

O6.4.1 - Cultural Data Lab Framework



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1. Introduction

The Cultural Datalab was set up to facilitate reuse of the digitised cultural heritage data made available during the three year Urban Innovation Actions funded Collections of Ghent project. This document is really to inspire and help other European cities, museums or archives when they want to set up their own GLAM (Galleries, Libraries, Archives and Museums) datalab. So you can read how we have set up our lab to engage third parties into reusing cultural data, how we approached it, what the results are and what our reflections are on our process. In that way we hope to enable the replication of our project results in other contexts or cities

The Collections of Ghent project

Museums, institutions and citizens share cultural heritage

The city of Ghent's museums and heritage institutions collect and preserve an enormous amount of cultural heritage. At the same time the citizens of Ghent possess a treasure trove of knowledge and stories which relate to these collections. For the Collections of Ghent project, the city and its museums and city archive collaborated with partners from the corporate, cultural, and academic world to bridge the gap between these collections and the Ghentian citizen by providing access to more-or-less 80.000 objects, stories and documents. The project wanted to go beyond simply sharing their collections by actively stimulating their reuse and co-curation by external parties such as citizens, companies, researchers, etc.

Challenges addressed

Cities all over Europe are digitising their cultural heritage collections, but often lack the tools to utilise them for the purpose of engaging citizens. Data is often stuck within institutional silos or is used on single-purpose digital platforms that do not reach new audiences because they lack an open infrastructure. In addition, citizens have few means to contribute to and participate in the creation and curation of our shared digital cultural heritage. However, cultural participation is essential to improve social cohesion and citizens' sense of belonging. In order to address this challenge, the Collections of Ghent project aimed to contribute to the transition of cultural heritage institutions into third places¹.

Solutions proposed

In order to leverage the full potential of digital cultural heritage, the Collections of Ghent project aimed to open up cultural data, making it usable, useful, and used. To create this open knowledge, the project established the necessary data architecture for making digital heritage available to different target audiences: technical and non-technical users alike, from

¹ A third place is a social environment separate from the main social environments of the home (first place) and the workplace (second place). Examples include libraries, gyms, cafes, clubs, parks, sidewalks, churches, etc. Ray Oldenburg (1989) argues these places are essential to establishing a sense of place and civil society, democracy and civic engagement.

citizens to developers. It also set up a shared data management plan which proposes a shared policy on subjects from data interoperability to rights management, which was essential to publishing these collections in a usable way. The project also conducted user-research to gain insight into cultural needs, barriers, and opportunities regarding digitised cultural heritage in order to figure out which data to open up and in what ways to make them accessible.

The project's goal was to open up heritage data to increase the visibility of heritage collections and to increase inter-cultural understanding and dialogue. The ultimate goal was to leverage heritage collections to increase social cohesion and inclusion.

What is an Innovation Lab / GLAMlab?

Mahey, M. et alii (2019) describe a Galleries, Libraries, Archives and Museums (GLAM) Lab as “a place for experimenting with digital collections and data. It is where researchers, artists, entrepreneurs, educators and the interested public can collaborate with an engaged group of partners to create new collections, tools, and services that will help transform the future ways in which knowledge and culture are disseminated. The exchanges and experimentation in a Lab are open, iterative and shared widely.”²

They go on to state that an Innovation Lab does not necessarily require a physical space as innovation relates more to “mentalities and practices, and to investing in people, time and tolerance within a work environment.”³ Core values for its functioning can be openness, transparency, generosity, collaboration, creation, inclusivity, boldness, ethics, accessibility and encouragement of exploration. Mahey et alii (2019) go on to stress that an Innovation Lab needs to be grounded in user-centred and participatory design processes and that the purpose of the lab should be clear. Finally, a permanent lab should be a place for experimentation and iterative testing and improvement. They recommend “think big but start small and establish quick wins to get up and running”.⁴ Early implementations of Innovation Labs in GLAMs were the New York Public Library Labs and the Cooper Hewitt Labs. The former Director of Digital and Emerging Media at Cooper Hewitt Seb Chan and his team performed this work in addition to their regular tasks.⁵

² Mahey, M., Al-Abdulla, A., Ames, S., Bray, P., Candela, G., Chambers, S., Derven, C., Dobрева-McPherson, M., Gasser, K., Karner, S., Kokegei, K., Laursen, D., Potter, A., Straube, A., Wagner, S-C. and Wilms, L., with forewords by: Al-Emadi, T. A., Broady-Preston, J., Landry, P. and Papaioannou, G. (2019) Open a GLAM Lab. Digital Cultural Heritage Innovation Labs, Book Sprint, Doha, Qatar, 23-27 September, 2019, 31

³ Mahey, M., Al-Abdulla, A., Ames, S., Bray, P., Candela, G., Chambers, S., Derven, C., Dobрева-McPherson, M., Gasser, K., Karner, S., Kokegei, K., Laursen, D., Potter, A., Straube, A., Wagner, S-C. and Wilms, L., with forewords by: Al-Emadi, T. A., Broady-Preston, J., Landry, P. and Papaioannou, G. (2019) Open a GLAM Lab. Digital Cultural Heritage Innovation Labs, Book Sprint, Doha, Qatar, 23-27 September, 2019, 9

⁴ Mahey, M., Al-Abdulla, A., Ames, S., Bray, P., Candela, G., Chambers, S., Derven, C., Dobрева-McPherson, M., Gasser, K., Karner, S., Kokegei, K., Laursen, D., Potter, A., Straube, A., Wagner, S-C. and Wilms, L., with forewords by: Al-Emadi, T. A., Broady-Preston, J., Landry, P. and Papaioannou, G. (2019) Open a GLAM Lab. Digital Cultural Heritage Innovation Labs, Book Sprint, Doha, Qatar, 23-27 September, 2019, 31

⁵ Mahey, M., Al-Abdulla, A., Ames, S., Bray, P., Candela, G., Chambers, S., Derven, C., Dobрева-McPherson, M., Gasser, K., Karner, S., Kokegei, K., Laursen, D., Potter, A.,

Target audiences can range from creative technologists, artists, researchers to universities and schools or indeed anyone interested in using digital collections. Facilitation by the GLAMlab can go from providing general support to creating fellowships, grant programmes and placements all depending on the available expertise, budget and time.⁶

Types of GLAMlabs

Within the realm of GLAMlabs you could differentiate between the more hardware based 'makerspaces' or the data and software based 'data lab'. Of course hybrid setups are possible that link both worlds. We'll briefly explain both sides.

Makerspaces

Makerspaces are primarily hands-on creative spaces where users can make use of various to prototype new products, applications or installations. They can provide technologies such as Virtual Reality (VR) and Augmented Reality (AR) or produce creative outputs such as 3D modelling and printing, laser cutting, digital embroidery, mini-computers, motors and robotics, etc.⁷ These technologies can be employed to create derivative or remixed works based on the digital reproductions published by heritage institutions. They can also be used to quickly prototype installations which deliver heritage collections in a new and interesting way. Many makerspaces deliberately target non (yet) technically competent audiences with the intent of knocking down perceived thresholds and can be great instigators of greater inclusion.

Some known examples:

- The [Museomix](#) community organises hackathons which are highly focussed on maker technology to create installations which change the mediation in museums physical exhibition spaces.
- [Fablabfactory](#) is a fablab based in Aalst, Belgium which amongst other things, supplies libraries ([FABlib](#)) and schools ([STEAMlab](#)) with mini-makerspaces with the aim of increasing students digital and technical literacy and interest for STEAM (Science, Technology, Engineering, Art, and Math) disciplines.
- [Makey](#) did the same in museums in the UK.

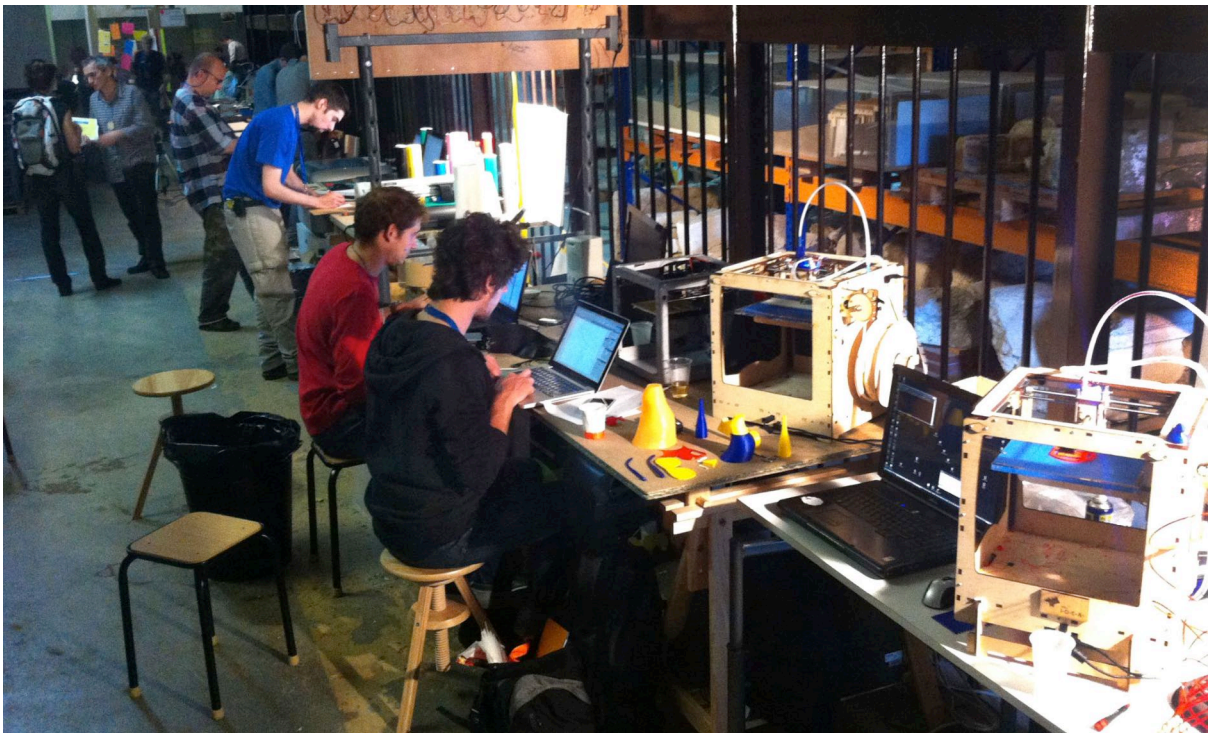
Straube, A., Wagner, S-C. and Wilms, L., with forewords by: Al-Emadi, T. A., Broady-Preston, J., Landry, P. and Papaioannou, G. (2019) Open a GLAM Lab. Digital Cultural Heritage Innovation Labs, Book Sprint, Doha, Qatar, 23-27 September, 2019, 35

⁶ Mahey, M., Al-Abdulla, A., Ames, S., Bray, P., Candela, G., Chambers, S., Derven, C., Dobрева-McPherson, M., Gasser, K., Karner, S., Kokegei, K., Laursen, D., Potter, A., Straube, A., Wagner, S-C. and Wilms, L., with forewords by: Al-Emadi, T. A., Broady-Preston, J., Landry, P. and Papaioannou, G. (2019) Open a GLAM Lab. Digital Cultural Heritage Innovation Labs, Book Sprint, Doha, Qatar, 23-27 September, 2019, 35

⁷ Mahey, M., Al-Abdulla, A., Ames, S., Bray, P., Candela, G., Chambers, S., Derven, C., Dobрева-McPherson, M., Gasser, K., Karner, S., Kokegei, K., Laursen, D., Potter, A., Straube, A., Wagner, S-C. and Wilms, L., with forewords by: Al-Emadi, T. A., Broady-Preston, J., Landry, P. and Papaioannou, G. (2019) Open a GLAM Lab. Digital Cultural Heritage Innovation Labs, Book Sprint, Doha, Qatar, 23-27 September, 2019, 37



Fablabfactory at M Leuven



3D printers at Museomix hackathon

Data labs

Historically the museum as an institution has been primarily involved in collecting, preserving and providing physical access to collections in the controlled environment of the exhibition space. In all these modes of delivery, the institution controls the narrative about the collections. The shift towards digital offers opportunities to experiment and innovate how we make collections accessible and how we learn about and interact with them. Mahey et alii

(2019) argue that museums are “grappling with cultural shifts towards experience and engagement, both online and in their physical spaces. Museum or Gallery Labs look to bring together design, technology, culture and research to transform how stories are told and how collections are conceived and used, both internally and with the communities they serve”.⁸

Data labs can come in a variety of shapes and sizes but are all intended to make this change happen by applying experimental methods to make cultural heritage collections not only accessible but also present them in innovative, engaging and unexpected ways. Having a permanent lab as opposed to a one-off workshop provides more opportunities to try, fail, iterate as well as to create a community. They can take elements of existing core services and leverage the knowledge and skills of the staff members who provide these and open these up for collaboration and reimagination by external actors.⁹



Participants of Collections of Ghent hackathon working in teams on specific challenges

⁸ Mahey, M., Al-Abdulla, A., Ames, S., Bray, P., Candela, G., Chambers, S., Derven, C., Dobрева-McPherson, M., Gasser, K., Karner, S., Kokegei, K., Laursen, D., Potter, A., Straube, A., Wagner, S-C. and Wilms, L., with forewords by: Al-Emadi, T. A., Broady-Preston, J., Landry, P. and Papaioannou, G. (2019) Open a GLAM Lab. Digital Cultural Heritage Innovation Labs, Book Sprint, Doha, Qatar, 23-27 September, 2019, 38

⁹ Mahey, M., Al-Abdulla, A., Ames, S., Bray, P., Candela, G., Chambers, S., Derven, C., Dobрева-McPherson, M., Gasser, K., Karner, S., Kokegei, K., Laursen, D., Potter, A., Straube, A., Wagner, S-C. and Wilms, L., with forewords by: Al-Emadi, T. A., Broady-Preston, J., Landry, P. and Papaioannou, G. (2019) Open a GLAM Lab. Digital Cultural Heritage Innovation Labs, Book Sprint, Doha, Qatar, 23-27 September, 2019, 33

So, why set up a Cultural Datalab?

Accelerate change within the organisation

Labs can provide an iterative way to move towards long-term change in an institution, resulting in an altered or expanded mission and vision. Because labs provide a space to experiment, take risks, question established protocols and try things out and fail, they may validate or invalidate new ways of approaching a problem. Whether the outcome is deemed successful or not, it always generates learning opportunities to acquire new skills and knowledge which in turn may lead to the creation of new roles, new services and even new approaches to looking at the function of the institution itself.¹⁰

Collaborative opportunities

Labs create opportunities for collaboration by drawing on existing expertise around collections, access and metadata. A lab can be a site for transversal learning between different profiles within the institution but also for collaboration with other organisations, bringing in knowledge and skills that are currently not available inside of the institution. Labs also allow institutions to connect with sectors which are not always serviced by traditional cultural heritage organisational services, such as artists, entrepreneurs and creators of any kind.¹¹

Skills development

Making collections available as data does not in and of itself generate engagement with those collections. This is why other profiles besides digital collections managers need to acquire skills to manipulate, use and enhance them. Labs can help institutions expose organisational skill gaps and challenges. Skills acquired in a lab workshop can later transfer back to their general work and create efficiencies and value there. Learning in labs allows for more knowledge development by internal staff, which can lead to more productivity further down the line.¹²

¹⁰ Mahey, M., Al-Abdulla, A., Ames, S., Bray, P., Candela, G., Chambers, S., Derven, C., Dobрева-McPherson, M., Gasser, K., Karner, S., Kokegei, K., Laursen, D., Potter, A., Straube, A., Wagner, S-C. and Wilms, L., with forewords by: Al-Emadi, T. A., Broady-Preston, J., Landry, P. and Papaioannou, G. (2019) Open a GLAM Lab. Digital Cultural Heritage Innovation Labs, Book Sprint, Doha, Qatar, 23-27 September, 2019, 41

¹¹ Mahey, M., Al-Abdulla, A., Ames, S., Bray, P., Candela, G., Chambers, S., Derven, C., Dobрева-McPherson, M., Gasser, K., Karner, S., Kokegei, K., Laursen, D., Potter, A., Straube, A., Wagner, S-C. and Wilms, L., with forewords by: Al-Emadi, T. A., Broady-Preston, J., Landry, P. and Papaioannou, G. (2019) Open a GLAM Lab. Digital Cultural Heritage Innovation Labs, Book Sprint, Doha, Qatar, 23-27 September, 2019, 41

¹² Mahey, M., Al-Abdulla, A., Ames, S., Bray, P., Candela, G., Chambers, S., Derven, C., Dobрева-McPherson, M., Gasser, K., Karner, S., Kokegei, K., Laursen, D., Potter, A., Straube, A., Wagner, S-C. and Wilms, L., with forewords by: Al-Emadi, T. A., Broady-Preston, J., Landry, P. and Papaioannou, G. (2019) Open a GLAM Lab. Digital

Cost reduction

Rapid prototyping and testing emerging technologies at a smaller scale can lead to a reduction of overall costs because it allows for more thorough testing of a proof of concept before it is implemented permanently.¹³ Or avoid heavy investments in new technologies or interactions when the (perceived) benefits do not suffice for further investment and development.

Maintaining relevance

Cultural heritage organisations need to adapt to new and changing technologies, to changing behaviour and habits, and to validate assumptions about their audiences. So it's really a way to figure out how to be and to stay relevant. A lab can provide a testing ground for testing and adopting new tools and methods for content delivery and user engagement so institutions may continue to communicate with their audiences in a way adapted to their users changing needs.¹⁴

2. Building the Collections of Ghent Cultural Data lab

Why?

With this datalab, we wanted to enable collaborations that were focused on the data side of things, rather than a physical makerspace, as the Collections of Ghent project is really data oriented. Even so, a lab environment was necessary to increase uptake and reuse of data. The City of Ghent as lead partner had been working towards an open data practice during the last decade. Opening up data is one thing, but making sure that the data is being used is another and requires community building. That is why the cultural datalab was both a co-working space for project partners to collaborate, as well as an event organiser on numerous locations hosting data, tech and citizen events that helped us in opening up cultural heritage and stimulate experimentation.

We organised public workshops and events such as hackathons and crowdsourcing events that served the goals of the project but might also provide value to a wider stakeholder group. The cultural data lab was also a way to guide creators that were part of the

Cultural Heritage Innovation Labs, Book Sprint, Doha, Qatar, 23-27 September, 2019, 35 & 41

¹³ Mahey, M., Al-Abdulla, A., Ames, S., Bray, P., Candela, G., Chambers, S., Derven, C., Dobрева-McPherson, M., Gasser, K., Karner, S., Kokegei, K., Laursen, D., Potter, A., Straube, A., Wagner, S-C. and Wilms, L., with forewords by: Al-Emadi, T. A., Broady-Preston, J., Landry, P. and Papaioannou, G. (2019) Open a GLAM Lab. Digital Cultural Heritage Innovation Labs, Book Sprint, Doha, Qatar, 23-27 September, 2019, 42

¹⁴ Mahey, M., Al-Abdulla, A., Ames, S., Bray, P., Candela, G., Chambers, S., Derven, C., Dobрева-McPherson, M., Gasser, K., Karner, S., Kokegei, K., Laursen, D., Potter, A., Straube, A., Wagner, S-C. and Wilms, L., with forewords by: Al-Emadi, T. A., Broady-Preston, J., Landry, P. and Papaioannou, G. (2019) Open a GLAM Lab. Digital Cultural Heritage Innovation Labs, Book Sprint, Doha, Qatar, 23-27 September, 2019, 42

co-creation fund mini grants, which funded a series of projects reusing the open data of the Collections of Ghent. We were able to offer technical assistance, practical guidance as well as liaising with the participating museums and archives whenever certain questions arose.

The four steps to defining your action plan

So you want to set up a data lab, but where do you start? To make sure all contributors are aligned on your goal, it's best to write a 'community action plan'. In this plan you define your lab values (1), define the communities or target audiences you want to reach out to (2). Define the mission and goals of the lab (3). And lastly, what roles and skills you have at your disposal at the start of the journey (4).

Writing the community action plan

1. Define your values

Mahey, M. et alii (2019) recommend defining a set of values to orient your lab around. To preserve the experimental and open-ended nature of a lab, it doesn't make sense to determine clear quantifiable goals or performance indicators. Having values however maintains the flexibility of a lab but does provide a framework that helps identify challenges, determine priorities and resource allocation.¹⁵

Collections of Ghent implementation

The Collection of Ghent Cultural Datalab's core values inform its goals and mission and inform the way it interacts with stakeholders and partners:

- **Open:** We believe in open innovation and move away from closed silo's. No R&D department with a 'white coat mentality', but an open environment where anyone is welcome to collaborate.
- **Socially driven / responsible:** We look for solutions which are driven on a societal level. We are interested in the role heritage and cultural data can play in coping with societal challenges.
- **Experimental:** The action plan steers the lab's activities, but the path to take towards its goals is unclear. We are open to new opportunities and initiatives when they present themselves throughout the course of the project.
- **Creative:** We stimulate creative thinking, outside of the box and outside the Coghent 'box'.¹⁶ Participants get ownership and are stimulated to work with cultural data in new ways.

¹⁵ Mahey, M., Al-Abdulla, A., Ames, S., Bray, P., Candela, G., Chambers, S., Derven, C., Dobрева-McPherson, M., Gasser, K., Karner, S., Kokegei, K., Laursen, D., Potter, A., Straube, A., Wagner, S-C. and Wilms, L., with forewords by: Al-Emadi, T. A., Broady-Preston, J., Landry, P. and Papaioannou, G. (2019) Open a GLAM Lab. Digital Cultural Heritage Innovation Labs, Book Sprint, Doha, Qatar, 23-27 September, 2019, 48

¹⁶ The Coghent box was the mobile digital experience space, housing interfaces based on linked open data of the participating cultural heritage institutions for casual passers-by to browse through.

2. Define user communities / target audiences

Since GLAMlabs are supposed to bring in and engage with people from outside the institution and resources and time are finite, it is important to define which communities the lab is going to focus on and understand what their interests and needs are. The publication *Open a GLAMlab* (2019) recommends taking into account four main parameters to separate and identify target audiences: aim and motivation, skill levels, engagement types and institutional affiliation:¹⁷

- **Aim and motivation:** Users can be grouped based on their main motivation and aims in engaging with the Lab, such as researchers, creatives, learners and entrepreneurs. Further subdivision might be helpful to build services and engagement activities; the needs of a humanities scholar quite possibly differs from that of a cultural startup. Students might need to be engaged differently from PhD researchers.¹⁸
- **Skills levels:** Different levels of digital skills shape the type of services and activities that are useful to users. Many activities of Labs will address this specifically and **facilitate skill building**.¹⁹
- **Engagement type:** Users can also be grouped according to their engagement type — on the scale from consumers (who are searching for digital resources) to contributors (who contribute to the development of digital content and / or are experimenting with it).²⁰
- **Institutional affiliation:** A Lab might also define different levels of support and engagement for external users such as researchers from a specific university, to internal users such as colleagues from other departments. Targeting a specific user group helps design tools and services matching their needs (as displayed below). Potentially, user studies and evaluation methods can be conducted.²¹

¹⁷ Mahey, M., Al-Abdulla, A., Ames, S., Bray, P., Candela, G., Chambers, S., Derven, C., Dobрева-McPherson, M., Gasser, K., Karner, S., Kokegei, K., Laursen, D., Potter, A., Straube, A., Wagner, S-C. and Wilms, L., with forewords by: Al-Emadi, T. A., Broady-Preston, J., Landry, P. and Papaioannou, G. (2019) *Open a GLAM Lab*. Digital Cultural Heritage Innovation Labs, Book Sprint, Doha, Qatar, 23-27 September, 2019, 83

¹⁸ Mahey, M., Al-Abdulla, A., Ames, S., Bray, P., Candela, G., Chambers, S., Derven, C., Dobрева-McPherson, M., Gasser, K., Karner, S., Kokegei, K., Laursen, D., Potter, A., Straube, A., Wagner, S-C. and Wilms, L., with forewords by: Al-Emadi, T. A., Broady-Preston, J., Landry, P. and Papaioannou, G. (2019) *Open a GLAM Lab*. Digital Cultural Heritage Innovation Labs, Book Sprint, Doha, Qatar, 23-27 September, 2019, 84

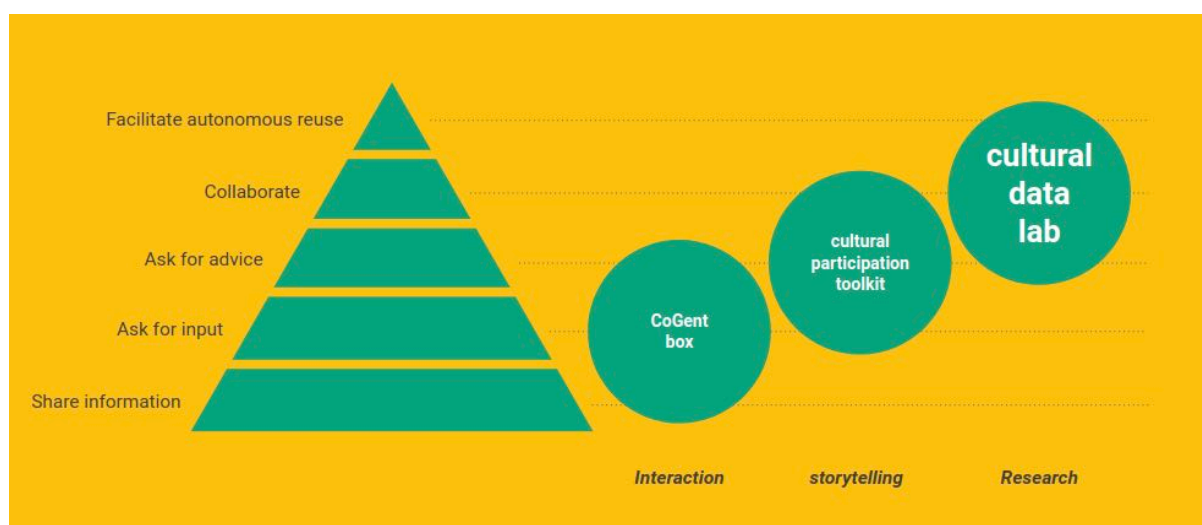
¹⁹ Mahey, M., Al-Abdulla, A., Ames, S., Bray, P., Candela, G., Chambers, S., Derven, C., Dobрева-McPherson, M., Gasser, K., Karner, S., Kokegei, K., Laursen, D., Potter, A., Straube, A., Wagner, S-C. and Wilms, L., with forewords by: Al-Emadi, T. A., Broady-Preston, J., Landry, P. and Papaioannou, G. (2019) *Open a GLAM Lab*. Digital Cultural Heritage Innovation Labs, Book Sprint, Doha, Qatar, 23-27 September, 2019, 84

²⁰ Mahey, M., Al-Abdulla, A., Ames, S., Bray, P., Candela, G., Chambers, S., Derven, C., Dobрева-McPherson, M., Gasser, K., Karner, S., Kokegei, K., Laursen, D., Potter, A., Straube, A., Wagner, S-C. and Wilms, L., with forewords by: Al-Emadi, T. A., Broady-Preston, J., Landry, P. and Papaioannou, G. (2019) *Open a GLAM Lab*. Digital Cultural Heritage Innovation Labs, Book Sprint, Doha, Qatar, 23-27 September, 2019, 85

²¹ Mahey, M., Al-Abdulla, A., Ames, S., Bray, P., Candela, G., Chambers, S., Derven, C., Dobрева-McPherson, M., Gasser, K., Karner, S., Kokegei, K., Laursen, D., Potter, A., Straube, A., Wagner, S-C. and Wilms, L., with forewords by: Al-Emadi, T. A.,

Collections of Ghent implementation

The lab is an open experimental space, where we collaborate with a wide range of actors. When we mapped the Cultural Data Lab on the participatory pyramid created by the Flemish Interface for Cultural Heritage FARO²² (based on the citizen participation ladder by Sherry Arnstein²³), we saw that our planned activities largely map on the model's higher participatory levels. We ask participants for advice (ie. consultation), to collaborate (co-creation and co-curation) as well as invite them to appropriate and reuse the collection from their own initiative without the project as facilitator. Targeting higher levels of participation means a higher likelihood of arriving at new ideas, insights and outputs which wouldn't be created by the existing consortium of institutional cultural heritage partners.



For Coghent we identified four clusters of target audiences based on their expertise and relationship with the data. This would allow us to communicate to every target audience in an appropriate fashion, avoiding overwhelming people with technical jargon with which they might be unfamiliar. The Cultural Datalab organised activities for both internal as well as external target audiences. Internal target audiences were people connected to the Group Ghent such as municipal services, autonomous municipal organisations (museums, District09 (Ghent city IT-service),...) and other internal and external agencies.

Cluster 1: Data managers

These are profiles who manage and make data accessible. They know the potential of the data, the cross-pollination between other data domains/spaces and the ambitions concerning opening up these data. Since this target audience already has a lot of knowledge about (open) data and technical infrastructural solutions, they need specific and in-depth input. We focussed on data managers in the municipal services of the city of Ghent, its museums, archives and libraries. This list however is not exhaustive. Data Managers from

Broady-Preston, J., Landry, P. and Papaioannou, G. (2019) Open a GLAM Lab. Digital Cultural Heritage Innovation Labs, Book Sprint, Doha, Qatar, 23-27 September, 2019, 85

²² <https://faro.be/participatie>

²³ <https://organizingengagement.org/models/ladder-of-citizen-participation/>

other cities and levels of government are welcome in order to facilitate cross-pollination and knowledge exchange.

Examples: data managers, digital strategists, developers, (cultural) data professionals, data stewards, technical research groups, employees of service data and information, ...

Cluster 2: Data generators

These include profiles with great internal expertise. Data generators are involved in collection management, inputting of (cultural) data and/or strategic integration of data in their organisation. Their needs are accessible information about the way the data is published, the impact of the accompanying advantages for their own work and the functioning of their organisation. Data generators work for museums, archives and libraries, but also include people in government such as the Flemish Department of Culture who want to separate policy buzzwords from reality.

Examples: registrars, curators, researchers, collection managers, communication professionals, civil society organisations, educators, mediators, policy makers, heritage cells, local history associations, open communities, ...

Cluster 3: Data (re-)users (active and passive)

Data re-users are remixers. They include people who use cultural data in both passive as active ways. Certain data re-users transform raw data in order to enable new interactions or build new applications. Others use existing interfaces to consult, research and share data. The derivative works. A derivative work can range from a new artwork, a collage, a play, a research paper or a social media post. Data re-users want to get an overview of existing open datasets and get inspired by the various possibilities which the data have to offer.

Examples: data-analysts, data-companies, artists, communication professionals, educators, local heritage researchers, students in tech, art students, researchers, cultural organisations and professionals, start-ups, AI-companies, open communities, ...

Cluster 3: Data consumers

Data consumers might be interested in the mission and goals of the Cultural Datalab, but don't (yet) make use of cultural data. They need low-threshold information and interactive workshops which do not require prior knowledge or special skills. We want to encourage data consumers to become data (re-)users by actively engaging with the data. In this cluster we grouped citizens but also employed by municipal services who want to use cultural heritage or cultural data but don't know where to start.

Examples: students, citizens, families, users of Ghent's multimedia library 'De Krook', employees of municipal services, ...

3. Define mission

Besides the set of values we mentioned above, you can also determine the focus of your activities by sticking to a clearly defined mission.

Collections of Ghent implementation

The Cultural Data Lab is an **open environment for experimentation with digitised cultural heritage in Ghent**. It is one of the core activities of the Collections of Ghent project, complementary to the activities centred around the immersive CoGent Box and the Cultural Participation Toolkit. Whereas the latter two centred very specifically around engagement in the three neighbourhoods targeted by the project, the Cultural Datalab wanted to collaborate more broadly on a city level. The Cultural Datalab initiated collaborations with companies, citizens, knowledge institutions and governments and actors at the crossroads between culture, data and technology in Ghent and beyond.

We wanted to **create awareness around the existence and utility of digitised cultural heritage** with both internal (ie. project partners and city services) and external (OSLO working group) target audiences. We intended to form an image of the opportunities offered by open cultural data and connected challenges and needs of heritage institutions with opportunities and solutions offered by external actors through organising activities such as talks, webinars, video's, workshops and demo's. We created formal and informal events which brought together both audiences. We introduced people and organisations to OpenGLAM, a global movement which advocates for opening up the collections of galleries, libraries, archives and museums. The Cultural Datalab offered a **space for experimentation for the development of prototypes and concepts** based on these open cultural data.

The results of the Cultural Datalab and the Cocreation Fund were given a platform at the 'Open Culture Festival', the end conference of the Collections of Ghent project. In order to stimulate knowledge transmission, we gathered and shared our processes and results of our lab. This output can serve as a source of inspiration for the City of Ghent and other European cities who want to set up their own datalab.

4. Team roles & skills

Since the GLAMlab is supposed to create an experimental space between the collections and IT staff, they need to be able to bridge this gap. Therefore, they need to both have knowledge of the collections and at the same time be interested in or have skills and knowledge about new technologies. They also need to be aware of possible legal issues and have communication and outreach skills. The actual composition of the team obviously depends on the ambitions and goals of the lab.

Finally, since they are meant to bridge knowledge gaps in the institution, a good dose of diplomacy and patience is essential. Even though a GLAMlab is supposed to create space for experimentation that might otherwise not be possible in the established bureaucracy of the institution, it has to be able to work with it. That is to say, encouraging people to work outside of their comfort zone and convincing people to take risks.²⁴

²⁴ Mahey, M., Al-Abdulla, A., Ames, S., Bray, P., Candela, G., Chambers, S., Derven, C., Dobрева-McPherson, M., Gasser, K., Karner, S., Kokegei, K., Laursen, D., Potter, A., Straube, A., Wagner, S-C. and Wilms, L., with forewords by: Al-Emadi, T. A., Broady-Preston, J., Landry, P. and Papaioannou, G. (2019) Open a GLAM Lab. Digital Cultural Heritage Innovation Labs, Book Sprint, Doha, Qatar, 23-27 September, 2019, 74

Collections of Ghent implementation

The cultural datalab was staffed by several staff members of the project consortium and connected people across several work packages of the project. The lab was run by Pieter-Jan Pauwels, Diederik Decroix and Lina Juvens as event and communication managers from municipal IT-partner of the city of Ghent, District09. They worked together with Sam Donvil as a community manager from meemoo, the Flemish Institute for Archives. Sam and meemoo already had connections towards the sector, reaching out to both data managers and data generators.

Collectively they brought on board skills and knowledge concerning (creative) reuse of digital heritage collections, knowledge dissemination, workshop organisation and (hybrid) event management. Olivier Van D'huynslager from Design Museum Ghent regularly joined meetings to provide input from the perspective of work package 5 which was responsible for the development of the Collections of Ghent data architecture.

Activities

A GLAMlab's ambitions can range from matter of fact practical goals such as cleaning a dataset to large far reaching outcomes such as birthing the digital transformation of the institution. Below we list the activities which we organised during the Coghent Cultural Datalab's 3 year lifespan from mid 2021 to mid 2023, grouped according to intended target audiences and outcome.

Making sense of cultural data

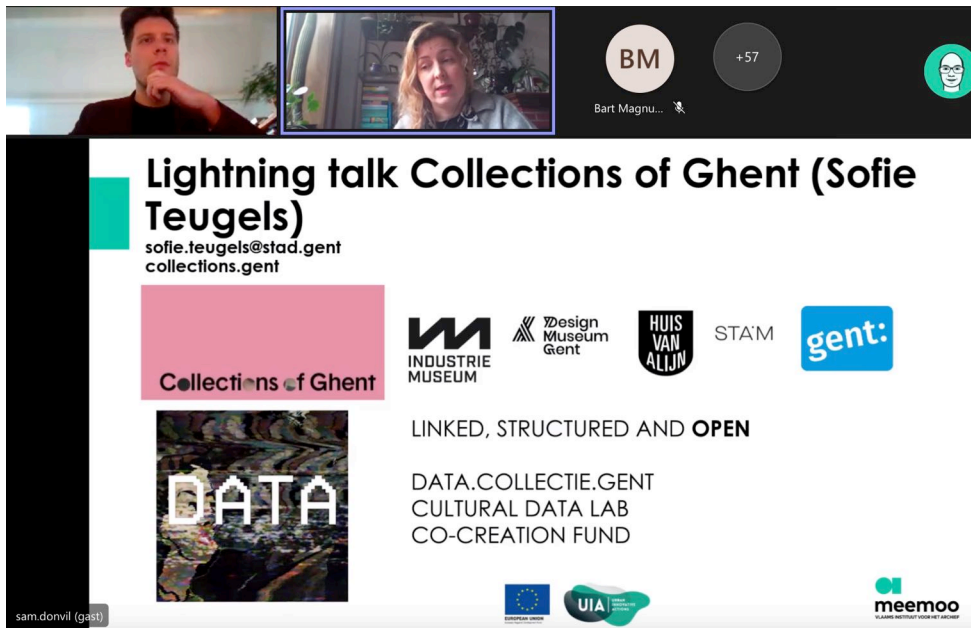
These activities were intended to increase the awareness and the use of digitised cultural heritage. The activities were meant to be inspiring and showed how third parties can start (re)using and adding digital assets. Our activities were intended to inform and inspire and give a platform to central actors who already reuse digital heritage data.

Main activities:

- **Public Domain Day** is an annual event organised by project partner meemoo, the Belgian Royal Library and Wikimedia Belgium with the aim of creating community and exchanging best practices regarding making non or no-longer copyrighted material available and stimulating its reuse. The Coghent project contributed to its program during the 2022 and 2023 editions. The activities included a panel conversation on how to facilitate reuse of open cultural content as well as presentations on the cultural datalab's activities stimulating (creative) reuse.
- We organised a series of demos related to **querying linked open data**. This included a deep dive **SPARQL-querying demo webinar** which featured not only the use of the SPARQL-query language in general. It also included information about how to query the Collections of Ghent Linked Data Event Stream and how to use the project's specific querying environment. Later, we followed this up with a more entry-level and hands-on in person **SPARQL-querying workshops** where participants could familiarise themselves with the basics.

Target audiences: Data generators and data consumers

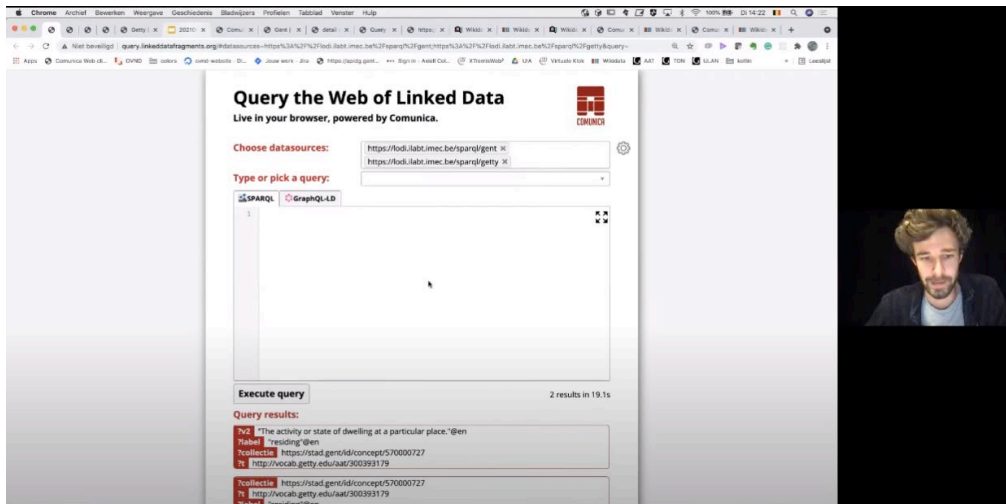
Goal: A greater awareness with the intended target audiences about what open cultural data is and what its opportunities are.



Public Domain Day 2022 (online because of COVID-19 restrictions), Collections of Ghent lightning talk preceding the panel conversation by Sophie Teugels



Public Domain Day 2023, Collections of Ghent presentation about creative reuse initiatives by Saar Vandeweghe (Industriemuseum)



Olivier van D'Huynslager presenting at the SPARQL-querying demo webinar



Participants during the hands-on SPARQL-workshop

Connect and Collaborate

We wanted to stimulate collaborations between people and organisations. We included the institutional side (local government, museums and archives) to map the needs and challenges. On the other end we included third parties (citizens, companies and knowledge institutions) in order to look for new opportunities and solutions. We organised a series of activities to both create a community for our initiatives which were meant to facilitate reuse of the Collections of Ghent, being the cocreation fund and the hackathon.

Activities:

- In order to set the playing field for the **hackathon** we started by consulting with the heritage institutions for their input about needs, challenges and opportunities related to access and reuse of their digital collections. These resulted in a series of challenges which participants of the hackathon could address with their prototypes. Closer to the hackathon we organised a so-called '**datadive**' which is a session where the datasets were presented to potential participants, along with information on how to access them and a couple of inspiring first experiments of data reuse. This session was meant to kickstart the ideation process before the actual hackathon itself.
- The **co-creation fund** awarded a budget of maximum 20.000 euro per project to 13 projects proposed by citizens, creatives and companies who wanted to reuse the digital collections made available during the project. In order to attract interested individuals, we organised a **brainstorming session**. This event served two purposes. First of all it served as a space where future participants could conceive their ideas and concepts, however vague and benefit from the input from various profiles from the project and institutions themselves. Secondly, we organised a **networking session** which allowed people with similar goals and ideas or teams with missing profiles to find each other. During the production phase of the co-creation fund, the cultural datalab organised informal check-in events where teams could present their progress. Not only did this allow us to track the progress of individual projects and intervene if assistance was needed, but it also created more awareness of each other's projects across teams.

Target Audiences: Data generators, data managers (+ data re-users and data consumers)

Goal: New (in)formal connections between internal and external target audiences arise. We build bridges between research and practice, between amateurs and professionals.



Presentation about municipal open data from the city of Ghent during the Collections of Ghent datadive event



Teams from the selected cocreation fund projects at the cocreation fund kick-off event



Challenges proposed for the hackathon by the partner institution of the Collections of Ghent project

Stimulate experiment and innovation

Cultural institutions and professionals got a platform to experiment and innovate with cultural data. We worked using a series of guiding principles such as co-creation, learning to let go, presenting unfinished concepts and welcoming failure. We facilitated new opportunities through prototyping. The Cultural Datalab did not only support but also showcases the (unfinished) creations and innovations to the outside world.

Activities:

- The **Collections of Ghent hackathon** was an all-day ideation workshop centred around linked and open data. This day-long event welcomed 120 participants (mostly students, but also a company) and resulted in prototypes ranging from concepts to functional applications.
- The **Co-creation Fund** resulted in 13 finished projects and prototypes ranging from applications based on artificial intelligence, to a play based on the collections, a faceswapping application, documentaries and publications using the Collection of Ghent images and even a wacky installation which drew timelines based on the digital collection data and images on toilet paper. In order to be inclusive and not only attract projects developing applications, requiring developer skills, we created two separate subsidies, one for 'technical' projects which were required to access the collections making use of the technical infrastructure while the 'creative' projects were more focussed on creative reuse, resulting in derivative works which did not have to meet this requirement.
- The cultural datalab also organised **creative workshops and sprints** such as the Gent GIFt **GIF making workshops**, one targeted at graphic design students with a preexisting skillset to create derivative works and one at communication profiles in the Ghent municipality which were offered a workshop which taught them a series of techniques and skills to create GIFs based on the Collections of Ghent images.

Target audiences: Data re-users, data manager and data generators

Goal: A series of prototypes and implementations which use, enrich or visualise linked open data.



Participants at work during the Collections of Ghent hackathon at the STAM museum



BESTE CONCEPT

ZOEK DE GENTENAAR
> AR TOEPASSING OP LUCHTFOTO STAM
> ZOEK DE 3 GENTENAREN EN KIES
WIE JE GIDST DOORHEEN EEN VERHAAL

Participants of the Collections of Ghent hackathon receiving the award for best concept during the closing ceremony



Participants during the guided GIF-making workshop for communication profiles at the city of ghent

Promoting results and process

We wanted to live up to our value that our lab was to be 'open'. We shared our own processes, activities and outputs. Data re-users were stimulated to share their work and build upon each other's ideas. We sought to increase knowledge about open licences and data interoperability.

Activities:

- As the Collections of Ghent project was the first implementation of the **OSLO linked open data standard** (published by the Flemish government), we wanted to create a platform to not only share our knowledge with the wider heritage sector but also to compare the implementation of other organisations with ours and transfer this information as input for the further development of the standard by the Flemish government. Since we realised that the subject material would be beyond the digital maturity of many organisations but at the same time the Flemish government is urging all organisations in the heritage field to look into linked data, we wanted to offer both low threshold and more advanced activities. All interested organisations were invited to follow the **OSLO linked open data standard kickstart webinar** which provided a general introduction. Afterwards we selected 3 organisations which were willing to follow a **4-part in depth hands-on implementation workshop series** which included both theory and practice, with as end result both a model of their data as linked data and a practical implementation plan to build the necessary infrastructure to publish their data as linked open data. After all three workshop series were completed, we **presented the different implementations and the suggestions for future improvement of the standard to the Flemish government**.
- The cultural datalab also organised activities around **Public Domain Day** to share our knowledge with the wider sector. The project contributed presentations to share its best practices for operational processes related to publishing open cultural data such as the project's approach and **guidelines for rights clearance and rights labeling** as well as a **data cleaning workshop** with the developer team of the data cleaning tool Openrefine.
- **IIIF-fridays** are a regular meeting of heritage organisations presenting their implementations and use-cases of the IIIF (International Image Interoperability Framework) standard for image delivery on the web. Olivier Van D'huynslager presented the Coghent IIIF-architecture as well as an example of an application built upon it: a colour tagger and viewer.
- The **Co-creation fund projects** presented and demoed their projects and installations during a two-day fare at the Collections of Ghent end festival.

Target audiences: Data managers, data generators, data re-users and data consumers

Goal: Interested participants have a greater insight into the process of our datalab and the advantages of open data and are convinced to include third parties into their journey towards innovation.



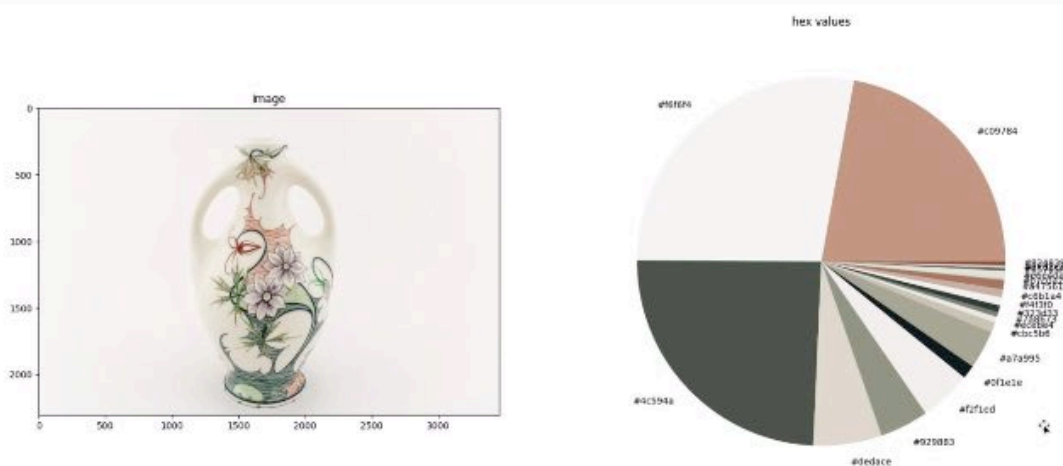
Participants to one of the in-depth workshops about the OSLO linked data standard



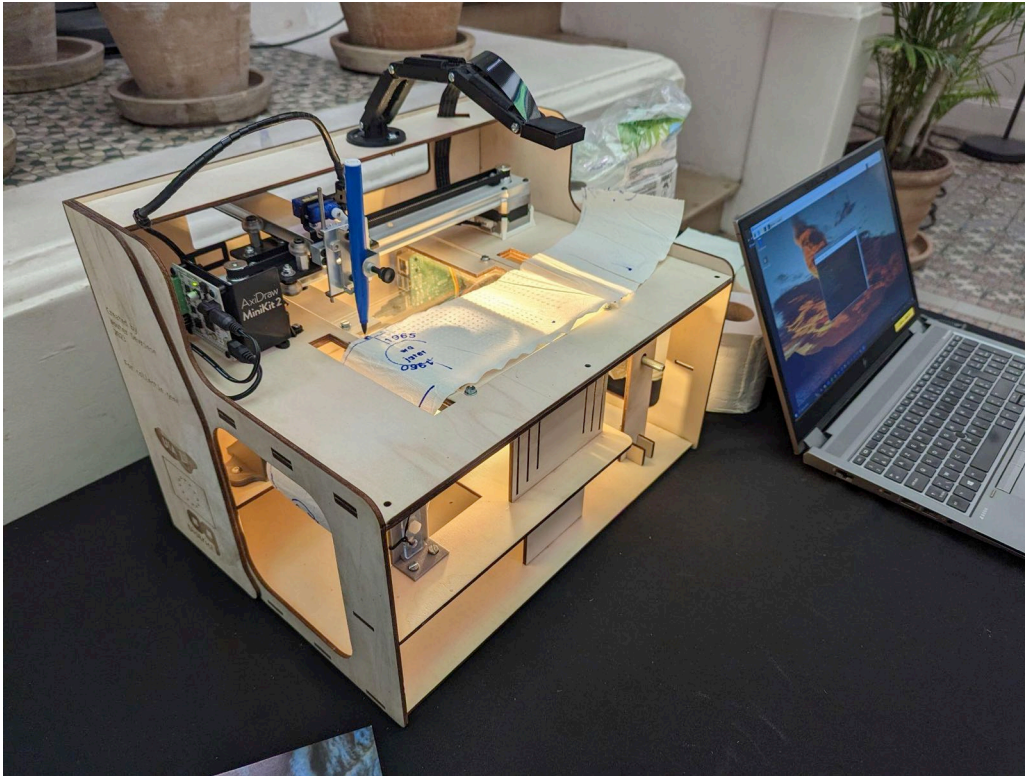
Project team member Sofie Teugels presenting the rights labelling framework and workflow codified in the Collections of Ghent data management plan



Sandra Focaunnier and Lozana Rossonova presenting the functionalities of the datacleaning program OpenRefine during a workshop



The colour tagger making use of the Collection of Ghent digital infrastructure presented at the IIF-friday



The cocreation fund project ‘The role of Ghent toilet paper’ installation which draws randomised custom timelines with images across the digital collections made available during the project on toilet paper



A result using the ‘Which famous Ghentian are you?’ faceswapping application, developed with support from the co-creation fund



Visitors and project staff test the co-creation fund application ‘the Collage of Ghent’ during the project end festival

Full list of online Activities

Date	Title
09/03/2021	Hacking open culture in 90 minutes, a creative brainstorm @OpenBelgium '21
10/06/2021	Cultural Data Lab: Online Lunch session
14/09/2021	Internal Info session Co-creation Fund
14/09/2021	Cultural Data Lab: SPARQL-Demo
05/10/2021	Co-creation fund: External launch
27/01/2022	OSLO (Open Standards for Local Administrations) kickstart meeting
08/02/2022	Data insight session "What's in the collections of Ghent?"
10/02/2022	Public Domain Day Belgium: panel conversation on how to facilitate reuse of open cultural content
17/02/2022	Public Domain Day: copyright workshop
23/02/2022	Startcall OSLO working group
10/03/2022	Cultural Data Lab: demo technological reuse
29/04/2022	IIIF Fridays: Coghent IIIF-architecture & colour tagger + viewer
26/05/2023	Copyright metadata through IIIF in Collections of Ghent
20/06/2023	Collections of Ghent unfolds - webinar - English

Full list of live activities

Date	Title
16/11/2021	Inspirational session: copyright and cultural heritage
18/11/2021	Brainstorm co-creation fund
18/11/2021	Networking moment of the co-creation fund
22/06/2022	Co-creation Fund beneficiaries kick-off
26/04/2022	OpenRefine community workshop
29/03/2022	OSLO implementation process CAG step 1: digital strategy
14/06/2022	OSLO implementation process CAG 2: data modelling
21/06/2022	OSLO implementation process CAG 3: making json ld samples
05/07/2022	OSLO implementation process CAG 4: looking at the technical infrastructure
27/09/2022	Datadive - Open Culture Hackathon
04/10/2022	Next level Copyright
15/10/2022	Open Culture Hackathon - Apps for Ghent
10/2022	OSLO implementation process MMP1917 stap 1: digital strategy
11/10/2022	OSLO implementation process MMP1917 2: data modelling
18/10/2022	OSLO implementation process MMP1917 3: making json ld samples
26/10/2022	OSLO implementation process MMP1917 4: looking at the technical infrastructure
09/11/2022	OSLO implementatietraject Huis van Alijn stap 1: digital strategy
18/11/2022	OSLO implementatietraject Huis van Alijn 2: data modelling
23/11/2022	OSLO implementatietraject Huis van Alijn 3: making json ld samples
30/11/2022	OSLO implementatietraject Huis van Alijn 4: looking at the technical infrastructure
09/12/2022	Making GIFS with heritage, GentGIFT @luca School of Arts
15/1/2023	Co-creation fund check-in for the beneficiaries
10/02/2023	GentGIFT internal GIF making workshop @de stroom
15/03/2023	Public Domain Day
21/04/2023	Gent GIFT workshop at the Elderly Care facility 'Heiveld' in Ghent
02/06/2023	To LDES or not to LDES session at the CoGhent festival
02/06/2023	SPARQL Party workshop at the CoGhent festival
02/06/2023	Copyright workshop at the CoGhent festival
02/06/2023	Gent GIFT award show at the CoGhent festival

Evaluation after implementation in Ghent

In this framework we also wanted to add a short impact assessment and lessons learned based on the data lab efforts made during the CoGhent project. We used a short SWOT-analysis as a way to define this.

Strengths

1. Since the lab was not created inside one particular institution but was set up in the context of a project, we were able to take advantage of the diverse profiles present in the staff of the project consortium. We had profiles from different institutions, organisations and companies with experience in knowledge dissemination, setting up training and workshops and event management and were able to leverage the specialist skills of other profiles working on the project.
2. In the context of the COVID-19 restrictions which plagued the project throughout its existence, we tried to be as flexible as possible and managed to move our program of activities online to a very large extent whenever needed.

Weakness

1. Due to the experimental nature of the project, maintaining a clear focus was not always easy. It also delayed us a bit, as you first need data before you can start thinking about lab activities to stimulate reuse.
2. Because of COVID-19 restrictions we had to reschedule a lot of activities that we felt would not make sense online, like the hackathon, which meant we did more knowledge dissemination vs. creative reuse activities than we would have liked to have done.

Opportunities

1. Go where the activity is: By setting up the lab in De Krook, the Central Library of Ghent, we were able to feed on existing dynamics around collaboration with knowledge institutions and citizens. It is a cultural place that attracts citizens on a daily basis and also has its own event programme where we could join forces. A nice example of this was the Day of Science event, a collaboration with the University and the library where we could show the project, the underlying data efforts and first co-creation fund and hackathon prototypes to interested citizens.
2. Find data friends: By linking up with the data community efforts from the City of Ghent data and information service we could use their Apps for Ghent branding for organising a Cultural Data Hackathon. Apps for Ghent has been a household brand for the past 10 years in regards to Open Data hackathons in Belgium, we enabled us to invite their current network of hackers.

Both points emphasise the importance of finding synergies where possible, as this will help in reaching certain communities much faster, especially in a limited project period.

Threats

1. COVID limited our efforts early on in the project to create a dynamic lab environment. The new work from home dynamics, limited physical interactions meant we needed different ways to reach out to audiences.
2. The budgetary crisis within the city also minimised interest and mental bandwidth from the cultural partners and external actors, as priorities scaled back to the core role of the cultural institutions, rather than generating a taste for experimentation.

Reflections looking back

Did we manage to turn data consumers into data reusers? What could we do with the Cultural Data Lab concept after the project? What are thoughts on replicability? We asked a few of our key stakeholders to reflect on these questions.

Pieter-Jan, strategic coordinator CoGhent and digital innovation manager at District09:

“We did not underestimate the efforts to set up a cultural data lab, but maybe we did underestimate the effort that goes into creating a community. This does not only take effort, but also time for people within your surroundings to know what you are offering on a data level and how to use this within their needs or applications. A hackathon is in that regard a great way to increase awareness and uptake, but you need more follow up to make sure data reuse is sustained. The co-creation fund helped in that area, which is also why we put more effort on guiding these beneficiaries into creating their prototypes on a technical or creative level.”

Sam Donvil, cultural data lab community manager and facilitator for the co-creation fund at meemoo Flemish Institute for Archives:

“Our Cultural Data Lab focused (especially at the start of the project) on training and knowledge dissemination. These were often open to the wider heritage sector but were also intended to grow in-house talent. The data management team responsible for data cleaning, rights clearance and data ingest to the Collections of Ghent Linked Data Event Stream, were all junior profiles and the Cultural Data Lab functioned as a platform for them to acquire new skills which increased the participating heritage institution digital maturity. However, since these profiles were hired on a temporary project-based contract, it is unclear how much of their skills and knowledge was transferred to the permanent staff. With these skills however, they are more likely to find employment elsewhere in the heritage sector and contribute to an overall more digitally mature heritage sector.

Another key area where the Cultural Data Lab was able to increase the digital maturity of the heritage sector as a whole was through our OSLO Linked Open Data standard workshops. The Cultural Data Lab was able to fill a void where the original publisher of the standard was not yet able to educate heritage workers about their standard. The webinars, presentations and workshops allowed them to cross thresholds in a subject matter which is generally considered too technical by many.”

Further reading

Mahey, M., Al-Abdulla, A., Ames, S., Bray, P., Candela, G., Chambers, S., Derven, C., Dobрева-McPherson, M., Gasser, K., Karner, S., Kokegei, K., Laursen, D., Potter, A., Straube, A., Wagner, S-C. and Wilms, L., with forewords by: Al-Emadi, T. A., Broady-Preston, J., Landry, P. and Papaioannou, G. (2019) Open a GLAM Lab. Digital Cultural Heritage Innovation Labs, Book Sprint, Doha, Qatar, 23-27 September, 2019.

Other GLAMLabs/Cultural Data Labs

- MKG Hamburg: <https://www.mkg-hamburg.de/en/neo-lab>
- British Library Labs: <https://www.bl.uk/projects/british-library-labs>
- Library of Congress Labs: <https://labs.loc.gov/>
- Dutch Royal Library, set up the KB Lab in 2014. The Lab hosts tools, datasets and a researcher-in-residence programme where the Lab team collaborates with early career researchers: <https://lab.kb.nl/>
- State Library of New South Wales: <https://dxlab.sl.nsw.gov.au/>
- Austrian National Library: <https://labs.onb.ac.at/en/>
- Sloane Lab: <https://sloanelab.org/>
- Glucksman Library (University of Limerick) Lab service. Included as part of a major building extension project concluded in 2018, the Glucksman Library opened up a physically based Lab built around collaborative spaces, highly specialised computers for working with collections and research data, and a large-scale data visualisation Lab. The Lab provides both a teaching function for post-graduates and researchers and a dedicated space for creativity and innovation.
- North Terrace Cultural Precinct Innovation Lab North Terrace Cultural Precinct Innovation Lab (SA GLAM Lab) is a new cultural heritage Lab that brings together four state government-funded South Australian institutions; the History Trust of South Australia, the South Australian Museum, the State Library of South Australia and the Art Gallery of South Australia, establishing a South Australian centre for excellence in digital cultural heritage and effecting digital and cultural transformation across the city's cultural precinct. The Lab is an interdisciplinary collaborative space where all four institutions share knowledge, resources, skills and expertise to advance new cultural, audience and research practices, as well as access to and experimentation with digital collections

Other culture hackathons:

- Museomix community: focussed on maker technologies and changing the mediation in the physical exhibition spaces of museums: <https://museomix.org/en/list-communities/>
- Coding Da vinci: <https://codingdavinci.de/en>
- Hack-a-LOD: <https://hackalod.com/>