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IP and Europeana Space Pilots:  
Case Studies

# **The Photography Pilot and Hackathon**

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# 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 monetizing potential and investment appeal.

The featured applications were grouped around three ideas:

- Museum applications providing access to Europeana and similar resources which can yield new types of visitor-experiences;
- Storytelling web applications and apps allowing for users to create new stories by mixing historical images from Europeana and other public sources with user-generated content;
- 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 (where developers of innovative applications involving cultural photographic heritage met, exchanged ideas and looked for commonality and interoperability) were channeled through a business modelling event in London. Developers then were able to showcase their work to selected investors.

# The Photography Pilot and Hackathon



Courtesy of KU Leuven

## 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 reuse. 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. Reusers 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<sup>1</sup>, led by KU Leuven focused on the potential for the photographic heritage available on platforms such as Europeana<sup>2</sup>, Wikimedia Commons<sup>3</sup> and Flickr Commons<sup>4</sup> 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 an example of high standards of digitisation.

The E-Space Photography pilot sought to enlarge the corpus of reusable content available in Europeana for use during the hackathon. To this end a Photo Collection Day was organised in Leuven (Belgium) on 27 November 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

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1 See <http://www.europeana-space.eu/photography-pilot/>

2 See <http://www.europeana.eu/portal/>

3 See [https://commons.wikimedia.org/wiki/Main\\_Page](https://commons.wikimedia.org/wiki/Main_Page)

4 See <https://www.flickr.com/commons>

licenses, almost all of them chose to apply the Public Domain mark or a CC-BY licence. These pictures would then be made available on Europeana portal.

## 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<sup>5</sup> — 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<sup>6</sup>.

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<sup>7</sup> (already popular with museums and other cultural heritage institutions) and the E-Space back-end. The pilot developed a storytelling app on the Omeka server, with its API set up in the E-Space Portal. This provides 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. They can also upload their own pictures and add them to the mix. These stories can then be shared with other users. A possible educational application of this would be for a

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5 See <http://www.europeana-space.eu/blinkster/>. Blinkster is also in use for the Museums pilot.

6 This app is also explored in the museums pilot See <http://www.europeana-space.eu/museums-pilot/>

7 See <http://omeka.org/>

teacher who builds a sample story-board and then asks students to add their own stories.

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. Possible uses for this are touristic applications where tourists need to find a given place using a photograph. Once they recognise the scene with their camera, a historical image is overlaid on the smartphone screen with appropriate explanations. To this end a tour through Leuven was prepared based on photographs of the Leuven City Archive available in Europeana. A large set of reference images was then created of the actual scenes so that users could recognise the scenes with their smartphones.

The Photography pilot used historical images, both open and proprietary (for which copyright had to be cleared). Pilot content was mostly reusable content from Europeana with a Creative Commons<sup>8</sup> or Public Domain label<sup>9</sup>. 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 were undertaken with the city archive to review their position on the rights labelling of this dataset. This will involve a decision at the city council level.

These applications and content were made available at the Photography hackathon<sup>10</sup> which took place on 25–27 February 2016 in Leuven and during which content providers and developers tested new ideas.

## 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

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8 See <http://creativecommons.org/>

9 See <http://creativecommons.org/publicdomain/mark/1.0/>

10 See <http://www.europeana-space.eu/hackathons/photography/>

and prevents content providers from obtaining information about who is using their content and when. The E-Space Portal<sup>11</sup> 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<sup>12</sup>. The E-Space API provides functionalities to exploit user login data while protecting privacy.

## Using the “protected space”

Some content available through Europeana is labelled as Public Domain<sup>13</sup> or is protected by copyright and available for reuse under CC licenses<sup>14</sup>. However for much material it is unclear how it may be reused as no licence or rights label is attached to the work. This causes problems for reuse. Two main concerns underpin the hesitancy of content providers to open up content for reuse: 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 reuse. During the photograph collection day in Leuven noted above, most chose to apply

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11 <http://www.europeana-space.eu/technical-space/>

12 See <http://www.europeana-space.eu/content-space/>

13 See <http://creativecommons.org/publicdomain/mark/1.0/>

14 See <http://creativecommons.org/>



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. It is important to note however that the objection to commercial reuse often does not stem from a desire to generate income or to prevent others from making gains; it is more from moral and privacy concerns and copyright is seen as a vehicle to attain these goals. While many would be proud if their family photographs were on display on an historical website, others would feel that their privacy was compromised if the photograph was used in commercial advertising.

Another problem encountered by the EuropeanaPhotography consortium was that of the quality of photographs. Businesses such as Top Photo<sup>15</sup> or Parisienne Photographie<sup>16</sup> shared images that were low quality thumbnails or heavily watermarked thus rendering them largely incapable of reuse. 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 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. They would be willing to licence the images so long as they are part of the business model – one of revenue sharing.

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15 See <http://www.topfoto.co.uk/>

16 See <http://www.parisiennedephographie.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 IPR Team provided Rights Clearance Guidelines<sup>17</sup> 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 on having the legal aspects of this space 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 he/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 reusable 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 a user should change images until there are, 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,

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17 See <http://www.europeana-space.eu/content-space/ipr-toolkit/>

the user can click to go straight to the content provider's website to start negotiation. This approach reflects the reality that copyright management is a part of the risk management of creative industries. Clearing all rights before an experimental business model has matured, in a demonstrator phase, might be cumbersome and lengthy process that could stifle innovation.

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 used the E-Space "protected space" for about 60 of the restricted photographs in the KU Leuven collection but the rest of the content used was openly licensed due to the issues highlighted above.

## Ethical Considerations for the Reuse 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<sup>18</sup>", 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."

However, in a reuse case where metadata (context) and the digital image (content) can get separated the "risk" involved in making the picture freely

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<sup>18</sup> See [http://pro.europeana.eu/files/Europeana\\_Professional/Publications/Ethics%20Paper%20-%20Network.pdf](http://pro.europeana.eu/files/Europeana_Professional/Publications/Ethics%20Paper%20-%20Network.pdf)

reusable is increased. Archives fear that historical family photographs could be reused as, for example, backgrounds in shooting games, or cheapened by their reuse in marketing campaigns.

To address these sensitivities a number of tools are available in the Online IPR Consulting Kit<sup>19</sup> within the Content Space<sup>20</sup> Copyright Tools for Cultural Heritage<sup>21</sup>. In the Twelve Point Code of Ethics<sup>22</sup> tool for best practice in the reuse of photographic heritage content the importance of moral integrity, authenticity and respect in the reuse of digital cultural content is stressed.

## **The Photography Hackathon and Approaches to IP**

The Photography pilot held the hackathon in Leuven on 25–27 February 2016, and invited 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 was to bring the three applications noted above together such that content providers and users were able to collaborate in innovative ways with the tools and content. The purpose of the hackathon was 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 was to create “tidal innovation” rather than one bright idea for one new micro business model.

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19 <http://www.europeana-space.eu/content-space/ipr-toolkit/>

20 <http://www.europeana-space.eu/content-space/>

21 <http://www.europeana-space.eu/content-space/copyright-tools-for-cultural-heritage/>

22 [http://www.europeana-space.eu/wp-content/uploads/2015/07/spa\\_cspace\\_15\\_twelvepoints.pdf](http://www.europeana-space.eu/wp-content/uploads/2015/07/spa_cspace_15_twelvepoints.pdf)

The E-Space IPR Team 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. The IPR team offered documentation on IP and a slide presentation to be made available at the photography hackathon to inform attendees of the options and possibilities in IP for their content and software development.

Fred Truyen from KU Leuven gave a talk to the hackathon participants at the opening event. He stated that hackathon teams would be requested to provide a preliminary IP plan together with their concept, which would 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.

One of the Europeana Space attendees stated publically that participants brought ideas to the hackathon and that these were often shared during the event. If the participants were worried about others taking ideas, then they should not be brought to the hackathon.

A talk was also given during the opening event on Creative Commons licences.

## Content Used for the Hackathon

Apart from open content, hackathon attendees were also able to upload and manage user-generated content, and access protected E-Space content in the “protected space”.

The Photography pilot provided KU Leuven restricted collection and free content from Europeana.

Content provider	Selected collection/s	Type of content	Amount of the sourced content	Copyright
Europeana	The European Library	Images	148	CC BY-NC-SA
openbeelden.nl	Open Images	Video	201	CC BY-SA
Europeana	Digitising Contemporary Art	Images	65	CC BY-NC-SA

For the storytelling app, developers had access to the entire Europeana repository through its connection with the E-Space Portal API. This API also provides access to the digital content from DigitalNZ<sup>23</sup>, the MINT aggregation platform<sup>24</sup>, and the Rijksmuseum<sup>25</sup>. Users could select items from search results and add them to a personal repository in the “protected space” to build collections and stories.

The content sources for the pilot demonstration were Europeana and single-provider content (see the table below). The single-provider content was filtered on suitability for use at the hackathon.

Content provider	Selected collection/s	Type of content	Amount of the sourced content	Copyright
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.*

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23 See <http://www.digitalnz.org/>

24 See <http://dm2e.eu/mint-metadata-interoperability-platform/>

25 See <https://www.rijksmuseum.nl/en>

## Tools Available for the Hackathon

Tools from Europeana Labs<sup>26</sup> were provided together with the E-Space API, which gives access to the “protected space”. Open tools were provided to connect content management system software such as Omeka to this backend environment.

The metadata API and the storytelling API (Omeka developments) software was made available open source to participating developers at the hackathon. Those who wanted to use it were able to obtain a key free of charge, for reuse of the heritage content. Participants also had access to the JPSearch API<sup>27</sup>.

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.

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.

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<sup>26</sup> See <http://labs.europeana.eu/>

<sup>27</sup> See <http://jpeg.org/jpsearch/index.html>

## Post-Hackathon Developments

Of particular note for the Photography pilot was the way in which one team that came together at the photography hackathon was formed and the subsequent developments.

Individuals from two different organisations, and two individuals (one a student) formed a team that eventually called themselves the “StoryPix” team — a name that was an idea of the student.

During the hackathon the team had intensive discussions around their developing concept, discussions that were not always smooth. The team utilised a concept of combining images and sound that one of the team members brought from the earlier E-Space TV hackathon. This was enriched with the idea of another team member to use billboards to create a thematic connection (or story) between billboard images around the city. Two members of the team insisted that StoryPix used content from Europeana, stressing also the connection with local heritage. The final result, StoryPix, won the Photography hackathon in Leuven.

That evening three members of the team, along with a Europeana representative, went to dinner in Leuven. The following day, without saying anything to other members of the team, one of the members of the StoryPix team registered StoryPix for the Europeana Challenge – a competition staged by Europeana, and which had been discussed during the dinner. This registration was just on time for the competition deadline. Virtually the same pitch was used for the Europeana Challenge that had been produced for the Photography hackathon. The individual who registered StoryPix for the Europeana Challenge said nothing to the other members of the team when StoryPix was awarded 15000 Euros by Europeana at the end of March 2016.

The individual who had registered StoryPix with Europeana Challenge went on, as an individual, to attend the E-Space Business Modelling Workshop and enter incubation.

A string of emails ensued among interested parties. It was agreed that it was not for E-Space to adjudicate between the parties but it was for them



to find their solution. During incubation a new team was formed around StoryPix, which included the individual who registered the innovation for the Europeana challenge but not the other members who had been part of the original team during the Photography hackathon.

Analysing the events through a legal lens leaves open questions as to the ownership of the underlying intellectual property in StoryPix. While ideas are not protected, their expression is: if a dispute arose questions would be asked as to how much of what emerged from the Photography hackathon was idea and how much expression would need to be answered, and in so doing the author and owners of the underlying IP identified.

No new questions on IP arose from StoryPix and the new team during business modelling and incubation.

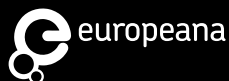
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