nearly invisible to the human eye. In order to identify the boundaries inherent to the watermarking techniques three factors are evaluated: robustness, perceptibility and capacity.

Figure 1: an image file contains metadata, information about the image, and the raw image data itself.

Robustness gives a measure on how resilient the information is once hidden. An error measure will be used to quantify this factor. For example, if the aim is to watermark a binary message m=00001100100111... the ratio of incorrect bits from the extracted information to the total amount of information hidden (in bits) gives an appropriate error measure (commonly called bit error rate or BER) in practical scenarios.

Perceptibility measures the amount of visual change applied to the image. The impact on the quality of an image caused by watermarking should be as low as possible. Preferably, watermarking causes little to no perceptible distortion so that the user experience remains the same. Of course, perceptibility largely depends on the observer and on the viewing conditions under which the image is evaluated.

The capacity or payload P denotes the amount of hidden information. The initial information may be augmented with resilience or disambiguation bits, allowing for the extraction of the original message, even if some bits are not the same.

The goal is to get the robustness as high as possible and the perceptibility as low as possible. Typically, both are directly proportional, i.e. the higher the robustness the higher the perceptibility and vice versa. Additionally, under the same circumstances, a higher capacity implies a higher visibility and/or a decreased robustness.

Watermarking techniques

There are several commonly used watermarking techniques, including Least Significant Bit, Spread Spectrum and Quantization Index Modulation (QIM). QIM is a class of watermarking techniques which was introduced by Chen and Wornell in 1998 [3]. In 2001 Chen and Wornell proposed a method that uses a set of scalar quantizers, which is called scalar QIM [4]. They proved that theoretically their method outperformed other watermarking techniques including Least Significant Bit and Spread Spectrum. Scalar QIM is nowadays commonly used as the basis for a variety of watermarking techniques. Two extensions of this method are sparse QIM [4, 6] and lattice QIM (LQIM) [4]. The latter, which uses lattice quantizers, is used by the examples further in this report. More specifically, LQIM is used with the E8 lattice which was shown to give the best results in a comparative study [1]. In addition, error correction can improve the message extraction robustness against attacks for example, Turbo Codes, introduced in 1993 by Berrou et al. can be used [2].

Embedding

Digital images can be stored in different file formats such as TIFF or JPEG. In addition, these images may use different color spaces such as RGB and CMYK (commonly used for printing). Watermarking techniques typically operate on a single channel. Therefore, they can be applied on 1 or more channels separately. Encoding and decoding needs to be applied on the same single channel. Therefore, it is required that this information is known beforehand.

This information can be stored in a backend database used for managing the images and licenses. In some cases, embedding might require file format or color space conversion, introducing an initial attack. However, tests show that the impact of this attack is minimal, except when higher compression is applied. The latter scenario will also decrease the image quality and can therefore be considered as a particular attack.

Payload

The payload is the amount of information that is hidden in the image. In the given scenario, typically a unique identification number that can be matched with a database will be stored rather than the licensing information itself, as illustrated in Figure 2. This way, the payload is minimized allowing focus on a better robustness and improved perceptibility. Typically a message size of 256 bits will be sufficient.

Figure 2: only a unique identifier which can be matched with a database is embedded in the images.

Perceptibility

Digital watermarks are not embedded at a random position in the image. A technique called perceptual shaping is used to camouflage the modifications, thereby increasing the perceived quality. Practically, this implies that embedding is preferably done in areas with strong edges. The perceptibility of the embedded watermark depends on many factors, including the original image size, the image content and the embedding strength. The larger the image the better the information can be hidden. Content wise, information is easier to hide in high frequency areas than in plain areas with little content variation. In addition, perceptual shaping may cause that embedding is done on strong edges between foreground and background. The embedding strength is a variable that allows balancing between a lesser visibility but lower robustness and a better robustness but higher visibility. Figure 3 shows an example of two extrema. Figure 4 shows difference images between the original and the watermarked images for an increasing strength of 20, 40 and 80. In practice it can be concluded that in the high resolution images the watermarks could be embedded practically invisible with a high robustness. For lower resolution images the embedding strength should be set more carefully, especially for images with large plain fields, such as some modern artworks (e.g. Kandinsky). In a subjective test, high resolution prints of some images were made with varying embedding strengths. When presented to museum contributors, no abnormalities could be detected at first sight. After informing them about the locations to focus on, only at the strongest embedding settings the changes were considered disruptive. In general, the parameters should always be carefully set, fine-tuned and evaluated for the specific context.

Figure 3: example the visual impact of weaker (left) vs stronger (right) embedding.

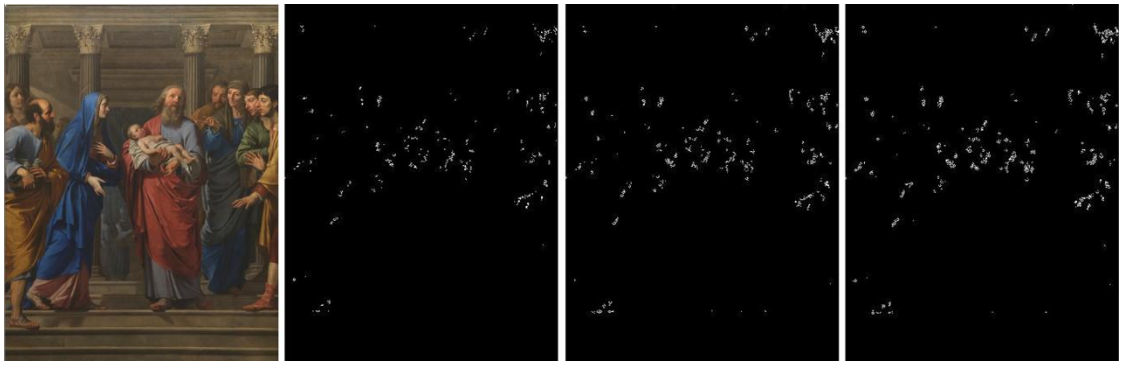


Figure 4: original image on the left and difference images between original and watermarked image with and increasing strength setting of 20, 40 and 80.

Robustness

After an image is watermarked it can be subjected to different signal processing operations (compression, format change, etc...) or geometric operations (scaling, cropping, rotation, etc...). These operations may be intended to remove the embedded watermark and are therefore called attacks. Note that, in contrary to other watermarking applications, one specific watermarked image is always targeted and as a consequence there is always pre knowledge about the original size, color space etc. All discussed attacks assume that the attacked image can be synchronized with the original image. I.e. it can be converted to the original size, color space, embed channel etc. The next sections provide an evaluation of the robustness against the following operations: scaling, file format and color space conversions, compression, rotation, cropping and print-scan operations.

Scaling

Reduction of the original resolution of the image might be one of the most likely attacks to be applied in practice. The robustness against scaling operations is highly dependent on the chosen embedding settings, especially the wavelet level. Figure 5 shows the bit error rates for increasing downscaling factors (percentage of the original image size) for embedding strengths of 10 up to 80. These tests were performed on high resolution images (ca. 3000 x 2000 pixels). With this setup the images can be downscaled to up to 30% of their original size with an embedding strength of 80. Embedding strengths higher than 80 are not considered visually acceptable with the default payload. If the original image resolution is lower, the maximum scaling factor decreases. Figure 6 shows the bit error rate for an increasing scaling factor for the high resolution images (blue) and for the high resolution images downscaled by a factor 4 (green). With an embedding strength of 40, the maximum downscale factor increases from 40 to 60 %.

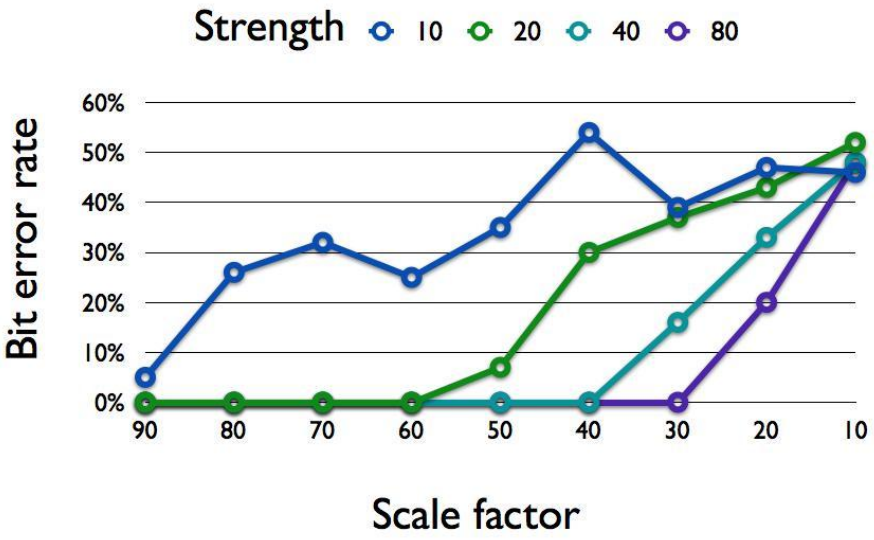


Figure 5: downscaling factor (percentage of the original size) vs bit error rate for varying embedding strengths.

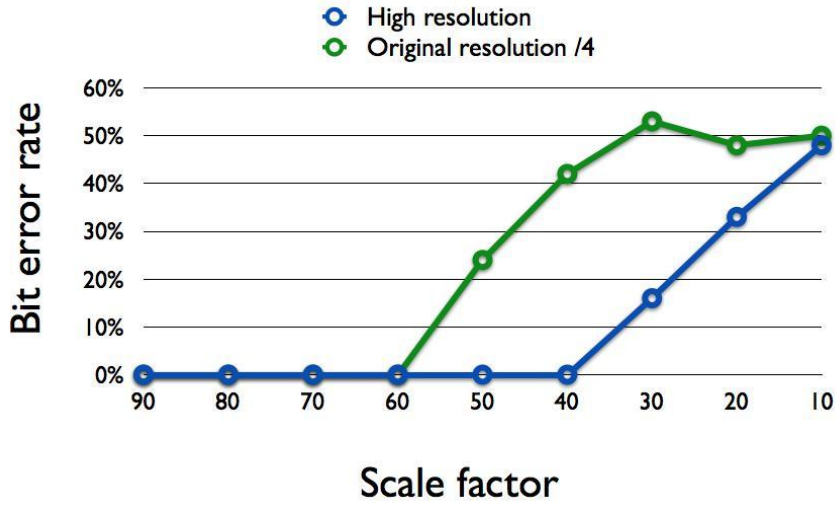


Figure 6: downscaling factor (percentage of the original size) vs bit error rate for high resolution vs 1/4th of the original resolution. The embedding strength was set fixed at 40.

File format and color space conversions

Several tests have been performed to test robustness against file format and color space conversions. The watermarked raw image data was converted to several formats including JPEG, PNG and TIFF, and afterwards reconverted to the original raw format. This setup applied the highest quality factor for JPEG, since compression is treated as a separate attack. Similarly, it applied color space conversions form the original color space to RGB, CMYK, YCrCb and back. The tests were performed with several embedding strengths and varying input images sizes. All of these tests succeeded successfully, i.e. the watermark could always be extracted without any bit errors.

Compression

Due to the large file sizes of uncompressed high resolution images, compression may be a natural step to take when (illegally re-)distributing or showcasing copyrighted images. To this end the watermarking techniques should be robust against compression.

Several tests were performed where the images were conducted to JPEG compression at several quality factors on a scale of 100 (highest quality) to 1 (lowest quality). With embedding strengths of 20 and 40, which are both acceptable from a perceptibility point of view, the compression factor could be decreased down to 30 without any bit errors, as shown in Figure 7. At a compression factor of 30 the loss in quality is already that high that losing the watermark at lower factors is not considered to be an issue.

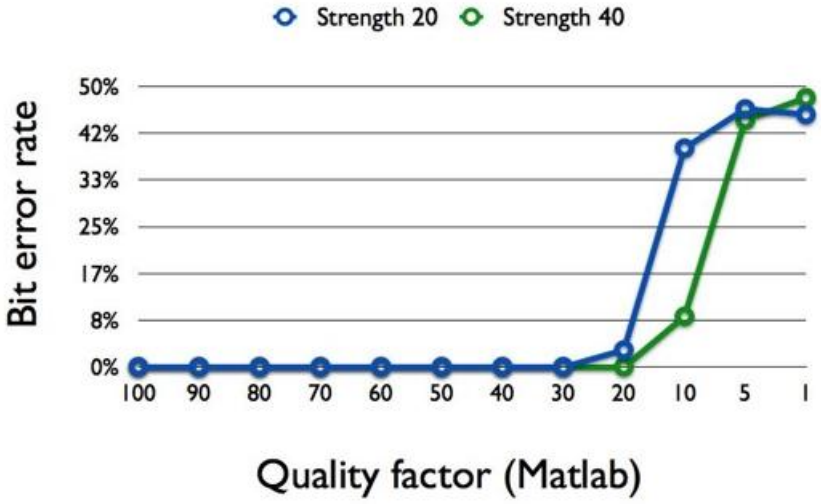


Figure 7: bit error rate vs compression factor.

Rotation

The rotation attack rotates the watermarked image with an angle from 1 to 90 degrees and saves it back to disk. The content of the image is always completely preserved, i.e. the attack does not apply cropping but adds black borders to fill the additional introduced space. After applying the rotation attack, the images were rotated back to their original position and the watermark was decoded. Using this procedure, all tests succeeded to decode the original message. However, it should be noted that the procedure implies that the rotation angle is known, which will typically not be the case in practice. Therefore, in practice the rotation would first have to be undone using image registration techniques. If the registration step succeeds, it should not influence the decoding process. Additionally, in practice, most rotation operations will also crop a part of the image, and as such introduce an additional cropping attack, which is handled hereafter.

Cropping

Achieving robustness against cropping means that the entire payload should be retrievable from only part of the watermarked image. Possible solutions include tiling or centering. Both options are illustrated in Figure 8.

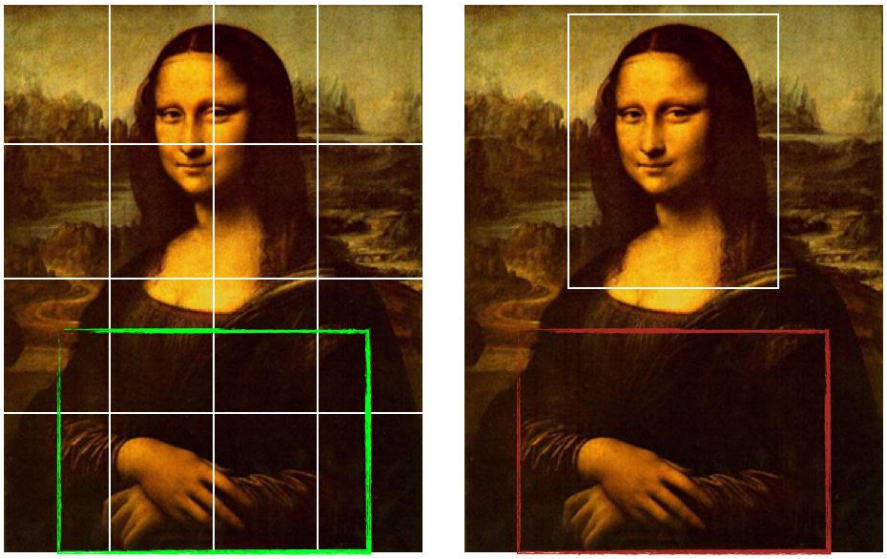


Figure 8: robustness against cropping can be achieved by embedding in subregions of the image. Tiling is more robust but the amount of embedded information is multiplied with the number of tiles. Centering requires less information to be embedded but the cropped image should include the region of highest interest integrally.

With the first technique, tiling, the image is divided in tiles which are all watermarked individually. The watermark can then be extracted as long as the cropped images contains at least one complete tile. In addition, a registration of the cropped image with the original image is required to synchronize the extractor. The amount of embedded information is in this case multiplied with the number of tiles. Therefore, this technique is only useful on very high resolution images.

Another approach is to center embedding to the region of highest interest in the image. In this case, the embed area could be larger than with tiling and the remaining part of the image is unaffected. However, the effectiveness of this method is highly dependent on the image content and the nature of the cropping attack.

Print-scan operations

Allowing the identification of images used in printed catalogues, calendars etc. is of great interest. The specifications of this type of attack largely depend on the type of printer used and the quality of the digitized scanned printed media. If the problem is simplified the problem, it can be reduced to a scaling operation. An image printed on A5 at 300dpi can then be seen as the equivalent of an image of resolution 1749 by 2481, higher than the Full HD resolution considered for the scaling operation. Further specifications of this attack can be found in existing work by, among other, K. Solanki (IEEE) and A. Pramilla (IWDW 09).

7.1.3 Platform

This part presents a proof of concept platform designed to assign and manage licenses. The platform consists of a database, a back-end application and a web-based user interface.

Database

The database conserves information regarding images, customers or licensees, licenses, and infringements. The images table keeps references to the binary image data and in addition saves metadata such as the title, artist, resolution and file format information. The customers table keeps track of customers or licensees, i.e. people or institutions to whom licenses are granted.

Every customer is identified with a unique identification number and has a name, address, email and phone number. Additional references, for example to invoice information can be stored. A license couples an image and a customer and holds a unique watermarked version of the licensed image. In addition, it stores supplementary information including assignment and expiration dates, the price and the license type. Finally, it keeps a reference to the watermarked image. While the previous three tables are managed by the user, the infringements table is managed by the back-end server. The table keeps track of detected license infringements. Every infringement consists of a link to the violated license and a reference to the detected image.

Back-end application

The back-end application is responsible for embedding and extracting watermarks. The most important module is a queue of tasks which continuously runs in the background. These tasks are added on regular time intervals or on certain events, such as a new image upload. The most important tasks are embed and extract tasks.

When a user adds a new image to the system, the back-end will automatically create a configurable amount of watermarked copies. The embedded IDs are assigned at the moment a new license is requested. At that moment, a new task is added to the queue to generate a new watermarked copy of the image. Due to this approach, watermarked images are always available and should not be generated at the time they are requested.

Extract tasks can either be added by the user, by providing suspicious candidate license infringing images, or by a crawling module that continuously searches the web for potential license infringing images, as discussed further in this document. Essentially, it searches for images similar to the licensed images and adds extract tasks for the results to the event queue. These searches may be textual, based on title, artist, etc. or visual.

The back-end is connected to the user interface via a restful state (REST) application programming interface (API). The API provides requests to trigger events and provides access to the results of the extractions, i.e. detected infringements. In addition, the same API provides the connection between the user interface and the database. It provides requests for requesting, adding, modifying or deleting items from the database.

User interface

The user interface allows users, without knowledge of the underlying technology, to add and manage images, customers and licenses. It is also responsible for informing the user about infringements that have been discovered. Finally, the user can trigger search actions for similar images from within the application. If the user suspects one of the result images, he can manually trigger the back-end to check the image for a watermark. The user interface is web-based, as a consequence, it can be accessed from any computer with an internet connection and a contemporarily web browser. Figure 9 shows the main window of the application.

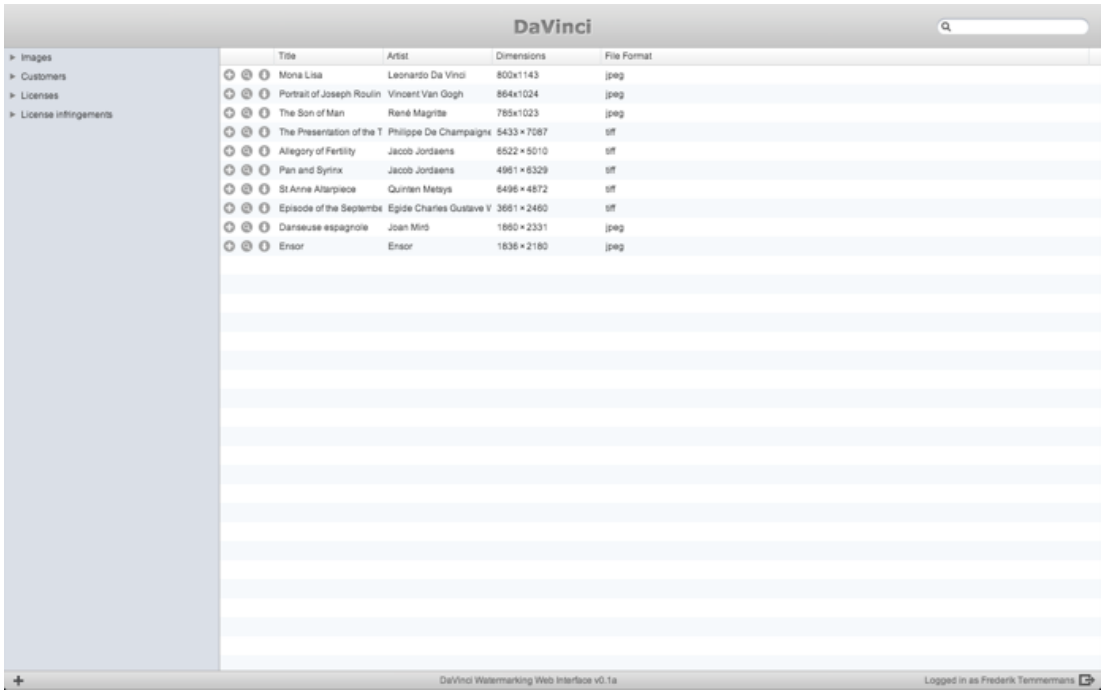


Figure 9: main window of the user interface.

The main interface has two main components, a navigation column on the left and a content section on the right. The navigation column provides access to four different content sections. These correspond with the tables of the previously presented database: images, customers, licenses and infringements. The interface allows the user to add, modify and remove images, customers and licenses. When the user adds an image entry, the uploaded image is saved to disk. In the background, multiple watermarked copies will be created. Therefore, when a license is created, a watermarked version can be provided immediately without additional processing. A licensed watermarked image can be downloaded directly via the user interface. Additionally, a URL to the watermarked image can be created that can only be used once. After the first usage the URL is invalidated and subsequent trials will return an error page.

From within the interface, search actions for similar images can be initiated. The application can aggregate results from repositories that support the JPSearch API or support for additional APIs can be added. The results are presented to the user as shown in Figure 11. The user can indicate suspicious, i.e. license infringing, results by clicking on them. These particular images will then be checked for watermarks. If a watermark, and as such a license infringement, is detected, it will be shown in the license infringements content section.

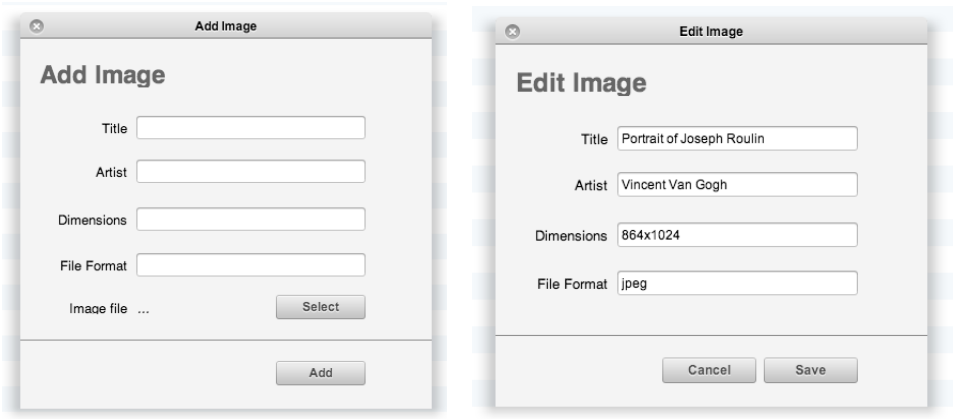


Figure 10: windows for adding and editing an image entry.

Figure 11: results of queries for similar images are shown directly within the interface. The user can indicate suspicious results by clicking on them.

7.1.4 Tracking

The application described in the previous section allows triggering search events from within the web-interface. From the results, the user can manually indicate images that might infringe a license. Additionally, a background process on the back-end server can permanently search for images that may violate one of the licenses. If a license infringement is detected, this will be communicated to the user via the web-interface.

The more image repositories that can be trawled, the higher the chances that license infringements are detected. This shows the importance of interoperable interfaces to provide a consistent way of accessing image repositories. This is the purpose of the JPSearch API, a recent standard of the Joint Pictures Experts Group (JPEG, ISO/IEC JTC 1/SC 29/WG1) [8, 5, 7]. By adopting a standardized interface, new image repositories that support the standard can be added by simply specifying their URI. The crawling module then searches for images through all the specified repositories. These queries for similar images can be either text based, content-based or both. Text based queries simply use the title, artist and/or additionally specified keywords. Content-based queries use a downscaled version of the original image as query image to search for similar images.

Since different repositories may use many different image descriptors, for this application, the image itself is send rather than pre-computed descriptors. In order to limit the search space for the visual query, the visual query can be combined with a text query. In this case, the visual query will be applied only to the results of the text-based query, significantly reducing the search space and therefore improving the performance.

7.1.5 References

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8 CONCLUSION

This document provides an approach to IP within the cultural heritage sector which is both focused on activities within E-Space, and outwardly facing to cultural institutions and creative entrepreneurs active within the creative economy. The first iteration of the deliverable (D3.1/D3.3) was specifically tailored to the requirements of the E-Space pilot projects.

This deliverable will feed into the WP5 Innovation Space, since it will assist thinking and decisions made regarding IP in hackathon planning, the business modelling workshops and the incubation period. It will also have a bearing on the development of the Technical Space infrastructure in WP2, which will implement the requirements of the legal framework through technical measures with regard to login and access, authentication, authorisation and a range of permissions.

This second iteration of the combined deliverable reiterates the values and aims of the first in its recommendation to open up content as much as possible, while trying to balance this objective with an increasing need for content owners to share in the benefits of the commercial exploitation of digital cultural content, in order to boost the economy and create more job opportunities in the creative industries and culture sector.

The deliverable highlights the lessons learnt with respect to IP in the course of the development of the E-Space pilots, hackathons and business modelling workshops, which will be useful to others working in similar fields. As such it provides a suite of tools and information for the cultural entrepreneur or content provider looking to embark on a project involving commercial re-use of digital cultural content, and for any content provider considering whether to open up digital content for re-use. It also supplies tools for hackathon organisers and attendees, highlighting what they should be thinking about in terms of IP arising during the course of the event, and how this may be managed.

At the business modelling workshops, potential monetisation strategies are considered, which may or may not be based on IP. These are narrated in the case studies to enable others thinking about similar ventures to think about the ways in which IP may be commercialised During incubation, the winning teams receive expert support to develop commercial prototypes. New layers of IP will be created as the tools/prototypes develop. The output may include new open source tools, new ‘open’ content and/or new proprietary tools and content with layers of existing IP – each of which must be managed if the ultimate product/service is to be attractive to investors.

The main tasks for the IPR team over the course of the final year of the project are to:

1. continue to support the six pilots as they develop their open, closed or hybrid IP strategies for the hackathons and business modelling workshops;
2. complete the integration of the legal and technical aspects of the Content Space in collaboration with WP2 Technical Space;
3. provide further suitable tools where necessary for dealing with IP at the business modelling and incubation stages of the project;
4. continue to work on the IP case studies for the six thematic areas of the project;
5. make all of the relevant material in this deliverable available in an easily accessible way in the content space (where not already done so) including the case studies and information on watermarking;
6. give IP advice during the incubation periods;
7. produce a learning module for the E-Space MOOC, referring to existing materials and tools specifically for entrepreneurs and creative companies who wish to re-use digital cultural content.

9 APPENDIX 1: OPEN CONTENT EXCHANGE PLATFORM

9.1 INTRODUCTION

Information on open content and licensing is now widely available yet it is often dispersed or only relevant to particular audiences. Much of this information is advocacy material aimed at cultural heritage institutions encouraging them to open up their collections. Much less of this information is aimed at potential users of the content offering advice on how to use open content.

The E-Space project targets new audiences, including creative industries and individuals who are likely to reuse open content and may well want to monetise it. There currently is no collective body of information aimed at them. The *Open Content Exchange Platform* brings together materials on the topic of reuse of open cultural heritage content with this new community in mind. Through a web-publishing platform developed with Omeka software, access is offered to a variety of resources such as guides, case studies, videos, papers, books and presentations for use by a global network of cultural institutions, including content holders, creative industries and hackathon attendees.

The *Open Content Exchange Platform* contains guidelines for licensing with respect to the reuse of openly licensed and public domain materials and the development of open strategies for business modelling. It also contains a directory of sources on openly licensed content (Open Collections) and several high profile blog posts and articles, including those written collaboratively with E-Space content providers. Results from the *Open Content Exchange Platform* will further inform research and policy making in the cultural heritage sphere, specifically around business models for open cultural content.

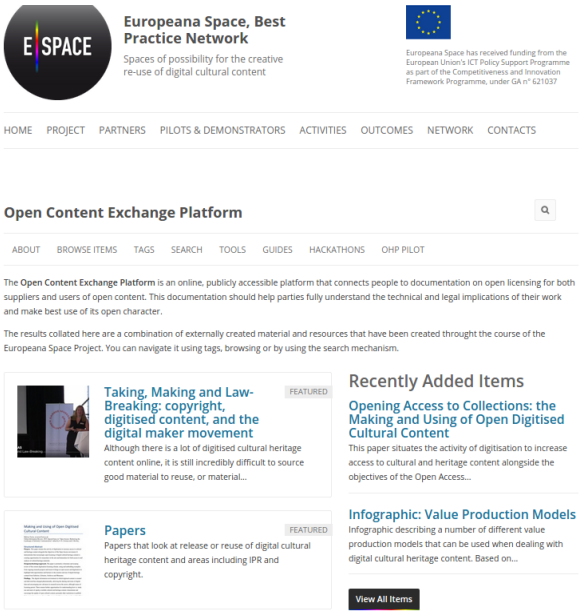

Figure 1: Frontpage of the Open Content Exchange Platform

The content in the platform has been collected in consultation with the OpenGLAM community[160] facilitated by Open Knowledge as well as the E-Space project consortium, in addition to new content being created within the E-Space project itself.

[160] http://openglam.org/

9.2 CONTENT

The Open Content Exchange Platform connects people to documentation that helps both users and suppliers of open content fully understand the technical and legal implications of their work and make best use of its open character.

The results collated are a combination of externally created material and resources that have been created through the course of the E-Space project. The following types of resources have been included in the platform:

- **Blog posts** that focus on the reuse of open content and the challenges it poses
- **Books** on releasing or reusing cultural heritage content
- **Case studies** looking at possibilities for the reuse of digital cultural heritage material by cultural institutions
- **Guides** that support those who are sharing or reusing open content.
- **Lists** of resources or documents related to IPR in the cultural heritage sector
- **Papers** that look at release or reuse of digital cultural heritage content and areas including IPR and copyright.
- **Presentations** on the topic of reuse of openly licensed and public domain materials and related issues
- **Policies** that support release or reuse of cultural heritage content
- **Projects** that are working in a related area to Europeana Space
- **Reports** that consider the reuse of open content and the associated challenges
- **Tools** that may be of use for those interested in releasing or reusing open content
- **Videos** of people presenting on areas related to IPR for the Cultural heritage sector

In the next sections, the various types of resources and certain content highlights will be further illustrated.

9.3 OPEN CONTENT: OPEN COLLECTIONS

With the rise of the open movement, more and more cultural institutions are providing online access to their content and allow digital resources to be freely reused. Libraries, archives and museums publish their collections through their own websites and can make it findable through portals such as Europeana and DPLA as well. The Open Collections page, accessible from http://openglam.org/open-collections, provides a global and curated overview of open cultural content online for anyone interested in finding and using such material, such as those working in GLAMs, creative industries, artists, designers, organisers of hackathons and the general public.

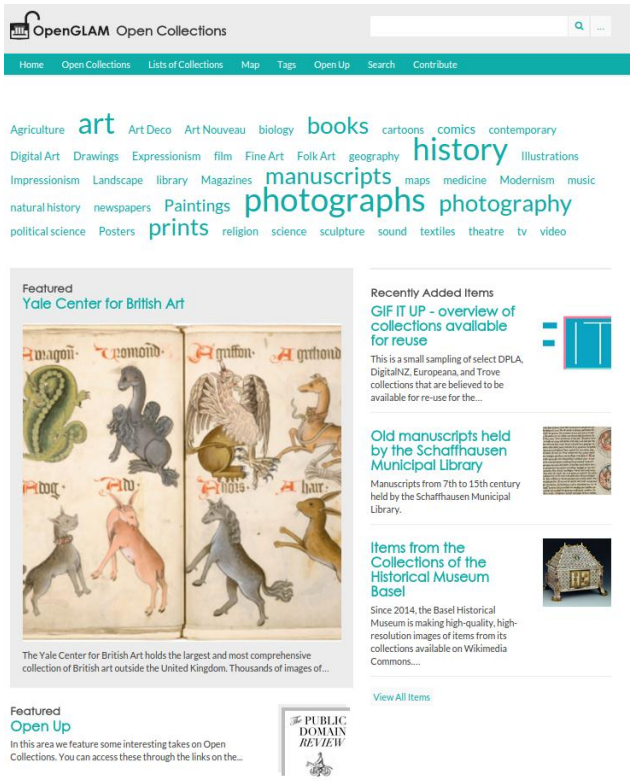

Figure 2: Frontpage of Open Collections

The page collates details of open collections from around the world that provide digital scans or photos that can be freely used without any restrictions, which means that they are licensed in a way that is compliant with the Open Definition. It also includes links to resources that aggregate open cultural data collections together in a central repository, such as Europeana and DPLA (under 'Lists of collections'). Similar to the Open Content Exchange Platform, it is delivered through Omeka, which means you easily search, locate collections on a map, comment on or tag collections. Searching by tag allows you to quickly look for material that fits your purpose.

Figure 3: Browse collections on the world map

A part of the collections fully meet the OpenGLAM principles[161], for example by keeping works for which copyright has expired in the public domain by not adding new rights to them. These collections have been awarded the OpenGLAM Badge of Approval and are displayed through the Open Up page.

Figure 4: OpenGLAM Badge of approval

The Open Collections resource has been compiled with the help of the OpenGLAM working group[162]. Currently there are 65 open collections and 10 lists of open collections in the database: new collections can be submitted by filling in the form on the Contribute page.

9.4 BLOG POSTS AND ARTICLES ON OPEN CONTENT

The Open Content Exchange Platform also collects background stories and articles highlighting the work of cultural heritage institutions that have opened up their collections to help build a cultural commons.

One of these is the Curator's Choice series[163], developed by The Public Domain Review in collaboration with OpenGLAM. Each month a guest article is written by a curator from a cultural heritage institutions on a set of open digital works. Through this blogging series, some of the most appealing and interesting openly licensed digitised works surface to show what an incredible resource the digital public domain can be.

Another series consist of blogs written by E-Space project partners on the OpenGLAM blog[164], in which both the work of project partners is illustrated, but also certain issues around availability of open content and possible uses of open content in areas such as education are stressed.

9.5 DOCUMENTATION ON OPEN LICENSING

An important share of the platform's resources focuses on licensing of open content material. Indicated by tags such as 'licence', 'copyright' and 'Creative Commons', you can find reports, papers and guides on different types of open licences, exemplary open licence policies from cultural heritage institutions and practical guidance on choosing the correct licence. Some useful resources to start with include:

- Guide - Open Content - A Practical Guide to Using Creative Commons Licences[165]: Publication by the German Commission for UNESCO, the North Rhine-Westphalian Library Service Centre and Wikimedia Deutschland. Media attorney Dr. Till Kreutzer elaborates on the advantages of Creative Commons licenses and exemplifies different usage scenarios of the different licenses.

[161] http://openglam.org/principles/
[162] http://openglam.org/working-group/
[163] http://openglam.org/curators-choice/
[164] http://openglam.org/category/E-Space/
[165] WikimediaDE, "Open Content - A Practical Guide to Using Creative Commons Licences," Open Content Exchange Platform, accessed December 2, 2015, http://E-Space.okfn.org/items/show/185

- Guide - Open definition: Guide to open licensing: Guide to open licenses[166] - not written by lawyers.
- Tool - Public Domain Calculation[167]: Calculators that offer a simple interface between consumers of content and the often complex set of national rules governing the duration of copyright, in order to determine the term of protection of a given work. You can also explore the research behind the Public Domain Calculators or embed the Calculators in your own projects.
- Policies: Digital Public Library of America Metadata Policy[168]: an exemplary open licensing policy that explains metadata use.

9.6 MATERIALS ON THE RE-USE OF OPENLY LICENSED MATERIALS

The Open Content Exchange Platform also including materials and examples on possibilities for creative reuse of open cultural content, with a special focus on the creative industry. These have been tagged with 'creative reuse', 'business models' and/or 'creative industries': some relevant places to start include:

- Guide - IPR Guidelines[169] - A guide to understanding copyright when reusing cultural data: The publication aims to help decision makers to choose what types of data to use for what products. For example using specific Creative Commons licenses in products and incorporating user generated data legally. The publication contains introductions in the policies, laws and regulations that need to be considered when reusing cultural data. It contains introductions in the policies, laws and regulations that need to be considered when reusing cultural data. It builds upon work, products and documents created and tested in other Europeana projects, such as Europeana Awareness, Europeana Sounds and Europeana Creative.
- Blogpost - Creative Reuse, Open Content & the Cultural Sector: A Brief History[170]: Opinion piece by Maarten Brinkerink of the Netherlands Institute for Sound and Vision on the value of open cultural data and its potential for creative reuse.
- Infographic - Value Production Models[171]: Infographic describing a number of different value production models that can be used when dealing with digital cultural heritage content.

9.7 E-SPACE RESOURCES

Finally, a part of the resources originate from the E-Space project itself: these include materials coming out of the different pilots, such as the Open & Hybrid Publishing pilot and the museums pilot that both have a special focus on openness, as well as infographics on copyright & IPR, orphan works and value production models and relevant E-Space reports.

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[166] Open Knowledge, "Open definition: Guide to open licensing," Open Content Exchange Platform, accessed December 2, 2015, http://E-Space.okfn.org/items/show/190

[167] Kennisland, Institute of Information Law (IViR), Bibliothèque nationale de Luxembourg (BnL), "Public Domain Calculation," Open Content Exchange Platform, accessed December 2, 2015, http://E-Space.okfn.org/items/show/194

[168] Digital Public Library of America (DPLA), "Digital Public Library of America Metadata Policy," Open Content Exchange Platform, accessed December 2, 2015, http://E-Space.okfn.org/items/show/170

[169] Lisette Kalshoven, Maarten Zeinstra (Kennisland), "IPR Guidelines - A guide to understanding copyright when reusing cultural data," Open Content Exchange Platform, accessed December 2, 2015, http://E-Space.okfn.org/items/show/240

[170] Netherlands Institute for Sound and Vision, "Creative Reuse, Open Content & the Cultural Sector: A Brief History," Open Content Exchange Platform, accessed December 2, 2015, http://E-Space.okfn.org/items/show/207

[171] Marieke Guy, "Infographic: Value Production Models," Open Content Exchange Platform, accessed December 2, 2015, http://E-Space.okfn.org/items/show/258

These resources have all been tagged ‘E-Space’, while certain pilot resources have also been grouped together and are accessible from the top menu.

9.8 FUNCTIONALITY

The Open Content Exchange Platform has been built using Omeka, a free, open source content management system for online digital collections. Each resource is added as an item, with metadata for the title, description, identifier/url, creator, date, rights, format and type. In addition, items are tagged with a number of keywords describing their content.

Through the search interface, you can easily filter on specific content, or on specific tags. It is also possible to browse through the content, or a specific type of resources. Finally, items have been grouped together for easy access on several dedicated menu pages, such as Tools and Hackathons.

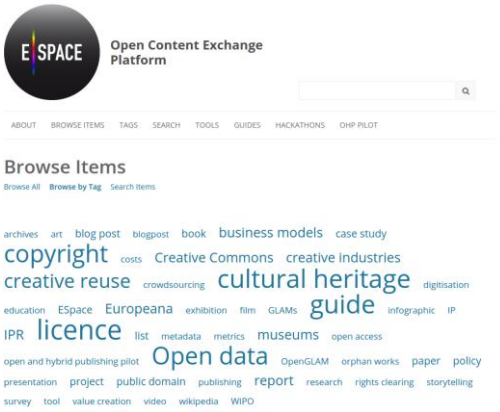


Figure 5: Browse by tag functionality

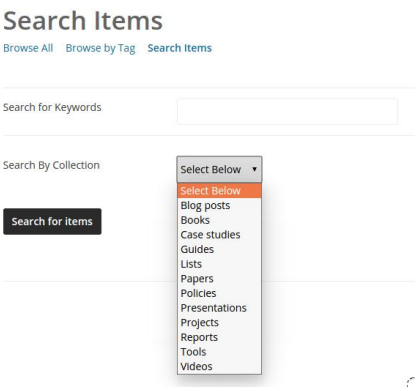


Figure 6: Search by type and/or keyword

The search results can be filtered further, as well as exported in different output formats for future use and reference. Each item includes a reference field with the information required to refer back to the item, including access date and item link.

10 APPENDIX 2: IP AND THE E-SPACE PROJECT

10.1 E-SPACE WORKFLOW AND THE PLACE OF IP

This tool highlights the place of IP within the workflow of the six E-Space project pilots from pilot planning, through to hackathon planning, and on into the incubation and business modelling phases. The introduction outlines the various sources and types of content (with reference to their associated licences), which partners are bringing into this project and how they will be used in the development of new tools and new content, some of which will be chosen for business modelling and commercialisation. It explains the complexities of a contested space with regard to intellectual property rights attached to digital cultural content. It outlines general stakeholder interests (those within E-Space and beyond), and provides a forward looking view at the trajectory towards greater openness and some of the challenges this presents for content providers and policy makers.

The E-Space Workflow

There are a number of steps in the E-Space workflow, from inception of the idea for a pilot project, through the hackathon, to incubation for the projects that have demonstrated a potentially successful business model.

The place of IP within the E-Space workflow

1. Pilots develop ideas for projects using a mixture of open and proprietary tools and content. The protected space

The tools used by the pilots represent a mix of proprietary tools protected by copyright, and open source tools that may be freely used and built upon by third parties.

Examples of Proprietary tools used in E-Space by the pilots include:

1. The tool for granular content annotation (dance pilot)
2. The Eureva Blinkster App (photography, museums)
3. Unity 3D game engine (games)

Examples of Open source tools used in E-Space by the pilots include:

1. Web-based Toolbox (e.g. museums pilot)
2. The platform for multiscreen applications, developed by Noterik. (TV)
3. Omeka and JPSearch API (photography)
4. Technical Toolkit (games)
5. WordPress (publishing)

During the course of developing the tools, the pilots will create IP. For example, IP will be created as layers, enhancements and customisations are added to the existing tools listed above during the pilots.

Pilots will also use content, some of which will be ‘open’ and others of which will be proprietary. Some content may be licensed for the purposes of the pilot (and hackathon) only.

Examples of open content to be used by the pilots in E-Space includes:

1. Content from Europeana (All pilots)
2. Material from the public domain or under an open licensing regime, such as Wikipedia (e.g. games and publishing)
3. Content with various open source software licences (e.g. TV)

Examples of proprietary content to be used in E-Space pilots includes:

1. Content from third parties contributing to pilot content (e.g. photography, museums and dance)
2. Content under various commercial licences (e.g. TV)
3. Content under creative commons licences not considered open (e.g. games)

As with the tools, during the course of developing ideas, the pilot will create IP in the content adding layers of copyright to existing works and/or creating new derivative works. Each pilot will need a clear idea of:

a. IP in existing tools: ownership, and use rights

b. IP generated by pilot participants: ownership and use rights. Note that the DoW states that this IP should licensed under an open licence.

2. Hackathons are two or three day events combining talks and co-creative events. The tools and content developed by the pilots are available during these events. Attendees can bring their own tools and content and/or use/mix tools and content provided by pilots.

Tools may be open source, or layers of existing IP may subsist in the tools contributed by the pilots. IP will be created when hackathon attendees mix, adapt, enhance and otherwise re-use the tools supplied by the pilots to the hackathon events. IP will also be generated as tools enter the incubation and business modelling stage and are prepared for commercial use.

Content IP may be 'open' or proprietary. New IP may be created in the content during the course of the hackathon to the extent that the content is re-worked. This may be the content contributed by the pilots and/or the content brought by the participants. Each hackathon will need to have a clear idea of how the 'new' IP generated during the event is to be owned and managed.

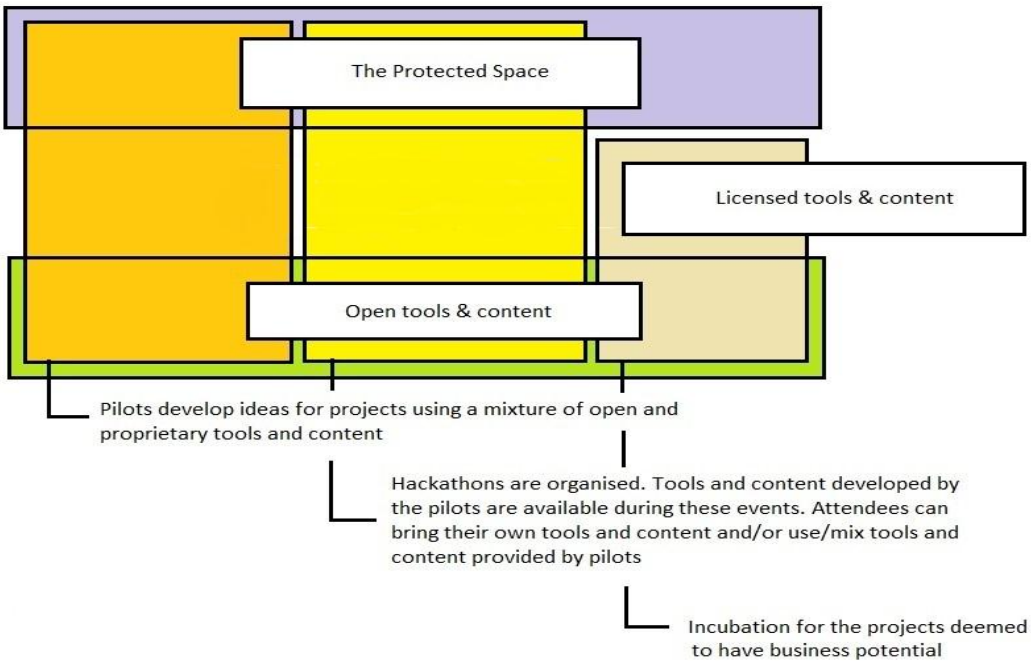
3. Incubation for the projects deemed to have business potential. Beyond the protected space

Prior to leaving the protected space and pitching for a place at the business modelling workshops which may lead to incubation, agreement needs to be reached on IP in the tools (and content if to be part of the business model). This agreement needs to take into account the IP identified at stages 1 and 2 discussed above.

The criteria for choosing the projects to go forward to the incubation stage are:

1. Proper use and/or re-use of digitized cultural heritage content, or tools facilitating the use or re-use of this content
2. Innovation, by which is meant the provision of better, more efficient technology, business models and new ideas
3. The capability to engage real communities where there is demand that will be met by the winning tool
4. A representative candidate with the passion, capability and dedication to sell the project.
5. The project must be technically feasible with a realistic budget, time frame and the necessary expertise

The IP strategy will underpin points 1 and 2 in particular. This diagram illustrates the various steps outlined above:



10.2 THE LEGAL FRAMEWORK

How do you make money out of the re-use of digital cultural heritage? This has been a key question for E-Space, looking at pilot projects encompassing TV, photography; dance; games; open & hybrid publishing and museums. E-Space has followed these pilots from point of conception, through development in hackathons, and into incubation for the selected projects which show the most promise to be able to thrive in the cultural marketplace, ultimately contributing to the economy and to jobs.

A number of key foundational blocks needed to be in place for these pilot projects and the ideas coming from the hackathons to be a success: a market analysis was required, and a business case had to be made out. D5.1 partners produced over 100 pages on market analysis which UNIVE repackaged in six thematic user friendly documents available in the E-Space Innovation Space under market analysis. The purpose of this paper is to consider the place of intellectual property (IP) within this framework: how did IP – specifically copyright – support the pilot projects and hackathons as they moved from idea to reality? The pilots and hackathons developed tools and used and re-used digital content: in some cases both the tools and the content were protected by copyright[172]. One of the ways in which the successful outputs could be monetised was through the exploitation of the **exclusive rights granted by copyright**; these included the right of reproduction; adaptation; and communication to the public (over the internet) among others; in other words, business modelling could rely on a 'closed' strategy, licensing or assigning these exclusive rights in return for royalties or an outright payment. It is the adaptation mostly referred to as re-use, which is not collectively managed. However, for certain types of content (e.g. audio-visual), even for the two other types of rights (reproduction and communicated to the public) there is no full collective management and representation.

[172]Not all content used in the wider E-Space project is necessarily copyright protected. The use of Public Domain material or open content will be encouraged wherever possible.

Another way was to consider an **'open' strategy to exploitation**, where the tools were made **'openly'** available and the business modelling strategy developed in other ways – such as software given away for free and a return made on updates and servicing. Within the E-Space project, both paths were explored simultaneously.

In tandem with thinking about exploitation strategies around copyright, copyright also needed to be considered at the 'input' stage. Pre-existing tools and content were used by the pilots and are being re-used in the hackathons. It will be essential to know who owns the copyright in these and how they are licensed in order to ensure that the eventual output of such an event does not infringe the rights of others rendering it incapable of being lawfully exploited in the marketplace.

This paper will consider the 'copyright space' within E-Space. It will highlight the, often conflicting, demands of the stakeholders - the authors, the owners, the users and the policy-makers – which are made at International, European and domestic levels of policy and law making. It is not intended to be comprehensive in the discussion. There are a great many other sources of information, both academic and practical, that examine in detail the historical and contemporary state of copyright and challenges that are faced in the digital era. The purpose of this contribution is to highlight some of the contemporary challenges as they impact on the work in E-Space and to illustrate how challenging the current state of copyright can be for innovation in the cultural heritage sector. It will go on to suggest that, while copyright should always be respected, what may help is for innovation within the pilots and the hackathons to take place in a **protected space**. In other words a space where innovation takes place using openly licensed tools and content, and tools and content specifically licensed for use in the protected space but not out of it and where innovation is demand led rather than supply fed.

This contribution contains tools that the pilots and hackathons may find helpful in developing their strategies.

The Contested Space

Copyright is characterised by three interests: those of the author of the work; the owner of the copyright in the work; and the user of the work (sometimes also thought of as the public interest – although the two are not wholly contemporaneous). The interests of these groupings sometimes converge and often diverge. Generally it is the task of the policy maker to balance these interests whilst at the same time pursuing wider political agendas.

Little more than a decade ago copyright was a relatively unknown branch of the law. It was certainly important to those industries that depended on the law to provide exclusive rights in creative works that could be traded: publishing, music and the arts are good examples. It was with the advent of digitisation and the implications that had for the speed and ease with which cultural works could be copied and disseminated around the world with few or no barriers, that copyright became a household name. It was perhaps the music industry more than any other that brought copyright to the attention of the masses as it sought to grapple with the challenges of digital reproduction and internet dissemination of musical works. There were big gains and big losses to be made and vocal lobby groups emerged representing mostly interests of the copyright owners and also piggybacking on authors' interests. Less loud were the lobby groups for the user or public interest. Matters of control over dissemination of works on the internet became paramount although how that was to be effected entirely unclear. Law ascribing liability to various actors – ISPs, individuals - and notice and take down requirements, suing in the courts and technical measures all were and are used by copyright owners as part of the effort to stem the tide. More recently it has been the re-use of content by creative industries that has climbed the policy agenda. Since the financial crash of 2008 and in the wake of sluggish economies, the time of the creative industries has arrived.

The creative industries are considered by policy makers to be one of the ways in which economies can be revived. Policy makers, therefore, encourage the use of innovative technologies and existing cultural heritage content, and pursue increasingly ambitious strategies. However, in this melee conflicting demands are being placed on copyright that can make creative innovation problematic.

It is in this contested space that E-Space works. And it is for this contested space that we have sought to develop tools around copyright and licensing that will support the pilots and the hackathons in their work, from ideas to business modelling. One of the recommendations, specifically to try and address the challenges faced by the pilots and hackathons in this contested space, was, where open licensing was not possible, to develop licensing strategies to enable innovation to take place in a way as unencumbered by copyright restrictions as possible. We were not advocating that copyright should not be respected; we were advocating strategies that would help to support the work of the pilots and hackathons whilst looking for innovative ways to build tools and to use and re-use content.

To this end we suggested that pilots and hackathons use a mix of content that is licensed in **the least restrictive manner possible**: open licences including CC-BY (and other CC licences although not all are considered 'open' – see below); and public domain licences/marks. In addition we urged pilots to use content specifically sourced for their use and for use in the hackathons. Here there were content owners who were willing to allow use of their materials for specified purposes. If these are ultimately monetisable, before any tools or content are allowed to leave that protected space and move into incubation, all the parties who have a copyright interest in those tools and that content, both in original third party material and in the content as it has developed, have to agree on exploitation methods. Our suggestion is that if agreement cannot be reached, then the proposal by the innovator wishing to enter incubation is not viable in the market place. If, on the other hand, all can see the advantages, then agreement will be reached and the exploitation strategy developed. This may be by way of open or closed licensing strategies.

Pursuing these strategies may well open up new sources of tools and content for the pilots and hackathons and may let owners of IP in tools and content experiment with ideas they might not otherwise have been willing to pursue. It may help them to develop innovative, creative, imaginative and inspired uses of our cultural heritage that may not have been possible, but the possibilities of which become apparent in the protected space.

The author

The author is central to the copyright system. From international, through regional to domestic levels, the copyright system is built around the author. The oldest copyright Convention, the Berne Convention for the Protection of Literary and Artistic Works 1886[173] refers to authors rights and to the protection of the rights of authors in their literary and artistic works. That the author is pivotal to the copyright framework is most obvious from the term of protection that is linked to the life of the author. The Berne Convention provides that copyright lasts for 50 years after the death of the author. Subsequent moves to increase the term of protection have always based themselves on the life of the author for justification however strained; her heirs live for longer, therefore the term should be increased.

The author has a diverse range of interests in the copyright framework. She would like to secure long and broad rights for her works that she can exploit in the marketplace. These rights give her the incentive that she needs to keep creating more works: as she can control her works, so she can licence or assign them securing payment in return. She is not too

[173] See http://www.wipo.int/treaties/en/text.jsp?file_id=283698

interested in the exceptions and limitations to copyright which allow third parties to re-use content without payment or permissions except perhaps to be quoted – within limits. The author does of course become a re-user herself when creating afresh – at which point she may become more interested in the limits to copyright. She is in many sectors represented by collecting societies that also act as vocal lobby groups. The Authors Licensing and Collecting Society[174] for instance is a strong lobby group on behalf of authors in the UK, and there is CFC Centre Français d'exploitation du droit de Copie[175] in France and SIAE[176] in Italy.

The owner

The rights of the author often end up in the hands of a third party who then goes on to exploit those rights. In some jurisdictions copyright automatically vests in the hands of a third party. The best-known examples arise from the common law countries that root their justifications for the copyright regime in economic rationale. The UK for instance provides that where an employee creates a work in the course of employment, then the copyright vests in the employer. Such automatic vesting is not possible in other countries – such as France. Here the copyright always vests in the author even where an employee acting in the course of employment, but the author may then licence or assign this to the employer – or other third party. An exception exists for software and journalist's copyright where the copyright automatically vests.

If the economic view of copyright is to be believed, then the rights associated with copyright will generally end up in the hands of those most able to exploit them. These rights owners, in common with the authors, tend to want broader, stronger, longer rights but, unlike authors, tend to be more concerned with the exceptions and limitations. Witness for instance the response to the WIPO treaty to facilitate access to published works for persons who are blind, visually impaired or otherwise print disabled 2013 (the Marrakesh Treaty)[177] the most recent treaty to be agreed at international level. This treaty was concerned with mandating the introduction of specific exceptions and limitations in domestic law for those States adhering to the Treaty for the benefit of users with print disabilities. Those vehemently opposed were the publishers; those wholly in favour were the users. Authors were on both sides of the divide.

Rights owners engage in active and vocal lobbying in pursuit of their interests even more so than authors. The Marrakesh Treaty mentioned above witnessed fierce lobbying on behalf of publishers much of which has been captured by Knowledge Ecology International[178].

The user-creator[179]

In this contested space – and certainly for E-Space – the users are generally thought of as the individual and the small collective. With the advent of digitisation, the user has moved increasingly to re-using content and in so doing developing what is colloquially known as user generated content. The user is also the creative industry, upon whose back, and as noted above, governments see a hope of economic revival. In this space, users want more freedom to innovate – translating into more limitations and exceptions to copyright, reduced terms of protection, and more open strategies in exploitation of protected content, certainly for content that they re-use in creating afresh, but often also in relation to their strategies in respect of the tools and content that they produce.

[174] See http://www.alcs.co.uk/Home
[175] See http://www.cfcopies.com/
[176] See http://www.siae.it/Index.asp
[177] See http://www.wipo.int/treaties/en/ip/marrakesh/
[178] See http://keionline.org/node/1767
[179] There is arguable no such a thing as a passive user in the context of digital cultural content anymore, and specifically within E-Space the users are also creators (reusers).

What this group lacks are effective lobby groups – or at least lobby groups whose voice is heard as clearly and articulately as those representing the owner and the author. To the extent that the interests of this group coincide with open exploitation strategies, so their interests are championed by organisations such as Open Knowledge and Communia[180] but these are far less cohesive, far less powerful, and far less well funded than those groups representing authors and in particular owners.

The types of initiatives designed to help this stakeholder would include Licences for Europe (although primarily an owner driven initiative) and the orphan works directive.[181]

The policy makers

It is in this contested space that the policy maker has its job of balancing competing demands whilst at the same time pursing its own policy and strategic goals. This is challenging because policy at present tends to pull in competing directions. As noted above, at European and domestic levels the creative industries are seen as a means for economic generation. All manner of initiatives have been developed to try and encourage creativity, and much public money is spent pursuing this strategy. E-Space is a good example: how can the cultural heritage accessible through Europeana and from other sources be put to good use in order to create jobs and stimulate economic growth? In this there are tensions – as noted above: broader stronger and longer rights are wanted in the content for the creative industries in order to encourage participation (the interests of the rights owners); but at the same time, more exceptions and limitations are wanted to ensure that existing sources of content can be re-used (the interests of the users).

Whilst attempting to balance these interests policy makers also pursue other conflicting goals. While on the one hand innovation and re-use of materials by creative industries is encouraged, the policy makers require the suppliers of the content, the memory institutions, to be at least partially self-funding. One of the ways in which they do this is by licensing digitised content. Not only does this raise the question of whether copyright arises in the act of digitisation, a matter far from free from controversy, but it also causes a tension in the licensing strategy pursued: should this be open to encourage downstream innovation and the goal of content re-use by the creative industries? Or should it be closed to enable the memory institutions to license the content and in so doing add to their coffers? These tensions are particularly acute when the memory institution and the digitisation process are supported by public funds. Policy makers are constantly lobbied by the vocal and well-resourced lobby groups as noted above.

Other challenges

Not all of the challenges in this contested space arise from copyright. In a Progress Report on the implementation of Commission Recommendation on the Digitisation and Online Accessibility of Cultural Material,[182] other pressing matters were highlighted as causing blocks to the accessibility and re-use of our cultural heritage. These included:

- Funding – or rather the lack of it – for digitisation projects;[183]
- The lack of open platforms with quality, interoperability and resolution features;
- The watermarking of public domain materials and conditions placed on re-use.[184]

[180] See http://www.communia-project.eu/
[181] See http://www.wipo.int/wipolex/en/details.jsp?id=13043
[182] See file:///C:/Users/aes231/Downloads/Recommendation-2011-2013-progress-report.pdf
[183] High interest digitisation projects (e.g. English speaking-audio-visual) have a rights clearance issue whereas most of other projects (with low commercial value) have funding problems.
[184] The conditions have mostly to do with legal interoperability, whereas Public Domain watermarking has to do with the re-introduction of rights.

It was suggested that the Orphan Works Directive may help although anecdotal evidence points to the fact that many working with our cultural heritage doubt its practical utility due to the lack of databases and registries of works and authors (see section 4.2.3 and section 7.2).

As said, it is within this contested IP space that the work of E-Space is carried out: a space in which there are many conflicting demands and competing interests. The purpose of this deliverable is to give participants at least some knowledge around IP to help them to support their innovative projects.

In the table below, we present the different stakeholder interests regarding the IPR Attached to Digital Cultural Content in E-Space.

Stakeholder Groupings	Stakeholders in E-Space	Support for Open Data	Support for Closed Data	Lobby Groups	Overall Interest
Authors	Pilots Hackathon attendees Third party artists and performers	•Not too concerned about third party exceptions e.g. free re-use of brail editions for the blind •Need re-usable content for further creativity	•Seek long and broad IPR to market creations, fund further creativity, and benefit heirs	e.g. Authors Licensing and Collecting Society (UK), CFC Centre Français d'exploitation du droit de Copie (France) and SIAE (Italy)	Variable, especially when broader moral arguments are factored into author attitudes to openness, though in general authors look for protections in the short-term and openness in the longer-term.
Owners (content providers)	Museums Libraries Galleries Archives	•Seek broad exposure of content to attract interest and visitors to exhibition spaces •Seek innovative ways of displaying content that often requires collaboration with tech firms	• Seek long and broad IPR to market content especially given public funding cuts		Generally gain far more from opening up content with the exception of those that depend on considerable revenue from marketing rights

		•Seek to open up content in line with agendas set by policy-makers in the hope of receiving more public funding			restricted content
Users	Hackathon attendees; Higher education researchers and students; he general public; Creative industries and entrepreneurs	•Desire freedom to create, re-create and co-create new content •Desire freedom to exploit content in the marketplace using new tools	•Users who are also authors may have interests in IPR as stated above	Open data organisations such as Open Knowledge	By far the majority of users have the greater interest in opening up data as much as possible. Users are currently less well represented at the level of policy-making.
Policy Makers **(and organisations with technical/legal/business expertise used for facilitating policy in E-Space)**	The European Commission National Ministries of Culture	• European and domestic agendas aim to open content up for exploitation by the creative industries to boost economies and create employment opportunities.	• Broader, longer IPR is needed in content to encourage participation of content owners in collaborations with the creative industries • Policy makers require content providers, to be partly self-funding and one way they do this is by licensing digitised content		Agendas at national and international level are largely to open up cultural content as much as possible but this agenda often conflicts with the effects produced when policy makers cut public funding to the culture sector

Table 1: Stakeholder Interests Regarding the IPR Attached to Digital Cultural Content in E-Space

11 APPENDIX 3: IPR TOOLS FOR CULTURAL HERITAGE

11.1 VALUING YOUR IP – FOR ENTREPRENEURS

11.1.1 Why your IP Matters

As an entrepreneur you will have a good idea, or several good ideas, for products or services that could be commercialised. If you share an idea you cannot prevent others from using it but if you translate that idea into something tangible such as an image, word mark, design sketch or written/electronic document the idea can be protected. It can then be protected by intellectual property (IP) rights and may also be sold or licensed to others for a fee just as with physical assets. A licence legally establishes and communicates the permissions you give and/or deny to those who may want to use your IP. You will be familiar with licences such as those you receive whenever you buy a copy of computer software.

The intangible assets or IP you possess can often prove to be more valuable than physical assets for the success of your business. It is therefore important that you identify and manage your IP from the earliest stage of creativity, even if there are costs involved, to avoid far greater expenses or losses in the future. Your business plan should include a section listing your IP, and explaining how you will protect and manage it. The value of your IP may increase over time, as in addition to selling goods and services, you will develop ideas and build recognition and goodwill linked to your brand, product or service. It is important to recognise that what may seem unimportant now may be worth a great deal in the future.

For advice on creating a business plan go to www.gov.uk/write-business-plan. The British Library Business and IP Centre, also supports entrepreneurs, inventors and small businesses: www.bl.uk/bipc.

11.1.2 The 5 Types of Intellectual Property Right

To prevent others from making, using, importing or selling your creation there are several kinds of IP rights that can be legally enforced:

1. **Patents** protect new inventions and cover how products work, what they do, how they do it, what they are made of and how they are made (e.g. machines, industrial processes, pharmaceuticals and their productive methods, computer hardware, electrical appliances and biological products and processes). Rules vary according to jurisdiction with regard to how you should apply for a patent, how much it will cost and how long it will take. It is advisable that you seek professional advice in your own jurisdiction from a Patent Attorney (some give initial advice free of charge) and it is essential if you want to draft an application that has a good chance of success. You also need to be sure the potential for profit outweighs the time and costs involved in getting and maintaining a patent and that the protection it offers will prevent copying in the markets you are interested in.

Note that if you are considering applying for a patent you must not reveal your invention before you have made an application as this disclosure will mean you lose the possibility of being granted one as the novelty will be destroyed.

2. **Trade marks** can be made up of words, logos or a combination of both, an aspect of packaging and can even be sound or action based, or a shape or colour. Trade marks are used by traders in connection with goods or services and provide an indication of the origin of the goods or services. It is recommended that you register your trade mark according to the rules and procedures of your jurisdiction as it can be more challenging to sue someone for using your trade mark without permission if it is unregistered. You can use your trade mark as a marketing tool so that customers can recognise your product and services.

For more information go to: http://www.wipo.int/trademarks/en/

You can check for existing trade marks at: https://www.gov.uk/search-for-trademark

Note that registering your company name or owning the domain name for your website does not give the same legal rights as a trade mark.

Note that you cannot register trade marks or design rights (see below) which are immoral/illegal or offensive to the public or which contain protected emblems. Trade marks additionally must not be such as to deceive the consumer, or include shapes or phrases which are too general or too descriptive, or which are already in common use.

3. **Design** protects the overall visual appearance of a product. You can have your design examined and registered with the relevant intellectual property office. To apply, your manufactured product must have a special shape, configuration, pattern or ornamentation that can be registered and the application must include images of the product or packaging you wish to protect, which are identical to those which are actually placed on the market. A design would not include a product shaped in a particular way solely in order to achieve a technical function or to fit with something else. Legal protection for unregistered designs, as with unregistered trade marks, is automatic but is limited in terms of the protection it affords. A registered design gives you a legally enforceable right to use your design to gain a marketing edge and prevent others using it without your permission.

Note that design rights protect the appearance of a product while a patent protects a technical product and how it functions.

Note that unregistered design rights and unregistered trade marks are harder to enforce because you have to evidence the existence of the right (demonstrating that there is protectable goodwill in the trade mark or the design) and prove intentional copying yourself. In the case of trade marks you would also have to prove that the misrepresentation caused damage.

4. **Copyright** protects books, art, music, websites, photographs, software, databases, films and print, radio and television broadcasts and promotional material. It protects the expression of but not the idea behind a work (for example the text in a manual but not the ideas conveyed in it), and gives the owner of a creative work the right to exclusively control and exploit its use. Most copyright protection lasts the lifetime of

the creator plus 70 years from the date of their death. However, it is advisable to find out what the rules are in your jurisdiction. Businesses create and use copyright works all the time (e.g. databases, manuals, software) and it is important therefore to understand how to protect and commercialise them and also how to make use of copyright works belonging to others. If you commission third parties to create copyright works for your business you must agree on who will own the copyright before the work is created. Always check the terms and conditions and check with the business from which you are commissioning the work, otherwise you could find the creator still owns the copyright and your use of the work is limited. It is also important that you obtain permission before using other people's copyright works otherwise they might take legal action against you to seek damages and prevent you from further use of the work.

Note that in the UK, copyright comes into effect automatically on the creation of the work, while patents, registered trade marks and registered designs must be applied for via the relevant intellectual property office. Lodging your work with a bank or solicitor does not prove it was originally created by you but could be used to show a court that you created it at a particular date.

For guidelines on clearing copyright and for Creative Commons and Open Source licence choosers see http://www.europeana-space.eu/content-space/ipr-toolkit/

5. **Trade secrets** can be protected by the law of confidentiality. For information that is deemed to be confidential, non-disclosure agreements (NDAs) can be signed by anyone with whom the information is shared, after which legal action may be taken against them should they tell anyone else. (For templates see https://www.gov.uk/government/publications/non-disclosure-agreements)

To identify your assets and how to protect them, use the IP Health Check tool at https://www.ipo.gov.uk/iphealthcheck.

11.1.3 A warning!

Counterfeiting and piracy relate to certain trade mark, registered design and copyright infringements. These are criminal acts, and the authorities will have the power to seize and destroy infringing goods and bring criminal proceedings. It is important to remember not only to protect your own IP but to make sure you do not infringe the IP rights of others.

11.1.4 Carry out an IP Audit

It is important that you carry out an IP audit which means assessing and keeping an inventory of your IP assets; identifying the products and services that are key to your business, identifying your IP assets and the legal rights associated with them, and identifying what market advantage these rights give you. This will enable you to value your IP assets as you would your physical assets. Continue to update this as your business grows, and do not overlook your customer list or database, secret recipe or unique service technique as these are also intangible assets. Calculate how much time would be required to develop these assets from scratch or estimate how much a competitor might pay for them. An accountant will be able to help you to value your assets and place them in the context of your business.

For help on valuing your IP go to www.gov.uk/valuing-your-intellectual-property

For a detailed guide to presenting the security and financial worth of your IP when seeking finance and to help banks recognise the value of IP in your business go to: https://www.gov.uk/government/publications/banking-on-intellectual-property-ip-finance-toolkit

11.1.5 Understand the Future Potential of your IP

It is important to remember that in the future you may want to consider licensing your own IP or acquiring the right to license others' IP in order to:

1. Share risk – where you as licensor licenses the right to manufacture and sell products and receives revenues without running the risk of manufacture, promotion and product sales or where you as licensee obtains the right to use IP without the expense of product development
2. Generate revenue – you may want to use your IP to create revenue by licensing it to someone else to commercialise your IP in a different field
3. Increase market penetration – you may want to license your IP to a business that can sell in territories you cannot cover due to language/cultural or other barriers
4. Reduce costs – you may want to 'buy-in' innovation to reduce your research and development costs
5. Save time – to get your products to market more quickly you may choose to acquire a licence to use existing IP instead of re-inventing the wheel (sometimes called "engineering workaround").
6. Access expertise – you may take a licence to tap into expertise you do not have 'in-house'.
7. Obtain competitive advantage – by acquiring existing IP you may obtain an advantage over competitors
8. Collaborate – you may want to work with another business to develop new products and services

The licensor and licensee usually agree terms through a process of negotiation.

Once your business is successful you may also want to expand your operation without borrowing capital and an option is to license IP to franchisees as a way of systematically sharing IP with others to distribute goods and services. As franchisor, it may not only be your product or service but also your trademarks, promotional materials, business and marketing systems, shop fit-outs and confidential information you wish to license for your franchisee to use. With franchising you continue to own your IP, retaining all rights, while the franchisee pays a fee or regular royalties to use it. Often a well-known trade mark is licensed to a franchisee in return for a percentage of gross turnover.

More information on franchising can be found at http://www.thebfa.org/.

Note that IP rights only give protection in the countries where they are granted or registered. If you plan to do business abroad you may need to expand your protection or obtain new protection in that country/countries by completing the legal formalities they require. See www.gov.uk/government/collections/ip-protection-abroad-country-guides for further information and advice.

11.2 CREATIVE COMMONS – A GUIDE TO PROPER ATTRIBUTION

Creative Commons[185] is a non-profit organization that enables the sharing and use of creativity and knowledge through free legal tools. They have created free, easy-to-use copyright licenses which provide a simple, standardized way to give the public permission to share and use creative work according to the chosen conditions of the creator. CC licences are not an alternative to copyright, but they allow authors to easily change their copyright terms from the default of "all rights reserved" to "some rights reserved."

With all Creative Commons licences, your use of the material carrying the licence (your exercise of the Licensed Rights) is made subject to the condition of attribution. This means you must attribute all the Creative Commons licensed works you choose to use in your product or publication. You must acknowledge the creator, the title of the work, the licence, link to the licence, and add a description of any modification or alteration to the work, linking to sources if applicable.

According to the terms and conditions set out by Creative Commons for Attribution:

> *"You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.*
>
> *If supplied, you must provide the name of the creator and attribution parties, a copyright notice, a license notice, a disclaimer notice, and a link to the material. CC licenses prior to Version 4.0 also require you to provide the title of the material if supplied, and may have other slight differences.*
>
> *In 4.0, you must indicate if you modified the material and retain an indication of previous modifications. In 3.0 and earlier license versions, the indication of changes is only required if you create a derivative."*

For full details on the exact requirements for different CC Licences go to the section on Attribution and Marking in the License Versions[186] document on the Creative Commons website and also see the detailed attribution comparison chart.[187]

CCO and the Public Domain Mark are legal tools rather than licences and do not formally require attribution. However, attribution may still be considered a moral obligation and best practice, since acknowledgement of the creator and the title of a work are inalienable moral rights a creator has regardless of the presence or absence of rights labels.

It is important to note that it is the creator/creators of a work, rather than the publisher or distributor that must be accredited.

For offline publications where a link to the licence is not possible, the full URL must be written out. A document or product that can be easily downloaded should also have the link written out in full as is shown at the end of this document.

Simply adding licensing symbols such as CC By above is insufficient for re-using material made available with Creative Commons licensing.

[185] See http://creativecommons.org/
[186] See https://wiki.creativecommons.org/wiki/License_Versions#Modifications_and_adaptations_must_be_marked_as_such
[187] See https://wiki.creativecommons.org/wiki/License_Versions#Detailed_attribution_comparison_chart

The above example shows proper attribution of a photographed work of contemporary art found on the Europeana portal.[188] It states the title, creator and licence and also acknowledges the memory institution and digitisation project which provided the art work and image. It is possible that this photograph may be used in printed form so the URL of the licence is written out in full.

The example below shows proper attribution of a highlight from a photograph of a painting held by Rijksmuseum in the Netherlands and also available via the Europeana portal. It states that this is a crop of a photograph in addition to stating the title, creator and licence. It also acknowledges the name of the memory institution which owns the actual painting.

[188] See http://www.europeana.eu/portal/

Crop highlight from Girl in white kimono by George Hendrik Breitner, 1894, courtesy of Rijksmuseum, CCO (no rights reserved). See https://creativecommons.org/about/cc0.

Good and bad examples of attribution can be found in the Best Practices for Attribution guide on the Creative Commons website.[189]

If attributing open material in this way would compromise the aesthetics of your publication or product you can attribute on an adjacent or accompanying page as long as it is clear and accessible. You can be creative in the way you attach the attribution, for example, by using information bubbles in a document or artistic labels attached to a product or installation for example. In other types of media you can use conventional places for attributions such as the bibliography in a book, the credits after a movie or the colophon of a report.

Note that failing to provide proper attribution terminates the licence which means that you no longer have permission to use the work and are infringing the copyright of the original licensor. They are likely to initially serve you with a notice to ask you to cease from using their material. However, this also has the potential to result in the original licensor taking legal action against you.

[189] See https://wiki.creativecommons.org/wiki/Best_practices_for_attribution#Examples_of_attribution

11.3 RIGHTS CLEARANCE GUIDELINES

For use by creative companies who wish to re-use digital cultural content

11.3.1 What is protected by copyright and how long does it last?

If you want to re-use a work, or part of a work, that is protected by copyright you will normally have to ask permission from the owner of the copyright. Sometimes works protected by copyright will be accompanied by a licence that specifies what a user may, and may not, do with the work. The most widely used licences are Creative Commons licences. For details see the CC Licence Chooser[190] via the E-Space website.

Copyright law is different in different countries but the majority of countries have similar rules on what is and what is not protected by copyright. This is because the rules stem from international treaties and European legislation.

In general, you do not need to seek permission to use the work (s) if:

- the work is no longer protected by copyright because the author died more than 70 years ago (in most countries the time period is 70 years after the death of the author. For some countries it is 50 years after the death of the author). When this time period has expired the work is said to be in the public domain[191]
- the copyright in the work belongs to you or your organisation. Some countries copyright law provide that the first owner of copyright in a work is the author. Other countries state that this is the case except where the author is an employee acting in the course of employment. In that case, the copyright will belong to the employer
- some countries have provisions for orphan works. This is where the right holder cannot be found – then it is permissible to use the work for certain purposes. However it is necessary to conduct a diligent search on a case-by-case basis *(see example of due diligence checklist below)* to make sure this is the case. See the E-Space tool New Rules on Orphan Works.[192]
- There are measures in national legislation which provide that you can use a work protected by copyright for specific purposes. These include for the purposes of criticism and review of the work and for news reporting among others.

[190] See http://www.europeana-space.eu/wp-content/uploads/2014/04/spa_content_licencechoo.pdf
[191] A Public Domain Calculator can be found at http://outofcopyright.eu/ and provides some information on how to determine the duration of copyright for works.
[192] See http://www.europeana-space.eu/wp-content/uploads/2015/07/spa_content_ruleorphan.pdf

Examples of the types of works protected by copyright can be found in the box below. These works would be **protected by copyright for the life-time of the author plus 70 years in Member States of the EU:**

- **Literary Works** including books, journals, emails, blogs, letters, newspaper clippings, song lyrics, numbers, databases and calligraphy
- **Musical Works** (recorded original musical work) including classical and popular music and advertisement jingles
- **Dramatic Works** (something that can be performed) written original dramatic scripts and scores such as those used for ballet, mime, concerts and plays
- **Films** (creators, directors, authors of screenplay and dialogue and composers of film music) including recordings on any medium from which a moving image may be produced such as film stills and film clips
- **Artistic Works** including paintings, drawings, engravings, sculptures, photographs, greeting cards, postcards, diagrams, maps, works of architecture, hand-crafted works, one-off couture fashion, stained glass, hand painted tiles, medals

In the Member States of the EU if the work falls into the following category it will be protected by copyright for 50 years from the end of the year in which it was made, or 50 years from the date it was first made publicly available:

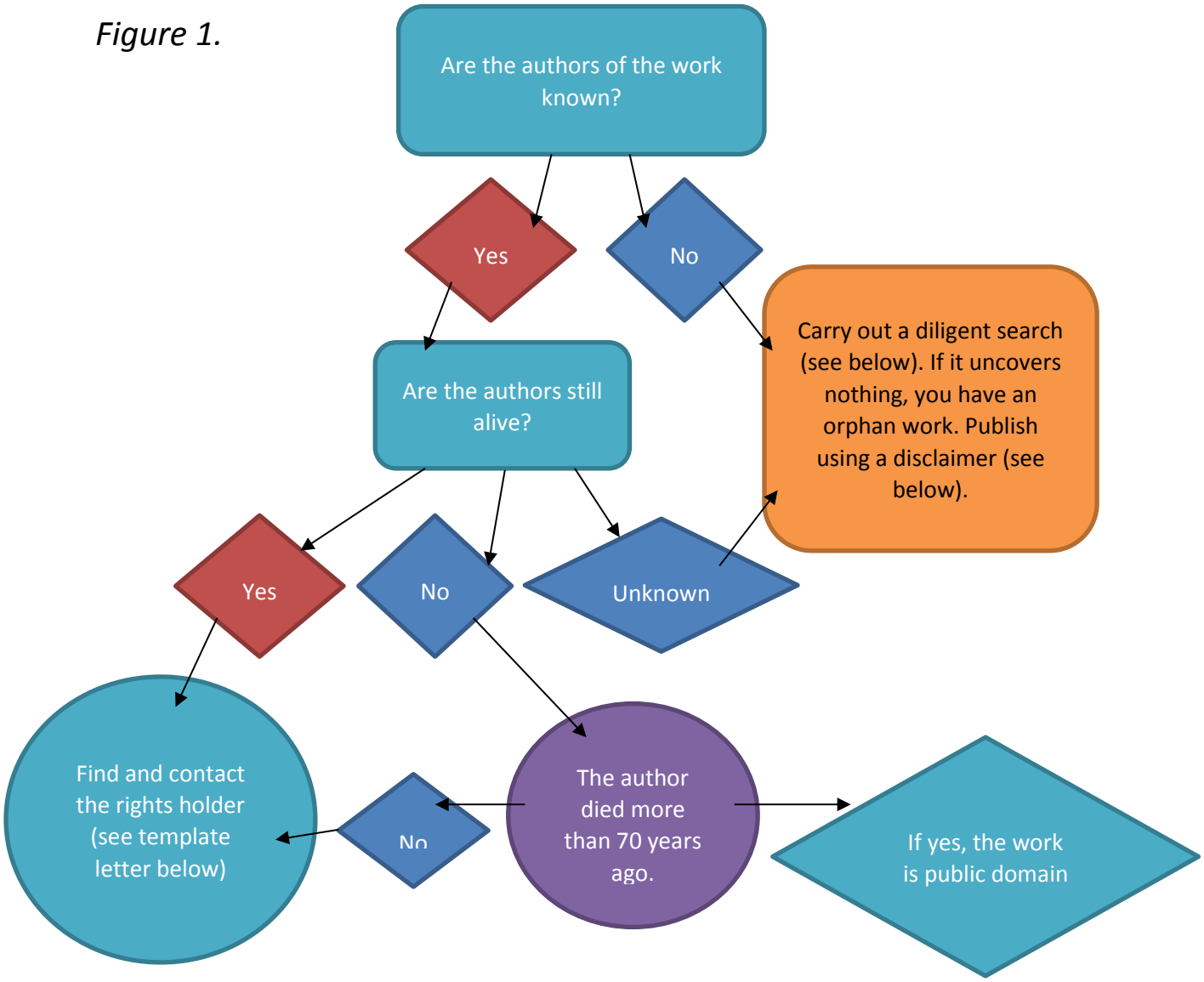
Sound Recordings (a recording of any sounds from which those sounds can be used) including oral history, sound effects, recorded lectures, recordings of literary, dramatic or musical works

In some Member States of the EU, if the work falls into the following category it will be protected by copyright for 50 years from the end of the year of the making of the broadcast:

Broadcasts including the electronic transmission of visual images, sounds and other information e.g. streaming from the V&A website, TV

Figure 1 below is a quick guide to whether the work you wish to use is likely to be protected by copyright.

Figure 1.


Are the authors of the work known?
Yes
No
Carry out a diligent search (see below). If it uncovers nothing, you have an orphan work. Publish using a disclaimer (see below).
Are the authors still alive?
Yes
No
Unknown
Find and contact the rights holder (see template letter below)
No
The author died more than 70 years ago.
If yes, the work is public domain

11.3.2 How do I seek permission to use a work?

If the work is protected by copyright and you know who the owner of the copyright in the work is, then the template below can be used to write to request permission to use the work. A record should be kept of all correspondence including phone calls, letters and emails. If no reply is received after a reasonable period another follow-up letter can be sent. If the owner responds to give permission you may use the work in the ways agreed with them. If you do not know who the rights holder is in the first instance then you must carry out a diligent search (*see the example of the due diligence checklist below*) to try to identify and trace the rights holder.

If after contacting the person who you think is the rights holder and sending a follow-up message there is still no response, you may have an orphan work. This is a work that is still in copyright but for which the rights -holder is unknown or cannot be traced. Where you wish to use an orphan work, you should carry out a risk assessment to determine what could happen were the rights holder to re-appear and discover your use of the work without their permission (see our risk management guidelines).[193] **You could add a disclaimer when you use the work such as:**

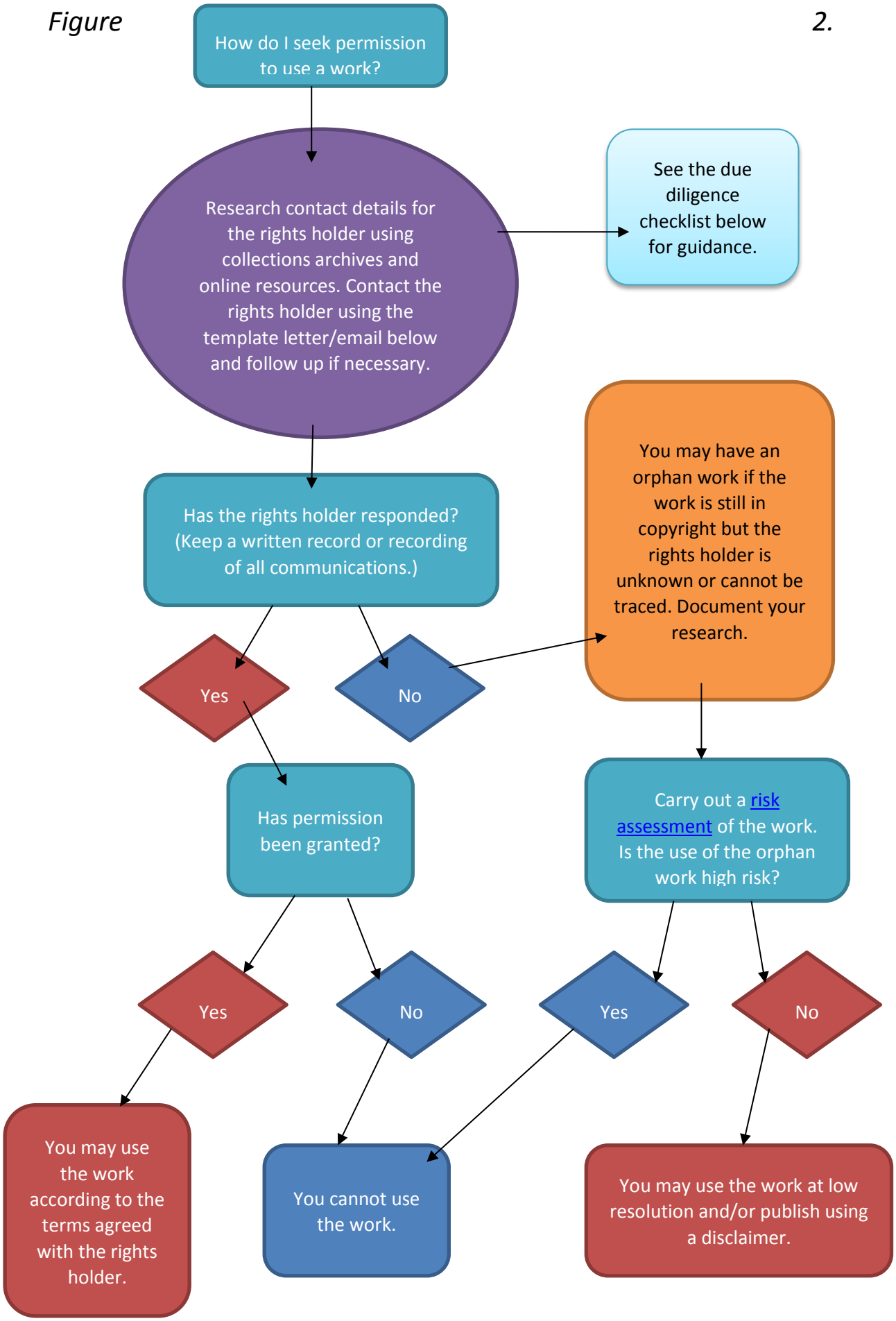
> We have made every effort to contact the copyright owners of this work but have been unable to do so. If you are the copyright owner then please contact us at [here add email of address of contact][194]

Do note that adding this disclaimer will not absolve you from liability for copyright infringement. It will however show that you have made stringent efforts to find the copyright owner(s). See also the E-Space tools on Orphan works[195] and Risk Management[196].

Figure 2 below is a quick guide for those seeking permission to use a work.

[193] See http://www.europeana-space.eu/wp-content/uploads/2014/04/spa_content_risk.pdf
[194] You should add a link to your notice and take down policy. See our risk management guidelines for an example of a takedown notice to appear on a website.
[195] See http://www.europeana-space.eu/wp-content/uploads/2015/07/spa_content_ruleorphan.pdf
[196] See http://www.europeana-space.eu/wp-content/uploads/2014/04/spa_content_risk.pdf

Figure 2.


How do I seek permission to use a work?
Research contact details for the rights holder using collections archives and online resources. Contact the rights holder using the template letter/email below and follow up if necessary.
See the due diligence checklist below for guidance.
Has the rights holder responded? (Keep a written record or recording of all communications.)
Yes
No
You may have an orphan work if the work is still in copyright but the rights holder is unknown or cannot be traced. Document your research.
Has permission been granted?
Carry out a risk assessment of the work. Is the use of the orphan work high risk?
Yes
No
Yes
No
You may use the work according to the terms agreed with the rights holder.
You cannot use the work.
You may use the work at low resolution and/or publish using a disclaimer.

Sample template Letter to a copyright owner - **REQUESTING PERMISSION TO USE A WORK**

Dear {*add name and title*},

We understand that you are the copyright owner or represent the copyright owner of the following work:

{*insert full description of the work(s)*}

We would like to use *the work(s)* for the following purposes [here state purposes]

We would be grateful for any permissions you would be able to grant us.

If you are willing to grant permissions, please confirm how you wish to be credited:

©……
……

We are working to a deadline of *{insert date}* and would therefore appreciate a response at your earliest convenience.

[Note: the best form of proof to have would be a signed letter/contract. If this is likely to be possible, then you could use the following paragraph]

Please confirm any permission granted by countersigning both copies of this letter and returning to the following address:

{insert your name and address}

Thank you in advance for considering our request.

Yours sincerely,

Signed by *{name of project partner}*: ……..Date: ……

Signed by *{name of rights holder}*: ……Date: ……

[If however getting written permission is unlikely to be feasible, then simply asking the copyright owner to respond to your email would be sufficient].

11.3.3 Due Diligence Checklist - for tracing copyright owners of digital works

The UK Intellectual Property Office (IPO) has published very useful guidance on the searches that should be carried out when seeking copyright owners. The types of organisations will depend on the work. For instance, for published books this is the guidance issued by the IPO:

Published Books

Right holder (if name is known) and reasons why this person is believed to be the right holder			
Source	**Checked (Yes/No)**	**Date searched**	**Additional Information (including reasons for not searching)**
Orphan works' registers			
Legal deposits, library catalogues and authority files			
Society of Authors			
Writers' Guild of Great Britain			
Association of Authors Agents			
Publishers Association			
WATCH (Writers, Artists and their Copyright Holders)			
ISBN (International Standard Book Number)			
Authors Licensing and Collecting Society			
Publishers Licensing Society			
Copyright Licensing Agency			
Public Lending Right register			
Virtual International Authority Files (VIAF)			
Credits and other information appearing on the work			
FOB (Firms Out of Business) database			
Companies House			
The provenance of a work (i.e. where the work was found)			
General internet searching			
Records of literary agents			

International Standard Text Code (ISTC)			
Copac			
Author and book info database			
Poetry Library			
International Standard Name Identifier (ISNI)			
Database			
Books in Print database			
Copyright Hub			
Academic and scientific databases			
Online databases and catalogues			
Digitised newspaper archives			
Genealogy websites			
Wills – searching for family members or connections of the author			
Archives			
Treasury solicitors			
Biographical directories			
Author directories online			
Other sources identified			

The IPO has checklists for a variety of other works including newspapers, magazines, journals and periodicals; stage plays; radio plays; audio books; film and sound and still visual art. While UK focussed, these provide an excellent starting point for thinking about the types of investigations that should be carried out.

The guidance booklets can be found at https://www.gov.uk/government/publications/orphan-works-diligent-search-guidance-for-applicants

A Public Domain Calculator can be found at http://outofcopyright.eu/ and provides some information on how to determine the duration of copyright for works.

11.3.4 Contacting Collecting Societies

A collecting society (also known as a licensing agency or copyright collecting society) is an organisation created by law or private agreement. Collecting societies are responsible for representing and managing the legal rights of copyright owners where the owners choose to have their rights managed by a society

Each country has different collecting societies who manage different rights. Often the society will issue 'blanket' licences. That is, licences which specify what you can and can't do with a particular work, and how much you have to pay for it. This type of a licence saves the need for separate negotiations with individual users.

For copyright owners who are represented by a collecting society, you are advised to consider the following:

1. Identify all copyright owners who are represented by a collecting society.
2. Identify all the different types of use you require permission for.
3. Find out if the collecting society has a licence that covers the work that you want to use and the uses that you want to make of it.
4. Allocate a sum of money to the project for securing permission from collecting societies as costs are likely to apply.

The UK Copyright Hub http://www.copyrighthub.co.uk/get-permission is a useful portal for finding information on where to go to find a licence from a collecting society in the UK and what the licence can be used for.

For more information on the collective management of copyright and related rights, see http://www.wipo.int/copyright/en/management/.

11.4 GLOSSARY OF FREQUENTLY USED TERMS

Content Space

The Content Space is a platform of guidelines, recommendations and standards for managing content rights labelling, clearing and re-use. Its aim is to enable the creative exploitation of Europeana content, and it is built on the infrastructure services and tools offered by the Technical Space.

Technical Space

The Technical Space is a framework consisting of infrastructure & tools to access, use and store content data and metadata.

Protected Space

The protected space refers to the E-Space project pilot projects and hackathons in which unlimited innovation may take place without undue concern for rights clearance. It is defined by legal boundaries in the form of clauses added to existing licences which restrict re-use to the duration of a pilot project or hackathon, and by technical boundaries such as filters and protections which control who can access content and for how long.

Contested Space

The Contested Space refers to the broader, indeed global, environment of different stakeholders, such as content providers, users, authors, owners and policy makers, and their often conflicting interests with respect to intellectual property.

Copyright Space

The Copyright Space as used in this document simply refers to all the IP considerations arising within the E-Space project and the associated work of the E-Space IPR team partners on the Content Space.

11.5 BASIC IP DEFINITIONS

The specific tools developed here include, in collaboration with WP4, suggested license terms that will support exploitation, use and re-use of each of the six different types of creative content. These will take into account the particularities of the genre (for instance the strong focus on moral rights in photography; the classification of dance as performance) as well as drawing on the significant experience in these sectors of licensing digital content.

In this chapter, we discuss some general concepts in the field of IP. As many resources already exist, this part is closed by an overview of available online resources for further reading.

Copyright

Copyright is the right for an author to control the reproduction and dissemination of literary and artistic works that he/she creates (authorial works). Also protected are the media through which authorial works are made available including sound recordings, films and broadcasts. These rights are called either copyright or neighbouring rights. The rights give to the owner exclusive economic rights for a set period of time to copy the work, issue copies of the work to the public, rent or lend the work to the public, perform, show or play the work in public, communicate the work to the public, and to make an adaptation of the work. The author also has moral rights in the authorial works with the right of integrity and the right of attribution being the most common.

Digital copyright

Digital copyright is not a legal term but is often used to describe those circumstances in which authorial works and neighbouring rights are created, used and disseminated within digital environments. Encompassed within this term are the specific legal frameworks that have developed to address both the making available of works in digital environments (many of which stem from the World Intellectual Property Organisation Copyright Treaty 1996) and the challenges of enforcing rights within the digital environment.

Intellectual Property

Intellectual Property can be described as 'the novel products of human intellectual endeavour'. Intellectual property rights are the rights and remedies that the (statutory and common) law grants to the owner to enable her to exert control over the products of intellectual endeavour. The main statutory rights are copyright, patents, trademarks and design rights. Common/Civil law actions include those in passing off/unfair competition and breach of confidence.

Author of copyright

For copyright, the author is the person who expresses creative ability in an original manner when developing a literary or artistic work: the standard is one of intellectual creation. Where choices are dictated by technical considerations, rules or constraints, then the criterion of intellectual creation is not met. An example is when footballers play in a football match. This could not be protected by copyright because the players play the game in accordance with pre-existing rules.

Joint or co-authorship arises where two or more people have contributed the right level of intellectual creation to a copyright work and their contributions cannot be separated. For example, in a collection of essays authorship in each of the essays will reside with the individual author because they can be readily be separated from each other. Where however two or more authors have collaborated in painting a picture, and it is not possible to point to part of that picture and say that one author rather than another painted that part, then the authors with be joint authors in law.

Owner of copyright

The first owner of copyright in a work is the author except where there is agreement to the contrary such as a commissioning agreement assigning ownership to a third party (where permitted by national laws). In some jurisdictions (e.g. the UK) where an employee creates a work in the course of employment, then the first owner is the employer. In other jurisdictions (e.g. France) it is not possible for an employer to be the first owner of copyright; rather the author must licence or assign the copyright to an employer.

Orphan works (EU)

An orphan work is a work in respect of which none of the rightholders (the author or owner) can be identified or located despite a diligent search. A diligent search is one that is carried out in good faith and consults appropriate sources for the type of work under consideration as determined in each Member State of first publication or broadcast and would include legal deposit, publishers associations and collecting societies.

Collective licensing (EU)

Collective licensing is a mechanism whereby collecting societies are given a mandate by their members to licence specified uses of copyright protected works to third parties. These works are made available via blanket licences which apply to a particular class of user (e.g. schools) and for a specific type of use (e.g. photocopying). Collecting societies are regulated under EU law to ensure good governance. To date licences are limited to individual territories. A current EU proposal suggests a multi-territorial approach for on-line music licences.

Extended collective licensing

Extended collective licensing is a form of collective licensing where the collecting society licences third parties to use categories of works for specified uses in return for a payment for the copyright owner. They often represent all rights owners on a non-exclusive basis for a specific category of work even though only a majority of rights holders are members of the scheme. Some laws allow for an opt-out for the right holder. Non-members need to be treated in the same way as member of the scheme

The most developed schemes are found in the Nordic countries and cover TV and radio broadcasting, on-demand services and mass digitisation by libraries. The UK has recently consulted on draft regulations that would introduce a limited extended collective licensing scheme in the UK. This will be most useful for those organisations with large archives and where clearance is costly.

Assignment of copyright

An assignment (assignation) of copyright is an outright transfer of the ownership of the economic rights in the copyright to a third party. Some jurisdictions in the droit d'auteur tradition do not permit assignation. National rules will dictate the formalities required, for example who has to sign the assignation (whether the assignor and the assignee) and if witnesses are needed.

Licence of copyright

A licence of copyright is the grant to a third party to exercise some or all of the exclusive rights to do some or all of the exclusive acts granted by copyright. A licence may be exclusive (no-one other than the licensee may exercise the rights), non-exclusive (the licensor may license the same rights to many licensees) or sole (the licensor may exercise the rights in addition to one licensee). National rules will dictate the formalities required, for example, who has to sign the licence (whether the licensor and the licensee) and if witnesses are needed.

Moral rights/Droit Moral

International (Berne Convention 1886)

Non-transferable inalienable rights to claim authorship of a work, and to object to derogatory treatment of a work that would be prejudicial to the author's honour and reputation. The rights recognise non-economic interests an author may continue to exercise in respect of a work even though no longer owner of the copyright or of the tangible work in which the copyright reside. The rights last as long as the copyright in the work in some countries (UK); and forever in other countries (France). Some countries allow moral rights to be waived or require assertion before they are enforceable (UK); in others the rights are perpetual, inalienable and imprescriptible (France).

Communication to the public (EU)

The Information Society Directive (2001/29) Article 3 provides for an exclusive right to communication to the public of works protected by copyright.

Three criteria have been identified as important through the developing Court of Justice case law:

- **The public:** There should be a relatively large but indeterminate number of potential beneficiaries of the communication. Communicating a signal to hotel rooms (an indeterminate public) where there is a revolving public is sufficient, but a dentists' waiting room is not (a small determinate group at any one time).
- **The new public:** The communication must be directed at a public, not taken into account by the copyright owner at the time of the initial communication – a new public.
- **The profit making nature of the communication:** Does the communication influence the behaviour and decisions of clients? Communication in a hotel is of a profit making nature because it is an additional service that might attract additional guests. A dentists' waiting room is not a profit making nature and would not have any impact on the number of clients.

Performer

A performer is an actor, singer, musician, dancer or other person who acts, sings, delivers, declaims, plays in or otherwise performs a literary or artistic work.

In respect of unfixed performances, a performer has the rights to prevent the broadcasting and communication to the public of their performance, and the fixation of their performance. Where a performance is fixed, the performer has the exclusive right to authorise reproduction, distribution, making available, rental and communication to the public of copies of their performance. The rights last at least until the end of a period of 50 years from the end of the year in which the performance was fixed (70 years EU). Where the rights are transferred to a third party, national law may provide for equitable remuneration for the performer.

Audio visual and aural performers have moral rights to claim to be identified as author of the performance (except where omission is dictated by the manner of the use of the performance) and to object to any distortion, mutilation or other modification of their performance that would be prejudicial to their reputation. The rights should generally last for at least as long as the economic right.

Out-of commerce works

Memorandum of understanding on the digitization and making available of out of commerce works (MOU) (EU)

Publishers and authors have agreed via the MOU to negotiate in good faith via collecting societies with publicly accessible cultural institutions to make available out of commerce works for agreed uses.

An out of commerce work is one which the work and adaptations of the work are no longer available in customary channels of commerce. The availability of tangible copies in libraries and second hand bookshops does not thereby mean that a work is not out of commerce.

Copyright term

The length of time for which copyright subsists in a protected work calculated from first of January in the year following the event giving rise to the term.

International

At international level, the Berne Convention 1886 provides that literary and artistic works should be protected for the life of the author plus 50 years. Many countries including the EU have raised this to 70 years after the death of the author.

EU

- Literary or artistic work: 70 years after the death of the author. In the case of joint authors 70 years after the death of the last author
- Anonymous or pseudonymous works: 70 years after the work is lawfully made available to the public. When the pseudonym leaves no doubt as to the identity of the author, or if the author discloses his identity, then the term of protection shall be as for literary and artistic works.
- Cinematographic or audiovisual works: 70 years after the death of the last of the principal director, the author of the screenplay, the author of the dialogue and the composer of music specifically created for use in the cinematographic or audiovisual work.
- Musical composition with words: 70 years after the death of the last author
- Photographs: 70 years after the death of the author.
- Phonograms (sound recordings): 70 years after the fixation is made. If the phonogram has been lawfully published within this period, 70 years from the date of the first lawful publication.

Exceptions and limitations to copyright (EU)

Things that may be done with a work protected by copyright without the consent of the owner of the copyright. The Information Society Directive contains a closed list of exceptions and limitations that Member States may incorporate into their domestic laws.

In relation to the right of reproduction these include:

- photographic reproductions on paper or any similar medium of works (excluding sheet music) provided that the rightholders receives fair compensation;
- reproductions on any medium made by a natural person for private use which is non-commercial provided that the rightholders receives fair compensation;
- reproduction made by libraries, educational establishments, museums or archives, which are non-commercial;
- archival reproductions of broadcasts;
- reproductions of broadcasts made by "social institutions pursuing non-commercial purposes, such as hospitals or prisons" provided that the rightholders receives fair compensation.

In relation to the rights of reproduction and communication to the public these include:

- illustration for teaching or scientific research, provided the source, including the author's name, is acknowledged;
- uses for the benefit of people with a disability;
- current event reporting, provided the source, including the author's name, is acknowledged;
- quotations for purposes such as criticism or review, provided the source, including the author's name, is acknowledged;
- use necessary for the purposes of "public security" or to the proper performance or reporting of "administrative, parliamentary or judicial proceedings";
- use of political speeches and extracts of public lectures or similar works, provided the source, including the author's name, is acknowledged;
- use during religious celebrations or official celebrations "organised by a public authority";
- use of works such as architecture or sculpture located permanently in public places;
- incidental inclusion of a work in other material;
- the advertising the public exhibition or sale of artistic works;
- caricature, parody or pastiche;
- for demonstration or repair of equipment;
- use of an artistic work, drawing or plan of a building for the purposes of reconstruction;
- for non-commercial research or private study.

An emerging 'European' understanding of some of the exceptions and limitations is developing through case law emanating from the Court of Justice.

Public domain

Works that are no longer protected by copyright or which were never protected by copyright. This would include works on which the term of protection has expired as well as works that fall into an exception or limitation in copyright law. Works that are in the public domain may be used freely by third parties in relation to any of the acts restricted by copyright without permission from or payment to the author or owner.

Infringement

The use of works protected by copyright without the permission of the owner of the copyright thus infringing the exclusive rights of the copyright owner.

11.6 FREQUENTLY ASKED QUESTIONS FOR HACKATHON ORGANISERS

Q1: When do issues of IPR come into play in organising a hackathon?

Hackathons are normally held over a period of one to three days with an invited audience. They usually have some selection process but for the most part the invitations are open since the idea is to get as many participants as possible. In many cases both hackathon organisers and participants bring their own tools and content to the hackathon. The space in which innovation with the tools and content takes place is protected only in the sense that it is not open to the general public beyond those who are registered to attend the hackathon. For this reason it is important for hackathon organisers to consider their IP strategy before offering content and tools at the hackathon. They may decide to make the material available only for the purposes of the hackathon or they may decide to use only open source tools and open content to avoid the risk of rights infringement.

Hackathon participants may download tools and content onto hardware during the course of the hackathon. Some of these may have been made available for the purposes of the hackathon only. Hackathon participants can be asked to agree to delete all such content and tools at the end of the hackathon as a condition of participating in the hackathon. A simple agreement would help to evidence this:

Sample agreement
I, [here insert name] agree to delete all content and tools from my hardware that I download during the course of the hackathon held at [venue] on [date]. I understand that I may keep tools and content made available under open licences such as xxx.
Signed
Date

If content and tools under protected licences are made available during the hackathon and teams decide these will be used beyond the hackathon, for example, if they are going into an incubation and business modelling process, then it is at this point that negotiations will have to take place with the owners of the copyright and an exploitation strategy developed.

If I provide copyright protected content for the hackathon participants to use, I cannot prevent it from being used and re-used indiscriminately beyond the hackathon. However, as with any other content and tools available on the Internet, any third party using the content beyond the terms of the licence would be acting both in breach of contract and infringing copyright. If the rights are infringed, then enforcement would take place in the same way as any other infringement of copyright on the internet. This would include the owner of the IP contacting internet service providers and asking them to remove offending material from their sites.

Content owners may like to consider fingerprinting images which could aid with detecting infringement.[197]

In the E-Space project a legally and technically protected space was set up to experiment with creative re-uses of high-quality content during a hackathon only, providing an alternative option for those cautious about releasing their content without additional technical protection measures. See the E-Space Technical Space.[198]

[197] See https://realpython.com/blog/python/fingerprinting-images-for-near-duplicate-detection/
[198] See http://www.europeana-space.eu/technical-space/

Q2: Would it not be better simply to use public domain and other open content?

Open licences would mean that content and tools could be used in an unrestricted manner (subject to the requirements of for example a CC-BY licence which requires attribution) and is often the preferred strategy to alleviate concerns about IP rights. See the E-Space Open Content Exchange Platform[199] for more information on the benefits of using open content and the sources of open content. It is appreciated, however, that there is a range of both content and tools available that would be perfect to use to encourage innovation – but which the owners prefer to keep control over.

To give hackathons the greatest opportunity for innovation, to give the rights owners the opportunity to see the innovation that can emerge from these events, and to understand how the tools and content can be modelled for business, the solution is to use content with protected licences (licences which make the content or tool available for use in the hackathon space only) where open licences are not possible. This approach should not lead to something being produced in the hackathon that cannot then be re-used in the real world. As has been noted above, before the tools or content leave the protected space, agreement would have to be reached over exploitation of the IP.

Q3: Once I have presented my content and/or tools at a hackathon, have I not already lost my intellectual property?

Hackathon organisers and participants need to remember that the tangible expressions of their ideas – the tools and the content – are protected by copyright, but that ideas themselves are not. While there is nothing to stop someone else being inspired by ideas, if the expression of those ideas (i.e. the tools and content) is copied, that then infringes the copyright in those works. The intellectual property is not lost.

There may be concern that hackathon participants will become wary of bringing or presenting their best ideas to the hackathon out of fear of them being taken by others. However, even though the ideas themselves cannot be protected, participants must be incentivised to take a worthwhile risk in sharing their best ideas by whatever prize is offered to the hackathon winners. Prize money, recognition or the chance of incubation support for a potential prototype, for example, would mean their ideas would have a better chance of being realised and/or commercially successful and this might induce participants to take a risk.

If it is felt that hackathon participants are more likely to attend, share and develop ideas if they are comfortable that others will not appropriate these without permission, then a simple confidentiality agreement between participants might be used to give that comfort. This would be a brief document simply saying that information and ideas obtained during the hackathon would not be subsequently used other than by the person who brought them to the process. This would exclude any ideas or information that was included in a successful project that moved into incubation. The IP in those ideas and that information would be subject to the IP agreement negotiated for the hackathon.

[199] See http://www.europeana-space.eu/content-space/the-open-content-exchange-platform/

Sample confidentiality agreement for a hackathon

During the course of the hackathon taking place at xxx on xxx under the auspices of xxx (e.g. the E-Space Project) it is understood that those attending the hackathon may provide certain information that must be kept confidential.

The confidential information may include the description of tools and content; technical and business information; ideas; trade secrets; literary works; computer programs; technical specifications among other information and ideas that may be used to develop content and tools during the hackathon or otherwise be used for innovative activity. Together called 'Confidential Information'.

Excluded from Confidential Information is any confidential information that is selected to progress into incubation under the rules of the hackathon. Where protected by IP, exploitation will be governed by the IP strategy chosen for the hackathon.

Those attending the hackathon agree not to disclose Confidential Information obtained from the discloser to anyone unless required to do so by law.

This agreement is the entire agreement between the parties concerning the disclosure of Confidential Information

This agreement will be governed by the laws of [insert here the place where the hackathon is held]

I acknowledge that I have read and understand this agreement and accept the obligations set out in it

Participant at hackathon:

Name (Print or Type):

Signature:

Date:

Q4: Can we provide standard/low quality content for the hackathon to reduce the risk of infringement?

If content providers are concerned about making high quality content available such as high definition photographs for the hackathons, the question must be whether low resolution content is sufficient for the purposes of experimentation. This is a question for the content owner and those at the hackathon who must ask what the risk will be of opportunities being lost for the content owner, and indeed all parties, if the content is not of high quality.

A content provider and/or hackathon participant may feel more comfortable with releasing high quality content in an online environment that is protected by technical measures. A hackathon organiser may choose to provide such a facility for content providers to contribute collections of high quality images, for example, to a protected area that imposes restrictions on access and use.

Hackathons and business modelling workshops often do not put a large emphasis on content specific applications. They often develop tools that allow for reuse of various media relating to various themes. High quality content is always preferable but the hope is also that more varied thematic datasets are made available, which are more likely to trigger inspiration.

Q5: Who benefits from participating in the hackathon?

Participants engage in a hackathon for a variety of reasons, usually unrelated to financial gain, the outcomes of which are then made available on an 'open' basis.

Some hackathons, such as those in E-Space, are conducted with the explicit goal of the 'best' ideas being taken forwards to business modelling and incubation. The 'prize' of such a hackathon will be the opportunity to participate in this process of support. It is important to think about whether that will change the dynamics of engagement, and whether those participating will want also to have a 'share' of the copyright that results from exploitation of the tools. Thinking about the copyright developed in the hackathon is important as the copyright will support the ultimate business modelling process. Any third party looking to invest in the final tools will want to know about the ownership of the copyright in the tools and/or content, depending what it is that is going to be monetised. It is important to ask how the hackathon leaders will deal with this.

An agreement such as the one below may have been signed by the partners involved:

Recommendation

Prior to the commencement of the hackathon we would recommend that the hackathon organisers agree with those involved in the hackathon how the IP arising during the course of the hackathon is to be owned and exploited.

The two suggested strategies are:

Open source

or

Benefit sharing

In each case a brief agreement will suffice. This can be oral although a written agreement would help to avoid any misunderstandings. Suggested wording:

Name of hackathon

I agree that any IP arising from my input to the hackathon at xx held on xx run under the auspices of xxx (e.g. the E-Space Project) will be:

Made available on an open source basis/held by xxx with any revenue arising to be held and used to run future hackathon events [delete whichever is not appropriate]

Signed

Date

11.7 FREQUENTLY ASKED QUESTIONS FOR HACKATHON PARTICIPANTS

Q1: When do issues of IPR come into play at a hackathon?

Hackathons are normally held over a period of one to three days with an invited audience. They usually have some selection process but for the most part the invitations are open since the idea is to get as many participants as possible. In many cases both hackathon organisers and participants bring their own tools and content to the hackathon. The space in which innovation with the tools and content takes place is protected only in the sense that it is not open to the general public beyond those who are registered to attend the hackathon. For this reason it is important for rights holders to consider their IP strategy before offering content and tools at the hackathon. They may decide to make the material available only for the purposes of the hackathon or they may decide to use only open source tools and open content to avoid the risk of rights infringement.

Hackathon participants may download tools and content onto hardware during the course of the hackathon. Some of these may have been made available for the purposes of the hackathon only. Hackathon participants can be asked to agree to delete all such content and tools at the end of the hackathon as a condition of participating in the hackathon. A simple agreement would help to evidence this:

Sample agreement
I, [here insert name] agree to delete all content and tools from my hardware that I download during the course of the hackathon held at [venue] on [date]. I understand that I may keep tools and content made available under open licences such as xxx.
Signed
Date

If content and tools under protected licences are made available during the hackathon and teams decide these will be used beyond the hackathon, for example, if they are going into an incubation and business modelling process, then it is at this point that negotiations will have to take place with the owners of the copyright and an exploitation strategy developed. If you are bringing restricted content or tools to a hackathon, which your team may decide to use for building a prototype, you may wish to alert hackathon organisers in advance and ask them to prepare an agreement like the above for your team members to sign.

If I provide copyright protected content for my team to use, I cannot prevent it from being used and re-used indiscriminately beyond the hackathon. However, as with any other content and tools available on the Internet, any third party using the content beyond the terms of the licence would be acting both in breach of contract and infringing copyright. If the rights are infringed, then enforcement would take place in the same way as any other infringement of copyright on the internet. This would include the owner of the IP contacting internet service providers and asking them to remove offending material from their sites.

Content owners may like to consider fingerprinting images which could aid with detecting infringement.[200]

[200] https://realpython.com/blog/python/fingerprinting-images-for-near-duplicate-detection/

In the E-Space project a legally and technically protected space was set up to experiment with creative re-uses of high-quality content during a hackathon only, providing an alternative option for those cautious about releasing their content without additional technical protection measures. See the E-Space Technical Space.[201] It would be worth asking the hackathon organisers whether such a facility will be made available prior to attending a hackathon.

Q2: Would it not be better simply to use public domain and other open content at the hackathon?

Open licences would mean that content and tools could be used in an unrestricted manner (subject to the requirements of for example a CC-BY licence which requires attribution) and is often the preferred strategy to alleviate concerns about IP rights. See the E-Space Open Content Exchange Platform[202] for more information on the benefits of using open content and the sources of open content. It is appreciated, however, that there is a range of both content and tools available that would be perfect to use to encourage innovation – but which the owners prefer to keep control over.

To give hackathons the greatest opportunity for innovation, to give the rights owners the opportunity to see the innovation that can emerge from these events, and to understand how the tools and content can be modelled for business, the solution is to use content with protected licences (licences which make the content or tool available for use in the hackathon space only) where open licences are not possible. This approach should not lead to something being produced in the hackathon that cannot then be re-used in the real world. As has been noted above, before the tools or content leave the protected space, agreement would have to be reached over exploitation of the IP.

Q3: Once I have presented my content and/or tools at a hackathon, have I not already lost my intellectual property?

Hackathon participants and organisers need to remember that the tangible expressions of their ideas – the tools and the content – are protected by copyright, but that ideas themselves are not. While there is nothing to stop someone else being inspired by ideas, if the expression of those ideas (i.e. the tools and content) is copied, that then infringes the copyright in those works. The intellectual property is not lost.

Hackathon participants may become wary of bringing or presenting their best ideas to the hackathon out of fear of them being taken by others. However, even though the ideas themselves cannot be protected, participants are normally incentivised to take a worthwhile risk in sharing their best ideas by whatever prize is offered to the hackathon winners. Prize money, recognition or the chance of incubation support for a potential prototype, for example, would mean their ideas would have a better chance of being realised and/or commercially successful and this might induce participants to take a risk. It would be up to the participant to decide whether and how much restricted content/tools it would be worthwhile bringing to the hackathon for the potential benefits on offer.

Hackathon participants are more likely to attend, share and develop ideas if they are comfortable that others will not appropriate these without permission, and a simple confidentiality agreement between participants could give that comfort. This would be a brief document simply saying that information and ideas obtained during the hackathon would not be subsequently used other than by the person who brought them to the process.

[201] http://www.europeana-space.eu/technical-space/
[202] http://www.europeana-space.eu/content-space/the-open-content-exchange-platform/

This would exclude any ideas or information that was included in a successful project that moved into incubation. The IP in those ideas and that information would be subject to the IP agreement negotiated for the hackathon.

Sample confidentiality agreement for a hackathon

During the course of the hackathon taking place at xxx on xxx under the auspices of xxx (e.g. the E-Space Project) it is understood that those attending the hackathon may provide certain information that must be kept confidential.

The confidential information may include the description of tools and content; technical and business information; ideas; trade secrets; literary works; computer programs; technical specifications among other information and ideas that may be used to develop content and tools during the hackathon or otherwise be used for innovative activity. Together called 'Confidential Information'.

Excluded from Confidential Information is any confidential information that is selected to progress into incubation under the rules of the hackathon. Where protected by IP, exploitation will be governed by the IP strategy chosen for the hackathon.

Those attending the hackathon agree not to disclose Confidential Information obtained from the discloser to anyone unless required to do so by law.

This agreement is the entire agreement between the parties concerning the disclosure of Confidential Information

This agreement will be governed by the laws of [insert here the place where the hackathon is held]

I acknowledge that I have read and understand this agreement and accept the obligations set out in it

Participant at hackathon:

Name (Print or Type):

Signature:

Date:

If a participant has very great concerns about sharing content or tools, it would be worthwhile finding out whether such an agreement will be made available by organisers. If necessary a participant could bring their own copies of a simple agreement, such that on the first page of this document, and have their particular team sign them before the content and tools are shared.

Q4: Can we provide standard/low quality content for the hackathon to reduce the risk of infringement?

If participants are concerned about making high quality content available such as high definition photographs for the hackathons, the question must be whether low resolution content is sufficient for the purposes of experimentation. This is a question for the content owner and those at the hackathon who must ask what the risk will be of opportunities being lost for the content owner, and indeed all parties, if the content is not of high quality.

A hackathon participant and/or content provider may feel more comfortable with releasing high quality content in an online environment that is protected by technical measures. A hackathon organiser may choose to provide such a facility for content providers to contribute collections of high quality images, for example, to a protected area that imposes restrictions on access and use.

Hackathons and business modelling workshops often do not put a large emphasis on content specific applications. They often develop tools that allow for reuse of various media relating to various themes. High quality content is always preferable but the hope is also that more varied thematic datasets are made available, which are more likely to trigger inspiration.

Q5: Who benefits from participating in the hackathon?

Participants engage in a hackathon for a variety of reasons, usually unrelated to financial gain, the outcomes of which are then made available on an 'open' basis.

Some hackathons, such as those in E-Space, are conducted with the explicit goal of the 'best' ideas being taken forwards to business modelling and incubation. The 'prize' of such a hackathon will be the opportunity to participate in this process of support. It is important to think about whether that will change the dynamics of engagement, and whether those participating will want also to have a 'share' of the copyright that results from exploitation of the tools. Thinking about the copyright developed in the hackathon is important as the copyright will support the ultimate business modelling process. Any third party looking to invest in the final tools will want to know about the ownership of the copyright in the tools and/or content, depending what it is that is going to be monetised. It is important to ask how the hackathon leaders will deal with this.

An agreement such as the one below may have been signed by the partners involved:

Recommendation

Prior to the commencement of the hackathon we would recommend that the hackathon organisers agree with those involved in the hackathon how the IP arising during the course of the hackathon is to be owned and exploited.

The two suggested strategies are:

Open source

or

Benefit sharing

In each case a brief agreement will suffice. This can be oral although a written agreement would help to avoid any misunderstandings. Suggested wording:

Name of hackathon

I agree that any IP arising from my input to the hackathon at xx held on xx run under the auspices of xxx (e.g. the E-Space Project) will be:

Made available on an open source basis/held by xxx with any revenue arising to be held and used to run future hackathon events [delete whichever is not appropriate]

Signed

Date

11.8 INTERNET RESOURCES

World Intellectual Property Organisation Resources: Managing Intellectual Property for Museums

An excellent guide to managing intellectual property for museums by Rina Elster Pantalony for the World Intellectual Property Organisation published in 2013. Available at http://www.wipo.int/edocs/pubdocs/en/copyright/1001/wipo_pub_1001.pdf

Note in particular:

- Chapter 4 on Intellectual Property management for Museums
- Chapter 5 on Experience Economy
- Chapter 6 on Business opportunities for museums. Note in particular the endorsement of the strategy that 'providing unfettered access to museum images is actually good business – p. 46.

The Legal Status of Video Games: A comparative analysis in National Approaches

By Andy Ramos, Laura Lopez, Anzo Rodrigues, Tim Meng, Stan Abrams, available at http://www.wipo.int/export/sites/www/copyright/en/creative_industries/pdf/video_games.pdf

A report on the origin and copyright status of video games in 24 different jurisdictions. Published in 2013. The majority of jurisdictions tend to protect these works as software because the common element is the computer program. They do contain multiple copyright works including literary works, graphics, sounds, characters and software

Mastering the Game: Business and Legal Issues for Video Game Developers

Published in 2013, available at http://www.wipo.int/export/sites/www/freepublications/en/copyright/959/wipo_pub_959.pdf

A report looking at the business and legal issues that may be encountered in developing and distributing video games across numerous platforms. These include IP and regulation to forming relationships with publishers, platform manufacturers, distributors and content owners. It includes business issues and contractual terms.

Note in particular the questions that will be asked when developing software

- questions for the developer when the publisher owns the IP to the game p 67
- publisher helps finance a game based on developers concept p 71.

JISC resources

JISC stands for the Joint Information Systems Committee. It is a UK based public body that develops resources around digital needs for the education community in the UK. It contains valuable resources that are of relevance beyond the education audience.

IPR and licensing module: a link to an IPR and licensing module. While it is based on UK law, many of the principles that are highlighted are of value to participants in E-Space. Available at http://www.web2rights.com/SCAIPRModule/rlo1.html

Creative Commons Licences

A brief video explaining Creative Commons Licences, available at http://sca.jiscinvolve.org/wp/allpublications/ipr-publications/creative-commons-licences/

For those of you who want to go further and find out more in particular about US copyright law, you might find this open course book by James Boyle useful, available at http://www.thepublicdomain.org/2014/08/26/open-coursebook-in-intellectual-property

The Public Domain: Enclosing the Commons of the Mind: this is a comic style publication on the public domain. Available at http://www.thepublicdomain.org/comic/

CREATE

In the UK, a Centre called CREATe has been established at the University of Glasgow with extensive links to other Universities and into a diverse range of businesses. Funded by the research councils (public money) the purpose of this centre is to research into digital business models. They have and are producing papers and other resources looking at all aspects of this area. The general website is at www.create.ac.uk

Archives and Copyright: Developing an Agenda for Reform

A resource has been produced as an orientation point in critically assessing how copyright shapes the work of archives as it relates to preservation and access. The resource recognises that the copyright regime enables and facilitates the work of archivists, but that it can also inhibit and frustrate that work. As such, the resource considers what role a risk-based approach to copyright compliance might play in making it easier for archivists to preserve their collections appropriately, and in making those collections as accessible and as useful as possible. Available at http://www.create.ac.uk/archivesandcopyright/

Copyright User

Note that this is based on UK law but does have useful information that is applicable across jurisdictions

Copyright User is a multimedia resource aimed at helping creators, media professionals and the general public understand copyright. Copyright User consists of videos, interactive tools, subject resources, and FAQs. The resources are meant for everyone who uses copyright: musicians, filmmakers, performers, writers, visual artists or interactive developers. We inform creators how to protect their work, how to license and exploit it, and how to legally re-use the work of others. See http://copyrightuser.org

11.9 CC LICENCE CHOOSER

"Creative Commons licenses are a useful tool for opening up collections. From the Public Domain Mark and CC0 to the open culture approved licenses of CC BY and CC BY-SA, making the legal status of collections clear is an important part of promoting innovation with heritage."[203]

The basics of Creative Commons licenses are four license elements:

- Attribution – credit the author
- Non-commercial – no commercial use allowed
- No Derivative Works – no remixing of the content
- ShareAlike – share only if you let others remix

These can be used in various combinations. If a content provider intends on making a picture of an artwork form their collection available on the web, not for commercial purposes and having the institution's name mentioned, they could choose a CC-BY-NC license element combination. If they decide to add to the corpus of open available content, they can use a CC-BY-SA variant which credits the author, but informs anyone using the content that if they release their new work which builds upon it, it should also bear a Share-Alike clause. This way the openness is passed downstream.

The benefits of the CC mechanism are manifold. The standardised nature of the licenses makes them compatible and interoperable. They are acknowledged in many countries and available in a multitude of languages. They are both understandable by humans and computers, due to a machine-readable license code that can be integrated into content metadata.

Use of CC is already a widespread practice. Browsing http://search.creativecommons.org will guide the reader through a number of search portals or content hubs that hold CC-licensed content. GLAM-content is also widely available, even under the more/most open variants of the license. However, before adding to this content, it is important to think about what it is that should be licensed, and for what purposes. It is necessary to determine whether the content can be put out under a CC-license, for example, whether the necessary rights have been obtained to do so. It is necessary to decide who will be the intended user of the material.

One of the best ways to start is to use material that does not require rights clearance or for which the rights are easy to clear.[204] That might for example be any Public Domain materials held, content with easy-to-find permissions, and work that can be released because it is under the institution's own copyright.

[203] See https://www.kl.nl/nieuws/creative-commons-glam-booksprint/
[204] See presentation by Jessica Coates, Global Network Manager, Creative Commons during the US OpenGLAM Launch (March 2013), available at http://www.slideshare.net/Jessicacoates/open-access-glam

Public domain

Dedicating a work to the public domain, or clearly marking it as being in the public domain means that a user can do anything with it, without having to ask for any kind of permission. CC has two tools that allow for this:[205]

- The Public Domain Mark[206] : when something is labelled with the PD mark in Europeana, it will also be linked to the Europeana Usage Guidelines for public domain works.[207] These are goodwill-based guidelines that ask to give credit where credit is due, or to show respect for the original work. Although use of PD content is absolutely open, these guidelines address some points that cultural heritage institutions may have concerns about.
- The CC0-license (or tool)[208]: if you are entitled as an institution to waive all rights in a digital object, you could apply a CC0 waiver to the material. By applying this waiver, all rights in the content are waived and – like public domain content - can be used by anyone without any restrictions. CC0 can only be applied with the authority of the rights holder.

If works held in a collection are in the public domain because of when they were created, a PD Mark can be used to release digital reproductions of them. The analogy – what is in the PD in the analogue world should stay there in the digital one – is not followed everywhere. However, both Communia[209] and Europeana[210] have been advocates for holding this openness in both worlds.

Easy permissions

Before applying a CC-license to a work it is necessary to obtain the necessary rights to do so. The artist who is author of the work, for example, a picture to be digitised by photographing, will need to be contacted, and their permission sought and obtained to allow this use of the picture, and the sharing of the photograph online under a CC license. Sometimes, making direct contact is all that is needed. Explaining the plans for the use of the work, and the reasons for an intention to open up the reproduction, may be all that is necessary to persuade some rights holders.

Your own institution

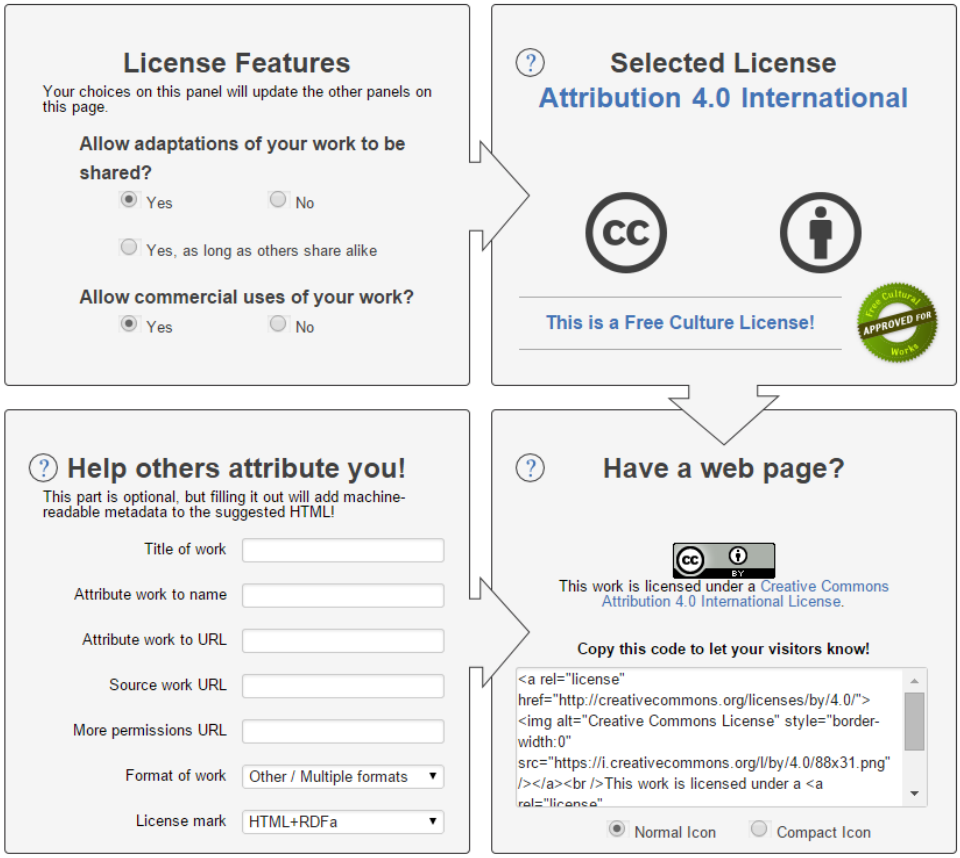
Often materials to be licensed are produced within the employment of an institution. If an employee is a photographer digitising sculptures, there needs to be a clause in her employment contract allowing the employer to license the pictures in any way they want. Other departments might hold valuable information that can be freely licensed, for example, an educational department's school package, curators' articles, or the institutions own website contents. It would be easy to obtain the necessary rights for these, and using them would be the simplest way of making available open materials.

Once the whole picture of intended re-use is clear, an institution is ready to choose the right license for their purposes. Should they wish to be visible on Wikipedia, content must be uploaded to the Wikimedia repository - and in order to do so, it should be licensed as CC-BY or CC-BY-SA. If an institution would rather ensure that only non-commercial use can be made of their content, they can choose a CC-BY-NC license.

[205] This is not a dedication. It is a mark. It only marks something that already is in the PD. The dedication is a form of a total waiver, bringing something that is not in the PD into the PD.
[206] See http://creativecommons.org/publicdomain/mark/1.0/
[207] See in full on http://www.europeana.eu/portal/rights/pd-usage-guide.html
[208] See http://creativecommons.org/publicdomain/zero/1.0/
[209] See http://www.communia-association.org/2012/12/05/communia-positive-agenda-for-the-public-domain/
[210] See http://pro.europeana.eu/pro-blog/-/blogs/2235116

If many of the works held are in the public domain, it would be best to contribute to the shared 'commons' heritage and dedicate the digital reproductions of the works to the public domain.

Creative Commons provides a simple license chooser on its website[211] :



CC-license selection wizard https://creativecommons.org/choose/

Based on some simple questions, this tool helps detect the licence elements that matter to individual content holders. Additionally it presents the machine-readable code that can be used in the material's metadata or on a website. Another useful tool will be the website www.cctoolkits.com, which is currently available in a beta version. The site looks into the wide CC expert community to gather useful media that explain CC in various contexts. The platform is an attempt to aggregate, curate, and remix content in a way that ensures all the rights are understandable to everyone.[212]

[211] Selection tool available at http://creativecommons.org/choose/
[212] See also http://cctoolkits.com/about/

11.10 SOFTWARE OPEN SOURCE LICENCE CHOOSER

When content has already been opened up and an institution is considering making it available through some kind of software application, it will be necessary to think about the license requirements for this application. There have been examples of museums that let an external developer create an app for one of their exhibitions, forgetting to discuss with the developer, what kind of license this app could be used and re-used under in the future. The consequence of not discussing this might be that such an institution is stuck with a product they are not allowed to modify, with a source code that they cannot access, and are thus locked in by the supplier.

If considerable efforts have already been undertaken to make the content easily accessible, similar measure could be taken with the software ordered. Institutions may be concerned that developers will fear losing business opportunities, or be concerned that their developer name will no longer be associated with what they have created. However, such problems can be solved by attributing the right kind of license to software.

Initially, it is important to discuss whether or not your supplier is willing to release the ordered piece of software as an open source product. This means that the created product can be freely used, changed, and shared (in modified or unmodified form) by anyone. Open source software is often made by many people, and distributed under licenses that comply with the Open Source Definition.[213] One of the aspects of this definition, is that the actual product must include source code, and must allow distribution in source code as well as compiled (complete, e.g. the actual app) form. Where some form of a product is not distributed with source code, there must be a well-publicized means of obtaining the source code for no more than a reasonable reproduction cost preferably, downloading via the Internet without charge (thus, the code could be requested from the supplier via e-mail or an online form).

What this enables the subcontracting institution to do, if they have IT-skilled staff, is to enhance the product without having to pay an extra fee to actually obtain the source code. This way, in the case of a museum, for example, it could re-use the app with a bit of customisation for another exhibition, or a whole other purpose. With access to the code, anything is possible. Releasing it as open could also bring on other effects; people with an interest in the program might think of nice add-ons or enhancements. They might even contribute to the software in a way that the content holder had previously imagined. This approach may, therefore, mean work and time saved, a better product, and again, one which is shareable with a community that is much broader than the original institution alone.

If a supplier agrees with releasing the tendered program as open source software, then as with publishing the content, she will have to choose an appropriate open source license for her product. Two main strands can be identified:

- Permissive license types: these only describe minimal requirements about how the software can be redistributed. Such licenses therefore make no guarantee that future generations of the software will remain free: if the intention is to re-use this licensed code in another programme and make that product proprietary, this can be freely undertaken. Examples of permissive free software licences are the MIT License and the BSD licenses.
- Copyleft license types: these are more ‘share-alike’ in nature. When a program is released that is based on or uses copyleft licensed software, it will have to be made available on terms no more restrictive than the copyleft license of the software originally used. It will thus be harder to make a product proprietary, if a copyleft

[213] See The Open Source Initiative for this definition of Open Source Software: http://opensource.org/

component has been used. Another difference between permissive and copyleft, is that when the software is being redistributed (either modified or unmodified), permissive licences permit the redistributor to restrict access to the modified source code, while copyleft licenses to do not allow this restriction. An example of a copyleft licence is the GNU General Public License.[214]

Between all available licenses in each category there are many options of choice. Some guidance is definitely useful. GitHub, the biggest code repository, also understood this: "It's easy to get caught up in code. Sharing your code isn't everything, though: it's also important to tell people how they can use that code."[215] They created ChooseALicense.com to help developers make an informed choice. The website shows a breakdown of what is required, what is permitted, and what is forbidden for each license.[216]

Most of the open source software released by GitHub has been placed under the MIT license. It is a popular permissive license for a number of reasons, among these:[217]

- Its license text is short: anyone can read and understand exactly what it means without needing a legal background.
- Enough protection is offered to be relatively sure there will not be any claims if something goes wrong when another developer uses your code (or part).

So although OS licenses do allow for a great deal of freedom, they are not the same as releasing a work into the public domain. Permissive licences often do stipulate some limited requirements, such as that the original authors must be credited (attribution). If a work is truly in the public domain, this is usually not legally required. Attribution may still be considered an ethical requirement. Continued proper attribution is also one of the things that MIT licenses also require – just like a CC-BY.

[214] More info on the different types of licensing can be found on http://en.wikipedia.org/wiki/Permissive_free_software_licence
[215] See https://github.com/blog/1530-choosing-an-open-source-license
[216] For content licensing, Creative Commons provides a similar simple wizard to help content authors select an appropriate CC license: http://creativecommons.org/choose
[217] See http://tom.preston-werner.com/2011/11/22/open-source-everything.html

```
/*!
 * Copyright 2014 Drifty Co.
 * http://drifty.com/
 *
 * Ionic, v0.9.23-alpha
 * A powerful HTML5 mobile app framework.
 * http://ionicframework.com/
 *
 * By @maxlynch, @helloimben, @adamdbradley <3
 *
 * Licensed under the MIT license. Please see LICENSE for more information.
 *
 */;

// Create namespaces
window.ionic = {
  controllers: {},
  views: {},
  version: '0.9.23-alpha'
};;
(function(ionic) {

  var bezierCoord = function (x,y) {
    if(!x) x=0;
    if(!y) y=0;
    return {x: x, y: y};
  };

  function B1(t) { return t*t*t; }
  function B2(t) { return 3*t*t*(1-t); }
  function B3(t) { return 3*t*(1-t)*(1-t); }
  function B4(t) { return (1-t)*(1-t)*(1-t); }
```

Example of copyright info in MIT-licensed code, see top

Anyone building upon this programme should keep the copyright information intact and add its credit line. Other than it being a license requirement, it is also a matter of courtesy and ethics. This way, even though the code has been opened up for anyone to re-use, they will still see who made it or contributed to it.

In recent years, the European Commission has been enthusiastic in the support of open licensing. They released the EUPL or European Union Public License.[218] The EUPL was first intended to distribute the EC's own software. However, here would then be no direct benefit of creating a new OS license, when several exist already. The EC had some specific requirements, currently not covered by the existing ones:[219]

- The licence should have equal legal value in many languages;
- The terminology regarding intellectual property rights had to be conformant with European law requirements;
- To be valid in all Member States, limitations of liability or warranty had to be precise, and not formulated "to the extent allowed by the law" as in most licences designed with the legal environment of the United States in mind;
- In addition, distribution of software should avoid the exclusive appropriation of the software even after improvement by a third party (therefore, the EUPL is a "copyleft" licence).

[218] For more information on the EUPL, see https://joinup.ec.europa.eu/software/page/eupl/
[219] See https://joinup.ec.europa.eu/software/page/eupl/introduction-eupl-licence

The EUPL dedicated website presents the same advantages of going OS as those listed here previously: “As the author of the software, you (or your organisation / administration) will keep full ownership of the software with a guarantee that your copyright is publicly known and that your software will never been appropriated by a third party: all subsequent users will have to respect your copyright and if they distribute some improvements, you will benefit from it for free.” [220]

Can such openness then still be associated with using an OS program for commercial purposes? Yes; all Open Source software can be used for commercial purpose. It can even be sold. Services can be sold based on the code, or tailored customisation and maintenance work can be offered.[221] There are also other ways this would impact the business potential of an open source project. With adequate communication about the product created, and uptake by interested users and contributors, it might be possible to form a community around the program. It might become known as (or in part) a standard piece of code, gain in visibility and increase the long term sustainability of the work. Ideally, an institution could build a commercial service ecosystem around it.

[220] See https://joinup.ec.europa.eu/software/page/eupl/how-use-eupl#section-4
[221] See http://opensource.org/faq#profit and http://opensource.org/faq#commercial

11.11 LICENSING FACTSHEET

Clauses in a copyright licensing agreement

When parties enter into bespoke licensing arrangements, the agreements will look different although they will generally have similar clauses. If you are thinking about obtaining specific agreement for the use of content, then think in particular about these clauses.

- Parties to the agreement: the licensor and the licensee
- Dates: the date of commencement of the agreement and the duration.
- Description: a description of the copyright being licensed and for what purposes
- Consideration (if any): the consideration that is to be paid by the licence whether royalties a lump sum; payment made for particular milestones
- Territorial reach: the territory covered by the licence
- Exclusivity: whether the licence is sole exclusive or non-exclusive

A more complicated agreement will contain other clauses that may include the following:

- Recitals to the agreement: these will contain background information on what the parties are trying to achieve with the agreement and may also contain information on any previous agreements between the parties and whether they related to the current agreement.
- Definitions: it is common to have a section containing definitions of specific terms in the agreement.
- Confidentiality: this will detail what information should remain confidential to the parties and should not be disclosed.
- Warranties: it is common to have a warranty clause that declares that the parties have the capacity to enter into the agreement
- Indemnities: this clause will contain statements on limitation of liability of each party in the event of certain occurrences
- Dispute resolution: this will contain information on how disputes should be dealt with – for instance if a third party should be appointed to adjudicate in the event of a dispute
- Law and Jurisdiction: this will subject the agreement to a governing law and jurisdiction of a specific court.

Internet resources

There are many internet resources looking at the content of IP licences. Some useful ones include the following:

- **An Anatomy of a Licensing Agreement:** presentation made at the WIPO-CSIR Workshop on Licensing and Technology Transfer; New Delhi; India, July 4-8, 2005. Available at file://isad.isadroot.ex.ac.uk/UOE/User/Desktop/url.htm
- Dave Washburn, Vice President UTRF, presents on the **basic terms of a university technology license agreement** and the foundation for inclusion of those terms and conditions. He explains the relative importance of each term, including which might be negotiable or non-negotiable, and provides some basic strategies for mitigating concerns. Available at http://vimeo.com/51019545
- **Example of a US copyright ownership** and licence agreement. The clauses could easily be adapted for jurisdictions elsewhere. Available at https://www.docracy.com/8770/copyright-ownership-and-license-agreement

The Intellectual Property Office in the UK has a useful licensing booklet that contains a **checklist of what to think about when licensing IP**. Available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/320811/licensingbooklet.pdf

11.12 RISK MANAGEMENT: NTD POLICY AND CLAUSES

Notice and Take Down Policy (NTD policy)

A NTD policy can be used as part of a risk management exercise by organisations when deciding what strategy to adopt when making works available on their websites.

There may be a number of reasons for adopting an NTD policy. These include:

- It is often not possible to find the owners of copyright protected works even after a lengthy search
- It may not be obvious whether a particular work is in the public domain or not (because the author died more than 70/50 years ago)
- On a risk/reward analysis the Institution may decide that it is too costly to carry out exhaustive searches for owners.

In these circumstances, and because it is best practice as part of a risk management exercise, the organisation can adopt a NTD policy. Within Europe this would also be in accordance with the Electronic Commerce (EC Directive) Regulations 2002,[222] Clauses 17-19 for those countries subject to this Directive.

The NTD policy should be published on the organisations' website and provide clear instructions for users on how to serve notice if it is thought that copyright infringement has taken place. These instructions should include contact details for the person responsible for administering the system, and a template that the user can complete. If a complaint is received, then it should be dealt with expeditiously. The longer the organisation has notice of a potential infringement but does not act on it, then the more likely it is to be found liable if it is eventually decided that the presence of the work infringes copyright.

Example of a takedown notice to appear on website

If you are the owner of the copyright in any of the works on this website and you do not agree to your works being appearing on the website, please contact us with the information requested below:

- Your contact details
- Enough information for us to identify the relevant work(s)
- What your complaint is and why you are notifying us
- Confirmation that you are the owner of the copyright in the work or are authorised by the owner to contact us
- When we receive your complaint, we will acknowledge receipt by email
- We will investigate the complaint and depending on our findings may remove the relevant works
- Your complaint can be sent electronically to [here insert email address]

Insurance

Consider taking out insurance if the likelihood of being sued for infringement is very great or the stakes very high.

In terms of getting insurance against being sued for copyright infringement in the areas we are looking at, Companies such as COBRA Legal and IP (www.ip-insurance.com) arrange bespoke IP insurance in addition to more standard products.[223] This kind of company can offer cover for copyright infringement which would include defence costs and any damages awards.

[222] See http://www.legislation.gov.uk/uksi/2002/2013/contents/made or http://www.legislation.gov.uk/uksi/2002/2013/pdfs/uksi_20022013_en.pdf

[223] See the article on the IPO website: http://www.ipo.gov.uk/news/newsletters/ipinsight/ipinsight-201308/ipinsight-201308-3.htm.

They can sometimes include cover which would pay for pursuit and enforcement costs as well, should the content providers wish to sue a third party for infringement. On the defence side they can arrange for limits of indemnity for combined defence costs and damages in excess of £10m, if required. Specialist IP insurance intermediaries (brokers) arrange cover with the different participating insurers that underwrite these types of risk, and have exclusive schemes which they run for insurers. They carry out the initial risk assessments themselves and work with insurers such as Liberty (a large US insurer) and CFC (an underwriting agency which acts for a consortium of Lloyd's of London Syndicates), though they can cover just defence costs more cheaply under exclusive schemes with global insurers such as QBE Europe. They find the most suitable cover at the most competitive premium and are prepared to change cover to assist clients, offering different limits and excesses. Sometimes they arrange cover with several underwriters when one cannot offer everything required. These are "broker only" underwriters, and their FCA authorisations do not allow them to deal directly with clients or the public.

11.12.1 Risk Management Guidelines for the use of Text, Images, and Audio-visual Content Online[224]

The following guidelines provide a step by step approach to managing risk when re-using digital cultural content online. They outline all the necessary considerations that must be taken into account with regard to intellectual property rights.

- It is important to comply with the law in your own jurisdiction.
- Although online publication reaches an international audience and multiple legal systems apply, it is likely that a potential infringement by an image provider will be challenged on the territory of the provider first. If you are in a civil law country, you should consider the moral rights of the author as well as copyright issues. If there are no rights attached to a particular medium of creativity such as architecture or fashion design in your country, permissions for these may not be required.
- Try to obtain permissions from as many third parties as possible prior to publishing the content online.
- Participants gathering content from a variety of sources should obtain from those sources permissions or licences similar to the ones they intend to grant the online platform they hope to use for publishing the material. For example, if they wish to publish images on Europeana or within other re-usable datasets such as Flickr Commons, Wikipedia, Open Cultuur Data and so forth, they should seek images that are re-usable under similarly open licences. It is the policy of Europeana that information obtained from the public domain should remain in the public domain.
- Focus on the author's copyright issues, such as their moral rights (paternity, integrity of the work) if appropriate on your territory.
- Depending on the date and type of content used, and the mode of use (editorial or commercial), third party rights are more or less likely to be an issue. An exception or limitation may apply where the content is used for educational, research, journalistic, purposes. Copyright for older content may also have expired if enough time has elapsed since the author's death (generally 70 years after the death of the author).
- Legal issues should be considered when selecting material.

[224] This tool is adapted from the text of "A (Very Brief) Risk Management Guide for Displaying Images on Europeana", which arose out of discussions at the EuropeanaPhotography IPR workshop in Paris, November 14 & 15, 2003 and is contained within the meeting minutes.

- Always select the content with the greatest historical and informational value based on the project's goals, as this may be taken into consideration in case of a legal dispute. For example, an image showing a wide view of the 1900 world exhibition in Paris (including people and various objects exhibited) is preferable to an individual view of a work of art displayed in the same exhibition.
- Orphan works may be a significant portion of the content displayed and due diligence should be applied in searching for copyright holders (see the FAQ on the Orphan Works Directive).
- While orphan works legislation is now be implemented in the EU, it will take a time for it to bed down. Generally participants should assess their appetite to risk and where applicable undertake and document a diligent search (as defined in the Orphan Works Directive - see FAQ)) prior to publishing any such work. Such a search should include posting a notice on their own website to encourage copyright holders to come forward and should include a notice and take down policy
- When you do not have an author's name, try to determine whether the content is in the public domain. Using your country's demographic tables, it is possible to calculate the statistical chances that a work is in the public domain based on its real or estimated date. In France for example, works until 1895 are likely to be in the public domain as the average life expectancy of a hypothetical 20 year old author is less than 47 years. Their statistical date of death would be prior to 1942. This approach does not give absolute certainty but, when followed consistently, might be useful in challenging an accusation of infringement.
- Anticipate the economic consequences of possible infringements.
- In keeping with the spirit of the Orphan Works directive, but also as good business practice, participants could set up a reserve fund to face proved requests for compensation from copyright holders. This can take the form of a sum kept in escrow, a provision in the company accounts or any other form of financial reserve, with an amount commensurate to the level of risk perceived, especially with regard to anticipated uses of the content (e.g. whether it will be licensed for editorial or commercial use).

11.13 NEW RULES ON ORPHAN WORKS

The challenge around orphan works is one that permeates the cultural heritage sector and is one that has become particularly acute as a result of digitisation. The content of our cultural heritage is rich and vibrant. Copyright subsists in the content where the author died less than 70 years ago, but it is often very hard to find the owner of the copyright to ask for permission to re-use that content. The name may not be on the work or the owner may have died, and the ownership of the copyright passed to many heirs fragmenting ownership. To try and address this, the Orphan Works Directive came into force in 2014. While its impact is likely to be limited, it might provide some help to E-Space participants.

Q: What is the Orphan Works Directive?

A: The orphan works directive (OWD) was to be implemented into the laws of Member States by 29 October 2014. As this is only very recent, it remains to be seen how useful it will be

Q: What is an orphan work?

A: An orphan work is one that is in copyright protection, but where none of its rights holders can be identified or, where identified, cannot be found after a diligent search. If one of a number of rights holders is located, then the work can be used even if the other rights holders cannot be identified or located. If a rights holder is located, the work is no longer considered an orphan work, even if the other rights holders cannot be identified or located.

Q: What is a diligent search?

A: An Institution to whom the OWD applies can only decide that a work is orphan after a diligent search has been carried out in good faith and in respect of each work by consulting appropriate sources. Embedded works must undergo a diligent search because they are treated as separate works from the main work.

What is counted as an appropriate source is to be determined in each Member State in consultation with rights holders and users. It is to include at least the sources listed in the Annex to the OWD. These sources include where appropriate to the work, legal deposit; library, film, audio heritage databases; databases of collecting societies; sources that integrate multiple databases and registries; ISSN.

The search must be carried out in the Member State of first publication and before the work is used.

Records must be kept of the diligent search and the results reported to the appropriate government agency along with the uses made of the orphan work and if the work ceases to be an orphan. This information must be made available in a publicly accessible online database managed by the Office for Harmonisation in the Internal Market. The database can be found here https://oami.europa.eu/orphanworks/

Q: To which institutions does the OWD apply?

A: The OWD applies to publicly accessible libraries; educational establishments; museums; archives; film or audio heritage institutions; public-service broadcasting organisations (which have some special arrangements in the OWD) established in Member States. The OWD applies to certain uses of orphan works by these Institutions in order to achieve their public interest missions.

Q: What is within the Institutions' public interest mission?

A: The OWD provides that a public interest mission can be fulfilled in particular through the preservation of, the restoration of, and the provision of cultural and educational access to their collections including digital collections.

Q: What works does the OWD apply to?

A: The OWD applies to the following categories of works:

- Published written works first published in a Member State;
- Films, audiovisual works and sound recordings;
- Unpublished works that have been publicly available with the consent of the rights holders provided that it is reasonable to assume that the rights holders would not oppose the use of the work according to the permitted uses of the work.

In each case the work must be one held in an Institution to which the OWD applies.

Q: What uses can be made of orphan works?

A: There are a number of permitted uses of orphan works:

- Making the work available to the public
- Reproducing the work for the purposes of digitisation, making available, indexing, cataloguing, preservation and restoration.

These uses must be in accordance with the public interest missions of the Institution invoking the OWD. Institutions can generate revenue, but only for cost recovery purposes.

Q: What about remuneration?

A: Member States are required to provide that a fair compensation is due to any rights holder who appears and puts an end to the orphan status of the work. The circumstances and level of compensation are to be decided by the Member State in which the Institution using the orphan work is established.

The non-commercial nature of the use, the public interest mission of the institution and the possible harm to the rights holder are to be taken into account in determining the amount.

Q: What is the implication of mutual orphan work recognition?

A: If a work is recognised as orphan in one Member State, then it is recognised as orphan in all Member States and may be used accordingly

Q: (When) does a work cease to be an orphan work?

A: If the rights holder appears then the work will no longer be orphaned. Users can only continue using the work if the rights holder consents.

11.14 NEW RULES ON PUBLIC SECTOR INFORMATION

The purpose of the rules on public sector information is to encourage the re-use of information generated by public institutions during the course of their public sector tasks.[225] The first European Directive was enacted in 2003. The second in 2013, the latest date for transposition into national laws is 18 July 2015. The purpose of the 2003 Directive was to remove barriers to the re-use of public sector information. A review in 2010 suggested that while progress had been made, barriers remained, hence the updating of the Directive. The purpose of this factsheet is to provide an overview of the new rules and how they might help pilots and hackathon attendees obtain content.

Q: Which institutions /organisations do the new rules cover?

A: Libraries, including university libraries, museums and archives – none of which were covered in the original Directive, and broadcasters.

Q: Why have the rules been extended to these institutions/organisations?

A: As stated in the Directive: These cultural heritage collections and related metadata are a potential base for digital content products and services and have a huge potential for innovative re-use in sectors such as learning and tourism. Wider possibilities for re-using public cultural material should, inter alia, allow Union companies to exploit its potential and contribute to economic growth and job creation.

Q: Which institutions/organisations do the new rules not cover?

A: Institutions/organisations such as orchestras, operas, ballets and theatres including the archives that are part of those establishments

Q: Why are these institutions/organisations not covered?

A: Because of their 'performing arts' specificity and since almost all of their material is covered by third-party intellectual property rights.[226]

Q: What does re-use mean?

A: Re-use means a use of public sector information for any reason other than that for which it was originally produced. A request for re-use can be refused where the information has not already been re-used either by the institution/organisation or by a third party. For example, where digitised images are made available to a commercial body for re-use, then they must be made available to other commercial bodies for a similar purpose on equal terms. Exclusive licensing is not permitted except under exceptional circumstances. Exceptional circumstances would cover those instances where without any form of exclusivity the institution would not be able to carry out a digitisation project. Where a third party makes a substantial investment in a digitisation project then an exclusive arrangement is permitted for up to a maximum of 10 years.

[225] See http://ec.europa.eu/digital-agenda/overview-2003-psi-directive and http://www.epsiplatform.eu/category/keywords/psi-directive

[226] This is the formal rationale. However, third party rights are already outside the scope of the directive so there is still a question as to why these organisations should be exempt.

Q: What does accessible information mean?

A: The re-use rules provide that all information that is accessible should be available for re-use. The presumption is that information will be accessible. Information will not however be accessible where there are other rules under national laws that would preclude its re-use. This would include copyright; data protection rules; confidentiality; national security among other national regimes.

Q: What are the rules on charging?

A: Charges should in principle be limited to marginal costs. However it is recognised that public sector bodies are often required to generate revenue to cover a substantial part of their costs relating to their public sector task or the costs of their collections. In which case above marginal cost can be charged but the level needs to be set according to objective, transparent and verifiable criteria and the total income from supplying and allowing re-use of documents should not exceed the cost of collection, production, reproduction and dissemination, together with a reasonable return on investment.

Q: What types of licences should be used by the public sector body?

A: The Directive exhorts public sector bodies to place as few restrictions on re-use as possible and encourages the use of open licences while at the same time recognising that some conditions might be appropriate such as attribution and notification of modification of the information.[227]

Q: When will the rules come into force?

A: The rules are due to come into force in Member States by 18 July 2015 (implementation deadline)

Q: What does this mean for the pilots in E-Space?

A: The implementation deadline for the amended re-use rules is 18 July 2015, by which time pilots will have sourced most of their content. However, and for those jurisdictions which have not yet implemented the Directive, libraries, museums and archives will already be considering how their practices will need to change in response to the rules. Where the pilots negotiate directly with these institutions for sourcing content it would be worth asking how they will be making content available having regard to the rules, and whether those rules might apply to the content used for E-Space.

[227] A public sector body may choose not to impose a licence at all but rather place the work in the Public Domain by default (see e.g. Greece or Poland)

11.15 TWELVE POINT CODE OF ETHICS FOR THE SOURCING AND USE OF DIGITAL CULTURAL HERITAGE CONTENT

1. Develop your unique vision and presentation while remaining accurate and comprehensive in the representation of digital cultural heritage items.
2. Resist opportunities to pass off copies as originals, for example, in the form of images taken of copies of original works.
3. Editors should maintain the integrity of the content and context. Do not, for example, manipulate images or add or alter sound in any way that could mislead viewers or misrepresent subjects.
4. Provide the full context when sharing, presenting and using digital cultural heritage content to avoid stereotyping individuals and groups. Recognise and work to prevent your own biases appearing in the content provided for e.g. an app or hackathon, and in any works produced.
5. Seek a diversity of viewpoints, and work to include unpopular or unnoticed points of view in the content provided and used.
6. Treat all subjects of content with respect and dignity. Give special consideration to vulnerable subjects such as victims of crime or tragedy. Only share images, videos or other content that reveals private moments of grief, humiliation or other situations of vulnerability, when users have an overriding and justifiable need to see them.
7. With the exception of fees paid to individual artists and other third party content providers to clear copyright, do not pay sources or subjects or reward them materially for information or participation.
8. Do not accept gifts, favours, or compensation from those who might seek to influence the presentation, use and sharing of digital cultural heritage content for political purposes.
9. Do not intentionally sabotage the efforts of other content providers.
10. Strive for complete and unrestricted access to content as far as possible, providing innovative alternatives to shallow or rushed user opportunities, while respecting the rights of authors, creators and owners of the content provided.
11. When sharing, using and presenting digital cultural heritage content online and elsewhere, do not intentionally contribute to, alter, or seek to influence political events.
12. While enabling the exploitation of content by the creative industries, avoid political, civic and business involvements that compromise or give the appearance of compromising the objectives of broadening and enhancing user access and experience of digital cultural heritage content.