



Swiss Open Cultural Data Hackathon 2020

Final Report

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Appendix A: [Project Goals](#)

1. Introduction

The 6th edition of the Swiss Open Cultural Data Hackathon, carried out as an online event, took place on 5 and 6 June 2020 and gathered people from all over the world. It was organized by the OpenGLAM Working Group of the Opendata.ch association in collaboration with other partners. The event was kindly hosted by the University of Applied Sciences of Graubünden (FHGR).

The Swiss Open Cultural Data Hackathon (GLAMhack) was preceded by a pre-event in Bern on 29 February 2020: the OpenGLAM Working Group proposed a workshop on a linked open data ecosystem for heritage institutions as well as a brainstorming session in view of the GLAMhack. It was also the celebration of the 5th anniversary of the Swiss Open Cultural Data Hackathon¹.



Photos of the GLAMhack pre-event and anniversary in Bern by GLAMoperator, CC BY-SA 4.0.

This year's GLAMhack was also accompanied by a side programme including an information session, input presentations, panels and workshops. These events took place in the days preceding the main hackathon and covered the topics which were set as the main focus of this edition: linked open data, machine learning, human-computer-interaction and crowdsourcing.

Originally, the GLAMhack and side programme had been planned as “real-life” events at the FHGR in Chur. Due to the Covid-19, we adapted our concept and carried out all the events online.

The present report provides a summary of event results as well as some insights with regard to future hackathons. It is based on an assessment of project goals and the results of an internal evaluation meeting. A participants' survey will be carried through at a later point in time. An overview of the financial result is also provided.

¹ The outputs of our pre-event have been published in a blog post:
<https://glam.opendata.ch/outputs-of-the-glamhack-anniversary/>

2. Main Objectives of the GLAMhack 2020

As in the past editions, the main objective of the hackathon was to bring different stakeholder groups together, to get them to interact around specific topics in order to share experiences and to develop concepts and software prototypes. Our goal was to promote different forms of data or content re-use and to give the projects public visibility by presenting the results during the final presentation session and on our online platforms. And last but not least, the event was used as an opportunity to encourage Swiss heritage institutions and researchers in the Digital Humanities to open up their data and content and to spread the word about OpenGLAM².

After putting our efforts into raising awareness about OpenGLAM among museums and encouraging projects which engage an audience and make use of non-standard hardware in 2018 and 2019, we have set new specific objectives for the 2020 and 2021 editions :

- Thematic focus: we have identified linked open data, machine learning, human-computer-interaction and crowdsourcing as the main focus. These topics are gaining in importance and are becoming more and more institutionalised in the international OpenGLAM community, which is why we have decided to highlight them.
- Collaboration with institutions of higher education: our goal was to engage more students and give them the opportunity to put their skills into practice by working on concrete projects. In the long-term, we hope that the collaboration with the educational institutions will sensitize them for OpenGLAM-related issues and foster the dialogue on how to integrate relevant topics in their curricula.

Finally, one goal was to increase the number of attendees in comparison to the 2019 edition. To this end, we have decided to return to the original 2-days hackathon format with a side programme preceding the event.

3. Achievement of Project Goals

The table in [appendix A](#) gives an overview of the goals that were set for this year's hackathon, the level of their achievement, and the achievements in the previous years for comparison. Please note that not all targets could be assessed yet, as dissemination activities take more time.

² <http://openglam.org/principles/>

The documentation of individual hackathon projects and an overview of the media coverage can be found on the event website³.

In the following, we will shortly discuss the level of achievement of our goals in the context of the hackathon.

3.1 Opening up cultural data and content for reuse and making them available at a central location

Despite the efforts which have been made to contact potential data providers (about 36 institutions have been contacted individually), only a few new datasets were made available through the make.opendata.ch website and opendata.swiss. 157 open datasets / collections from 71 Swiss institutions⁴ have so far been made available through the make.opendata.ch website (compared to 153 open datasets / collections from 70 institutions in the previous year)⁵. For the first time, a team from Canton Ticino participated in the GLAMhack, working with datasets from the Municipality of Lugano, the Museo Cantonale di Storia Naturale and Museo Val Verzasca. The collaboration with these institutions has been coordinated by the SUPSI and the GIOCONDa project. As we are still in the process of publishing these datasets, we have not counted them in the evaluation yet.

A specific effort was made to involve “local” institutions of the Canton Graubünden. As a result, we could win the Fundaziun Capauliana as new data provider for the GLAMhack. Unfortunately, the dataset was only made available in the context of the hackathon due to copyright restrictions. Similarly, the Pestalozzianum Foundation prepared a dataset which could be used by the hackathon participants.

Among the new data providers, we were happy to assist the PTT Archives in publishing three datasets on opendata.swiss. This experience showed that the help provided by the OpenGLAM CH Working Group in data publication is an incentive for institutions to look for appropriate data and make it available online. In future editions, we will have to thoroughly continue the task of contacting and assisting potential data providers.

³ <http://make.opendata.ch/wiki/event:2020-06>

⁴ These numbers do not include all the collections from the e-rara and e-manuscripta platforms, which were officially marked as Public Domain material in the course of 2017; these platforms have been counted just as one dataset.

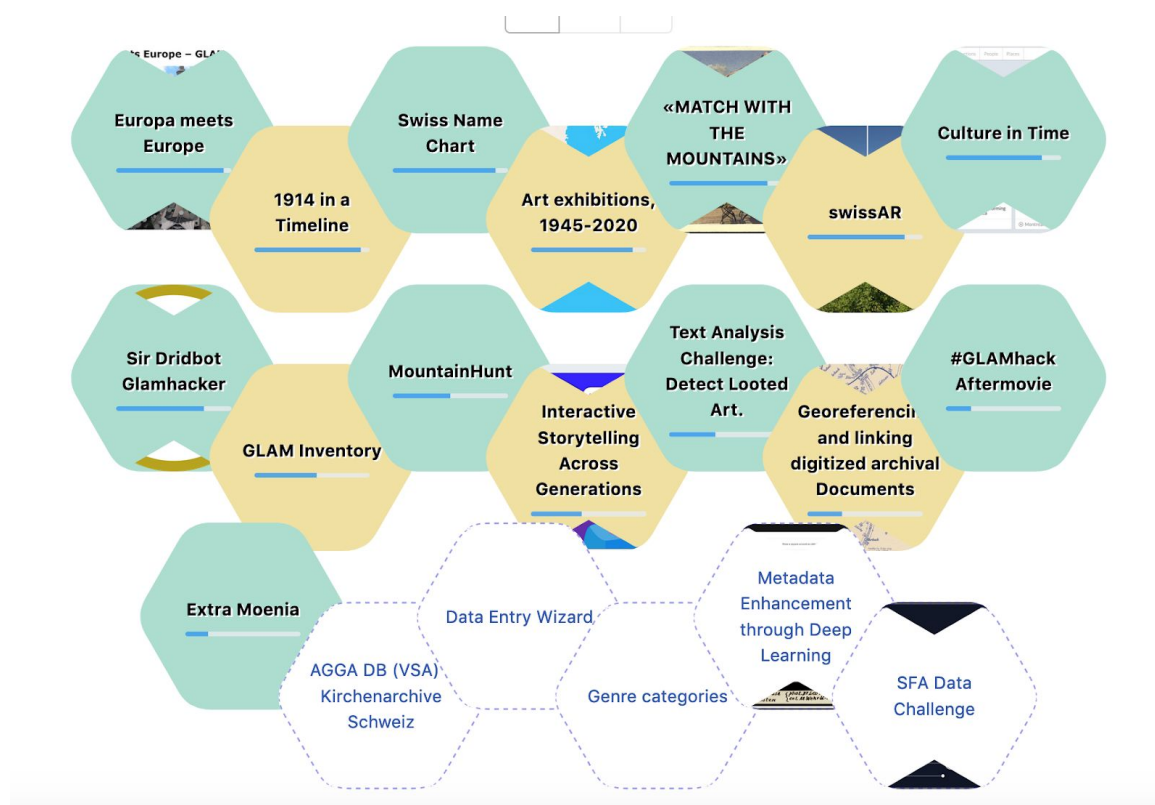
⁵ One dataset from the Municipality of Lugano is still in preparation for publication on opendata.swiss and has not been counted here.

3.2 Promoting the re-use of cultural data / content

After encountering a decrease in the number of participants and projects in the 2019 edition, we were happy to see the number of attendees rise again this year, reaching 68 active participants during the main hackathon. The teams worked on 15 projects, using new data / content prepared especially for the event, older datasets from the list of “Swiss Heritage Data” published on the make.opendata.ch website, open data from other sources in Switzerland and/or datasets provided by individual participants.

The diversity of the projects was very surprising. The majority focused on data visualization, either on appealing web-interfaces, with interactive maps or even with augmented reality on a web or mobile application. The other teams worked on interconnecting linked open data from different sources on a common platform, on data modeling issues, text analysis for research purposes, on recreational websites intended for a broad audience, on using open data for educational purposes or for the implementation of a chat-bot. One project was purely artistic while another consisted in documenting the event with a short video.

The data used in this year's projects covers a variety of areas, reaching from press articles and topographic information, paintings and provenience descriptions of artworks to datasets containing information about theatre performances, Swiss heritage institutions or art exhibitions.



Overview of the challenges and ideas published before and during the hackathon. The green and yellow hexagons represent the projects which have been worked on during the GLAMhack while the others remained at the “challenge-state”.

3.3 Fostering the exchange and cooperation among stakeholders from various backgrounds

With the online format of this year's hackathon, the fostering of exchange and cooperation among people from different backgrounds was first seen as a great challenge. Retrospectively, it seems that this goal has been highly achieved, not only through the hackathon itself, but also thanks to the pre-event and side programme of the GLAMhack.

3.3.1 Pre-event and side programme

The pre-event in Bern was attended by approximately 40 persons. The majority of the attendees were employees of heritage institutions in Switzerland, mainly archives and libraries but also museums and research institutes. The workshop format of the pre-event was highly appreciated and facilitated a vivid exchange between the participants. The lunch break was also a good opportunity to do networking and meet new people.

The side programme of the hackathon was very rich and included presentations, panels and workshops which allowed us to thoroughly cover the main themes of this year's edition (linked open data, machine learning, human-computer-interaction and crowdsourcing):

Input Presentations

Tuesday, 2 June 2020

18:00 - 19:30 CEST

«archives at» – Referencing Archival Fonds on Wikidata

by Michael Gasser, Head of Collections and Archives, ETH Library Zurich

“Do You Know More? Crowdsourcing @ the Image Archive, ETH Library Zurich”

by Nicole Graf, Head Image Archive, ETH Library Zurich

Does AI Perform Better? – Metadata Enhancement through Deep Learning

by Christian Stuber and Manuel Kocher, students at Bern University of Applied Sciences

Panel: Authority Files and Controlled Vocabularies

Wednesday, 3 June 2020

18:00 - 19:30 CEST

Swiss Art Research Infrastructure: Resources and methodologies gathered by the Swiss Art Research Infrastructure (SARI) for managing, organising and semantifying reference information
by Nicola Carboni, University of Zurich

Swiss Art Research Infrastructure: Translation of the AAT Art & Architecture Thesaurus
by Sarah Amsler, University of Zurich

Swiss GLAM Inventory on Wikidata; Authorities in the Context of the LOD Ecosystem for the Performing Arts
by Beat Estermann, Bern University of Applied Sciences / Opendata.ch

Discussion: what are the current challenges and the areas for coordination and cooperation?
Group discussion with the participants

Workshop: Harmonizing Data Modelling Practices in the Performing Arts

Thursday, 4 June 2020

14:00 - 16:00 CEST

This workshop is intended for representatives of performing arts archives and platforms as well as other people interested in harmonizing data modelling practices in the field of the performing arts at an international level.

hosted by Birk Weiberg

Transkribus Tutorial and Q&A Session

Thursday, 4 June 2020

15:00 - 17:00 CEST

Question and Answer Session on Transkribus

hosted by Tobias Hodel, Digital Humanities of the University of Bern

A video Tutorial (approx. 20') will be published in advance on 2 June!

Workshop: Wikidata & Performing Arts

Thursday, 4 June 2020

17:00 - 19:00 CEST

This workshop is intended for practitioners interested in ingesting performing arts related data in Wikidata or in using data from Wikidata in their applications

hosted by Beat Estermann

All side-events were held online and were open to the general public. Apart from the Transkribus Q&A Session, which took place in a rather intimate setting with about 5 participants, all other side-events attracted between 20 and 37 attendees. A great highlight was the workshop “Harmonizing Data Modelling Practices in the Performing Arts”, which gathered participants from 14 different countries and fostered the exchange at an international level. 45 persons attended only side-events while others also participated in the hackathon.

The different formats of the side-events (input-presentations, tutorials, workshops) enabled the sharing of knowledge, the exchange of experiences, the identification of common goals and challenges as well as the initiation of future collaborations. Some ideas were pursued as projects during the main hackathon.

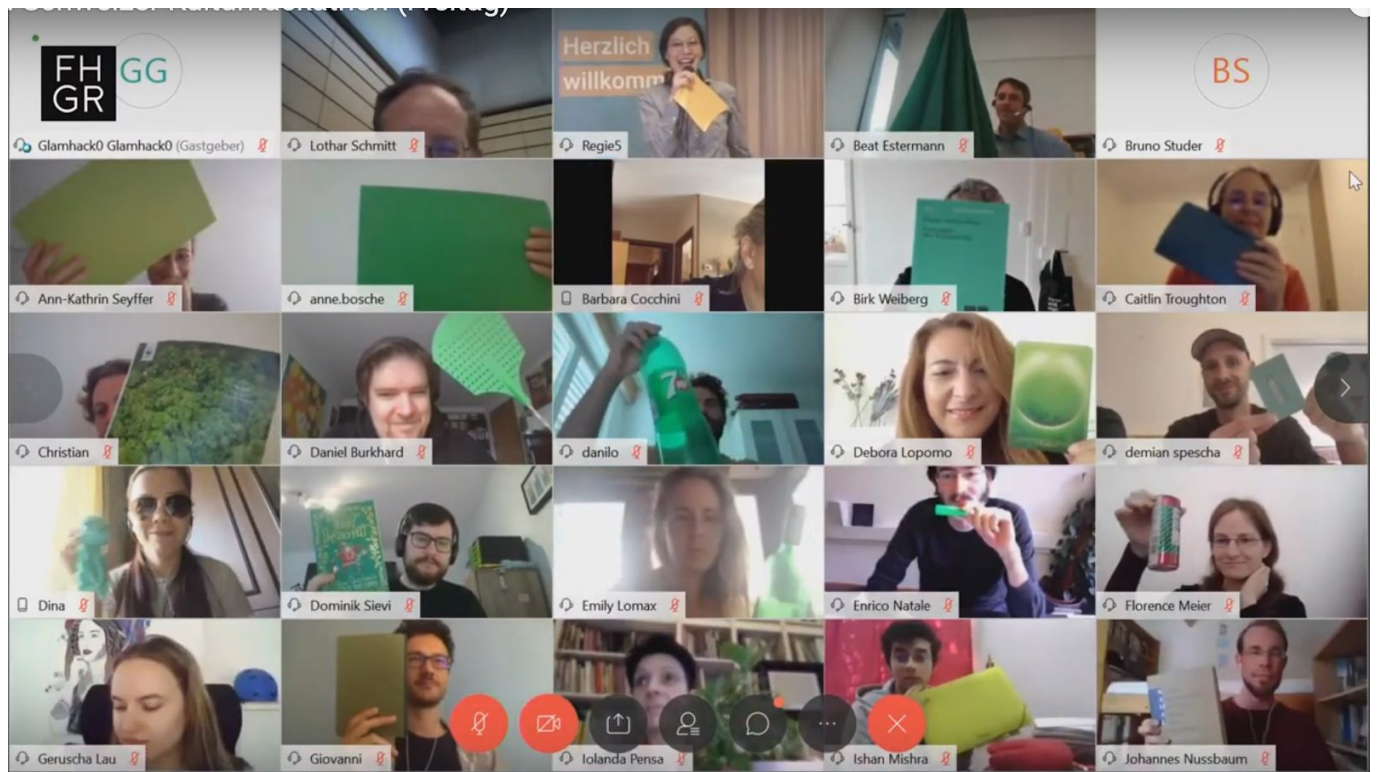
3.3.2 Main hackathon

After facing a notably low attendance of the GLAMhack in 2019, we are happy that the total number of participants has risen again, reaching the same number of attendees as in 2018. This might be due to the return to the 2-days format instead of the 3-days hackathon of the past two years. The online format might have discouraged some of our usual attendees who highly appreciate the social aspects of the live events. On the other hand, the virtual unfolding enabled international participation to a degree which we had never experienced before⁶. The

⁶ During the “ice-breaking session” on the first morning, the participants told everyone where they were from. We had people assisting from Austria, Canada, Croatia, France, Germany, Italy, Lichtenstein, Malaysia, Norway, Pakistan, Russia, Scotland.

international character of the hackathon was very inspiring and gave the community a new drive.

Another positive aspect of this year's edition was the participation of a high number of relatively young people, mostly students from the FHGR. This was facilitated by the engagement of professors from the Institute for Multimedia Production of the FHGR, who highly encouraged their students to participate and also gave ECTS credits for the accomplished hackathon projects. In the future, we want to continue collaborating with institutions of higher education in order to pursue our goal of engaging the students and integrating OpenGLAM-related topics in their curricula.



Screenshot with GLAMhack participants during the “ice breaking session” on Friday morning, CC BY-SA 4.0.

Table 1 below shows that this year's hackathon was particularly good at attracting female participants. At the same time, it attracted the lowest proportion of software programmers when comparing it to earlier editions. This year, we introduced the new category “multimedia producer”.

Table 1: Different categories of participants

Participant category	2016 edition (N = 94 of 105)	2017 edition (N = 94 of 98)	2018 edition (N = 66 of 69)	2019 edition (N = 33 of 33)	2020 edition (N = 68 of 68)
Female	33% ↑ **	37%	39%	12% ↓ **	44% ↑ **
Male	67% ↓ **	63%	61%	88% ↑ **	56% ↓ **
Data provider or content expert	28%	32%	38%	24%	26%
Software programmer	25%	34%	33%	52%	19% ↓ **
Ideator	25%	22%	21%	24%	–
Researcher	31%	21%	27%	–	–
Wikipedia or Wikidata editor	11%	5%	3%	–	6%
Artist	7%	1% ↓ **	5%	–	9%
Designer	13% ↑ *	3% ↓ **	8%	–	9%
Multimedia producer (new)	–	–	–	–	19%
Hackathon organizer	11%	11%	17%	24%	15% ↓ **
Other	20%	18%	11%	12%	37% ↑ *

Changes marked * are significant at the 0.10 level; those marked ** are significant at the 0.05 level.

3.4 Propagating the OpenGLAM principles within the Swiss heritage sector

In terms of the number of new datasets made available for the GLAMhack 2020, the targets in this area have not been achieved. The organizing committee has put greater effort to reach out to potential data providers in comparison to the previous edition. Some of the contacted institutions have shown interest in our initiative, but could not get involved due to a lack of internal resources. Progress has however been made with our outreach in the Canton Ticino. In February 2020, Beat Estermann presented “OpenGLAM” at a digital heritage conference in Bellinzona, which certainly encouraged the involvement of the SUPSI at the hackathon and the collaboration with the Municipality of Lugano, the Museo Cantonale di Storia Naturale and Museo Val Verzasca. We aim to pursue our communication campaign in view of the next

GLAMhack and are convinced that the yearly hackathon is an important means to sensitize the institutions.

In terms of outreach within the heritage sector, the pre-event and side programme of the hackathon have proven to be an effective way of propagating the OpenGLAM principles by sharing experiences and successful projects conducted by Swiss heritage and research institutions.

3.5 Promoting the public visibility of OpenGLAM

The impact of the hackathon in the media is always highly dependent on the visibility of the host institution. The marketing and communication section of the FHGR has set up an event page on their website and sent out a press release to the local media. This led to an online article in the “Südostschweiz” newspaper shortly before the hackathon. Apart from that, the classical media did not show much interest in the GLAMhack.

Thanks to the online format, the main event could be streamed live on the YouTube Channel of the FHGR. The live streams (Friday and Saturday) each show about 100 views, but it is difficult to measure the true impact of this communication channel. Furthermore, most events of the side programme and the final presentations have been recorded and made available online, which we hope will increase the visibility of the projects and of OpenGLAM.

4. Evaluation of the online format

All in all, the virtual format of the hackathon worked out very well. The FHGR put a lot of technical effort in ensuring a frictionless unfolding of the event, which was highly appreciated by all participants. The technical investment of the FHGR for the streaming of the event was time consuming, but it allowed a broader audience to assist the hackathon.

One big challenge of the online format was to ensure that the social aspect and networking opportunities of the hackathon did not get lost. Through regular plenary sessions and the use of online tools such as Webex for video-conferencing and slack for real-time communication among the attendees, we managed to give the participants a sense of community and collectivity. The atmosphere during the event was inspiring and convivial. Another challenge was the group formation on the first day. By encouraging the participants to publish their ideas beforehand, we tried to facilitate the group formation. The publication of challenges in advance has been evaluated as a positive aspect by the organizing committee and will be pursued in future editions.

For the organizing committee, the adaptation to the online format resulted in a greater number of meetings. Not only did the solving of technical problems demand a lot of work, but the whole event needed to be coordinated with greater precision. For this first attempt, the organizing committee chose a rather complex solution in order to avoid unwanted technical shortcomings. Perhaps easier solutions can be found to ensure the virtual collaboration among the teams (e.g. not needing a separate computer for each virtual room).

Last but not least, the international character of the GLAMhack, which was enabled by the online format, was seen as very positive. The OpenGLAM Working Group hopes to achieve this level of internationality again in the future, but for the time being, the next GLAMhack will be planned as an “offline” event. A possible combination of live and online event would need to be thought through carefully as this would be yet another type of event.



On site at the FHGR in Chur: technical equipment for the moderation and streaming of the event as well as for the virtual rooms for the teams. Photos by Lothar Schmitt, CC BY-SA 4.0.

5. Potential for Improvement

Potential for improvement has been identified in several areas. The most notable points that were brought up during the internal evaluation meeting were the following:

- The communication material and outreach strategy vis-à-vis potential data providers need to be improved.
- The documentation means of the hackathon projects needs to be defined more clearly. This should be part of the general renewal of the Opendata.ch hackathon infrastructure, which is currently in progress.
- The host institution should be involved more closely in the definition of the scope and goals of the hackathon. These need to be communicated more clearly to the outside.

6. Outlook

The next edition of the Swiss Open Cultural Data Hackathon will take place on 16 and 17 April 2021 at the ETH Library in Zurich. The thematic focus will once more lie on linked open data, machine learning, human-computer-interaction and crowdsourcing. We will pursue our endeavors to collaborate closely with institutions of higher education in order to give students the opportunity to put their skills into practice. We will also cooperate to further develop the institutions' curricula.

The main hackathon will again last two days. The organization of an online side programme shall be maintained, allowing participants to update each other on recent developments and to share skills and experiences. Furthermore, the “helpdesks” which gave participants the opportunity to ask questions to specialized mentors during the hackathon is a feature which we would like to have again in the future. The publication of challenges beforehand will also be encouraged.

7. Project Resources

7.1 Financial resources

Table 2 below gives an overview of the financial resources of the project. It has been adapted to the online format in early April 2020:

Table 2: Overview of financial resources

	Budget	Effective Costs / Revenues
Expenses	- 46'000	- 37'650
Apéro Kit sent to participants in Switzerland	4'000	1'056
Accommodation (on-site team during hackathon)	0	495
Project Coordination (OpenGLAM.ch)	21'000	21'000
Internal Coordination & Technical Support (FHGR)	8'000	9'600
Association Opendata.ch - 10% contribution towards administrative costs	4'500	3'765
Association Opendata.ch - 10% contribution to the development of a new online platform	4'500	0
Varia / Incidentals	4'000	1'734
Revenues	+ 46'000	+ 36'656
Internal Sponsors	14'000	12'656
External Sponsors	32'000	24'000
Voluntary Participation Fees (not applied to online format)	0	0
Balance	0	- 994
Update 1.7.2020 External Sponsors		994
Balance update 1.7.2020	0	0

The project was kindly supported by the following sponsors:

- Wikimedia CH (10'000 CHF)
- Hasler Stiftung (10'000 CHF)
- SUPSI (2'000 CHF)
- Stadt Chur (1'000 CHF)
- Bündner Kantonalbank (1'000 CHF)
- Infoclio.ch kindly covered the remaining deficit in our budget (994 CHF)

Note that the online format had the following important adaptations on our budget: the costs for accommodation and catering for the participants were cancelled or reduced drastically. The costs for project coordination and technical support went up. As our sponsoring requests did not result in the amount we hoped for, the organization of the GLAMhack unfortunately ended with a deficit of CHF 994. As a consequence, no funds could be earmarked for the development of the new hackathon infrastructure.

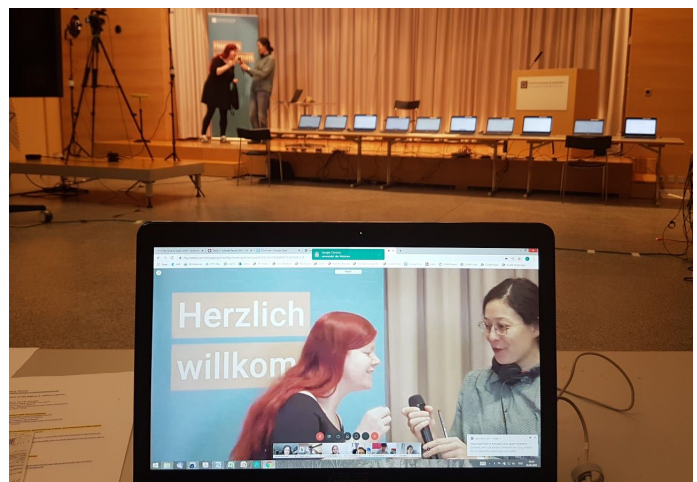
7.2 In-kind contributions

The organization of the event would not have been possible without the substantial in-kind contributions made by several individuals and organizations, most notably by contributing their volunteer and/or staff time:

- Jan Baumann (infoclio.ch)
- Beat Estermann (Opendata.ch / Bern University of Applied Sciences)
- Oleg Lavrovsky (opendata.ch)
- Ivo Macek (FHGR)
- Enrico Natale (infoclio.ch)
- Michel Pfeiffer (FHGR)
- Lothar Schmitt (Zentralbibliothek Zürich)
- Dominik Sievi
- Lionel Walter (Basel University Library)
- Thomas Weibel (FHGR)
- Birk Weiberg

but also by allowing us to use their infrastructure and/or equipment:

- University of Applied Sciences of Graubünden (FHGR)
- Opendata.ch (online and hardware infrastructure, financial administration)



Members of the team on site: Lothar Schmitt, Andrea Allemann and Valérie Hashimoto. Photos by GLAMoperator and Lothar Schmitt, CC BY-SA 4.0.

8. Final Remarks

This year's hackathon was a success in many respects: the high participation level despite the COVID crisis, the diversity among the participants, the high quality and variety of the projects, the good atmosphere throughout the event, the high quality and resonance of the side programme as well as the technical implementation of the online format. Furthermore, we were very happy to involve new institutions, especially with the team from Canton Ticino. On the other hand, our outreach to potential data providers was not as successful as hoped for. From a financial point of view, this year's hackathon was not successful, as we encountered great difficulties to gather enough resources to cover our expenses.

We would like to thank all our sponsors and partners for supporting the event and are looking forward to continuing our cooperation in the future.

Our Sponsors



Fachhochschule Graubünden
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Appendix A: [Project Goals](#)