

## Open Cultural Data Hackathon Coding Da Vinci – Bring the Digital Commons to Life

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### Abstract:

*For many years, libraries, archives and museums have digitized their cultural heritage and opened it, in parts, to the public. Its potential is far from being exploited to the full. And this is precisely where culture hackathons come in: software developer, engineers, designer, scholars, Wikipedians and other culture enthusiasts come together to work with these open data. They create and develop new apps, web pages, digital tools, and also new business ideas.*

*The culture hackathon Coding Da Vinci Nord, held in Hamburg in September 2016, brought together over 100 participants: on the one hand software developers, designers and scholars, and specialists from 19 cultural institutions in Northern Germany, Denmark, and Sweden on the other. They eventually formed 17 teams, seven out of which worked with the open data sets of engravings, maps and architectural photographs from the special collections of Hamburg State and University Library for architectural city tours, games, films, and digital annotation tools. These projects are impressive examples to experience the digital commons in society.*

*In this contribution, the focus will be on the progress of Hamburg State and University Library as cultural institution in opening its digital data to the public and on its experiences with the use of its data outside the cultural institutions proper - and thus out of the control of special collections curators. Which positive and negative lessons can be learned? What conclusions can be drawn from the activities at hackathons and what are the consequences?*

**Keywords:** digitization, special collections, open data, participation, citizen science

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### Introduction

For many years, libraries, archives and museums have digitized their cultural heritage and opened it, in parts, to the public. The Hamburg State and University Library (hereinafter: SUB) did and does this as well. As largest academic library in Hamburg with more than 4 million media it serves as the central lending library for the University of Hamburg and the city's other higher education institutions, as well as being a general academic library for the

citizens of the city and the metropolitan region. For more than 10 years the library has digitized its copyright-free historical holdings:

- 1.150 manuscripts
- 1.000 papyri
- 11.000 old books
- 1.700 graphic prints, especially portraits
- 4.000 periodicals
- 1.000 Hamburg newspapers (1792-1945) via Europeana Newspapers project with more than 135.500 items
- 50.000 sheets from different literary remains
- 1.300 pictures of Hamburg Architecture of the 1920's
- 1300 musical works
- 450 old Hamburg views and maps (of these are 191 old maps in Europeana).

All digital reproductions are available via the most important library catalogues and the German Digital Library. But its potential is far from being exploited to the full. And this is precisely where culture hackathons come in. Hackathon – “a portmanteau of the words ‘hack’ and ‘marathon’, where ‘hack’ is used in the sense of exploratory programming” - is a design sprint-like event in which computer programmers and others are involved to create usable software. The term was first used independently by the American company Sun Microsystems and the developers of OpenBSD (free and open source Unix-like computer operating system descended from Berkeley Software Distribution, a Research Unix derivative developed at the University of California, Berkeley) in 1999. For example, Facebook's ‘Like button’ was conceived as part of a hackathon (see <https://en.wikipedia.org/wiki/Hackathon>).

But “hackathons aren't just for coders”: on culture hackathons besides software developers, engineers, and designers, also scholars, Wikipedians and other culture enthusiasts come together to work with open data. They create and develop new apps, web pages, digital tools, and also new business ideas in a very short time (Spaulding/ Caimi, 2016).

### **Field Report**

The culture hackathon Coding Da Vinci Nord (see <https://codingdavinci.de/events/>), held in Hamburg from 17<sup>th</sup> to 18<sup>th</sup> September 2016, brought together over 100 participants: on the one hand software developers, designers and scholars, and specialists from 19 cultural institutions in Northern Germany, Denmark, and Sweden on the other hand. They eventually formed 17 teams, seven out of which worked with the open data sets of engravings, maps and architectural photographs from the special collections of Hamburg State and University Library.

Coding da Vinci Nord is a satellite of the national Germany-wide Coding da Vinci in Berlin which was held in 2014 and 2015. Coding da Vinci was initiated by the German Digital Library, the Service Digitization Berlin, the Open Knowledge Foundation Germany and Wikimedia Germany. Coding da Vinci Nord was organized by the Archeology Museum Hamburg, Code for Hamburg, eCulture.info, the Hamburg Kreativ Gesellschaft, Projekte&Seminare – Sabine Heydenbluth, the Historical Museums Hamburg Foundation (Stiftung Historische Museen Hamburg), We Build. City and Wikipedia Hamburg.

Hackathons typically last between a day and a week. Coding da Vinci organizes a Kick-Off-Weekend with one day for presentations of the data sets by the participating institutions and brainstorming, teambuilding and first programming, and one day for pure programming and

experimentations before the sprint time starts. The sprint lasted 6 weeks in Hamburg (in Berlin, for instance, 10 weeks) and ended with an award ceremony on 6<sup>th</sup> November 2016.

### **Examples**

One of the teams which worked with data sets from our library, the team “KollekTOURmat” ([kollektourmat.de](http://kollektourmat.de)) won the prize “most playful”. Two designers, one cultural historian and an engineer created the prototype of the same name to explore the city of Hamburg on an interactive GPS-location based mobile tour. The “KollekTOURmat” is a little box (formerly used for catalogue cards), containing a small and mobile printer which prints out stickers with historical city views and old photographs from the Hamburg Museum of Art and Crafts and from the SUB to paste into a lovingly designed booklet.

I could test it: a wonderful and funny experience. I hope they can develop the project further to a cultural tour offer in Hamburg or elsewhere to bring special collections into the public. I would like to organize a works outing with it. Everyone can support this team. Have a look at their website or follow them on twitter, instagram or facebook (@kollektourmat).

An example how young people discover special collections is the team “Kupferguerillas” consisting of the cultural historian Ines Jarchow and the 12 years old pupils Samuel Marfo as programmer and Vincent Beyer as designer. Both boys had experiences with hackathons via the German initiative “Jugend hackt” (“youth hacks”).

There the young people have to create useful projects for themselves, their families or still better for the community/society. Samuel and Vincent liked the challenge and wanted to choose the most boring collection to push it. They chose our collection of 161 Dutch engravings from around 1600. From this they picked up the impressive series “The course of the world” by Maarten de Vos (here the edition after 1633 in Antwerpen) and developed a Quiz App with the aim to show how you can break through this, actually with individual responsibility and human community for a more peaceful course of the world.

Finally, let’s have a look at another project which makes use of the engraving collection. The engineer Andreas Schröpfer developed the Open GLAM tool “Histblogger”. With this tool you can annotate collaborative engravings and share the images or details and information about it via social media like twitter: follow @ArtsParts (also #ArtsParts) and participate in this community.

These are but three examples to experience the digital commons in society. Other projects used maps, photographs and engravings for architectural city tours, games, films, and digital annotation tools (see <https://blog.sub.uni-hamburg.de/?p=21466>).

### **Experiences**

The Coding da Vinci Nord was a stroke of luck for the Hamburg institutions. The participants chose especially data sets from institutions of their home town or the city where they just live. The process time of 6 weeks gave the data provider the opportunity to keep in touch with and support the teams.

In my opinion, cultural hackathons are a wonderful occasion for institutions to make their digital collections usable, to open these for the public, for cultural tourism, for use in educational resources, but also to market themselves, to influence the sustainable development of digital tools and new ideas/business ideas which enrich our society culturally.

Thus the digitisation of public collections and the provision of detailed metadata support the sustainable development of digital culture which focuses on the following areas:

- Open Source Development
- Reusability and further development of digital tools
- Open Data
- Collaboration/Communication/Participation
- Process optimisation (research processes, evaluation)
- ...

And we have impact:

- Open mind for cultural heritage and its value/importance
- Sensitization for cultural identity
- Innovative ideas/business ideas, source of inspiration
- New contacts/friendships
- Young people discover culture
- Sharing via peer to peer networks
- Support of participation
- Sense for the library as open, usable and useful house for everyone.

The cultural institution as data provider wins:

- Motivation
- Data enhancement (data corrections, data visualisation)
- Contact with professionals from the IT sector, citizens (who are interested in culture) and other institutions
- Development of the own digital skills
- Sensitization for:
  - Data use and interactivity
  - Initiatives of Wikimedia (*ILib1Ref*, *WikilibraryBarcamp*, *OpenGLAMTours*, *WikiData*, *WikiSource*, *uploads of data*), Open Knowledge Foundation, DDB, Europeana, Jugend hackt, Sharing is Caring etc.

Another very good experience from this Hackathon was the feedback. One of the participants, Boris Crismancich, Senior Consultant at the erminas GmbH, specialist for Internet of Services, Industry 4.0, mobile solutions and mentor of „Jugend hackt“ (“youth hacks”), creates a catalogue of requirements for data provider:

1. Data can be easily found and are usable (alternative formats: Text- and PDF-files)
2. Data can be found via search engines in the Internet
3. Keywords, also in English
4. Filter functions
5. Data preview
6. Simple formats: PDF, Excel/CSV
7. For professional developer/programmer XML data
8. For beginners JSON-Format
9. Data as database dump (SQL)
10. Zip-files
11. Single data
12. Different file sizes
13. Bit-Torrent

14. User-friendly interface
15. API interface.

The data processor should be able

- to process and supplement data,
- to upload corrected data back to the system,
- to upload supplemented metadata, and
- to find a good documentation of user rights and licences (Crismancich, 2017).

## Conclusion

The debate on open science, library openness, open access and open data has left traces. At the beginning of 2017 a working group was dedicated to check whether copyright-free holdings of the SUB could be open under Public Domain. Furthermore the working group should check the licences for out-of-print-works, digital publications and pictures made by staff members. The group has identified 15 types of material which have to get a licence. For copyright-free works the group recommends CC Public Domain Mark (“The work may not be free of known copyright restrictions in all jurisdictions.”) Metadata should get a CC0 licence. These steps would create optimum conditions for an Open-Digitization-Policy of the library (see TU Berlin), one of the recommendations of the Open Library Badge (<http://badge.openbiblio.eu/>) which the library could get in March 2017.

Cultural hackathons, initiatives by Wikimedia, portals like German Digital Library or Europeana are important partners for promoting a better visibility and easier discoverability of the digital collections of cultural institutions. And they have in common that they work with open data, support the participation and the sharing of knowledge (citizen science).

In this spirit the cultural institutions, museums, archives, and libraries, should follow the mission of the Europeana (see <http://www.europeana.eu/portal/en>): “We transform the world with culture! We want to build on Europe’s rich heritage and make it easier for people to use, whether for work, for learning or just for fun.”

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