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

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Included (indicate as appropriate)	Executive Summary	☒	Abstract	☐	Table of Contents	☒

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This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

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1 EXECUTIVE SUMMARY

In this Hackathons Report deliverable there is a specific focus on reflection and critical analysis of hackathons as a platform for engagement, business creation, and implementation of IPR and assessing content re-use. Furthermore the deliverable investigates how the planning, strategizing and execution of these six hackathons within the Europeana Space project grew and can serve as an example for other projects.

The Europeana Space project had the challenge of aligning six hackathons with 29 stakeholding partners in a way that would allow for consistent and exceptional results in the form of six businesses that would be "market ready" by the end of the project's duration. This challenge proved even more remarkable considering the different levels of involvement in the project by certain partners. Such differences significantly change partners' perceptions of project goals and commitments to said goals. As a solution, Work Package 5 developed a strong base methodology from which partners could freely build upon. This methodology allowed for flexibility between all the events and should be envisioned by any other cultural heritage projects that are holding series of events that all strive for the same results.

It was during the hackathons where partners could engage the creative industries and new audiences with content and tools delivered and developed, respectively as part of the Europeana Space project. This deliverable reflects upon hackathons as a platform for engagement as reflected upon by project partners and project management. However, the clear response is that such events are incredibly beneficial not just for engagement but for stimulating institutions as a whole, gaining new ideas and energy through the younger, creative industry participants.

Alongside engaging new audiences, the structural purposes of the hackathons was to inspire the creation of new businesses that will build strong business models wherein creative re-use of cultural heritage materials can develop business sustainability. This deliverable examines the mixed results of using hackathons as a method for these results based on their informal reputations and limited scope and timeframe.

Finally, this deliverable investigates IPR and re-use of cultural heritage material in a creative setting, considers results from surveys used during the hackathons wherein participants are asked to elaborate on how they sourced material and also addresses IPR within the creative industries and younger generations' approaches towards content re-use.

The conclusion of this deliverable expands on general lessons learned from this aspect of the Europeana Space project, noting that no two hackathons will be the same, as they will be customised to meet their specific objective, location and target audience.

2   INTRODUCTION

2.1   BACKGROUND

A traditional 'hackathon' is an event in which computer programmers and others involved in software development collaborate intensively on software projects. Occasionally, there is a hardware component as well. They exist as a free playground to experiment and catalyse unrestricted innovation. Hackathons typically last between a day and a week and used to look like a sweatshop full of programmers bending over their laptops barely speaking.

However, times are changing. Nowadays, hackathons appear everywhere and many people are familiar with the concept. The word 'hackathon' is a portmanteau of the words 'hack' and 'marathon', where 'hack' is used in a playful, explorative way, not only relating to soft- and/or hardware issues. Google-ing the word 'hackathon' yields links to events from *Hacking Ikea* to *Hack the Brain*, *The Menu*, *The Planet*, *The Future* and so on.

However, organising a hackathon, especially within the cultural heritage sector, is not a 'one size fits all format' that suits every occasion, but needs to suit and be adapted to the purpose. When executed that way, a hackathon can facilitate emerging insights, inspiration and ideas, and can support the developments of new networks, projects, inventions and businesses. Therefore, success depends on thorough preparation, a strong intention, and bringing together people with relevant skills in order to create the right circumstances to further inspire them. It is also important to share the objectives with hackathons from the outset.

2.2   ROLE OF THIS DELIVERABLE IN THE PROJECT

This deliverable is the second of four that outline the progress of work undertaken within this strand of Work Package 5.

Deliverable D5.4 - *Selection Criteria and Incubation Planning* – provided the overview of the process of the participant journey from hackathon to business modelling to incubation that had been defined by the WP5 team after much discussion.

The role of this deliverable is to describe hackathon stage of the process in much greater depth, considering areas of preparation, the events themselves, identify the three winning teams at each event, before considering the lessons that have been learned from the Europeana Space approach to running hackathon events.

The further progress of the teams that have been successful at the hackathon stage will be detailed in the two subsequent deliverables:
- D5.3 – *Monetisation workshops*
- D5.5 – *Enterprise development report*

2.3 APPROACH

The aim of the Europeana Space project is to create new opportunities for employment and economic growth within the creative industries sector, focusing especially on Europe's rich digital cultural resources. It provides an open environment for the development of applications and services related to digital cultural content.

Work Package 5 sought to source, from the public, six sustainable projects with potential for job creation that re-use digital cultural heritage material. The genesis of these six projects would take place at six hackathons, each with a different theme and organising partners. During the first year of the project it was the goal of hackathon Task Leader Waag Society, WP5 Leader NISV and as well as the other key task leaders, Remix and COVUNI to firstly structure the work package's flow of outputs between task hackathons, business modelling and incubation.

Ultimately, six Europeana Space hackathons were organised to engage creative SMEs, developers and individual makers and producers with the content of Europeana. Each hackathon had a theme based on the respective pilot it was partnered with, resulting in innovative and fresh applications, services and creative models of digital content re-use. The best three concepts of each hackathon progressed to an intensive Business Modelling Workshop (BMW) in London to explore their projects' business potential. This was essential to ensure that the six projects chosen for incubation had a high potential for success.

2.4 STRUCTURE OF THE DOCUMENT

This deliverable comprises 11 chapters, including the Executive Summary and this Introduction.

Chapter 3 considers hackathons as a method of engagement within the cultural heritage sector, especially with new and younger communities that might not otherwise be reached by traditional approaches.

Chapter 4 looks at hackathons within the context of the Europeana Space project and how partners discussed and started to plan their event, the objectives of the project to create new businesses and how selection criteria was established to identify winning teams, as well as the support available from other areas of the project.

Chapter 5 is the core of this document, as it explores each hackathon in greater detail. For each event, goals, target audiences, pilot contributions and expert juries are considered, with comments provided by both organisers and participants, ahead of reflection and details of winning teams.

Chapter 6 takes a global view of the hackathons from the project's perspective, before Chapter 7 considers whether hackathons can really be the starting point for a new business venture.

Chapter 8 summarises the survey of attendees to understand the sources of content used at hackathons and their perspectives on copyright, as well as the project's approach to intellectual property within hackathons.

Chapter 9 provides a series of lessons learned by the project when organising its hackathons. It provides advice of the planning requirements and considerations that need to be made ahead of organising similar events within the cultural heritage sector in the future.

Chapter 10 lists the three winning teams at each hackathon that will progress onto the Business Modelling Workshops.

Chapter 11 concludes the deliverable.

3   THE VALUE OF HACKATHONS

3.1   HACKATHONS AS A PLATFORM FOR ENGAGEMENT

In the digital cultural heritage sector there is an endless amount of discussion about engaging the "creative industries". Yet time after time, conferences, workshops and projects are composed of the same partners and institutions of a similar age, background and focus. Cultural heritage events, unless specifically focused on the creative industries, are a quasi "old boys club" that lack diversity in age, ethnicity, and profession. This is a problem, as the vocabulary and public voice of cultural heritage institutions is that they are a place for all people to discover Europe's rich and diverse heritage but the events fails to illustrate this. Europe's heritage is not white, middle aged, middle class, city dwellers. Nor is it simply the great painters, masterpieces. It can be very dark and evil like any discussion over colonisation, religious conflict, xenophobia, etc. or light and airy like a van Gogh painting on a summer's day. This diversity should be visible at all cultural heritage events.

Cultural heritage is a sector that can be increasingly more inclusive for other sectors including journalism, digital media, and the creative industries, as well as a stronger female and non-caucasian presence with younger generations being offered a stronger and more leading-role. This section will explore how events like hackathons are a perfect platform for this.

3.2   ENGAGING NEW COMMUNITIES AND YOUNGER AUDIENCES

Cultural heritage conferences and events are by design, targeted at the cultural heritage sector with spill-over into academia and technology. By operating as such for the majority of their existence they have created a niche for themselves. They lodged themselves in ICT and academia instead of the creative industries. This is more apparent when one sees the influx of EU and national grant offers that adamantly demanded more engagement within the SME and creative industries. There was a desperate need for cultural heritage to meld with the start-up economy and creative industries instead of operating continually in their own niche.

This crossover and integration is not easy. Heritage institutions need to be able to show and demonstrate exactly what their added value is. However, most cultural heritage events do not have the budgets, partners or sponsors that creative industry events do but that doesn't mean they cannot be engaging and interesting.

Hackathons attract a wide array of attendees who are not always interested in cultural heritage. They can come from different backgrounds, have different focuses and be drawn to hack-events for various reasons like problem solving, business development, curiosity, peer pressure or the challenge. There's is a low threshold of knowledge of cultural heritage needed to attend a hackathon. They are low commitment (1-3 days), they are social, and there is usually free food and/or alcohol involved. It's not surprising that university students are the main target for hackathon organisers. Hackathons are as much a branding and marketing tool as they are a platform to resource new perspectives and improve interdisciplinary cooperation.

By harnessing hackathons as a marketing platform, cultural heritage will be able to actively and physically work with new audiences, building their rapport with younger generations and being seen not as a museum that one visits, but as a museum that one incorporates into their daily life just like any brand or technology.

3.3 HACKATHONS IN THE CULTURAL DOMAIN

During the past couple of years the open data hackathon field in Europe has changed tremendously and hackathons, as a format, have become much more frequent. Whereas in 2011 Apps for Amsterdam was one of a few hackathons that year, in 2016 there was one almost every weekend. Furthermore, both the organisers and purpose of the events have changed. Where they used to focus more on open exploration and potential social issues, currently there is a huge commercial interest – hack events are often held to source new commercial ideas for a product, service, or for scouting new employees.

Even though commercially focussed hackathons have increased, events focusing specifically on the social and cultural domain have not seen the same steep growth. Besides Europeana Space, only a handful of organisations have used the hackathon methodology in the past year to further explore the potential of their cultural data.

There are many reasons why a hackathon can be a suitable format for the cultural heritage domain. The Europeana Space project partners listed several different incentives for them to host a hack event:

- to find hidden value in data: the rich content that is available through cultural institutions can generate new value for the owners of the data as well as participants of the event;
- to explore new concepts and ideas which emerge in a group of innovative thinkers: this can lead to inspiration and concrete plans for the organisers as well as participants;
- to establish networks of designers and coders: hackathons attract local creative talent for future collaborations;
- to re-think business models: an outsider perspective can shed new light on potential business models for data and applications;

- to experiment with technology: new combinations and possibilities can come to light through offering a host of software and hardware;
- to explore Europeana: the richness of current open cultural data in Europe can deliver interesting new combinations within an organisation's own collection.

In order to understand the way in which hackathons are organised in the cultural domain, hackathon organisers both within and outside of the consortium were asked to complete a questionnaire. Below is a summary of the responses given by organisers:

Planning

Hackathons in the cultural domain are often planned six to nine months in advance. This in contrast to hackathons with a technical or business focus, which can be scheduled on much shorter notice, often only weeks in advance. One of the reasons for this is the multitude of stakeholders who need to be involved to create a relevant event and the complex questions around re-use and licenses regarding the available content.

Success

Defining a clear goal is critical to organising a successful hackathon; otherwise it is difficult for interesting and coherent results to emerge. Creating direct connections with potential participants is also important. The organisers needs to know who is going to be at the event and manage the network and contacts in a way that ensures participation from relevant groups.

Network

Developers as well as designers are the most important target participants. Both being equally important is specific to cultural hackathons, as the focus is not only on technical aspects but usually very much on content. Other target groups depend on the specific hackathon goals. Sometimes cultural institutions can help strengthen the network, while for other events inviting incubators can be a more fruitful strategy.

Programme

Specific hackathon goals determine which elements to include in the programme. It is important to provide sufficient structure to ensure teams develop their work as far as possible. One should not rely on participants only coding during the day. Other relevant elements can be: a pre-event (early meeting space for potential participants), providing pre-information about software, hardware and data (eg wiki pages available in advance), networking and speed dating with potential investors/clients, pitching to peers, pitching to jury, successful and failed business stories in the field, and allocated time to look at business model, design, concept, technology and data advice.

The Europeana Space hackathons took place within this context, but with the added objective of creating six new businesses from the creative activity.

4 DEVELOPMENT OF THE EUROPEANA SPACE HACKATHONS

4.1 PARTNER HACKATHON MEETINGS

Following the considered discussions that had taken place within the first year of the project to structure the participant journey within Work Package 5, detailed within D5.4 - *Selection Criteria and Incubation Planning* - the next step was to undertake detailed planning of the hackathons. This proved more challenging than originally expected, due to the large number of partners involved in each event, the different goals of each stakeholder, differing desired outcomes, as well as geographical boundaries that prevented more hands on collaboration and differing levels of experience in organising hackathons amongst consortium members.

The first event to align the thinking of the hackathon organisers with that of their pilot counterparts was a workshop facilitated by Waag, Remix, and NISV in Venice, during the project General Assembly meeting (October 2014) . This workshop allowed all partners to make their desired outcomes known, brainstorm about stakeholders and begin drafting an event description. What was learned from this workshop was that some partners were more attuned than others, mostly due to diversity within the pilots in terms of content and technology. It should be noted though that this workshop took place eight months before the first hackathon and therefore allowed project partners plenty of time to put plans in place.

A similar session took place at the General Assembly meeting in Coventry (March 2015). At this stage partners had already had time to interact with one another, strategize and work on the planning documents provided by Waag. At this point, most hackathons were taking shape as desired. There were still struggles between partners in terms of narrowing down the event goals in light of the significant amount of potential stakeholders and broad themes.

After the Venice General Assembly meeting, a quarterly Skype meeting was setup to discuss the progress and planning of events with representatives of each hackathon. WP5 Leader NISV and Remix, responsible for the incubation process, were present during these meetings there, to make sure the outcomes of the events would align with the other phases of WP5.

The hackathon organisers agreed that Task Leader Waag would setup a meeting schedule with each host starting six months in advance of the planned event. A total of six meetings during this timeframe were envisioned, but in practice the amount of meetings was planned according to the actual needs of the host partner. Some already had plenty of experience with hosting events, while others were relatively new to the task. For the less experienced, meetings were considered especially useful in the beginning of the trajectory as it helped give direction to goals and deal with insecurities about hosting a hackathon. Once events went into production phase (2-3 month in advance), meetings turned out to be less useful. Once the direction of the events was set and production had been set in motion no further support appeared to be necessary.

4.2   PREPARATIONS

In order to ensure the setup and delivery of six successful hackathons during the Europeana Space project, Waag prepared a series of templates and steps that every hack organised could follow. In the first stages of the project, they provided the consortium with templates that showed a relevant outline for the events which were elaborated on at the Venice and Coventry General Assembly meetings where discussions were held with all partners to provide guidance and discuss ideas. When dates for the events became more concrete, a series of Skype calls were set-up to track progress of each of the organisers.

4.2.1   Intake template
A hackathon intake template was set-up for every event and formed the starting point for discussions with the organisers. The template considered the following elements:
- preliminary analysis of pilot setup and hackathon integration
- first outline of the goals of the event
- potential next steps
- relevant questions such as:
    o what tools, content etc. will come out of the pilot?
    o which organisations are directly involved in the creation of the pilot, what are their roles and what drives them?
    o who are potential interest (and user) groups that can benefit from the outcomes?
    o who are developer groups in your area, how can they be reached?
    o which local businesses could benefit from the outcomes of the pilot?
    o which schools, colleges and universities can connect their curriculum to the pilot outcomes?
    o who are possible sponsors that might have a stake in the outcomes?
    o which parties would be interested to invest in developed ideas and Apps from an event?

4.2.2   Hackathon set-up template
After the Intake template, the Hackathon set-up template gave a complete overview of all aspects that needed to be taken into consideration for the organisation. The entire template is added as an appendix, the outline is as follows:
- CONTEXT
    o Description from DoW & starting point of the hackathon
- PRECONDITIONS E-SPACE
    o Criteria when selecting a winner
    o Jury
    o Budget
- STAKEHOLDERS
- GOAL
    o Proposal
    o Outcomes
- TARGET AUDIENCE

- TOOLS AND TECHNOLOGY
    - What content, what soft- and hardware will be available?
    - The role of the pilot scenarios in the hackathon
- ACTIVITIES
- USPs
    - Meetings and events
    - Hackathon programme
    - Existing events
- CHALLENGE / AWARDS
- COMMUNICATION
- PLANNING

Based on Europeana Space hackathons and prior experience, Waag has produced a "How to guide for hackathons in the cultural sector" to aid prospective event organisers.

4.2.3 Criteria when selecting a winner

D5.4 – *Selection criteria and incubation planning* – explains in detail how the WP5 Innovation Space model was developed, including the requirement for three winning hackathon teams to progress to the London BMW. Below are the agreed criteria to choose hackathon winners.

SECTION 1: Use of digitised cultural heritage objective

Does the proposition use or re-use (or facilitate the use or re-use) of digitalised cultural heritage material?
How innovative is the proposition in relation to this objective?
How important is developing the proposition for the cultural heritage sector?
What potential does the proposition have to deliver data and research findings that are of relevance and value to the cultural heritage sector?

SECTION 2: Job creation objective

What is the composition and size of target market(s) for this proposition?
What is the likelihood of job creation as a result of this proposition?
What social, economic, political and technological trends could support this proposition?
What social, economic, political and technological trends could threaten this proposition?
Who are the current and likely competitors to this proposition, and to what extent does the proposition demonstrate high barriers to entry, first-mover advantage or high-quality differentiated products?

SECTION 3: Likelihood of success

How likely is the proposition to be adopted by users?
    Relative advantages to the user over other current options
    Compatibility with the normal values and behaviours of the user
    Low complexity for the user
    Ability for users to engage on a trial basis

To what extent does the team possess and demonstrate:
Effective communication skills
Technical competency
Experience within relevant industries
Skills and capacity to successfully accomplish launch
A long-term desire to build the proposition as a new business
Does the proposition have a realistic and sound financial plan?
Does the proposition have a realistic time plan for launch and growth?
To what extent has the proposition formulated a sound business strategy for growth?

4.2.4   Jury

Jury panels were formed based on local expertise within the thematic sector, as well as the Europeana Space Project Coordinator or Technical Coordinator and a representative from the pilot team, as well Remix that would ultimately provide incubation support to winning teams. Europeana was also invited to provide a jury member, which they did for four of the six hackathons.

4.2.5   Budget

Each pilot had a budget of €5.000 for the organisation of the hackathon.

4.2.6   Contributions from other partners

As each thematic hackathon was linked to one of the project's pilots, the tools and apps created by partners within those teams were made available for hackathon participants to use for inspiration and/or to build upon. There was no obligation for participants to do this, but the option was there. In turn, partners benefitted for the user feedback of hackathon teams where tools or apps were used.

The Content Space team within the project had developed a series of guide documents for partners to use within the project to help with partners' understanding of IP and copyright terminology and application. As hackathon participants were going to creatively re-use content, the IP team put together two question and answer booklets, one aimed at hackathon organisers and the other for attendees.

A representative of the project's Technical Space partner NTUA was available at each hackathon to provide advice and to help participants to access content via the E-Space portal which has a federated search function to find content, as well as giving interested parties a space where they can build their own collection.

As with all aspects of the project, partner were available to provide support and answer questions both for use of pilot tools, on copyright guidance, as well as on accessing content.

5   HACKATHONS

5.1   TV HACKATHON: HACKING CULTURE BOOTCAMP

Pre-Event: 9 April 2015
Hackathon: 8-10 May 2015
Location: Amsterdam
Participants: 51

5.1.1   General overview

The TV hackathon was part of the exploration of new opportunities for re-using Europeana content in Smart TV applications and the creation of new TV experiences. Creative entrepreneurs were to be challenged to come up with new innovative concepts and business ideas. The participants sought were (existing) teams of creative entrepreneurs and businesses with skills and capacity to successfully accomplish and launch a new business concept. The aim was for innovative ideas to inspire the field and as a result creative individuals were recruited to take part in assembled teams. The TV hackathon aimed for an interesting mix of expertise; from artist, interaction and industrial designers to developers, scenario writers and filmmakers to support and speed up the creative process.

5.1.2   Goal

The main focus of the hackathon was the development of Smart Audio/Video tools and/or applications (a working prototype!) using Europeana content. The aim was to enter at least three propositions (concepts/working prototypes) into the monetisation and incubation trajectory, as well as one innovative proposition to emerge that would be inspiring to the field.

5.1.3   Target audience

The participants of the hackathon were recruited through a targeted strategy. The TV hackathon looked for creative entrepreneurs, businesses and experts like soft- and hardware developers, documentary- & filmmakers, interaction designers, content developers for museums and the public domain, artists, and designers. They were asked to send a motivational letter to explain why they should be selected by the organisers.

Teams of individuals (not assigned to an existing team) were to be assembled during one of the pre-meetings, some months before the actual hackathon.

Partners involved a strong relevant network of broadcasters, local decision makers, city marketers, businesses, investors and cultural institutions like museums that can benefit from the outcomes. These stakeholders can create further business opportunities.

5.1.4   Pilot integration and other tools
The Europeana TV pilot exploits the opportunities of re-using Europeana content in Smart TV applications to create new TV experiences. A technical framework provides an environment to analyse, personalise and present Europeana content. The pilot supports and evaluates two scenarios in which video material is brought out of the archive and onto the viewer's screen.
In order to have a successful hack event, the pilot provided tools and technology in the form of APIs, open source code and hardware that could be (re-)used by participants of the hackathon. The participants were free to use all open source and commercial software available.

Platform
The TV hackathon offered the participants open source platform developed by Noterik, a technical framework, which provides an environment to analyse, personalise and present Europeana content. Noterik gave technical support during the event.

Europeana content
The TV hackathon made sure that they offered content under creative commons license next to content that could be used by participants under specific (clearly described) pre-conditions.
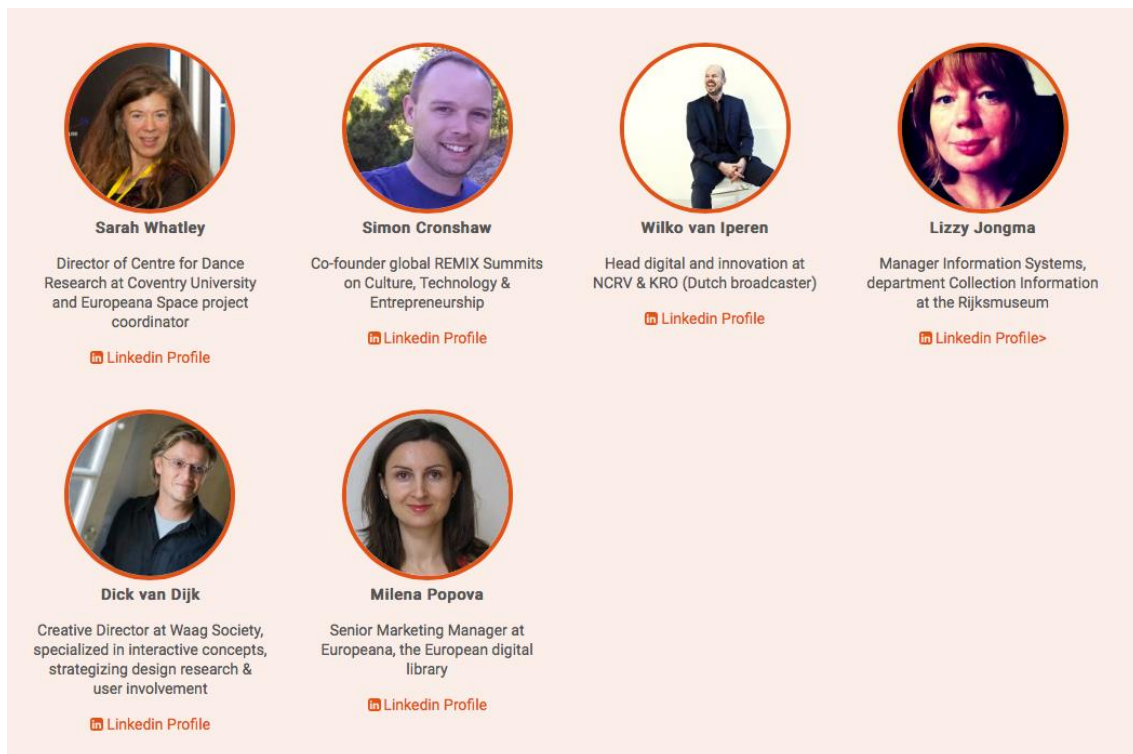
Pilot outcomes
The broadcast scenario and the local community scenario were showcased as a starting point for the design trajectory of the hackathon. The two scenarios were to be evaluated and analysed. In the broadcast scenario, RBB developed an HbbTV application based on the Berlin Wall. The Smart TV application, targeting a social community, is based on archive videos about the building of the Berlin Wall in 1961 up to the German re-unification in 1990.

The local community scenario led by Sound and Vision focuses on applications for an immersive user experience at home or in the classroom. It investigates use cases such as elderly people re-living personal memories through TV content or pupils learning about historic events.

A Multi-Screen Toolkit with tools, workshop methods and proof of concepts were developed in workshops and made available for the hack event. Content for the pilot was to be delivered by Istituto Luce – Cinecitta, RBB and Sound and Vision. Technical partners Noterik, NTUA and Proton Labs supported the realisation of the pilot.

5.1.5 Jury

Sarah Whatley
Director of Centre for Dance Research at Coventry University and Europeana Space project coordinator
Linkedin Profile

Simon Cronshaw
Co-founder global REMIX Summits on Culture, Technology & Entrepreneurship
Linkedin Profile

Wilko van Iperen
Head digital and innovation at NCRV & KRO (Dutch broadcaster)
Linkedin Profile

Lizzy Jongma
Manager Information Systems, department Collection Information at the Rijksmuseum
Linkedin Profile>

Dick van Dijk
Creative Director at Waag Society, specialized in interactive concepts, strategizing design research & user involvement
Linkedin Profile

Milena Popova
Senior Marketing Manager at Europeana, the European digital library
Linkedin Profile

5.1.6 What the organisers said

"I personally thought it was a positive experience, because I have learned that there is a value in creating time and space specifically for working on creative concepts. I would not have recognised that valuable aspect before. It was also good to get an 'outsider' view on the project and having people from the likes of VPRO and World Press Photo attending. It's a good way for the project to attract like-minded and innovative/creative people that have experience in the cultural sector."

"From the TV pilot point of view, it was a bit disappointing that no one incorporated AV material or SmartTV experiences in their ideas. Good use cases are needed for re-use of AV heritage and this hackathon failed to generate them. This is a combination of both the technology being a bit more complex, but also the focus of the hackathon being dictated by the incubation/business modelling aspect. The NISV team did come up with a concept that included video, but this was not at all acknowledged and the concept was judged as 'too design and object specific' and lacking a business model."

"All in all it was a very inspiring weekend. We witnessed the birth of some very good applications all built in the course of just a weekend. We like to thank the various groups of participants for bringing their expertise and the fact that our ideas resulted in real working prototypes makes us confident that we will see more of these apps in the very near future."

5.1.7 What the participants said

"Our audience is no longer at home on the couch watching the TV, but they are everywhere and we are seeking new ways to reach our audience."

"The hackathon was intense. We didn't come up with a really new idea, but we worked so much on it to communicate and learn how to reach the people and clarify the idea."

5.1.8 Hackathon Reflection

In May 2014, the decision was made to move the TV hackathon forward to May 2015, as the pilot tools would be ready to share and test with interested participants. Partners Waag, NISV and Noterik took advantage of their proximity within the Netherlands to undertake detailed planning over a number of months to organise a really successful event, which included an important pre-event to set the scene for participants and help to build teams. This hackathon establishes a very successful model for other to learn from.

The concepts that resulted from the 'Hacking Culture Bootcamp' demonstrated innovations that analysed, personalised and enriched cultural data, which was a very desirable outcome for the E-Space project. However, as partners of the TV pilot noted, one outcome of this hackathon was that none of the winning concepts specifically made use of audio-visual material in their prototype applications, albeit using some of the pilot's tools such as the multi-screen toolkit.

5.1.9 Record of the event
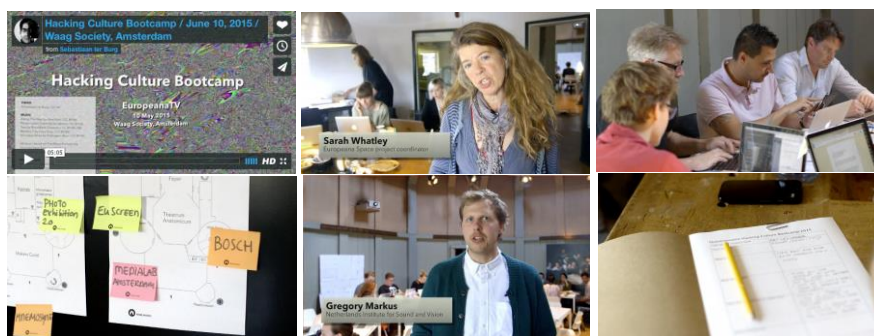
A video of the Hacking Culture Bootcamp is available at https://vimeo.com/129602052
Further photographs of the event are available at https://www.flickr.com/photos/ter-burg/sets/72157652206683478
http://www.europeana-space.eu/hackathons/europeana-tv-hackathon/
http://www.digitalmeetsculture.net/article/hacking-culture-for-europeana-space-tv-hackathon-successfully-concluded/
https://www.waag.org/nl/event/hacking-culture-bootcamp
http://www.noterik.nl/building-multiscreen-apps/

5.1.10 Winning teams

The three winning teams were:

ART(F)INDER

Which museum should I go to and does anyone want to come with me? ART(F)INDER will answer these questions for you. Matchmaking based on love of art.

Bosch

Add your voice to art with Bosch. Create your own story based on a painting, record it as a play for others to listen back when visiting the painting.

Mnemosyne (later in the process know as We Make Known)

Haptic and mathematical, Mnemosyne will make huge collections more manageable, serendipitous and enjoyable for educators, visitors, and curators.

5.2 DANCE HACKATHON: HACKING THE (DANCING) BODY

Pre-event: 2 November 2015
Hackathon: 20-21 November 2015
Location: Prague
Participants: 22

5.2.1 General overview

Road mapping of development of brain computer interface (BCI) technologies and especially their use and application was one of the main demands for the Prague hackathon that focussed on the body and movement. The biggest challenge was to break silo-thinking and mutually strong prejudice of scientific, artistic and business communities. Success was evaluated on recording further collaboration of the teams formed for this particular event. The development of promising software, that was partly ready for prototyping after the hackathon, can also be considered a success.

5.2.2 Goal

The goal of the event was to develop previously unavailable patches and software code for interconnecting independently existing parts of the dance performance and present their usefulness in reinforcing digitalised data from Europeana digital repositories. The overall aim was focused on the re-use of cultural heritage materials in live performance, cross-media storytelling, motion tracking and transformation of data, brain/computer interfaces in performance. Participants were encouraged to combine different aspects of these elements to create something truly new and unique with the potential for commercial application.

5.2.3 Target audience

Creative and driven participants with a passion for dance, technology and digital cultural heritage that want to take their creative ideas and prototypes to the commercial sector and raise the possibilities for creative re-use of cultural heritage material and dance technology.

General cultural public:

Young researchers and students of new media art, technical subjects (IT), students of artistic subjects. In Prague there is a dense web of institutions delivering the education in inter-media and new media subjects (Institute of Intermedia of CVUT, National Technical Library, The New Media Studies at Charles University etc.). However, it is harder to get in touch with new impulses outside of the academic circles and formal education. Students of those subjects form an important part of CIANT's community and audience.

Fans of performative art, modern dance:

The hackathons attracted wider public interested in modern dance art-forms, who observed and visited activities of affiliated stakeholders (Dance Prague) and were curious about the innovative approaches in contemporary dance.

New media artists:

The topics of a hackathon generally fell into the field of interest of Prague new media art scenes.

Entrepreneurs:

In Prague there are a number of companies which started up in new media business and digital solutions development, such as BRAINZ Ltd., Pebe Interactive Ltd., LunchMeat Collective, AV Media Ltd. who were invited and who showed their interest in promising projects towards the market.

5.2.4 Pilot integration and other tools

The Dance pilot partners COVUNI, IN2 and FCSH-UNL attended to share the tools and apps developed within the pilot.
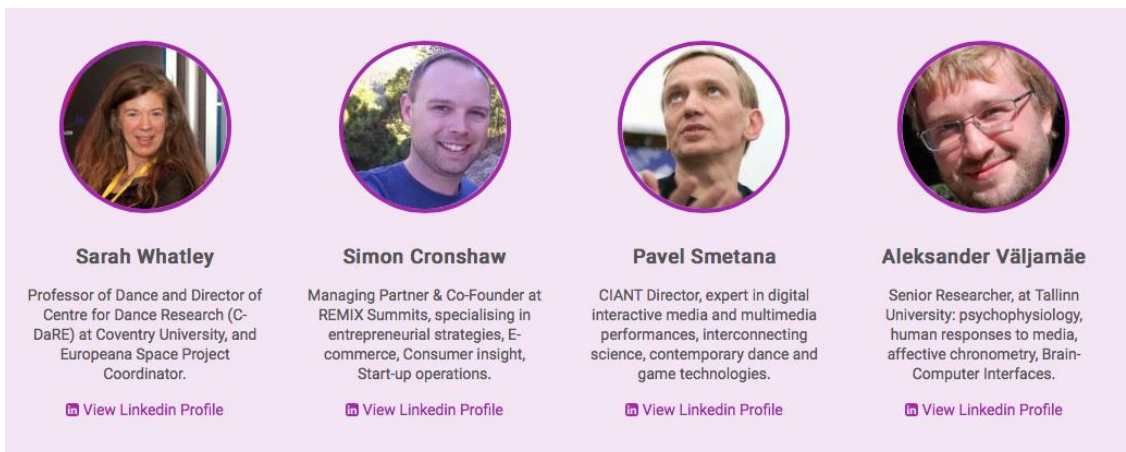
- DancePro was used to improve the coordination between dancer and the motion tracking systems coordinators and coders, who worked on the mediation between the movements and interactive visuals.
- DanceSpaces was also available to participants for use in creating dance related stories and collections.

A collection of images was also prepared on the E-Space portal, which were made available for participants to access.

Available soft- and hardware:

BCI systems Mitsar, Emotive, Epoc. Motion tracking devices: Kinect, Mocap. Lasers. PC and Mac computers. Software: VVVV, Max, Pure Data, Open ViBE.

5.2.5 Jury

Sarah Whatley

Professor of Dance and Director of Centre for Dance Research (C-DaRE) at Coventry University, and Europeana Space Project Coordinator.

in View Linkedin Profile

Simon Cronshaw

Managing Partner & Co-Founder at REMIX Summits, specialising in entrepreneurial strategies, E-commerce, Consumer insight, Start-up operations.

in View Linkedin Profile

Pavel Smetana

CIANT Director, expert in digital interactive media and multimedia performances, interconnecting science, contemporary dance and game technologies.

in View Linkedin Profile

Aleksander Väljamäe

Senior Researcher, at Tallinn University: psychophysiology, human responses to media, affective chronometry, Brain-Computer Interfaces.

in View Linkedin Profile

5.2.6 What the organisers said

"The hackathon was a way to link dance artists, researchers, scientists, investors and sponsors while also promoting the cultural heritage sector and Europeana's content. We hope that participants gained new skills, learned from others, networked, and had a space to create while also gaining exposure to other companies and potential investors.

The hackathon re-used Europeana Dance content to come up with progressive and innovative applications while also deploying software that empowers and connects artists, creatives, technologists and educators.

The hackathon demonstrated that there is great potential for creative engagement in dance content through the development of digital tools. Creative processes demonstrated that the interaction between dance and technology is not straightforward. Furthermore it was evident the Europeana content has the potential to feed into creative 'remixing' artistic activities. Both tools were introduced and Dance Pro, in particular sparked interest for use in a variety of ways, inside and outside the studio."

5.2.7 What the participants said

"We were interested in hackathons generally and we heard good things about the people hosting it. The hackathon was interesting and stressful because of limited time. But we met good people and the judges were also giving very good advice. We were pitching every few hours which helped change the idea into something useful."

"My advice is to participate in a hackathon. You must put some work into it, but it is not stressful if you come with friends. I can recommend participating."

This blog post, that followed the event, provides an apt description:
https://medium.com/@holger_no/hackathons-f79e2df37f57#.cpfg4fi8y
"Why I Love Them
A hackathon is a great way to meet like minded people, learn new tools and languages. They kick you out of your comfort zone. If your comfort zone does not include constant pitching in front of a random crowd while stressing about the recent code changes which broke your whole project."

5.2.8 Hackathon Reflection

Unlike the TV event where WAAG was Task Leader and host, this event was overseen by CIANT, a partner that was involved in the project solely to organise and host this hackathon. CIANT wasn't generally involved in regular project discussions and therefore au fait with the overarching objectives; to complicate matters further, a change of organiser took place at the point where planning needed to begin in earnest. The new hackathon coordinator needed to be integrated into the rationale of the event and the understanding that it should use the tools from the pilot and be business focussed.

It appeared from the perspective of the pilot team that little progress was being made, with the date rapidly approaching, however, significant the planning had taken place locally, including the appointment of jury members. Despite having a date fixed and participants recruited, the venue for the event wasn't revealed until days before it took place.

Ultimately, the hackathon didn't relate as closely to the Dance pilot as envisaged with CIANT also introducing additional concepts and participants were surprised that the project sought winners interested in starting their own business, but regardless of this, the hackathon was clearly a creative successful and highly appreciated by participants.

5.2.9 Record of the event

A video of the Hacking the (dancing) body event is available at https://vimeo.com/157350292

The events Facebook pages, containing pictures are available at:
https://www.facebook.com/events/542500459251140/
https://www.facebook.com/media/set/?set=a.967802583300546.1073741928.129175257163287&type=3
http://www.europeana-space.eu/hackathons/dance-hackathon/
http://www.digitalmeetsculture.net/article/dance-hackathon-from-prague-to-london/
http://www.ciant.cz/index.php/en/blog-en/89-prague-dance-hackathon-20-21-11-2015

5.2.10 Winning teams

The three winning teams were:

Nous

Using brain computer interfaces (BCI) as a new way for users to explore online collections.
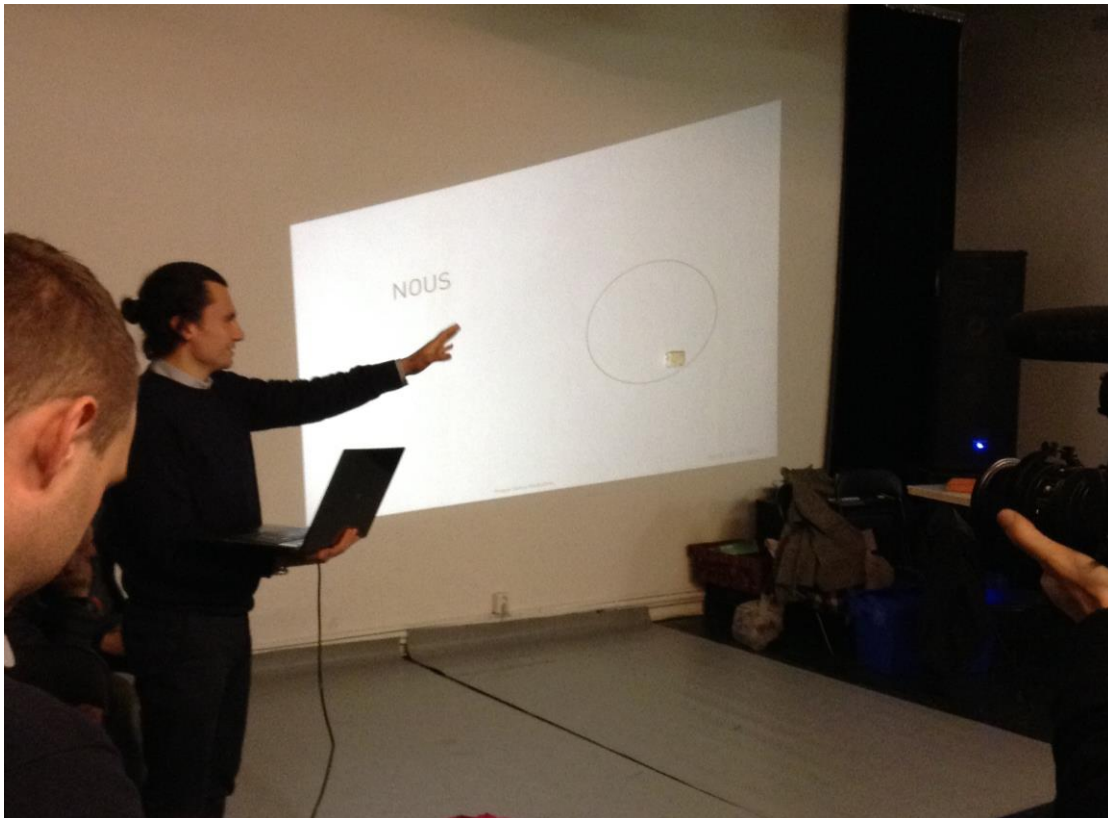
SubtleDance

How can motion tracking become a new way to present artwork through audience participation?

In The Moment

Mixed motion tracking and 3D game environments used to shake up how to explore cultural heritage in a totally new way.

5.3 PUBLISHING HACKATHON: HACK THE BOOK

Pre-Event: 9 January 2016
Hackathon: 22-24 January 2016
Location: Athens
Participants: 64

5.3.1 General overview

The Onassis Cultural Centre (OCC) and PostScriptum in collaboration with the Europeana Space network, invited designers, artists, publishers, programmers, authors, poets, hackers and entrepreneurs to a marathon which redefined books as 'phygital' (physical/digital) objects. The marathon revolved around programming, design and entrepreneurial innovation and the main objective was to create a space for creative intersection of avant-garde art, innovation and digital technology.

5.3.2 Goals

- To rethink books as phygital (physical/digital) objects.
- To bring together content creators, designers and programmers with a common goal: to stimulate and join creative forces and facilitate the unknown.
- To make use of infrastructure offered by Europeana Space in order to create new open access books, remixing and building on content from the Open and Hybrid Publishing pilot.
- To challenge users to create their own publication, finding the technical and legal limitations and learning to use data sources, and to create a phygital book from scratch.
- To bring together content creators and curators, innovative publishers and other relevant stakeholders in order to bring the learning from the pilot into practice. The event can feed into the guidebook that the pilot intended to create.
- To rethink the business models for publishing in the age of open access, open content, open data, open media and open source.

5.3.3 Target audience

Designers, artists, publishers, programmers, authors, poets, hackers and entrepreneurs were invited to a marathon which revolved around programming, design and entrepreneurial innovation. The target audience included:

- university and secondary school educators;
- students and scholars;
- publishers (esp. independent ones);
- museums and galleries (people working on education aspects and on image, digital use, re-use and curation);
- content curators;
- leaders and members of various photography and photo media organisations (academic, independent and amateur);
- developers (app designers, game designers, e-book designers).

5.3.4   Pilot integration and other tools

The Open and Hybrid Publishing pilot tools developed by Goldsmiths and COVUNI were made available to participants to inspire them to recreate the book:
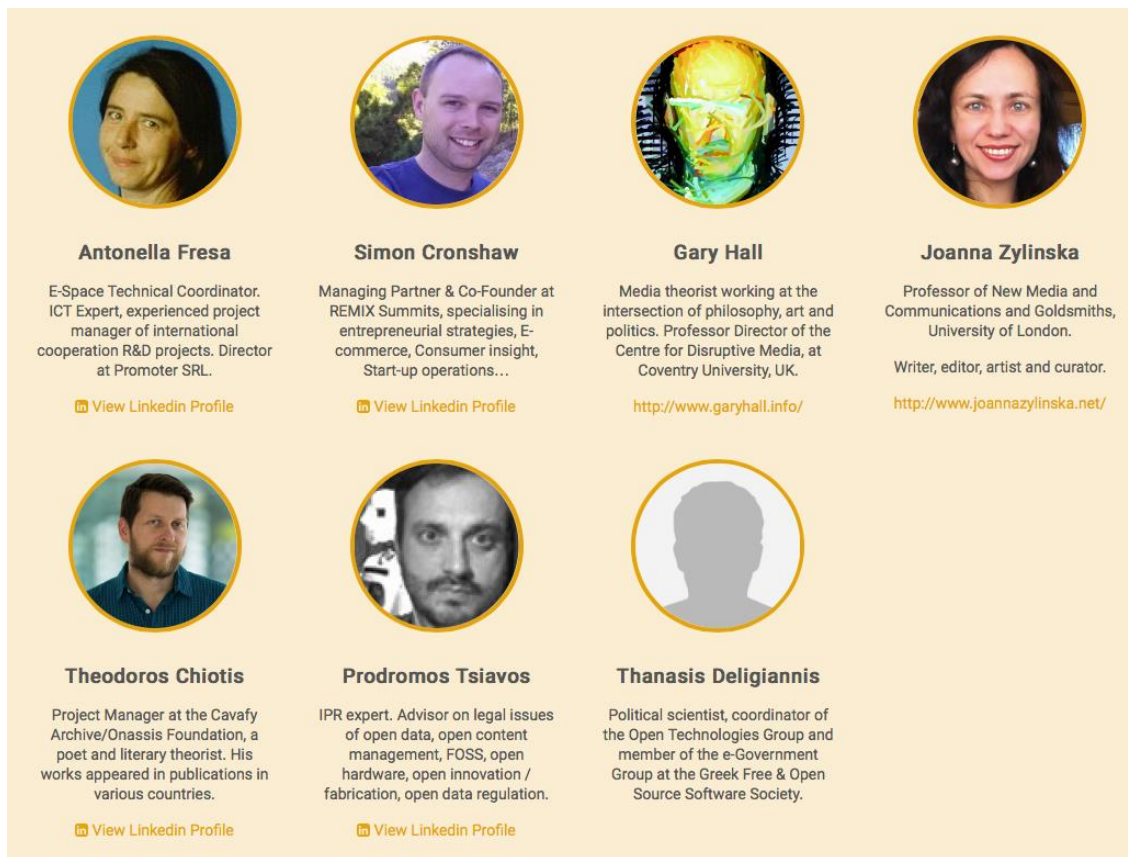
- a creative online resource, called an 'open book', on photography and other media. Redesigning a traditional coffee-table book as an online experience and titled *Photomediations: An Open Book*, it draws its content from Europeana and other open cultural repositories, and features an offline printed component: http://www.photomediationsopenbook.net/
- 'A Guide to Open and Hybrid Publishing' in a form of a downloadable pdf brochure, using the open book mentioned above as an example to outline possibilities as well as offer technical and business advice on how to put this model into practice: https://goo.gl/boRPII

Technology has been important both in its functional and symbolic dimension. The hackathon decided to give emphasis to data, APIs, physical computing and 3D printing, not merely as trendy technologies but also as the most appropriate means for achieving the core objectives of hybrid community building. Data are the raw material of the 21st century artist, and mastering the tools they need to produce or to divulge their art is becoming increasingly important. Each and every one of the above technologies are becoming essential for artists, means for bringing different communities together and for acting as a springboard for escaping classic notions of what a book is or is not.

HackTheBook's challenges asked for the implementation of diverse materials in order to deliver a final 'book' product. In order to facilitate the teams, participants were provided with a list of materials addressing different potentials. This included electronics components such as resistors, capacitors, potentiometers etc., hardware components (wires, batteries), robotics parts (servo motors, Bluetooth, sensors,) Arduinos, RasberryPis and their accessories, prototyping tools, as well as a 3D printer and various filaments. Furthermore, the organising team provided a set of materials to support the traditional production of a book such as a 2D printer, stationery, printing materials, bloc printing tools, hardware such as cutters, screwdrivers and saws, glues, fabrics, etc. All materials were stationed in two areas (printing area and hardware area) and were available to all participants to use and experiment with.

5.3.5 Jury

Antonella Fresa
E-Space Technical Coordinator. ICT Expert, experienced project manager of international cooperation R&D projects. Director at Promoter SRL.
View Linkedin Profile

Simon Cronshaw
Managing Partner & Co-Founder at REMIX Summits, specialising in entrepreneurial strategies, E-commerce, Consumer insight, Start-up operations…
View Linkedin Profile

Gary Hall
Media theorist working at the intersection of philosophy, art and politics. Professor Director of the Centre for Disruptive Media, at Coventry University, UK.
http://www.garyhall.info/

Joanna Zylinska
Professor of New Media and Communications and Goldsmiths, University of London.
Writer, editor, artist and curator.
http://www.joannazylinska.net/

Theodoros Chiotis
Project Manager at the Cavafy Archive/Onassis Foundation, a poet and literary theorist. His works appeared in publications in various countries.
View Linkedin Profile

Prodromos Tsiavos
IPR expert. Advisor on legal issues of open data, open content management, FOSS, open hardware, open innovation / fabrication, open data regulation.
View Linkedin Profile

Thanasis Deligiannis
Political scientist, coordinator of the Open Technologies Group and member of the e-Government Group at the Greek Free & Open Source Software Society.

5.3.6 What the organisers said

"My experience of participating in the OHP pilot and the attendant hackathon was very positive. The combination of the Europeana Space framework and the OHP partners was quite a fortuitous one in that we were able to find partners who were really keen on exploring and expanding the rather narrow definition of what a hackathon and what one can within such a framework. From my position as Project Manager of the Cavafy Archive I was very happy to meet collaborators who approach archives as a living organism rather than a crate of dusty, crumbling papers.

It was also really gratifying for us all to see the various events and pre-events come together for the actual event itself. The preparation leading up to the hackathon and the hackathon was a rather intense but very creative period. I am personally very content with how all the events leading up to hackathon itself (as well as the hackathon itself) all seemed to lock in place and created a large tapestry where very different disciplines and very different practitioners and theorists came together."

"A number of imaginative ideas were explored at the hackathon – many of them showcasing 'phygital' (i.e. both physical *and* digital) aspects of the book: for example, there was a children's book in a box connected to a Raspberry Pi with interactive elements, a pop art cookbook with a social media dimension, an expanded online-offline magazine with user generated content, and a museum scroll which visitors can collect on leaving an exhibition.

All of these showed fascinating interpretations of the idea of open and hybrid publishing, and have offered a great promise for future development."

5.3.7 What the participants said

"The hackathon was a great chance for us to do something we actually like, and so we used the knowhow that we gained to work on classic books.

If there is a similar hackathon, definitely participate. We have learned a lot throughout this process. You might think you will be seeing the same things over and over again, but that's not the case. Even engaging in these social activities you get to meet other teams and might collaborate with them; which is great."

An example of the positive feedback was the blog post written by a Hack the Book Festival participant that considered both the event and hackathons in general:
http://dixit.hypotheses.org/984

"Have you ever experienced, after a concert, a movie or an event, to become somehow obsessed with the person or the topic? This happened to me last month, after joining the 'Hack the Book' event…"

5.3.8 Hackathon reflection

The Open and Hybrid Publishing pilot team worked with Greek partners OCC and PostScriptum in developing the hackathon - which took the format of the Hack the Book festival. The first conversations took place a year before, with all partners working together well and resulting in one of the slickest hackathons held within the project, combining the organisation of TV, with the creativity of Dance. This was an opportunity to explore various issues connected with publishing today, from redesigning the book as an open medium to considering new ways of monetising publishing experiments. After initially receiving 250 applications, the OCC team had organised a pre-event at which key ideas were explored and teams confirmed, with 10 teams (35 participants) invited to the hackathon proper.

The pre-event was the first opportunity for the participants, the experts and OCC/ PostScriptum to meet, talk, exchange ideas and start to creatively collaborate towards the actual hackathon. During the pre-event the participants were able to book appointments with the experts and discuss their potential projects. Their ideas became more concrete and they received technical support on issues they could not tackle during earlier stages of their work. Participants who did not belong to a specific team were able to meet with each other and form groups that were then able to take part to the final stage of the competition. During the introduction, participants had the opportunity to listen to a series of talks aimed to provide inspiration and practical examples of hybrid forms of publishing and books and use this input in order to enrich and expand their own ideas.

5.3.9 Record of the event

A video of the Hack the Book Festival event is available at https://vimeo.com/154731170
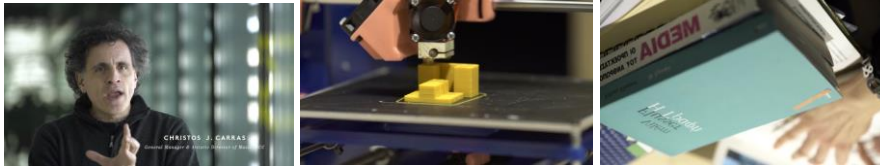
Further photographs are available at

https://photos.google.com/share/AF1QipM3Fl8f_uL8YtLvE4EFPmr1jf-RKOafT_Nmg21WJhxRIHNvkabvAIeukv2wgB1skA?key=cTlXcWZyNG00YVl0NC1vVzlnM0tJZGdnZWd6QlFn

http://www.europeana-space.eu/hackathons/open-hybrid-publishing-hackathon/

http://www.digitalmeetsculture.net/article/hack-the-book-festival/

http://www.sgt.gr/eng/SPG1553/

5.3.10   Winning teams

The three winning teams were:

vivl.io

Draws upon literary classics and aspires to enable readers, especially children and pre-adolescents, to create their unique book-specific universe, both at home and in the classroom.

SinkAFuture

Narrate the scenario of a future dystopia with population displacements, data control centres, geopolitical changes, environmental disasters and capitalist ruins. Their project consists of a series of physical encrypted data fragments that pass on unnoticed as ordinary 3D printed objects. Through the technique of steganography they hide sensitive (or not) data in these particular objects.

Cook-Lee

An interactive artist's cookbook, aiming to enrich the cooking experience by combining knowledge on contemporary artists and their work with recipes.

5.4 PHOTOGRAPHY HACKATHON: HACK YOUR PHOTO HERITAGE
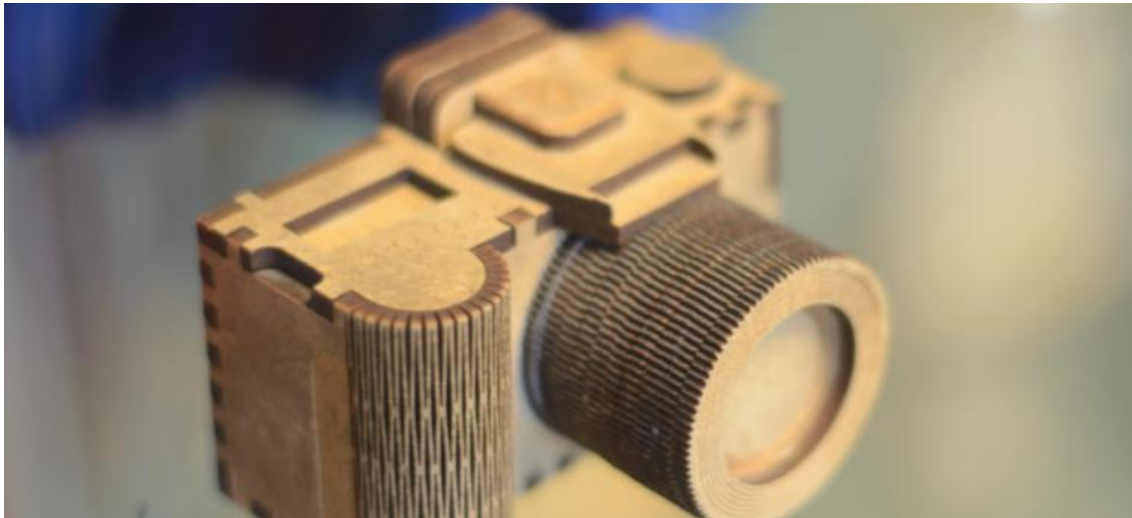
Pre-event: Cancelled due to Brussels terrorism scare
Hackathon: 25-27 February 2016
Location: Leuven
Participants: 44

5.4.1 General overview

The 3-day event targeted developers, cultural heritage professionals, designers, creative entrepreneurs, photographers and photo-amateurs. Participants had the opportunity to learn how to tap the power of huge resources such as Europeana and Europeana Space, Flickr Commons and MediaWiki, to build innovative apps re-using photographic heritage; mix images from the past with smartphone selfies; connect old and new generations by making apps bridging centuries; develop web environments for teachers, educators and museum curators to bring true public access to photographic cultural heritage; learn how to convert photo imagery to 3D prints and new materials.

5.4.2 Goal

Developers were asked to hack the massive photographic heritage content on Europeana, Europeana Space and other public repositories to mash them up with user-generated smartphone photos and stories. The aim was to create a new environment to experience our cultural past, using apps, websites and virtual environments.

5.4.3 Target audience

The hackathon targeted developers, students, cultural heritage professionals, designers, creative entrepreneurs, photographers and photo-amateurs. The incentive to join was of course the possibility to put their innovative ideas on how to re-use photographic heritage into a real solution. The opportunity to progress to the Business Modelling Workshop appealed to all of the targeted audiences.

Moreover, the chance to meet, work with and/or be tutored by professionals in the field was very valuable for students. The availability of cool technologies such as VR/AG devices, laser cutters and 3D printers was of interest, as well as the incredibly large resources participants could use and the stunning beauty of the old photographs.

5.4.4   Pilot integration and other tools

Partners KU Leuven and iMinds/imec were able to share the pilot's tools and apps for participants to use, if they wanted to:

- the storytelling application enables users to build their own collections and stories using photographic content from online cultural heritage repositories in combination with their own material.
- The augmented reality application aims to create an interaction between the present and the past, by allowing users to point their phone-cameras at pre-determined places in Leuven, 'retake' these historical pictures and match the original as precisely as possible.

Eureva's Blinkster app was also demonstrated to participants, but not available for participants to use.

The hackathon was made possible by the Open Access policies of sources such as Europeana, which are so important to develop new business models in GLAM. Participants tapped into the availability of Open source software; foreground code developed for the hackathon was also to be licensed as Open source. Of course proprietary background could be used and the IP of the developers was protected. First of all, the E-Space portal API was offered as a resource, which provides access to millions of digitised cultural heritage objects held by different organisations such as Europeana, Digital Public Library of America, Digital New Zealand and Rijksmuseum.

During the hackathon experts were available to support developers who wanted to make use of 'similarity-based search' in their application. This type of search allows quantifying the visual similarity between two images. A sample implementation on a collection of images of Leuven was available as a reference that the participants could extend or integrate.
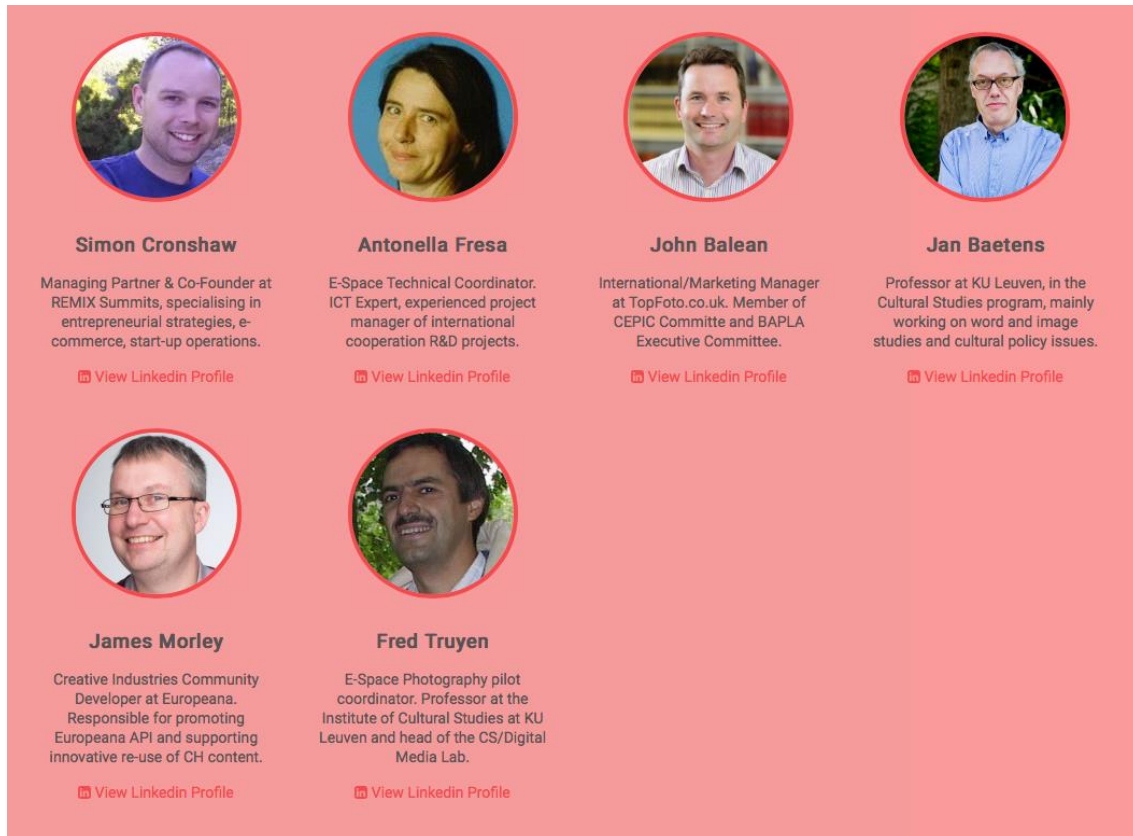
The high quality digital images of the photography exhibition All Our Yesterdays were available. Using the JPSearch API it is possible to retrieve variations of the original image adapted to the specific usage in the application. For example, a lower resolution or lower quality version can be retrieved as a preview, or specific regions of the image can be retrieved to build a puzzle game.

On Europeana Labs, three APIs were accessible. The first is a REST API that is suited for dynamic search and retrieval of metadata and media information. This API is integrated in the E-Space portal API and offers exactly the same data as the Europeana Portal for end-users, which can be viewed as an advanced API-implementation. The second API allows for harvesting of the Europeana data via the OAI-PMH protocol. The third API is more experimental and supports download of complete datasets and advanced semantic search and retrieval of data via the SPARQL query language.

There was also some hardware available to be used by the participants, including Oculus, Google Cardboard, Moverio and Kinect. Last but not least, the machines of the FabLab – including laser cutters, 3D printers, milling machines and a cutting machine for T-shirts prints and stickers – could be freely accessed and used. Some materials were made available by us, while others could be bought on the spot.

Concerning the content, not only the images of All Our Yesterdays and all of the photographs on repositories such as Europeana were available, but also a collection of the photographs from the citizens of Leuven collected during the Photographic Memories Workshop on 27 November 2015. Moreover, queries and manuals for the E-Space portal and the storytelling website were prepared.

5.4.5   Jury

Simon Cronshaw

Managing Partner & Co-Founder at REMIX Summits, specialising in entrepreneurial strategies, e-commerce, start-up operations.

View Linkedin Profile

Antonella Fresa

E-Space Technical Coordinator. ICT Expert, experienced project manager of international cooperation R&D projects.

View Linkedin Profile

John Balean

International/Marketing Manager at TopFoto.co.uk. Member of CEPIC Committe and BAPLA Executive Committee.

View Linkedin Profile

Jan Baetens

Professor at KU Leuven, in the Cultural Studies program, mainly working on word and image studies and cultural policy issues.

View Linkedin Profile

James Morley

Creative Industries Community Developer at Europeana. Responsible for promoting Europeana API and supporting innovative re-use of CH content.

View Linkedin Profile

Fred Truyen

E-Space Photography pilot coordinator. Professor at the Institute of Cultural Studies at KU Leuven and head of the CS/Digital Media Lab.

View Linkedin Profile

5.4.6   What the organisers said

"Hackathons are very interesting events: environments for experimenting and getting in touch with people of different backgrounds and expertise, ideal breeding grounds of ideas . The photo hackathon was for me a first experience as (co)organiser, and a very positive one. I had participated to two hackathons before and talked to some professional hackathon organisers, so I knew what to expect from such events and what to aim for in ours. If the chance of organising another hackathon should rise, I would gladly take part in the organization once again. As a participant, I find hackathons great learning, enriching and fun experiences, so I will definitely keep participating."

5.4.7   What the participants said

"I already worked in exhibitions, and I thought there would be much more interesting ways to show art works outside museum walls. So the hackathon was a great inspiration for me to see what is actually possible with technology; how can you show different ways of engaging with technology. So when I joined, I realised that technology can enhance our cultural experience."

"The hackathon was organised at the university where I study. It's really remake or re-use of CH, why don't we apply it here?"

5.4.8   Hackathon reflection

One of the advantages that the Photography pilot had was that KU Leuven was both the Pilot and Hackathon Coordinator and hosted the event at the FabLab. As such, this hackathon benefitted from local communication, especially as a number of attendees came from the student base, and drew upon the EuropeanaPhotography collection of digitised content, as well as the tools of the pilot and E-Space portal. Even so, the first planning meeting took place ten months ahead of the event, with Waag and partners iMinds/imec and Packed, which led to a smooth organisational process, finalised with significant local marketing through Facebook and physical posters in the weeks leading up to the event to attract participants.

A pre-event had been scheduled ahead of the main hackathon, but this had to be cancelled in the aftermath of the Brussels terror attacks. This meant that it was not possible to share some of the elements with participants in advance such as Europeana Labs and the E-Space portal as sources of content for hackathon attendees. However, as the event was held over three days, there was sufficient time to catch this up; there was no detrimental effect and the hackathon produced many interesting ideas and was deemed to be a great success.

5.4.9   Record of the event

Photographs of the event are available via the following links:

https://lightroom.adobe.com/shares/a9ee16015c5f461488a9f7c4a3004ba0
https://lightroom.adobe.com/shares/2f4110aa515341ae8c5401b935d8f51c
http://www.europeana-space.eu/hackathons/photography/
http://www.digitalmeetsculture.net/article/e-space-photography-hackathon/
http://E-Spacephotography.com

5.4.10   Winning Teams

The three winning teams were:

StoryPix

A photographic exhibition on billboards throughout the city: when standing in front of one of the photographs, surf to the website. The location tracker will upload an audio file on your phone concerning the image you are seeing, and offer six additional photographs with related information. By going through the city and finding all the billboards, you can unlock all of the images of this exhibition.

Mixed Art (later in the process known as Picasso's Cat)

An app that can 'artify' photographs to get its users acquainted with painters and artistic styles in a fun and game-like environment.

Explore Leuven

Rediscover Leuven through a photo quest: from an old photograph of a location in the city, try and find the same place today and learn about its history, gain points and unlock the next locations.

5.5 MUSEUMS HACKATHON

Pre-Event: 4 March 2016
Hackathon: 17 and 18 March 2016
Location: Venice
Participants: 75

5.5.1   General overview

The Future Museums Challenge took place over an intensive two day period. Participants were invited to create products that were not only innovative but utilised new technologies and devices to see how digitised materials could enrich the museum experience. The requirement was to respond to the fact that museums around the world are moving away from a physical space speckled with digital devices to digital spaces that exist in the physical as well as in the digital world. The hackathon sought to inspire and discover new disruptive, innovative and sustainable ways that museums can enter this "phygital" realm.

5.5.2   Goal

The Future Museums Challenge focused on building new products and developing creative ideas that would bring museums into the 21st century. Aspects included the museum experience, enhancing content, engaging the audience and improving the educational experience.

5.5.3   Target audience

A wide audience was targeted to gather the range of skills to envisage the future museum and respond creatively. As such, participants were designers, coders, museum experts and lovers, cultural managers, artists, creative, IT and marketing experts. This created a fascinating balance of ideas across the 16 teams taking part in the hackathon.

5.5.4   Pilot integration and other tools
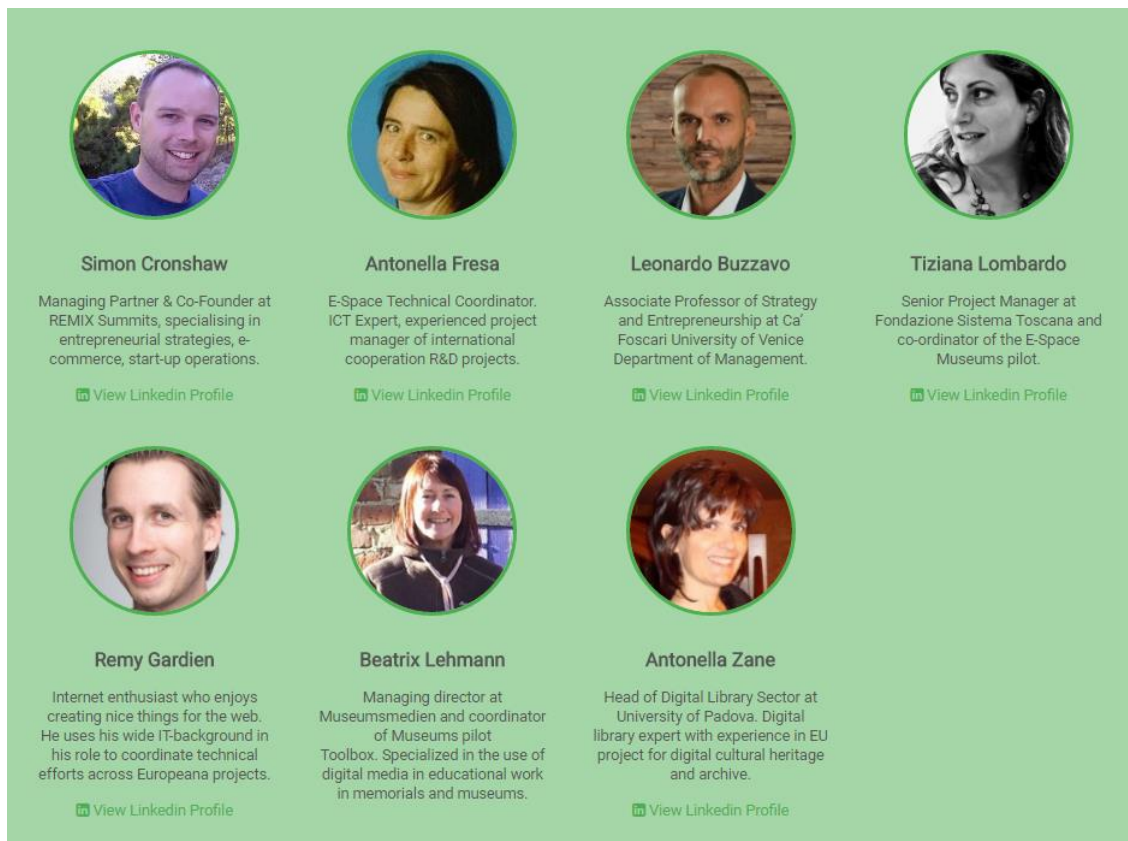
The Museums pilot has two main tools targeting different museum stakeholders:.

- The Toolbox is a web app that is a unique tool designed for educational staff and curators in museums and memorials.
- Blinkster is a mobile app for increasing the value of visitors' experience in museums via mobile phone. (As with the Photography hackathon, Blinkster was only available on a demonstration basis.)

Participants also had the opportunity to access digitised content from collections from around the world via the federated search functionality of the E-Space portal. They also had direct access to museum experts to discuss audience needs, from the marketing and educational perspectives to e-learning, educational endeavours, as well as the general operational information.

To ensure that teams stayed on track with their ideas, there were a number of museums experts available to discuss concepts with to ensure that they were indeed viable within museums.

5.5.5 Jury

Simon Cronshaw

Managing Partner & Co-Founder at REMIX Summits, specialising in entrepreneurial strategies, e-commerce, start-up operations.

View Linkedin Profile

Antonella Fresa

E-Space Technical Coordinator. ICT Expert, experienced project manager of international cooperation R&D projects.

View Linkedin Profile

Leonardo Buzzavo

Associate Professor of Strategy and Entrepreneurship at Ca' Foscari University of Venice Department of Management.

View Linkedin Profile

Tiziana Lombardo

Senior Project Manager at Fondazione Sistema Toscana and co-ordinator of the E-Space Museums pilot.

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Remy Gardien

Internet enthusiast who enjoys creating nice things for the web. He uses his wide IT-background in his role to coordinate technical efforts across Europeana projects.

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Beatrix Lehmann

Managing director at Museumsmedien and coordinator of Museums pilot Toolbox. Specialized in the use of digital media in educational work in memorials and museums.

Antonella Zane

Head of Digital Library Sector at University of Padova. Digital library expert with experience in EU project for digital cultural heritage and archive.

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5.5.6 What the organisers said

"The participation in the Venice Museum hackathon was my first time participating in the organisation and attending such an event. I was very curious and a bit unsure about how this would work. Retrospective, I think there were very positive vibes during the event – young people meeting likeminded others, creating innovative ideas in a limited time and space. Some of the results seemed to be very promising, e.g. the PostArt team which is also one of the teams going into incubation. I am looking forward to the final product!

I would have wished that attendants would have worked more with our collection objects and integrate it and/or with the E-Space portal tool. The tool and our collections provided via the tool were presented in the beginning but it seemed that it wasn't used at all. I think hackathons are a promising possibility for the cooperation between CH institutions and the creative industry, which should be further encouraged."

"The Venice hackathon was absolutely a positive experience. Despite it required some efforts in terms of logistics and organization with the UNIVE, the final result in my opinion was absolutely great. We have organised a few hackathons in the past but I have to say that was the first one where the "energy flow" was so evident As an organisation, we will organise hackathons in the future, on diverse themes. As an individual, I planned also to attend hackathons as a participant (I did my first one last weekend in Amsterdam, as I attended the Museum Camp organised by the Allard Pierson Museum in cooperation with Waag).
In general, I believe that hackathons are a great way of generating new concepts and ideas, but only if they involve a multidisciplinary audience.

The co-design process must be well structured but at the same time, not too many boundaries have to be given to participants, to let the teams generating freely their solutions"

"We had never organised a hackathon before and it was an absolute positive experience. The two days in Mestre were absolutely inspiring. It was a great event with so many engaged young developers and designers. The atmosphere was creative and busy. The two days were perfectly guided by FST (despite the problems of organisation in front of the event). It was obvious that one needed an experienced and engaged person, not only to organize but to guide through such an event.

For Museumsmedien, a small SME it is too "big" to organise a hackathon with many attendees, alone. But together with other partners or in a project we will keep this in mind. It is a perfect way to get in touch with young developers and get new impulses and ideas.

I am really impressed about specific hackathons. It is an interesting „thing" between teaching students and a real project with customers. (Nevertheless the question of costs is not unimportant. For small institutions are different financial support would be needed)"

5.5.7 What the participants said

"During the hackathon we met a lot of talented and very creative people, and we created this project within 2 days."

"So far one of the best experiences I have ever had. Not just because our project has been proclaimed as one of the three winners, there is a whole universe of emotions behind this wonderful experience: working as a team to create something crazy in such a stimulating environment, well each of you should live such an adventure like the one we did. London, Team Lilith is coming! Thank you"

"The hackathon was a new environment; we never participated in one before. It was really amazing, with a lot of emotion and sensation. When we discovered we won, we didn't believe it. Coming to the hackathon changed my life, really. I got into the hackathon business; I attended other hackathons after that."

5.5.8 Hackathon reflection

The organisation of the Museums hackathon got off to a slow start, as there were numerous partners within the pilot that had views on activity which had to be shared with the organising partner UNIVE that sat outside of the pilot. Gradually, the concept was clarified and the pace increased with the launch of a Facebook page in early February, local and project level marketing took place, including an Eventbrite page that contacted people that had attended similar event in the past. This led to 120 people registering for the pre-event and there were ultimately 75 people in attendance, forming 16 teams.

As with the Dance hackathon, there had been some anxiety that planning wasn't progressing quickly enough, as the event date neared. The WP5 and WP6 Leaders joined the organisation process to both share advice from the hackathons that had already taken place and also to boost the local marketing.

The decision was also taken to drop the word hackathon from the title to attract a slightly different audience. Ultimately, the event was hugely successful and generated a number of interesting ideas and was considered to be one of the best of the Europeana Space events.

5.5.9   Record of the event

http://www.europeana-space.eu/hackathons/museums/
http://www.digitalmeetsculture.net/article/the-future-museum-challenge-e-space-hackathon-in-venice/
http://www.fondazionesistematoscana.it/future-museum-challenge/
https://www.facebook.com/events/1016768048362504/

5.5.10   Winning Teams

The three wining teams were:

Team Proverb with "PostArt"; a way to share contents and emotions from the museum visit by using art in an analogue way to reach people

Team 3logic with "YourMuseum"; a mobile app to see really beyond what is seen from the usual visitor's eye

Team Lilith with an app to spice up the museum visit with edutainment features aimed at a young female audience

5.6   GAMES HACKATHON

Pre-Event: 9 April 2016
Hackathon: 16 and 17 April 2016
Location: Nottingham
Participants: 17

5.6.1   General overview

The ART//GAMES//HACKATHON was an intensive weekend workshop, which allowed artists, coders and technologists to team up, collaborate and develop prototypes of game art projects. Overseen by COVUNI, the organisation of the hackathon was sub-contracted to Bruno Martelli. As a creative artist, he and his four team leaders identified GameCity, the National Videogame Arcade as a location that would attract and inspire artists and gamers to participate in what was always considered to be a small and friendly event.

5.6.2   Goal

Videogames are a huge cultural and creative force that are currently breaking ground into traditional art practice – this event sought to consider how innovative new art / game projects may cultivate new forms of participation.

5.6.3   Target audience

The number of attendees for this event was restricted to a maximum of 20 people who were contacted through the network of the hackathon organiser, his three team leaders and their respective networks. Interested participants were asked to provide a short indication of what they would like to get out of the event, links to existing work and video clips, together with their objectives for the hackathon. The respondents varied, some were students or recent graduates, others were conceptual artists, illustrators, sound designers, media artists, film makers, animators and, of course, coders.

5.6.4 Pilot integration and other tools

The Games pilot has created three game demonstrators to illustrate the ways in which digitised cultural heritage content could be incorporated into game development:

• The casual demonstrator focused on restoration of paintings drawn from Europeana.

• The creative demonstrator allowed users to create remixes of video content.

• The educational game presented users with a portrait from Europeana and challenges them to 'recreate' it either by taking a selfie or taking photographs of friends.

The source code for all three games was made available in a Git Lab repository ahead of the hackathon event, although it was ultimately unused by participants.

As a weekend of coding, participants brought laptops and other accessories with them that they would use over the weekend, sharing them with other teams, as required.

5.6.5 Jury

Simon Cronshaw	Sarah Whatley	Luca Morini	David Surman
Managing Partner & Co-Founder at REMIX Summits, specialising in entrepreneurial strategies, e-commerce, start-up operations.	Professor of Dance and Director of Centre for Dance Research (C-DaRE) at Coventry University, and E-Space Project Coordinator.	Researcher at Disruptive Media Learning Lab (COVUNI), and a gamer to the core: video games, card games, board games…	Artist, illustrator and animator, drawing and painting in traditional media, printmaking, animation and interactive media.
View Linkedin Profile	View Linkedin Profile	View Linkedin Profile	View Profile

5.6.6 What the organisers said

"It seemed that almost everyone had a mainly positive experience from the GAMES//ART//HACKATHON. It was a great opportunity to bring a diverse bunch of people together who all share a love of games and technology. The National Videogame Arcade was a super venue, director Ian Simons give a talk about the venue and the GameCity festival — encouraging participants to approach the organisation in the future."

"The preceding Salon event was well attended and great fun for all, a lot of networking going on amongst the broad range of attendees, from animators, game designers to post docs and games curators - after several art gaming presentations, live coding and demonstrations we ended with a live set from a local band who specialise in hardware hacking to create instruments and visuals. Several people signed up to participate in the hackathon during the salon — I am having meetings about hosting a similar event in the future. In the emergent crossover area between hardware, coding, animation, art, gaming & virtual reality there is a lack of opportunity in London for these people to meet outside of themed conferences, so I am hoping in a small way to address this."

"The Games hackathon didn't achieve everything that the project had hoped for. As a sub-contracted event, the leader wanted to provide a creative and entertaining experience for participants. While he succeeded in that mission, he lost the objectives of the project to support teams to develop ideas within the sphere of cultural heritage that wanted to set up a new business. As a result, the interesting games created by participants were something of a missed opportunity to experiment and play within the area of cultural heritage."

5.6.7   What the participants said

"I attended the hackathons, as I was interested to see what ideas would come out of the event, what our team can come up with when allowed to be creative, as well as the opportunities for networking."

"The hackathon was a most excellent way to meet other people with complementary skills to my own who could be interested in possible collaborations in the future."

"The hackathon was a chance for me to improve my network in the Art/Games scene, primarily to better understand what is happening in the space, meet inspirational people who are creating works in this area and create lasting contacts who I could discuss future concepts with."

5.6.8   Hackathon reflection

The Games hackathon took place with the backdrop of the Pilot Coordinator having left and the COVUNI based Dance pilot team and Project Manager stepping in to complete the work of the pilot. The result of this was that time was restricted and therefore the sub-contracted organisation set their own agenda for the event and recruited participants for it, without necessarily explaining project objectives. Although, project partners COVUNI, Promoter, NISV and Remix influenced the direction of the event, it was ultimately a little too creative, maybe because participants had already formed a view on a technical coding hackathon, and ultimately, it did not produce the strong results that the project sought. Additionally, the iconic venue of GameCity, which was chosen to inspire participants, failed to publicise the event, their backing could have enhanced its status. Despite this, all participants had a positive experience and produced a number of interesting games and three winning teams were selected to progress to the Business Modelling Workshop. Valuable lessons were learned by the project team on how hackathons are organised and directed to meet specific objectives.

5.6.9   Record of the event

www.europeana-space.eu/hackathons/games/
http://www.digitalmeetsculture.net/article/art-games-hackathon/
Twitter: @ArtGamesHack
www.facebook.com/events/196460700723584/

5.6.10   Winning Teams

The three winning teams were:

EightEyes - Zen days

Zen days, critiques both games and 'non-games', the user is a robot, with a garden consisting of computer parts which they can tend & grow, listening to a soothing soundtrack. The robot harvests the computer plants and sells them on a version of Amazon.

CryLater - Slumlords

Slumlord, is an android mobile game placing the user as the landlord of a tower block. The project takes inspiration from a lot of research the team did about actual slums like Kowloon City, they are spinning it to be a more European type tower block.

ERRNO - Mortal Combat

Mortal Combat, recycles both assets & title from 'traditional' fighting games pitting a weak helpless character against a large enemy. The only way to fight is to run away and to create   panic mode, the user controls get randomised at certain points - 'up' button becomes 'left' etc.

6   OVERVIEW OF EUROPEANA SPACE HACKATHONS

6.1   PLANNING

Coordinating six events in six different countries, with 28 partners, all heavily or loosely involved, each of whom has different interests and desired outcomes, while ensuring that project goals are met and exceeded, is no easy feat. The Europeana Space hackathons took up this challenge and while a considerable struggle at points, succeeded in executing all events to varying degrees of success. Handling such a diverse amount of variables has been a valuable experience for the Europeana Space consortium and an experience that should be shared. One of the biggest hurdles for WP5 to overcome was the varying degrees of knowledge and experience that partners had organising hackathons that were focused on business creation as opposed to hack events that exist for the sake of fun, casual experimentation.

Firstly, the six partners directly responsible for the organisation of the hackathons (KU Leuven, Waag, CIANT, COVUNI, UNIVE and OCC) had experience organising events, however very few had experience with business creation. Secondly, because each event had a multitude of project partner stakeholders many voices, needs and desires had to be accommodated. This caused initial confusion and frustration since many opinions, ideas and approaches were being made known before a general framework could even be laid. However, all the contributing voices were extremely valuable to the WP5 Task Leaders who incorporated all the input into devising a best-laid plan for stimulating job creation. The problem was later identified as the explicit outcome from the hackathons, job creation, was not initially known or full understood by partners and due to the now convoluted nature of the word "hackathon" pre-conceived notions of how the events should be organized ran rampant.

6.2   EXPECTATIONS, REALITIES, DIVERSITY

Realising planned timelines is always a challenge. Unforeseen challenges, circumstances etc. all can hinder timely delivery. Hackathon planning for WP5 began in October of 2014, a full eight months before the first hackathon was slated to begin and over a year before any other hackathons were foreseen to take place. Some event planners would see eight months as far too short of a time but a three-day hackathon can be thrown together in a matter of weeks if needed. However, this was not made clear to the partners. Instead a timeline was drafted that provided unrealistic and unnecessary deadlines which provided needless stress on partners some of whom wanted to honour the timeline and others who decided not to. The former ended to be less experienced event organisers and the latter were more experienced hosts. Once again, disparity threatened the streamlined nature of the Work Package.

The organisation of the first hackathon was rather seamless and collaborative. This was due primarily to the close proximity of all key partners involved, NISV, Noterik and the Waag (all based in the Netherlands), the latter as the Hackathon task leader being the event organiser.

This hackathon had been purposely moved forward by seven months to act as a pathfinder for the others, to see what worked well and to capture that and share advice with future hackathon organisers. While this first event was a major success and opportunity to test WP5's year of planning, it set an unrealistic precedent for hackathon organisation.

The Dance hackathon occurred six months after the TV hackathon and was also moved forward by three months to again learn lessons. As the only other reference point was the TV hackathon the organisation of the Dance hackathon was by default held to the same standards as its predecessor. If this were the only way the event's success was measured it would have been a failure. However, this is not the case. The Dance hackathon was an astounding success in terms participation and creativity. However, it was a different environment than the TV hackathon.

CIANT is one of Prague's best creative hubs focusing on performing arts and new technologies and dance by default is a creative medium that values originality, creativity and innovation much more than sustainable business models or money making. While this had later impact on the Business Modelling Workshops and Incubation, the event itself was inspiring. New technologies such as BCI, EEG, gaming, VR, motion tracking were paired with performance, brought creative re-use of cultural heritage to previously unexplored areas.

This creativity can loosely be attributed to several things.
1. CIANT's network is full of artists, creatives and developers in addition to having a team of more of the same.
2. The loose, cut and run event style, which was a stark juxtaposition to the more formal TV hackathon
3. The open-mindedness of everyone involved, not ascribing to any forced creativity for the sake of business development.

This event turned WP5 on its head, changing every partner's expectations for event organisation timelines, approach, venue, and agenda. From this point onwards, the individual hackathon organisers were free to arrange their events however they saw fit so long as there remained a strong emphasis on the development of sustainable projects, facilitated the creative re-use of digitised cultural heritage content, and engaged new audiences all while having a clear focus per theme.

Different partners had different levels of involvement in the project. Some partners for instance, CIANT, were only involved to organise the Dance hackathon. Therefore, their knowledge of the project and the work of the other partners was limited compared to others. Equally, the Games hackathon was sub-contracted to an organiser that was not steeped in achieving project objectives and had his own ideas for the event. This disparity, coupled with preliminary confusion over organisation of the events, stimulated critical debate over the progress of WP5. Although both Dance and Games hackathons undoubtedly gave participants an enjoyable time and produced interesting results, they were the least successful in achieving project objectives. Was this due to their organisation taking place on the periphery of the project, as neither built upon pilot tools and apps or promoted the message about using cultural heritage content and winning teams progressing to London?

Some people considered that they both attracted really creative participants, more so than the other four hackathons, people that were interested in the experimentation and no more. There is also the consideration that there are traditional Games hackathons and that is what participants came for rather than the different model operated by the Europeana Space project. There can be no clear answer, but there is interesting conjecture and lessons for further consideration.

One of the interesting aspects from a project point of view is that partners were really keen to be involved in hackathons. It was expected that they would want to attend the event aligned with their pilot's work, but what was wonderful to see is that they attended multiple events. Some hackathon organisers attended earlier events to learn lessons, but many partners went to participate and share their expertise with participants which led to collaborative and innovative environment. What was notable was the explosion of e-mails and social media posts in the days immediately after an event that reflected the excitement of what were vibrant and exciting events. It is no surprise that partners wish to continue to organise and work together to run hackathons in the future and this is considered a strong area of project sustainability.

6.3   REFLECTIONS FROM THE PROJECT COORDINATOR

"I attended the TV, Dance and Games hackathons, as a jury member. Each was very different in terms of organisation, focus, community, programme etc, mostly reflecting the different communities that the events were trying to attract/include.

I haven't attended hackathons before although have hosted events that are hackathon-like (bringing together creatives for intensive exploration of technologies to create new ideas that might be picked up for prototype development).

Each was a positive experience – each very different – some more challenging than others. Each seemed to be valuable in giving creatives a chance to network, explore, experiment and have access to expertise. I am not sure how much the events built on the pilot prototypes other than in examples of what could be possible. Partly due to the communities that each hackathon served, the attention paid to creating something that would have marketability varied. Pilot prototypes also vary greatly. Some are very sophisticated in technical terms so are far beyond what could be realised in a couple of days of a hackathon – others are less innovative but could have more market impact or could be more influential on broader practices, so quite different from the sort of ideas emerging in the hackathons. The relationship with Europeana content was at best superficial although some hackathon attendees really tried to engage with it and the broader idea of CH. But there is an interesting tension between innovation (forward thinking) and CH (historical content) that was not always confronted and/or resolved with by the hackathon participants.

TV was very well organised throughout, it felt busy, dynamic and generated some very imaginative outcomes. It was a positive experience.

Dance was more chaotic leading up to the event but it tapped into a vibrant hackathon community and produced some really novel outcomes, some too novel to be viable for taking forward in the context of the project, or the participants weren't interested in taking it forward. Overall it was a positive experience.

Games was quite well organised and brought together series gamers but was less securely anchored in the aims of the project even though some of the outcomes were potentially very interesting. Its detachment from the project was partly due to the problems in the games pilot leading up to the hackathon and partly due to an inevitable culture clash between the gaming community and the chain of activity leading up and out of the hackathon within the frame of E-Space. Not such a positive experience.

There is definitely the potential for these events to continue and be useful in networking and creative experimentation. Whilst the hackathons are focused on one theme/strand of CH, and this is useful for targeting participants, the follow-up activity benefits from moving across different themes to cross-fertilize ideas and shift out of thematic silos, which can reduce innovative thinking."

7 HACKATHONS AS A PLATFORM TO CREATE NEW BUSINESSES

As described previously, hackathons or even the term "hack" has become ubiquitous when describing any sort of problem solving event; Hack the World, Hack the City, Hack the Train Station etc. It's a one-size fits all term to define an event that wishes to foster experimentation around a certain theme fishing for unique solutions. Businesses occasionally have hackathons within the company[1] as well as external[23] ones as way to source young developer talent and give the developer teams freedom experiment. However, by nature, the events do not scream "sustainable products!" It's the developer equivalent of throwing spaghetti against a wall to see what sticks. In terms of Europeana Space, cultural heritage specific hackathons foster quick innovation of prototypes that rarely see the light of day post-hackathon.

7.1 STRESSING AND EVALUATING BUSINESS DEVELOPMENT

As has been discussed extensively, Europeana Space had to re-brand the hackathons as "hack events" which encouraged experimentation but stressed sustainable business development. This was done primarily in the titles and event descriptions. More importantly, during the event itself the business development aspect of the hackathons was nurtured by the partners at Remix whose introductory presentation and hands on efforts ensured that business modelling, focusing on audience development, profit models, and clear mission statements grew in parallel with the innovative and creative process. Furthermore, the pitching and feedback sessions held at the events proved valuable for this purpose as well. By providing intermittent third party reflections, the teams had a moment to step away from their products and look at them with a bird's eye view and re-focus.

The feedback sessions also allowed the jury to learn more about the teams. Teams that took this feedback and incorporated it into their products fared much better than teams who chose not to. Responding to feedback and utilising it in a constructive way is also the sign of a strong team who would respond well to incubation and growth. Pitches also allowed for the jury to assess the teams' business savvy as good presentation skills are a must for any start-up. Watching some of the teams improve not just their products but pitching skills over 2-3 days was a very positive experience. This is not to say that teams with poor presentation skills were immediately excluded as this was something that could be coached during incubation.

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[1] https://www.youtube.com/watch?v=7BhVdlZDQD0

[2] http://bostinno.streetwise.co/all-series/winners-of-2014-hackmit-recap-of-mits-biggest-student-hackathon/

[3] http://www-304.ibm.com/events/idr/idrevents/detail.action?meid=16628

7.2 PRODUCT DEVELOPMENT IN A PRESSURE COOKER

Product conception, development and planning in 2/3 days for the hackathon participants was no easy feat. This then hindered the results which came out of the hackathons. More time would have allowed for the ideas to become better fleshed out and thought through. Many start-ups and new products encounter months if not year of development, testing, user-studies, market evaluations, pitches and critical decisions. The Europeana Space project had to squeeze many of these tasks into 2/3 8-hour days.

This in turn affected the assessment and judgement of products. Better conceived concepts would have allowed the jury to better assess the standing of the projects against the judging criteria. Furthermore, just because a team works very hard on a project for three days, it doesn't mean they want to take on the struggles of start-up life. Lastly, because the projects conceived during the hackathons are still in their infancy, they can only be assessed in the state that they are presented in, but changes, sometimes drastic ones, will arise during further development which could affect different aspects including cultural heritage re-use.

7.3 INCENTIVISING ATTENDANCE

During the planning stages of the Europeana Space project a critical question arose: how is attendance incentivised if financial support cannot be offered? A conversation with an experienced hacking project Apps4Europe during the opening months clearly painted a picture that teams would only participate if there was a reward (often cash). This would especially be problematic with the project's three stage model with hackathon winners travelling to London for business modelling. As a result, a cash-free solution had to be found.

It was determined that even though liquidity and cash are important for starting a business so is guidance, consultation, networking and motivation. While the Europeana Space project cannot compete with the likes of IBM or Harvard on all these aspects, having the entrepreneurial expertise of Remix involved and a large consortium of partners, helped to sell the events as beneficial within a niche market that the project already sought to target, "cultural/creative crossovers". Additionally, the decision to make the hackathon prize a "trip to London for business modelling coaching" made the events seems more business savvy and elaborate on paper.

It would be encouraging for future EU funded projects that host events like this to offer financial incentives and prizes much like Europeana has recently started doing.[4] There is a peculiar disparity between event attendees and organisers, one of which receives payments for their work and the others receive nothing. Many start-ups already exist around Europe but do not attend these events because they're too busy already building their products.

However, at this point Europeana Space cannot assess whether or not the hackathons were a successful manner in which the project could generate six market viable products. These will be covered in D5.5 – *Enterprise Development Report*. In the meantime, the educated assumption by the project consortium is that those who want to start a business and be entrepreneurs will do so with or without a hackathon.

Although there was discussion about incentivising participants, even considering a link with the Erasmus for Young Entrepreneurs project[5], it also became apparent that some hackathon participants were committed to setting up a business and would invest their own time and money to make it happen. By contrast, others just attended to have fun, as seen at the Games and Dance events, with some winning teams happy with just the hacking experience. In Athens there was such demand to participate, that applicants had to be turned down which also makes the absolute need for a reward questionable. Despite the initial advice, the Europeana Space model, that was rigorously debated, appears to have worked, at least at the hackathon stage of the process.

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[4] http://labs.europeana.eu/page/europeana-challenges

[5] http://www.erasmus-entrepreneurs.eu/

8 CONTENT RE-USE IN HACKATHONS

Following the recommendations from the European Commission during the first project Technical Review, WP5 drafted surveys to be disseminated at the hackathons to gather more info about how users look for and re-use digital cultural heritage materials.

The survey questions included:

1. Which content (if any) did you use for your idea?
2. Which platform(s) did you use to find content?
3. Can you estimate how many items came from each platform?
4. Did you use an API to retrieve items and if so which one?
5. Was it easy to find content?

	1	2	3	4	5	
Very difficult						Very easy

6. What would make finding content easier?
7. Could you not find anything you were specifically looking for? What was it?

8.1 SURVEY RESULTS

The content re-use surveys from the hackathons did not provide as concrete information as the project would have preferred. However, there are a few key take-away messages that can change the perspective of cultural heritage institutions and how they make content available and in which formats.

8.1.1 Which content (if any) did you use for your idea?

Answers to these questions ranged from footage, to sounds to artwork. There was no catch all for this answer. Content use is very dependent on the product but in the prototype phases content is either the core around which the product is built for instances, Cook-Lee[6] or content is simply a placeholder and can be readily interchanged.

8.1.2 Which platform(s) did you use to find content?

This question exposes a lot of gaps still to fill by cultural heritage institutions including Europeana. General audiences and internet uses source material from the places they use most often, YouTube, Google, Flickr. This is because users are comfortable with these sites. These sites are so streamlined and have undergone years of user testing and UX design that using them is second nature to most. If a normal person wants an image of the Mona Lisa they will Google "Mona Lisa". While Europeana and other heritage platforms may provide trustworthy and high resolution access to heritage items these platforms are still not in the common vernacular for those outside of the heritage sector. Therefore, a large percentage of hackathon participants used standard search engines to source content.

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[6] See deliverable D3.5 – Monetisation Workshops

However, during several hackathons, representatives from Europeana, Europeana Space and other content holding institutions were on hand to present their portals and provide hands on assistance with content sourcing.

8.1.3   Can you estimate how many items came from each platform?

This question resulted in answers similar to the first one. Sometimes a team just needs one image around which a narrative or tool is created and some teams needs thousands of items around which an app or algorithm can be run.

This creates two disparities for development of platforms by heritage institutions between APIs and curation. It became apparent, and has been for years that audiences want both small batch curation of content and access to wide swaths of material. However, not every institution needs to provide both. Therefore critical decisions over whether a portal wants to focus on curation or big data and divert resources and attention to whichever is most appropriate for their audiences and goals.

8.1.4   Did you use an API to retrieve items and if so which one?

Not every team used an API to retrieve items. This is mainly due to time restraints of implementing the API and ensuring it functioned properly and the amount of content needed to execute the ideas the teams had. An API is not necessary for ten images.

8.1.5   Was it easy to find content?

Of all the responses gathered the majority of participants found content to be moderately easy to find. The second largest majority found the content incredibly easy to find followed by very easy to find with only four respondents noting that content was impossible or very difficult to find.

These responses are dependent on the specificity of searches. When search terms and content requests became too specific teams suffered due to lack of access or rights. It should also be noted that just under half of the respondents who answered that content was incredibly easy to find used Google, Bing or personal collections to source their content and not Europeana.

All in all content sourcing was not a major problem for most of the hackathon. There were also numerous project partners on hand to help with any problems or requests.

8.1.6   What would make finding content easier?

The largest comment on making content sourcing easier was better curation. Europeana and many other heritage aggregator platforms are so massive and contain so much content, most of which is unnecessary for creative re-users, that precious time is spent sifting through hundreds if not thousands of items to find a few key relevant ones.

Europeana has since introduced the channels feature and new filter options but there is still vast room for improvement when it comes to more narrow curations.

8.2 INTELLECTUAL PROPERTY AND COPYRIGHT IN HACKATHONS

8.2.1 If an image is used and no one's around to see it, does anyone care?

Intellectual property rights around the creative re-use of digitised cultural heritage content remains a major problem for institutions delving into the creative industries. Creatives play fast and loose with IP around content while cultural heritage institutions and academics strictly adhere to the rules and laws. It is a dichotomy that creates a gap between approaches and can affect the way the two parties interact. The project had the opportunity to explore this dichotomy and narrow the gap during the Europeana Space hackathons.

The digital native's mind-set and especially that of the younger generations is that anything found on the web is free and can be re-used. It is this mind-set that led to globalisation of music pirating, what makes YouTube the most common source for music consumption and fuels the continued growth of torrenting and file sharing.

Industries have changed their business models to reduce costs for users and increase content consumption like subscription services (Spotify, Netflix) or more direct B2C models supported by things like Patreon.

When it comes to cultural heritage an innovative model has not been found for paid access to rights protected content. The same access model for paying access to high-res content still exists despite the fact that larger, more progressive institutions such as the Rijksmuseum are rendering it obsolete. But institutions are becoming more inclined to provide free access to material and make it available for download. What obfuscates this is when institutions are not entirely clear about terms of use nor make them explicitly clear and what makes this more confounding is that it is unclear as to what extent institutions should or can go to crack down on misuse of material. Can cultural heritage institutions justify spending minimal budgets on sending cease and desist letters or following up misuse cases in court?

For artists like DJs and electronic music producers sampling is a way of life and rights clearance, for many, is a non-existent possibility due to budget. However, remix artists for film and art can claim quotation, pastiche, caricature or collage rights to re-use content.

Copyright and licensing only seem to become important when income generated by creative re-use of copyrighted material becomes profitable. The problem is not that copyright is flippantly disregarded, however it is an afterthought with primary focus being on the development of the idea and in other cases the lack of unity in copyright laws across Europe and the world make the re-use of content a minefield.

There are many contemporary examples of how digital companies abuse or take advantage of copyright loopholes while placing the complacency and competency with the users. The continued protest by artists and music labels against streaming sites, even those that do pay our royalties, is one example. This example is two-sided as 1.) YouTube and other streaming platforms don't pay out substantial enough royalties and 2.) Users have no problems against uploading copyrighted content online for others to consume at no cost.

By holding hackathons and other outreach events institutions and copyright advisors can educate younger generations of the "open" options that exist for content sourcing like Europeana and propose that "creators" make their content available under open licenses as well. However, the challenge still remains as to how creators can generate substantial enough income that their work can be sustainable while using open content and open licenses.

Lastly, the importance of outreach events such as hackathons is that they enable direct communication and immediate clarification. Simply putting material online, no matter how rich the resource, if people cannot find or do not understand it it's essentially worthless in terms of education and outreach of new audiences. Engagement needs to be constant and clear.

8.2.2   Europeana Space and IP/copyright

In parallel with the work undertaken by the WP5 team to map the participant journey and to organise hackathons, the WP3 Content Space team were working to help project partners, event participants and other interested parties to understand the complexities of IP and copyright when creatively re-using content.

A Hackathon Creation Tool was developed following on from the TV pilot and was available for other hackathon organisers. The following extract is from the tool:

"Hackathon events are well known for their culture of sharing and openness. However, some concerns were raised in the planning process for the six E-Space hackathons about sharing ideas in presentations at the hackathons and subsequent business modelling workshops attended by the winning teams. This was because the purpose of the E-Space hackathons was to produce commercial prototypes for the market and in particular, to take one final winning team from each hackathon through to an incubation process. Each hackathon had three winning teams who presented their ideas at business modelling workshops where the final winner was chosen, and the other two teams encouraged to continue to develop their ideas for the market independently.

The E-Space IPR Team clarified that the ideas themselves to be shared and presented at public events such as the hackathons and business modelling workshops were not protected by intellectual property law. It is only when they are incorporated into intellectual property rights that ideas do become protectable, for example, when a patent is granted, or ideas are expressed in some tangible form such that they then become protected by copyright. It is possible of course to enter into a confidentiality agreement to protect ideas - although such an agreement is of course only effective if it is enforced.

Within the E-Space project it was agreed not to request or require participants at the hackathons or business modelling workshops to enter into confidentiality agreements, though tools were available in the E-Space Content Space to help any team or individual wanting to initiate use of such an agreement themselves.

It was felt that this would send out the wrong signal to the participants. These events are about experimentation and ideas sharing. E-Space partners agreed that open discussion at the events greatly increased innovation and the ideas that individual participants worked on. All of the E-Space events have been highly successful and not affected in any adverse way by this policy of openness. No participants as far as organisers were aware, initiated the use of confidentiality agreements.

Participants were advised, however, particularly at the hackathons and pre-hackathon events, that if they had ideas they did not want to share, then they should keep them to themselves and not make them public.

For tools which assist with strategies for hackathon planning and which contain samples of confidentiality agreements see:
• Frequently Asked Questions for Hackathon Organisers;
• Frequently Asked Questions for Hackathon Attendees.
Both documents are available at
http://www.europeana-space.eu/content-space/copyright-tools-for-cultural-heritage"

At most of the project's hackathons, the subject of IP was raised during the introductory sessions in the context of sharing of ideas. The WP5 team was keen not to stifle innovation by delving too deeply into the topic, but it was important to raise the subject initially (both in terms of IP of content and apps) and direct interested participants to the tools available.

A further role of WP3 was to develop a protected space. The idea was that closed content could be experimented within the context of the project's pilots or at a hackathon, but then would become unavailable once more at its conclusion. This would provide interesting content for users to play with, as well as to highlight to the content owner the advantage of making their content openly available. This was an interesting approach, as using closed content within a hackathon was rare.

The protected space was not fully developed in time for the TV hackathon, although some partners informally shared content for use solely during that weekend, but it was the Dance pilot that fully embraced it, with three collections of 100 still or moving dance images were made available for participants to use. As the hackathon moved more in a direction of CIANT's ideas rather than those of the pilot, the opportunity to fully test this methodology was lost.

The Photography hackathon led to an interesting IP case. As the personnel in the team that developed a winning concept did not stay together, only some of the team moved towards the Business Modelling Workshop, it was difficult to discern who owned which part of the IP for the work undertaken during the hackathon. This case is explored, together with IP and each of the six hackathons in a booklet produced by the WP3 team:
http://www.europeana-space.eu/wp-content/uploads/2016/01/spa_cspace_booklet_A5_pages_exe.pdf

9   LESSONS LEARNED

The hackathons provided the Europeana Space project with numerous valuable lessons about the realities of promoting the re-use of digitised cultural heritage materials, organising congruent events with different partners at different institutions in different countries and the ease or lack thereof for which content can be re-used.

Articulating the goals of the Europeana Space project and digital cultural heritage efforts in general is difficult. This is due to various messages that different stakeholders want to project and the difference in tone and vernacular that heritage professionals utilise and those that creative professionals utilise. A key lesson learned from the hackathons was branding and communication. This can initially be seen in the way the hackathons were named like The Future Museum Challenge, Hack the Book Festival. Both of these hackathons were heavily attended. It would be speculative to attach this to simply the name of the event given the coincidental local and online marketing of the event, but even the slightest change of branding can change how an event is perceived and received.

The lesson learned then is about setting the right tone that respects the heritage institutions and their collections but also appeals to creative and younger audiences. Advice for future projects that seek to engage creative industries through events is to take on a project partner specialised in this aspect to handle the organisation of every event while keep the stakeholders and partners actively engaged.

While not directly related to the hackathons themselves, an important lesson learned was the value of pitching and creating a pitch deck for projects. Teams at the hackathons were given different time-limits for which they had to pitch their project. These time limits ranged from one minute to five minutes. What this forces a team to do is to focus their ideas and their target audience. Having proposed this challenge to the hackathon participants it was also proposed to the other project partners. This challenge is not easy and for those who usually fill at 10-15 minute time slot comfortably it is a valuable challenge to focus ideas for an audience and oneself.

For future projects of this sort it would be important, as with Europeana Space, that for the consortium to include a project partner who is specialised in business modelling and business development as it will improve the communication skills of all partners, pilots, and the project as a whole, keeping the entire project consortium on message and in-tune with one another.

One unforeseen challenge, but perhaps one of the most rewarding experience of the hackathons, was the diversity between partners and how this impacted the hackathons in numerous ways. The first and most obvious is the way partners work and their level of involvement and commitment to the project. Variations in working process and awareness and involvement in the project caused lots of stress for the early hackathon planning stages. Some partners were more engaged while others only had a few sparse person months and therefore were more removed. In the end the events all came together.

A lesson from Europeana Space for further projects that seek to plan multiple events in different countries, with different partners, over a long timeline is to not jump the gun and to stick to a very tight and concise timeline of 3-4 months. No three day hackathon needs to be discussed and planned over the course of 9-12 months.

The value of this diversity provided the project with an understanding of different ways in which to approach young creative audiences and foster a creative environment for them to work in. Even though the diversity can cause some discontent amongst partners simply based on manners in which they would conduct an event, it was clear that all partners wanted to provide a good hackathon. A clear observation was the tone set by the different venues, from the makers playground of the Waag to the modern and formal university in Venice, to the DIY CIANT and festive OCC, which has a high profile within Athens, each set different moods and energy which directly impacted on the results. More formal settings seemed to generate more formal outputs, while festive and looser venues generated more "outside the box" thinking and artistic results. Not one of the events was better than the other for this reason, but it was a clear observation that venue and the organisers energy clearly impacts outputs.

Advice for future hackathons partners is to have a clear understanding of what kind of atmosphere they want to set for the participants and work the event planning around that. A DIY hackathon in makeshift makers-spaces will not benefit from two hours of formal presentations, but a more formal, university led event will. This will also ensure that clear messages are sent to the participants to avoid confusion and obfuscation when it comes to expected outcomes.

In terms of content re-use by the creative industries, making broad sweeping claims about what creatives want to use, how they want to access it and how it should be presented would require extensive user research and even then, due to the rapidly changing environment that creatives work in, what works one day might become obsolete the next.

However, what can be taken away from the hackathons is the need for curation and easy access. In this context curation means small sets of digitised content that has a specific theme and context to supplement this content. Additionally, related recommended curated content should be clearly accessible as well. This will improve the speed at which users access materials, users who are normally used to Googling something and getting immediate results. This means having clearly marked download links and explicitly clear rights statements available. Not every creative re-user needs extensive metadata which is normally reserved for researchers and academics. Great strides are already being made towards this with Europeana and through the E-Space portal.

One final general remark about organising hackathons and events in the future is to make the attendees feels welcome and appreciated. This can be done in various ways, all of which should be taken into account including, providing good food, drinks, coffee, water, and clean, working facilities. Have a clear agenda and convey this agenda to everyone. It will be difficult to pull people away from their work and it could damage the creative flow. Setting a clear timetable and sticking to it will help avoid this. Do engage the participants and provide valuable feedback. Do not impart your own ideas on them. If the event and the desired outputs are clearly presented at the beginning of the event then the organiser's job should be to foster the attendees' best version of their idea. If in doubt that attendees are getting off message, repeat the message regularly and programme activities that help to stress the message, like pitching and feedback sessions.

10 HACKATHON RESULTS

As detailed in D5.4 - *Selection Criteria and Incubation Planning* - the three winning teams from each hackathon would be invited to attend an intensive Business Modelling Workshop (BMW) hosted and facilitated by Remix. The aim of the one day workshop in London would be to explore the business potential of the project ideas, consider the proposition, scale and type of demand, and business model. Participants would be encouraged to think laterally around their ideas – to find the hidden gems contained within larger ideas, and to fully evaluate some of the assumptions they enter with.

The hackathon winning teams that were invited to Business Modelling Workshops are:
TV Hacking Culture Bootcamp – Art(F)inder, Bosch and Mnemosyne (later called We MakeKnown)
Hacking the (Dancing) Body – Nous, SubtleDance and In the Moment
Hack the Book Festival – Vivl.io, Cook-Lee and SinkAFuture
Hack your Photo Heritage – StoryPix, Mixed Art (later called Picasso's Cat) and Explore Leuven
The Future Museums Challenge – Proverb (PostArt), 3logic (YourMuseum) and Lilith (later called Nora.)
Art//Museums//Hackathon – EightEyes (Zen days), CryLater (Slumlords) and ERRNO (Mortal Combat)

Further details about the BMWs and the results will be shared in D5.3 – *Monetisation Workshops*

The project objective was clearly to select three teams from the hackathons that had the potential to create a new business. However, that is not the only measure of success of the events. Not only did project partners find them to be an innovative success, but for participants within teams that did not win, there was the genesis of new ideas and a network of new contacts. Not being selected at the hackathon was not the end of the road for them, as can be seen from feedback sent to the organising team of the Dance hackathon:

"Last year around this time you helped me a lot when I was trying to make my way to attend Prague Dance Hackathon. I continued to develop my project and in April, we finally had our first group of audience.

I have been working on putting together documentation for the performance that could be used in the future as pitch video for grants and booking more shows. I would like to share it with you and thank you again for what you did last year. My project developed quite a bit afterwards, but you were one of the people who witnessed its beginning form."

11 CONCLUSION

The Europeana Space project strives to not just facilitate the re-use of cultural heritage materials but to stimulate job creation and business opportunities for new SMEs as well as inspire GLAMs to find new avenues for engagement and sustainability. While the pilots in WP4 demonstrate possible ways for this, the hackathons are the real test. The hackathons engage new audiences of eager developers, designers, and entrepreneurs, challenging and stimulating them to innovatively conceive viable businesses that utilise the plethora of digitised cultural heritage materials.

Hackathons are becoming ubiquitous around the world as a venue for innovation and problem solving, they allow for multidisciplinary participants to collaborate and approach problems or challenges from left-field angles with the hopes of striking gold. After viewing the results from the Europeana Space project, it has been noted that hackathons can indeed stimulate new and innovative ideas that will improve the cultural sector and have the potential for job creation. By the end of the project, it will be possible to negate or prove this definitively by presenting the six final incubated projects.

However, organising hackathons for the cultural heritage sector is not easy. With so many stakeholders involved and the broad topics such as "museums" or "photography" narrowing focus and targeting specific desired outcomes is time consuming and difficult. Within this deliverable, Europeana Space has showed how the project tackled this problem and executed successful hackathons. It is clear that there should not be a one-size-fits-all approach, but clear objectives need to be in place to achieve the desired results. Overall, there should not be too much presumption of objectives, as hackathons must retain their creativity and give participants the opportunity to have fun.