



Barriers in On-line Access to Culture

Summary

This article, derived from a report on Intellectual Property Rights of the ATHENA project, discusses some present topics in current copyright. In the first part of the article an overview of collective licensing models is presented in relation to the digitisation and disclosure of cultural heritage content. It should be noted that the general scope of copyright will not be discussed in this article since it already featured extensively in the ATHENA report *Overview of IPR legislation in relation to the objectives of Europeana*, available on-line¹.

Current trends in unlocking cultural heritage content by making it digitally available on the Internet are illustrated next. We take a look at the current copyright discussions within the European policy field, followed by an overview of collective licensing mechanisms. Another main part of the article concerns Digital Rights Management systems and their implementation. A rather technical overview is given of existing DRM systems; a definition of what these systems are and certain technological aspects of them are presented.

At the end we take a look at new and emerging licensing models. Open content licenses and Creative Commons licenses in particular are discussed. Their application in the field of cultural heritage, as well as some cases and best practices, illustrate the theory before a general conclusion.

1. Introduction

The 21st century marked the birth of the "information society" as we know it today. The availability of technology and infrastructure for digitisation and disclosure of cultural material increased drastically, and made it possible to disseminate a vast array of cultural information (including digital cultural heritage) over the Internet. Digital representations of cultural objects can now be shared with a worldwide audience at an unseen speed, but: a considerable amount of cultural works that institutions would want to digitise are protected by authors' rights and may not be digitised or made available to the public over the Internet without a proper agreement that regulates the copyright(s)². Once such an agreement is in place, the protection of the digital content requires additional attention. The implementation of a proper Digital Rights Management system might help in keeping an eye on ownership, use of content and where the digital file might end up.

While cultural heritage institutions may for example attract a much larger audience due to the on-line disclosure of digital reproductions of their holdings, these visitors might also "take" some of these reproductions and transform them into new, remixed content. This may not be authorised by the right holder and/or cultural heritage organisation, but such a phenomenon is very hard to control in an online environment. And in placing content on-line, they might also have to bear in mind the rights of third parties (who may, for example, press charges when copyrighted content that belongs to them is placed on-line by museums, in case rights have not

been cleared). So out of fear for claims by these third parties, materials remain in their analogue status or are only digitally available within the museum.

2. The scope of copyright

In many cases, the cultural content that is offered on the Internet is protected by intellectual property rights. As we have seen these works may not be multiplied/reproduced or communicated to the public without the permission of the right holder(s). Fortunately for the freedom of information and the digitisation of heritage collections, not all works are protected by copyright. Authors' rights end 70 years after the death of the creator of the work and in some cases 70 years after publication³. Works on which the term of protection has expired fall into the so-called "public domain"⁴.

However, cultural heritage institutions have not been left out in the cold by legislators. Legal exceptions exist for this kind of 'user' which they can call upon for certain envisaged uses of cultural content (e.g. for digitisation of objects and the disclosure of the digital material). We will not provide these exceptions here, but refer you to the available ATHENA report *Overview of IPR legislation in relation to the objectives of Europeana*, available on-line⁵. Making content available on-line (without exception) still falls under general copyright regulations.

In April 2009, the European Parliament was the stage of a passionate debate on copyright protection. Representatives of the music industry strived for an extension of the term of protection through neighbouring rights for music recordings to 95 years (it used to be fixed at 50 years). This considerable increase caused a lot of negative reactions, especially since one of the Commission's initiatives, *Europeana*, aims at making cultural content as widely accessible as possible⁶.

Commissioners themselves also draw attention to Europe's position in the global copyright debate. In its recent EU2020 strategy, the Commission states that *At EU level, the Commission will work to create a true single market for on-line content and services (i.e. borderless and safe EU Web services and digital content markets, with high levels of trust and confidence, a balanced regulatory framework with clear rights regimes, the fostering of multi-territorial licences, adequate protection and remuneration for rights holders and active support for the digitisation of Europe's rich cultural heritage, and to shape the global governance of the Internet*⁷. Author's rights and digital cultural heritage were mentioned in the same sentence, indicating the will to tackle the copyright problem. This recent strategy is of course a facilitator for the future development and expansion of *Europeana*.



3. The collective licensing of rights

3.1. The collective management of rights

Right holders seem to have become more and more empowered to manage their own rights, e.g. by means of technological developments such as the application of DRM techniques. However, it appears to have become difficult to manage rights by oneself as an individual right holder, due to the fact of the ever increasing globalisation that has also affected the cultural market. Works are being used all over the globe; multiple international creators may have contributed to a work and the kinds of use and formats seem to diversify every minute. Making and closing agreements with every single user of one's work in a networked technological society such as that of the present day is no longer feasible. Collective rights management organisations (CRMOs) provided an answer to this problem⁸. These organisations take care of the granting of licenses to users, the management and supervision of the payment of royalties and the collecting and redistribution of them to right holders who are a member of, or gave a mandate to⁹, the CRMO¹⁰.

By managing the whole chain of rights¹¹, collective societies liberate right holders from an administrative bureaucracy, they enforce the negotiating position of the right holder compared to financially stronger positioned users and they transfer remunerations for use to their associated right holder members. Also users such as cultural heritage institutions benefit from this kind of system since they only have to address one organisation which can oversee all conditions of permission for their associated right holders and they may grant licenses on their behalf. Collective rights management organisations also bring relief for some types of works held by cultural heritage institutions such as films or multimedia works which can contain multiple rights (and right holders) and may require multiple permissions for their use¹².

Collective rights management organisations have different ways of granting licenses, based on the intended use of the copyrighted material, or the sector/organisation that applies for a license. Licenses for a specific array of organisations, such as museums, archives and other cultural heritage institutions, can usually be negotiated in terms of tariffs for use¹³. It is logical that a publisher who wants to use an image in a commercial publication should face higher license fee tariffs than a non-profit public sector body (museum, library, archive, ...).

3.1.1. Territoriality versus on-line exploitation

The increasingly cross-border exploitation of author's rights and the digital transmission of cultural artefacts over the Internet (on-line services, on-demand services, etc.) are no longer in line with the traditional way of territorial management of rights by collective rights management organisations, whereby only licenses for right holders from the specific country of origin of the CRMO are granted. When a European cultural heritage organisation wants to disclose cultural artefacts on an Internet Website, this service will be aimed at least 27 European member states. This implies that licenses will have to be concluded in accordance with 27 national copyright to

legislations (i.e., in every country, a license would have to be granted by a local rights management organisation)¹⁴. However, one also has to keep in mind that the Internet and the dissemination of cultural material over the Internet does not stop at national or even European borders. If a license for use of content in an on-line Internet environment has to be obtained, this should therefore cover the use of it in every country around the world¹⁵.

An initiative in this field of granting licenses also on behalf of other collective licensing organisations is 'OnLineArt'¹⁶. The organisation describes itself as a one-stop-shop that offers worldwide licenses on works of more than 30.000 authors for the specific purpose of use in an on-line environment. The organisation is authorised to grant global licenses for the on-line use of, for example, images of artworks. So if you would, for example, like to start with a large-scale digitisation project that would involve multiple museum collections, you could just talk to the CRMO in your specific country to create an arrangement within the OnLineArt-structure. This CRMO will then contact the other rights management organisations and will clear all permissions that you will need in one go (instead of you having to contact all CRMOs in the different countries involved in your project).

3.1.2. The system of indemnity

Undertaking a search for a right holder or even starting a negotiation with him or her can be very time consuming. CRMOs try to tackle this problem by granting a blanket license that also includes an indemnity for the use of works on which the rights are not represented by the specific CRMO. This kind of licensing mostly happens in the cases where a CRMO represents a significant amount of right holders in a certain field (thus holding a considerable repertoire, whereby one may likely assume that the specific right holder one is looking for will be represented). With this kind of licensing, one has to bear in mind that an indemnity does not always provide for the necessary legal safeguards for users¹⁷.

An example of the use of indemnity clauses is the Dutch Stichting Foto Anoniem¹⁸. In exchange for the payment of a fee, this organisation grants an indemnity to the user of a photograph of which the right holder is unknown or untraceable. If the right holder of the photograph that has been used contacts the user, e.g. a cultural heritage organisation which has used the photograph to illustrate its Website, he or she may contact Foto Anoniem and they will provide him with a correct remuneration for the use. In case the right holder demands a higher remuneration, this surplus will have to be paid by the user¹⁹.

The indemnity clause however is in some cases not beneficial for the user. As a user one has to pay for this added indemnity, even if the use one has envisaged might not ever bother the right holder and he or she might not ever ask for compensation, and there are risks that indemnity is paid for the use of a work that is actually in the public domain. In case the indemnity is being paid for but no specific claims arise, users might ask where their money went.



3.2. Extended collective licensing

The system of extended collective licensing is based on the collective management of rights and legally provides for the coverage of (the interests of) "missing authors"²⁰.

An extended collective license (ECL) covers the use of works of right holders who are not represented by the collective rights management organisation. This provides users with security to legally copy materials without the threat of individual claims from right holders who are not members of the CRMO that granted them a license. The system of ECL was originally adopted by Nordic countries in the 1960's as a means for addressing the complexity brought on by mass use and exploitation of numerous rights at the same time²¹.

In cases in which a CRMO is deemed to represent a "critical mass" of right holders in a certain domain, it is assumed to act for all right holders in that domain. The works of all right holders in this field (whether domestic or foreign) are assumed to be part of the repertoire of the CRMO unless the right holder specifically opted out of this ECL system (by explicitly stating that he or she does not want to be represented under an extended collective license)²². Rights holders who choose to leave the system will not be covered by the extended collective license any longer²³. However extended collective licensing can also be beneficial for right holders: it guarantees remuneration for right holders since their works are assumed to be in the repertoire of the relevant collecting society²⁴.

An example of use can be found in broadcasting. In the Scandinavian countries (Denmark, Finland, Iceland, Norway and Sweden)²⁵ an ECL is applied for the use of musical works in radio- and television broadcast transmissions. According to this system, a broadcast organisation receives a license for the broadcasting of all musical works from a CRMO that represents a significant portion of musical composers and text writers. The license is legally extended also to those musical composers and text writers who are not represented by the specific CRMO which grants the license for use.

Extended collective licensing can reduce the cost of obtaining a license; instead of investing time and money on several individual licenses, a requester may, under an ECL, obtain one license for a broad repertoire of works. Extended collective licensing has the potential to be a mechanism for the quick and efficient processing of agreements. An example of this is stated in "The way ahead: a strategy for copyright in the digital age"²⁶, a document by the UK Intellectual Property Office:²⁷

KOPINOR, an umbrella organisation for Norwegian reprographic collecting societies, recently concluded a complex agreement for making works available on the Internet with Norway's National Library. The process took two months. This compares favourably to the five years taken to clear the rights for the BBC's iPlayer service²⁸.

4. Digital Rights Management

Besides regulating the use of digital content through licensing, a technical solution exists which may also prove to be helpful in controlling the circulation of your digital content: Digital Rights Management (DRM). We are faced with a constant dilemma; do we consider all our digital creations as "belonging" to general mankind, freely accessible and reusable by anyone, or do we consider it wiser to protect it as the result of "personal" investments and efforts? DRM systems have the objective to fulfil this goal, thus to protect and manage rights and copyrights and in parallel support the distribution and publication of priceless digital creations in the form of digital content.

4.1. Tools for copyright protection

Nowadays the use of digital means has become an inseparable piece of everyday life. In many cases digital objects such as digital photographs, video, medical images, satellite images, sounds etc. are intended to be published, either on the Internet or in widely used mediums. Also cultural heritage institutions increasingly hold and distribute this type of content and they are looking for adequate means to protect the digital content from unauthorised use and detect any unauthorised use²⁹. DRM tools might provide an answer to this need.

4.1.1. Digital watermarking

The digital watermarking technique is a standard tool today for copyright protection of multimedia objects. Watermarks are different according their characteristics (robustness / fragility, capacity, quality of watermarked object, security etc.) or their visibility (visible, imperceptible watermarks) and they have a direct impact on DRM systems³⁰. Digital watermarking of images exploits the fact that digital images contain redundant data that can be used to hide the information of the content owner. The latter information is called a digital watermark. The redundancy of the image data is also exploited by image compression techniques in order to reduce the amount of data that represents an image.

A first distinction can be made between perceptible and imperceptible watermarks. The perceptible or visible watermark is usually connected with the embedding process where a pattern or company logo is inserted in the image or video content in a visible way, without altering the content of the original image or video. The watermark intends to protect the original work so that every attempt to remove it or destroy it will be difficult and should result in the watermarked work being destructed. Therefore the visible watermark can be inserted in the entire image or video, or just in a part of it depending on the owner's needs.

The invisible or imperceptible watermarks are digital information that is embedded in the original work (image/video/sound) in a way that the human visual or hearing system can not detect it. The detection of the watermark can be achieved algorithmically, by using a watermark detection system (software/hardware).



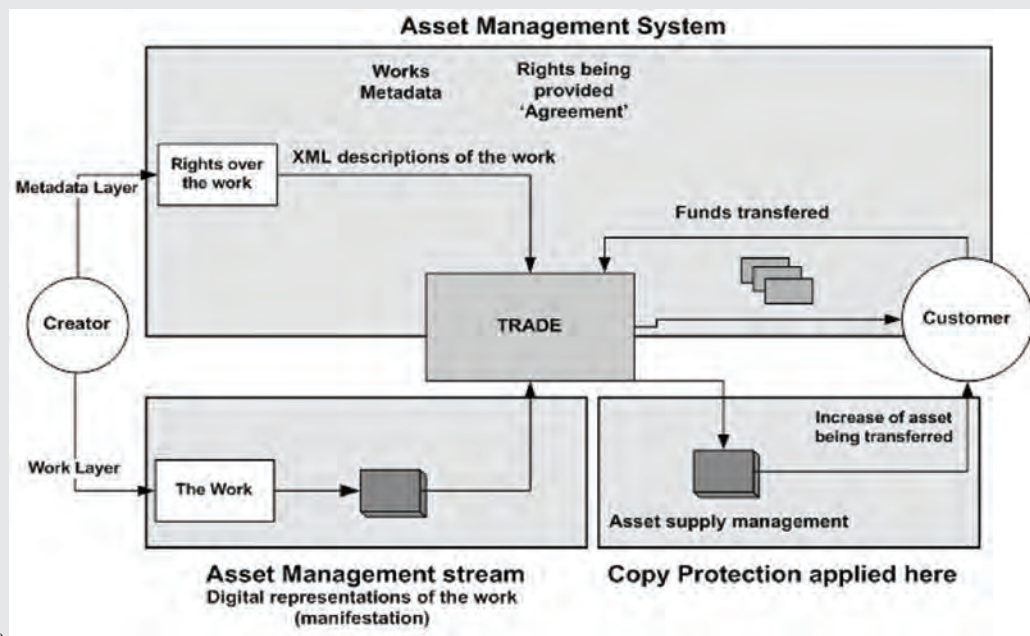
Depending on the application, two main types of imperceptible watermarks exist:

- watermarks that are destroyed when the attacker modifies the watermarked object - these watermarks are used for content authentication;
- watermarks that remain intact after several modifications and that are used for the copyright protection of a digital object.

4.2. A typical Digital Rights Management system

Unfortunately, there is not a commonly agreed definition for DRM. The term, according to the World Wide Web Consortium (DRM, 2000), covers *the description, recognition, protection, control, commerce, monitoring and tracking of all the possible usage types concerning digital content - including the relationship management between the digital object's owners.*

DRM refers to the protection of the intellectual property of digital content by controlling the actions of the authorised end-user on the digital content. It gives the digital object's owner the ability to securely distribute valuable content such as books, photos, videos, magazines; at the same time it helps the owner to manage the content, avoiding unauthorised usage or copying. The following image represents a typical DRM lifecycle:



DRM Lifecycle

A DRM system is a chain of services and hardware technologies that controls the authenticated usage of digital content; it also manages any actions or results that the aforementioned usage causes throughout the lifecycle of the content.

4.3. Building a DRM system using technological standards

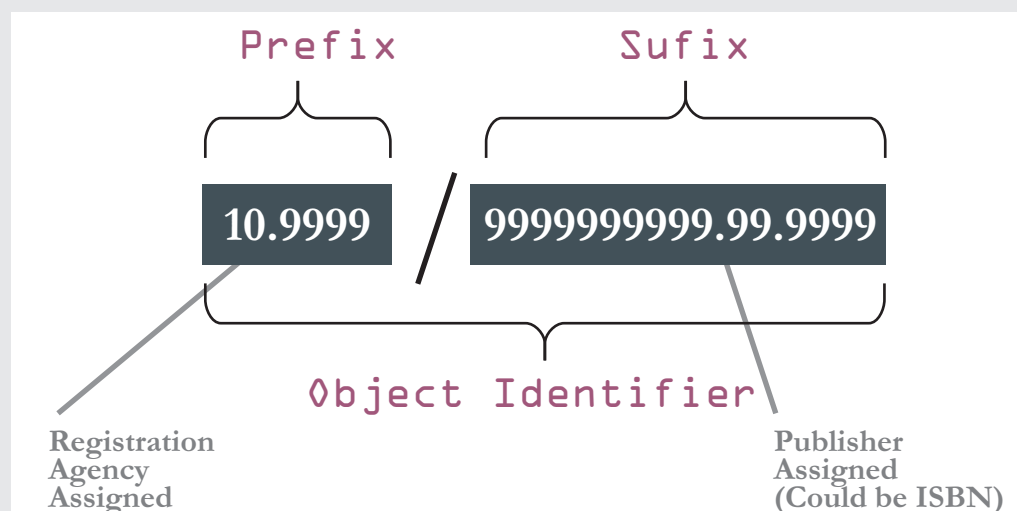
DRM technology standards initiatives have to fulfil a number of challenges. Some standards are created to confront relatively narrow and specific problems while others are more broad and general.

4.3.1. DOI

The digital content which is being transacted through a DRM system (and the Internet) should be uniquely identified so that the copyright owner has a means to prove his ownership.

*Digital Object Identifier (DOI)*³¹ is an identification system for intellectual property in the digital environment. Its goals are to provide a framework for managing intellectual content, link customers with publishers, facilitate electronic commerce and enable automated copyright management not only for the publishing industry but for many others industries as well (for example music).

DOI names are assigned to any entity (documents, publications and other resources) for use in digital networks. These names are unique, persistent (i.e. they do not become invalid) and have high availability (i.e. they do not depend on a single Web server being up and running) for use over their lifetime (like bar codes), while standard Web URLs can change over time³². DOIs have a simple syntax, which is depicted in figure 4. The combination of a prefix for the registrant and unique suffix provided by the registrant avoids any necessity for the centralised allocation of DOI numbers. The two components together form the DOI.



DOI Structure



4.3.2. Watermarking tools

The copyright of digital content which is being transacted through a DRM system (and the Internet) should be protected with the use of watermarking technologies. There are not commonly agreed standards for digital watermarking but there are commonly identified requirements which the watermarking tools should meet so as to succeed in their purpose. There are many efficient watermarking products which can be purchased from the software market. An indicative table including watermarking tools is shown below.

Tool	Source	Operating System	File Types
Digimarc	Digimarc Corporation www.digimarc.com	Win	All image formats
SureSign	Signum Technologies www.signumtech.com	Win, Mac	All image formats
EikonaMark	Commercial, Alpha-Tec Ltd www.alphatecltd.com	Win	All image formats, video and audio
SilkMark (in Greek only)	SilkTech SA www.silkmark.gr/ , www.silktech.gr	Win	All image formats

4.3.3. XrML

Extensible Rights Markup Language (XrML) is an XML-based language for digital rights management. It provides a universal method for securely specifying and managing rights and issuing conditions associated with the use and protection of all kinds of resources including digital content, as well as services³³. Contrary to DOI, which is conceptually and syntactically simple, XrML is a rich language of specifications. Its purpose is to expand the usefulness of digital content, resources, and Web services to rights holders, technology developers, service providers and users by providing a flexible, extensible, and interoperable industry standard language that is platform, media, format and business independent³⁴.

4.3.4. ICE

*Information and Content Exchange (ICE)*³⁵ is an XML-based protocol used for electronic business-to-business (B2B) content management. The ICE specification provides businesses with a common language and an architecture to facilitate automated Web content syndication (information exchange, sharing and reuse between Websites) for traditional publishing contexts and e-commerce uses and relationships. By using XML, both syndicators and their subscribers (a syndicator produces content that is consumed by subscribers) have an agreed-upon language in which to communicate. The protocol defines the roles and responsibilities of syndicators and subscribers, specifies the format and method of content exchange, and provides support for management and control of syndication relationships.

4.3.5. SDMI

Secure Digital Music Initiative (SDMI) was an initiative of the music industry that formed in late 1998. Its purpose was to develop technology specifications to protect the playing, storage and distribution of digital music and consequently prevent music piracy. SDMI was a direct response to the booming MP3 file format, which allowed digital music of good quality to be distributed via the Internet and forced the music industry to take new measures. In this way, consumers were provided with convenient access to on-line music and new digital distributions systems to enable copyright protection.

In September 2000, SDMI announced a public challenge with an "Open Letter to the Digital Community", inviting interested parties to attempt to crack their proposed digital watermarking schemes. The protection scheme was cracked by a team at Princeton University, led by Professor Edward Felton. So, any device implementing an algorithm based on the same reasoning could inevitably be cracked too. The last press release from SDMI.org dated from May 18, 2001. SDMI admitted that there was no consensus for adoption of any combination of the proposed technologies, although the digital watermark remains widespread in use.

4.3.6. XMCL

Extensible Media Commerce Language (XMCL), a rights specification language, was announced in June 2001 by RealNetworks Inc. and is supported by 27 companies. XMCL, as XrML and ICE, is an interchange format for the specification of content copyright information based on XML. It describes usage rules that apply to multimedia content and is designed to communicate these rules in an implementation independent manner for interchange between business systems (e.g. Web store fronts, customer tracking and management) and trusted delivery and playback systems (e.g. DRM implementations responsible for enforcing the rules described in the language)³⁶.

XMCL describes the minimum, self-complete set of business rules under which digital media is licensed for consumer use³⁷. These business rules support multiple business models including rental, subscription, ownership, and video on demand/pay-per-view. When a business system authorises a customer transaction for digital media, it generates an XMCL document that is then acted upon and enforced by a specific trusted system.

4.3.7. ODRL

The *Open Digital Rights Language (ODRL)* initiative aimed at developing and promoting an open standard for rights expressions. ODRL is intended to provide flexible and interoperable mechanisms to support transparent and innovative use of digital resources in publishing, distribution and consuming of electronic publications, digital images, audio and movies, learning objects, computer software and other creations in digital form³⁸. It is an open source language without license requirements.



ODRL is based on an extensible model for rights expressions which involves a number of core entities and their relationships. There are three core entities to the model: assets, rights and parties. The first includes any physical or digital content, should be uniquely identified, may consist of many subparts, may be in many different formats and may also be encrypted to enable secure distribution of content. The second entity includes permissions which can then contain constraints, requirements, and conditions. Finally, parties include end users and right holders. With these three core entities, the model can then express or revoke offers (proposals from right holders for specific rights over their assets) and agreements (when parties enter into contracts or deals with specific offers).

4.4. The future of DRM Systems?

DRM technology continuously faces several issues that need to be addressed. In the future, DRM enabled business models will grow dramatically. DRM technology will certainly improve over time and enhance new features, supporting business models that are endorsed by content providers.

The adoption of a DRM system is not easy; it is costly, complex and not fully secure. This is the main obstacle for cultural heritage organisations to implementing such a digital control mechanism. A balanced, successful DRM system is often also a combination of technological, business and legal concerns in a functional, open and acceptable framework.

DRM can be used as the vehicle for digital content providers to run and catch up with the easy spread of their proprietary information - especially through sharing digital assets over the Web, such as we see happening on museum Websites, national portals or larger initiatives such as Europeana. However not everyone puts his faith in the implementation of DRM systems in order to ensure correct handling and usage of digital content. Some even state that *Text and image content that is published on the Web is available to all; technologies that attempt to prevent or limit usage (watermarking for example) have met with limited success*³⁹.

5. Open and new licensing models

The notion of providing access to content in an open way is a core part of what has been labelled 'Web 2.0'. Although this term has become part of the ecosystem in which we now work, the subtleties have in many areas yet to be worked out. For many people (and in many contexts), 'Open Content = Free Content'. For organisations such as museums where exploitation of IPR is a core part of their business, this is understandably very hard to come to terms with. - Kelly, Ellis & Gardler⁴⁰.

In their 2008 article, Brian Kelly (UKOLN), Mike Ellis (Eduserv) and Ross Gardler (JISC OSS Watch) question "What does openness mean to the museum community?"⁴¹. The statement above summarizes the principal response within the museum community; first of all 'openness' is seen as a threat, only later is it seen as an opportunity.

In a fully operational Web 2.0 environment, users govern content. To allow these users to become active content providers as well as content users, openness⁴² is needed. Opening up one's collections in an Internet environment makes cultural heritage institutions rethink their "authority" concept. Is it possible to find a balance between the museum as a curator with an authorised voice (as it has been in the past), and the user as a curator? Museums (but also other cultural heritage organisations) have relied heavily on the concept of scarcity in the past. It was all about limiting access to collections since this could earn them money (from physical visitors entering). When one decides to disclose (parts of) a collection of cultural heritage material through the Internet, access to it becomes "free" and museums tend to think that they will lose physical visitors at first - and fear for digital copying of their objects.

The question that should really be posed is whether limiting access in a digital environment is still something worth attaining (since users will be clever enough to "steal" digital on-line content anyway if they want to), or should we increase access to our collections and encourage this (more people will have access to the material and consequently also pay for an "analogue" visit to it)?⁴³

5.1. Open Content Licenses: Creative Commons as an example

A Creative Commons license is an open content license, which means that it differs from a classic copyright license which requires financial compensation for the author. Open content licenses cover a family of licenses that explicitly allow for access at no cost, copying and re-use. 'Open content' is a concept used to describe content that is licensed in such a way that users are given permissions that are normally covered by exclusive copyrights⁴⁴ - at no cost to the user. The fact that they're royalty-free is a feature characteristic to this kind of license. The fewer copyright restrictions are placed on the user of a piece of content, the more open the content is⁴⁵; but this does not mean that any author who chooses to apply an open content license to his or her work automatically relinquishes all his or her author's rights⁴⁶. For more information on the actual contents of the licenses, we refer you to creativecommons.org



5.2. The application of open content licenses by cultural heritage institutions

Thanks to the use of, for example, Creative Commons, the (re-)use of copyrighted works on the Internet has been simplified, because it provides a standardised, well recognised way of giving others the right to re-use and remix content for free.

However, these licenses can only be applied by cultural heritage institutions themselves if they are the only right holders on the content they would want to (re-)use or exploit. However, museums and other cultural heritage institutions are not only "users" of another's content; they also create their own cultural content. They may have taken pictures to make their Website more attractive; there are exhibition catalogues which have been created by the museum; there could be conference posters, papers and presentations made by museum staff. When the cultural heritage institution holds the rights to these artefacts, it is very easy to give them a CC-License⁴⁷ and make these contextual resources available on-line. They often provide a valuable source of additional information about the context of the collection (both historically as well as from an institutional perspective) and are in many cases forgotten about if they are not disclosed to the public.

The use of CC can benefit museums and other cultural heritage organisations in two ways:

- instead of having to add extensive rights statements for the on-line content on the organisation's website⁴⁸, the CC-license is self-explanatory;
- if a user wants to use the content that has been put on one's Website, he or she will just have to look at the CC-license to see what he or she is allowed to do with the content.

It should be kept in mind that CC-Licenses are often difficult to implement (even if the will is there) because they require that the licensor, e.g. the museum, has the (full) copyright of the object(s)⁴⁹. This implies that the knowledge and awareness about what rights are applicable to the collection, who the right holder is, and which exploitation rights the institution holds, are crucial for the application of open content licenses (and on a broader scale, facilitating the distribution of collections)⁵⁰.

5.3. Examples & cases of best practice

A number of cultural heritage institutions have over the past year embraced the "open" approach to the collections they hold⁵¹. Not only do they make their content available on-line, for example on their own Website, but they strive to make it available on a scale that's as broad as possible. Cooperation is set up between large, high-trafficked Websites and the cultural heritage organisation, often under a CC-related licensing basis. Some examples of how cultural heritage organisations could benefit from new on-line display platforms at their disposal, in combination with a free licensing of content, are presented below.

5.3.1. Wiki Loves Art

One of the most popular platforms for the inclusion of digital cultural heritage (mostly images) outside the "regular" distribution pool (such as museum Websites, national aggregator portals, educational project Websites, etc.) is Wikipedia. This open content-licensed encyclopaedia was started in 2001 and now contains over 15.300.000 articles in more than 270 languages⁵².

The fact that Wikipedia is such a highly trafficked Website makes it attractive for cultural heritage institutions to be part of that success. Several projects have been set up between Wikipedia and/or Wikimedia and the cultural heritage field. One of these projects is 'Wiki Loves Art'⁵³. This project started off in the United States but has been picked up in other countries as well; in 2009, Wikimedia the Netherlands (in cooperation with some other partners such as CC NL and Erfgoed Nederland) organised a Dutch version of the project⁵⁴. Just recently a similar initiative called 'Britain Loves Wikipedia' was launched in Britain⁵⁵.

The idea of Wiki Loves Art was that museums open their doors to photographers during a one-month period. Visitors of all kinds could take pictures of objects displayed in the museum. Every participating museum could determine a list of objects of which pictures could be taken. Sometimes there were no restrictions and the entire collection could become part of the project; other times due to copyright restrictions only a set of objects could be photographed. Restrictions mostly had consequences for contemporary works of art on which the term of protection had not yet ended. These pictures taken ended up on Wikimedia Commons to enrich articles with them, but were first uploaded to Flickr, licensed as CC-BY-SA. A photography contest was also linked to the project; the 'best' pictures were awarded prizes.



23 dingen voor musea⁵⁶.
Taken during a Wiki Loves
Art photoshoot at the Dutch
ceramic museum
Princessehof.

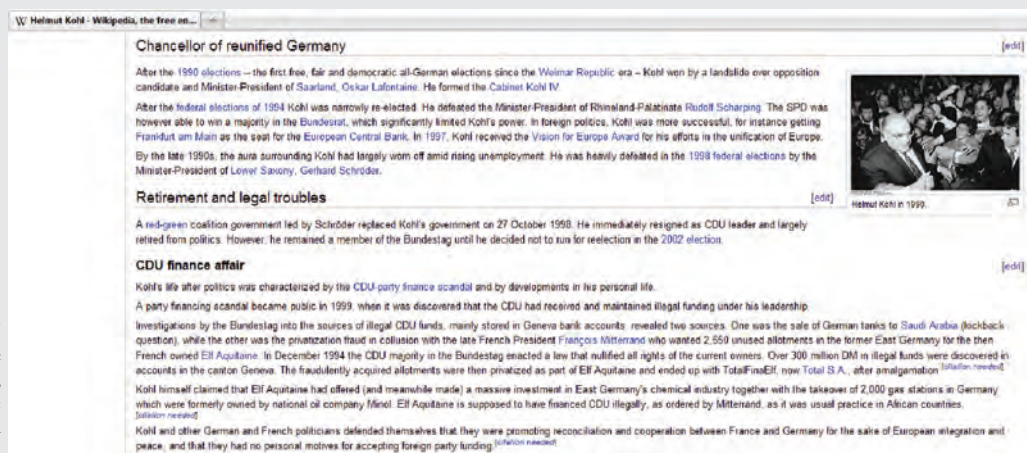


5.3.2. Bundesarchiv + Wikimedia Germany

Another successful example of cooperation between a cultural heritage institution and Wikipedia/Wikimedia Commons is the release of some 100.000 images under an open content license to Wikimedia Germany by the German Federal Archive (Bundesarchiv) in December 2008⁵⁷. This cooperation serves as an example that can be repeated with other archives.

The German Bundesarchiv⁵⁸ is a federal authority that permanently collects and keeps archive material and makes it available for scientific purposes. At the time it contributed to Wikimedia, the archive owned about 10 million images, most of them not yet digitised. In 2007 they started an online image repository, in which the public could look at thumbnails for free and pay for access to higher resolution images. Wikimedia Germany contacted them to ask if cooperation would be possible and they responded positively; a contract between the Bundesarchiv and Wikimedia Germany was signed just a year later. This cooperation was based on the idea that media files created with public funding should be released to the public under an open content license⁵⁹.

Of course nothing is really 'for free'; in return for the Bundesarchiv providing its images, the Wikimedia community is conducting a matching process between the authority files of the Bundesarchiv, the German National Library and Wikipedia person-data templates. The images that are provided by the Bundesarchiv are licensed as CC-BY-SA and a minority as CC-BY, to ensure that media files remain freely available to the public. The release of files with slightly reduced resolution (800px on the larger side) can be an acceptable temporary solution to preserve traditional sources of income for archives. Thanks to the integration of images into the Wikipedia articles, the number of visits to the Bundesarchiv Website has never been greater⁶⁰.



Screenshot of a Wikipedia article on the life of Helmut Kohl, containing an image of Kohl by the German Bundesarchiv⁶¹.

5.3.3. Flickr The Commons

Flickr is a six year old on-line photo sharing community. Before January 2008, it primarily held "user-generated content"; photographs and stories from individuals from all around the globe. "The Commons"⁶² is a project that was developed to add publicly-held photography collections to this on-line photo collection⁶³. The idea was not only to give more publicity to these images by adding them to Flickr. The vast user base of the platform could add context to the images by tagging and describing them. They could then link images to each other and in this way the contributing cultural heritage organisations could re-use this information to enrich their own databases⁶⁴.

As George Oates points out, it is the mandate of museums and libraries around the world to increase access to their collections. An on-line sharing community such as Flickr is an ideal platform for opening holdings up to millions of interested users. Flickr set up a pilot project with the American Library of Congress, presenting their Prints & Photographs Catalog to a global audience. The LOC is the world's largest library and manages an enormous (digitised) photographic collection. However, many descriptions of the photographs are missing. As part of the images of this collection are already in the public domain, the LOC hoped that by putting them on-line, users would want to become involved and improve the description of the photographic collections⁶⁵.

More about The Commons

The Commons was launched on January 16 2008, when we released our [pilot project](#) in partnership with [The Library of Congress](#). Both Flickr and the Library were overwhelmed by the positive response to the project! Thank you!

The program has two main objectives:

1. To **increase access** to publicly-held photography collections, and
2. To provide a way for the general public to **contribute information and knowledge**. (Then watch what happens when they do!)

FAQ

I work for a cultural heritage institution that would like to be a part of The Commons. How do we do that?
Please let us know you're interested by [registering here](#). It helps a lot if you let us know some background about your institution, and direct us to any online photo collections you already have.

How can I get involved?
We've already seen fantastic contribution from the Flickr membership. Your tags and conversations about the content in The Commons has been wonderful! The best way to get involved is to add a tag or two to the photos you see, and if you happen to know anything else about the subject, by all means add a comment.

What's "no known copyright restrictions?"
This new rights statement is being contained to the institutions participating in The Commons, at the account level. It is a requirement for participation in the program that institutions may rightly claim "no known copyright restrictions" on the content they share. [More information](#).

Additional Information
☒ I agree with the terms of the Commons (??)
☐ I don't see the effect
 A new way to share photos on Flickr

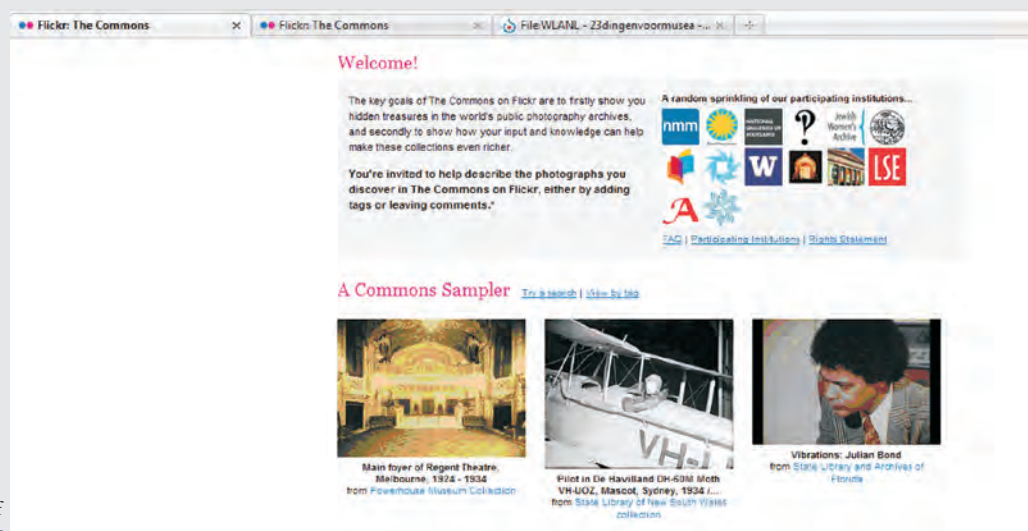
© 2008 Flickr Inc. All rights reserved. Privacy Policy

Screenshot of
www.flickr.com/commons



Other participating institutions in the Flickr The Commons project have been, amongst others, Powerhouse Museum Collection, Brooklyn Museum, Smithsonian Institution, Bibliothèque de Toulouse, George Eastman House, National Maritime Museum, The Library of Virginia, Australian War Memorial collection, New York Public Library, National Galleries of Scotland Commons, State Library of Queensland, Australia, Swedish National Heritage Board, The National Archives UK and the Dutch Nationaal Archief.

The Dutch Nationaal Archief⁶⁶ also made a part of its photo collection worldwide available through Flickr The Commons. After a period of six months, they evaluated the participation in this project. The Nationaal Archief went to look for the stories behind the photographs and called upon the visitors of the Flickr Website to add comments: does anyone recognise his or her (grand)parents in a picture? Can someone tell something more about the activity that is depicted in the photograph? Does anyone recognise his or her own street or village? After the six months of the pilot, the Flickr account of the Nationaal Archief contained nearly 800 photographs which resulted in over 1.000.000 page views, nearly 2.000 comments and over 6.800 tags added⁶⁷.



Screenshot of
www.flickr.com/commons

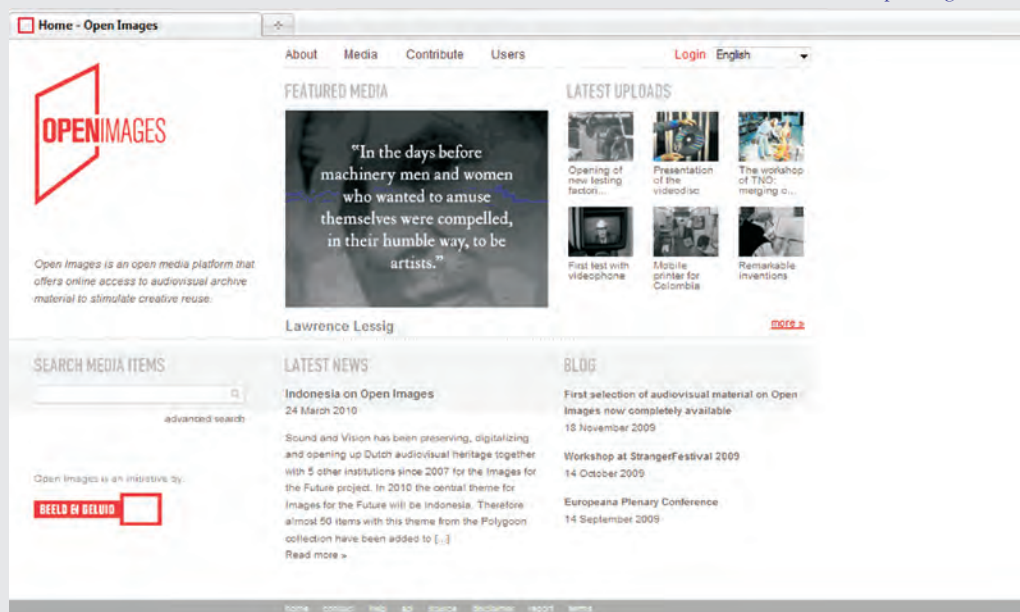
5.3.4. Open Images

Open Images⁶⁸ is a Dutch open new media platform that offers access to a selection of archival materials for creative re-use. Footage from audiovisual collections may be downloaded and remixed into new works on the Website. Users of Open Images also have the opportunity to add their own material to the platform and expand the existing collection.

Access to the material on Open Images is provided under the Creative Commons licensing model (CC-BY-SA). The policy of the project is, as they put it, "open-open-open": the content is available under open content licenses, an open source media platform is being used (MMBase), it uses an open video codec (OGG-theora) and has an open API⁶⁹.

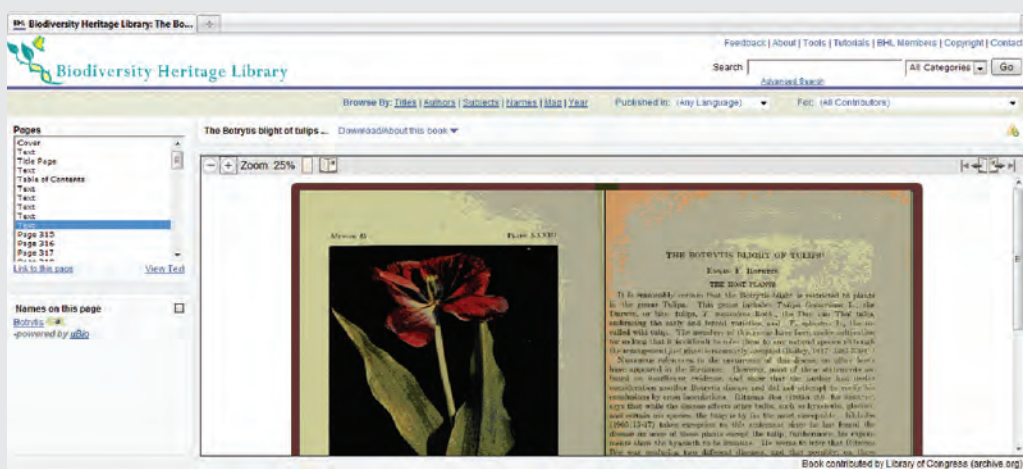
Open Images is an initiative of the Netherlands Institute for Sound and Vision in collaboration with KnowledgeGeland. Since the end of 2009 Open Images has offered access to over 450 Polygoon items from the Sound and Vision archives (on which Sound and Vision holds the rights). The collection will grow substantially over the coming years, as new items will be uploaded continuously and audiovisual items have, thanks to the CC-License, been uploaded to Wikipedia to illustrate articles⁷⁰.

Screenshot of
www.openimages.eu/en



5.3.5. The Biodiversity Heritage Library

The Biodiversity Heritage Library (BHL) is a consortium of 12 natural history museum libraries, botanical libraries, and research institutions organised to digitise, serve, and preserve the legacy literature of biodiversity. The consortium aims to establish a corpus of digitised publications concerning biodiversity in the Internet. The digitised material is made available in an open access way and forms part of a global "Biodiversity Commons". In doing so, they started a dialogue with right holders, the online community interested in the field and other interested parties in order to ensure that this literature can be made available on-line. The BHL slogan therefore is "Science has no borders"⁷¹.



Screenshot of a search result on the BHL website
www.biodiversitylibrary.org/item/90982#10

All of the images on the BHL Website BiodiversityLibrary.org are free to use as long as this use is non-commercial and the user follows the conditions in the CC-BY-NC license under which the images are licensed. In the future, as the on-line library is likely to expand, more licensing models will be investigated and made possible. Following the spirit of Europeana, BHL states on its Website that [...] *The Biodiversity Heritage Library is committed to keeping public domain materials in the public domain*⁷².

5.3.6. Points of interest

There are different degrees of public interaction that a cultural heritage institution may strive for in making its content available on-line. For example, users could be provided with a search or browse function which only enables them to look at the content. However, in case an institution would like to obtain feedback on the actual content of the material it has placed on-line, a technical infrastructure needs to be provided.

In cases such as the cooperation with Flickr, users were allowed to publicly comment on on-line images (a similar feature has been applied by multiple museums also on their own institutional Websites). The institution should be aware of the fact that not only highly valuable comments could end up there, but also inappropriate statements. The more "freedom" of interaction granted users, the more user interaction needs to be moderated. A similar problem might also arise on Web platforms where users can download content, remix it and upload their versions of it. There is no guarantee that they will not incorporate unsuitable material; this kind of feature therefore also requires moderation.

6. Conclusion

While the availability of technology to help us digitise cultural material and make it available (and re-usable) on-line increases, copyright regulation still restricts the playing field. Because the creation of a "safe" on-line environment for digital collections of cultural heritage organisations by implementing a proper DRM system and the surveying of copyright status of the (analogue) work are tasks that demand increased personnel, time and technological knowledge from the institutions, they do not start a process to open up their collections overnight.

Collective rights management organisations make it easier for cultural heritage organisations to obtain licenses on the material in their collections; in some cases there is only one organisation to address, which might even grant licenses for a global repertoire of works. But use of this content is often still linked to the payment of some form of remuneration despite the often non-commercial nature of the act of making this content available on-line.

In the cases in which a cultural heritage institution is the only right holder on the content it would want to (re-)use or exploit, the content can be "opened up". Licensing mechanisms such as Creative Commons are fit for the job in such a non-commercial framework. A number of cultural heritage institutions have over the past year embraced this "open" approach to the collections they hold. Not only do they make their content available on-line, for example on their own Website, but they strive to make it available on as wide a scale as possible. Cooperation is set up between large, high-trafficked Websites and the cultural heritage organisation, often under a CC-related licensing basis.

Some examples of how cultural heritage organisations could benefit from new on-line display platforms, in combination with a free licensing of content, were presented. Certainly, increasing



the amount of user-interaction on one's Website might require a change of policy (e.g. one might require content moderation), but this could well be offset by the benefits a cultural heritage organisation might receive from it. Additional contextual information that is delivered by a user which can be incorporated into the museum's database, a link between images or content on the museum's and other Websites, increased visibility of the institution to a global audience. For more indirect results (e.g. the more people come into contact with the material, the more one could want to pay for an 'analogue' visit to it) we will have to give these initiatives some more time. Hopefully these examples can be an inspiration to other cultural heritage organisations.



1. This deliverable report is available online at www.athenaeurope.org/index.php?en/149/athena-deliverables-and-documents [viewed 1 February 2010].
2. E. Werkers, R. Kerremans, T. Robrechts, J. Dumortier, *Auteursrecht in de digitale samenleving*, 2009, p. 9 (only in Dutch). www.cjsm.vlaanderen.be/e-cultuur/downloads/onderzoeksrapport_auteursrecht_in_de_digitale_samenleving.pdf [viewed 1 February 2010].
3. P.B. Hugenholtz, *Toegang tot de bron: het auteursrecht en het Internet*, Ars Aequi, July/August 2008, p. 582 (only in Dutch). www.ivir.nl/Publicaties/hugenholtz/AA_jul_aug_2008_Toegang_tot_de_bron_het_auteursrecht_en_het_Internet.pdf [viewed 1 February 2010].
4. More information on the concept of public domain can be found in paragraph 2.3.3. *Europeana: The Public Domain Charter*.
5. This deliverable report is available online at www.athenaeurope.org/index.php?en/149/athena-deliverables-and-documents [viewed 1 February 2010].
6. The proposition to extend the term of protection for musical works has been approved by the European Parliament, but still has to pass the European Council in order to become law. European Parliament press release, 23/04/2009. www.europarl.europa.eu/sides/getDoc.do?language=EN&type=IM-PRESS&reference=20090422IPR54191 [viewed 1 February 2010].
7. *European Commission communication: Europe 2020 – A European strategy for smart, sustainable and inclusive growth*, 2010, p. 12. www.ec.europa.eu/eu2020/pdf/COMPLET%20EN%20BARROSO%20%20%20007%20-%20Europe%202020%20-%20EN%20version.pdf [viewed 1 February 2010].
8. E. Werkers, R. Kerremans, T. Robrechts, J. Dumortier, op. cit., p. 134.
9. Authors can also only give a mandate to the CRMO for certain tasks, such as collecting the equitable remuneration that is due in the framework of legal licences.
10. E. Werkers, R. Kerremans, T. Robrechts, J. Dumortier, op.cit., p. 134.
11. This is not always the case. A crucial point in enabling digital use by third parties is that CRMOs must acquire the competence to represent the digital rights for their members as well. Not many CRMOs have yet managed to do so.
12. *eIFL-IP, Handbook on copyright and related issues for libraries*, 2009, p. 31-32. www.plip.eifl.net/eifl-ip/issues/handbook/handbook-complete-text/downloadFile/file/handbook2009_en.pdf?nocache=1268692483.68 [viewed 1 February 2010].
13. *eIFL-IP*, op. cit., p. 31.

14. E. Werkers, R. Kerremans, T. Robrechts, J. Dumortier, op. cit., p. 137-138. And provided that they are able to issue licenses for digital uses.
15. If the Website is not aimed at other countries but still accessible from these countries, one could argue that a license expanding to these other countries is not necessary. This is however a complex issue.
16. For more information on OnLineArt, see: www.onlineart.info/ [viewed 1 February 2010].
17. P.B. Hugenholtz e.a., *The recasting of copyright and related rights in the knowledge economy*, Amsterdam: University of Amsterdam, 2006, p. 182.
18. For more information about Stichting Foto Anoniem, see: www.fotoanoniem.nl/
19. M.H. Elferink, A. Ringnald, *Digitale ontsluiting van historische archieven en verveesde werken*, 2008, p. 21.
20. UK Intellectual Property Office, *The way ahead A Strategy for Copyright in the Digital Age*, 2009, p. 38. www.ipo.gov.uk/c-strategy-digitalage.pdf [viewed 1 February 2010]. See paragraph 3.2. Voluntary collective licensing; the INA-example could be facilitated by the use of an extended collective license instead of their current "opt-in" system.
21. *eIFL-IP*, op. cit., p. 31.
22. UK Intellectual Property Office, op. cit., p. 38.
23. P.B. Hugenholtz e.a., op. cit., p. 183.
24. UK Intellectual Property Office, op. cit., p. 38.
25. *Application of an Extended Collective Licensing Regime in Canada: Principles and Issues Related to Implementation*. www.aix1.uottawa.ca/~dgervais/publications/extended_licensing.pdf [viewed 1 February 2010].
26. UK Intellectual Property Office, op. cit. p. 38.
27. Ibid.
28. Ibid. The Norwegian agreement only allows for access to library material by Norwegian IP-numbers (BBC's iPlayer is likewise only accessible by British IP-numbers). This once again implicates a territorial limitation and does not provide for a worldwide Internet access.
29. L.Qiong, R. Safavi-Naini, N. Sheppard, *Digital Rights Management for Content Distribution*. Australian Information Security Workshop (AISW2003), Adelaide. www.dcslab.snu.ac.kr/courses/dip2010f/papers/14-Liu03.pdf [viewed 1 February 2010].
30. I.J. Cox, M. Miller, J. Bloom, *Digital watermarking and steganography*. Amsterdam; London: Elsevier, 2008, 593 p.
31. DOI (2007). Digital Object Identifier DOI. <http://www.doi.org> [viewed 1 February 2010].
32. R. Rosenblatt, *The Digital Object Identifier: Solving the Dilemma of Copyright Protection Online*. The Journal of Electronic Publishing 1997 Vol. 3 no 2. www.press.umich.edu/jep/03-02/doi.html [viewed 1 February 2010].
33. XrML. *Extensible Rights Markup Language XrML, 2.0 Specification*. 2007. <http://www.xrml.org> [viewed 1 February 2010].
34. G. Heng, *Digital Rights Management (DRM) using XrML*. T-110.501 Seminar on Network Security. 2001.
35. B.V. Hunt, *Information and Content Exchange (ICE) Reference Version*. 2000. www.infloom.com/gcaconfs/WEB/paris2000/S21-04.HTM [viewed 1 February 2010].
36. J. Ayars, *XMCL - the eXtensible Media Commerce Language*. RealNetworks, Inc., W3C. 2002. <http://www.w3.org/TR/xmcl> [viewed 1 February 2010].
37. *XMCL - eXtensible Media Commerce Language*. 2001. www.xmcl.org/index.html [Retrieved February 1, 2008].
38. R. Iannella, *Open Digital Rights Language (ODRL), Version 1.1. IPR Systems, W3C*. 2002. www.w3.org/TR/odrl [viewed 1 February 2010].
39. B. Kelly, M. Ellis, R. Gardler, *What Does Openness Mean To The Museum Community? Archives & Museum Informatics*. 2008 www.archimuse.com/mw2008/papers/kelly/kelly.html [viewed 1 February 2010].
40. Ibid.
41. Ibid.
42. M. Ellis, R. Gardler, B. Kelly, op. cit., 2008 and L. Regebro, *The benefits of openness, a modern example*. 2008. www.theopensociety.wordpress.com/2008/08/17/the-benefits-of-openness-a-modern-example/ [viewed 1 February 2010]. As the authors point out, the concept of "openness" appears in many contexts. There are open standards, open source software, open content and open services. The meaning of this "open" in the different contexts is basically one of giving easy access to content, giving access to more and more content, letting people share information and collaborate on enriching this information.
43. Ibid.



44. Open content offers the right to make more kinds of uses of this content than those normally permitted by copyright law. It might for example be that you may use an open-licensed image in a non-commercial publication for free (against no royalty payment), as long as you credit the author of the image.
45. See: www.opencontent.org/definition/ [viewed 1 February 2010].
46. *eIFL-IP*, op. cit., p. 43.
47. However easy it may be, a cultural heritage organisation should still beware of acting "too straightforward", for instance when it licenses a work that is actually in the public domain. For every application/use of an open source/open content license, one must first deter the copyright on the object before releasing it under the license of choice.
48. Providing every single work with a separate CC license also takes time and work. An alternative could be to provide a general statement, indicating that all content on a particular Website is licensed under one type of CC license. The problem here is that in many cases such a general statement is not valid for literally every piece of content on the Website (to which perhaps also third parties hold the rights).
49. T. Evens, *Het gebruik van open content licenties in het culturele veld*, 2008, p. 14. In cases where the museum does not hold the full copyright, they might want to contact the right holder and ask them about terms of use of the work. At the same time they can ask if he/she is willing to license his/her work under CC-conditions for use by the museum.
50. Ibid.
51. It should be noted that the extent to which "openness" can be put into practice mainly depends on the rights status of the objects that form the collection of a cultural heritage organisation.
52. See: www.meta.wikimedia.org/wiki/List_of_Wikipedias#Grand_Total
53. See: www.n.wikipedia.org/wiki/Wikipedia:Loves_Art
54. See: www.wikilovesart.nl/
55. See: www.britainloveswikipedia.org/wiki/Main_Page
56. See: www.commonswikimedia.org/wiki/File:WLANL_-_23dingenvoormusea_-_wiki_loves_art_@_Prinsessehof.jpg
57. See: www.commonswikimedia.org/wiki/Commons:Bundesarchiv
58. See: www.bundesarchiv.de
59. M. Schindler, presentation at the 5th COMMUNIA Workshop "Accessing, Using, Reusing Public Sector Content and Data", 26-27/03/2009.
60. Ibid.
61. See: www.en.wikipedia.org/wiki/Helmut_Kohl
62. The Flickr the Commons Website contains a rights statement section. This contains a.o. the following: *By asserting "no known copyright restrictions", participating institutions are sharing the benefit of their research without providing an expressed or implied warranty to others who would like to use or reproduce the photograph. If you make use of a photo from the commons, you are reminded to conduct an independent analysis of applicable law before proceeding with a particular new use.* www.flickr.com/commons/usage
63. G. Oates, *The Commons on Flickr: A Primer*. In: J. Trant and D. Bearman (eds.), *Museums and the Web 2008: Proceedings*, Toronto: Archives & Museum Informatics, 2008. www.archimuse.com/mw2008/papers/oates/oates.html [viewed 1 February 2010].
64. Ibid.
65. J. Moortgat, *Taking pictures to the public Evaluatieverslag Nationaal Archief & Spaarnestad Photo op Flickr The Commons*, 2009, p. 4. www.nationaalarchief.nl/images/3_16370.pdf (Dutch only) [viewed 1 February 2010].
66. See: www.flickr.com/photos/nationaalarchief/
67. J. Moortgat, op. cit., p. 4.
68. See www.openimages.eu/en
69. J. Oomen, P. Keller, Presentation on Open Images during *Europeana* v1.0 plenary meeting, The Hague, 15/19/2009.
70. See: www.openimages.eu/about/en
71. See: www.biodivlib.wikispaces.com/Open+Access and <http://biodivlib.wikispaces.com/About>
72. See: www.biodivlib.wikispaces.com/Licensing+and+Copyright. The term "public domain" in this sentence should be interpreted as "not subject to copyright protection", because of the nature of the work or the fact that the term of protection has expired. Members of the public without a background in legal affairs sometimes interpret the concept of public domain as "everything that is part of a public collection (e.g. museum collection) and has been acquired with public funding". This is also a correct interpretation, but it is not the one aimed at in this context.