CULTURAL HERITAGE

DIGITAL LITERACY

CULTURAL

HERITAGE

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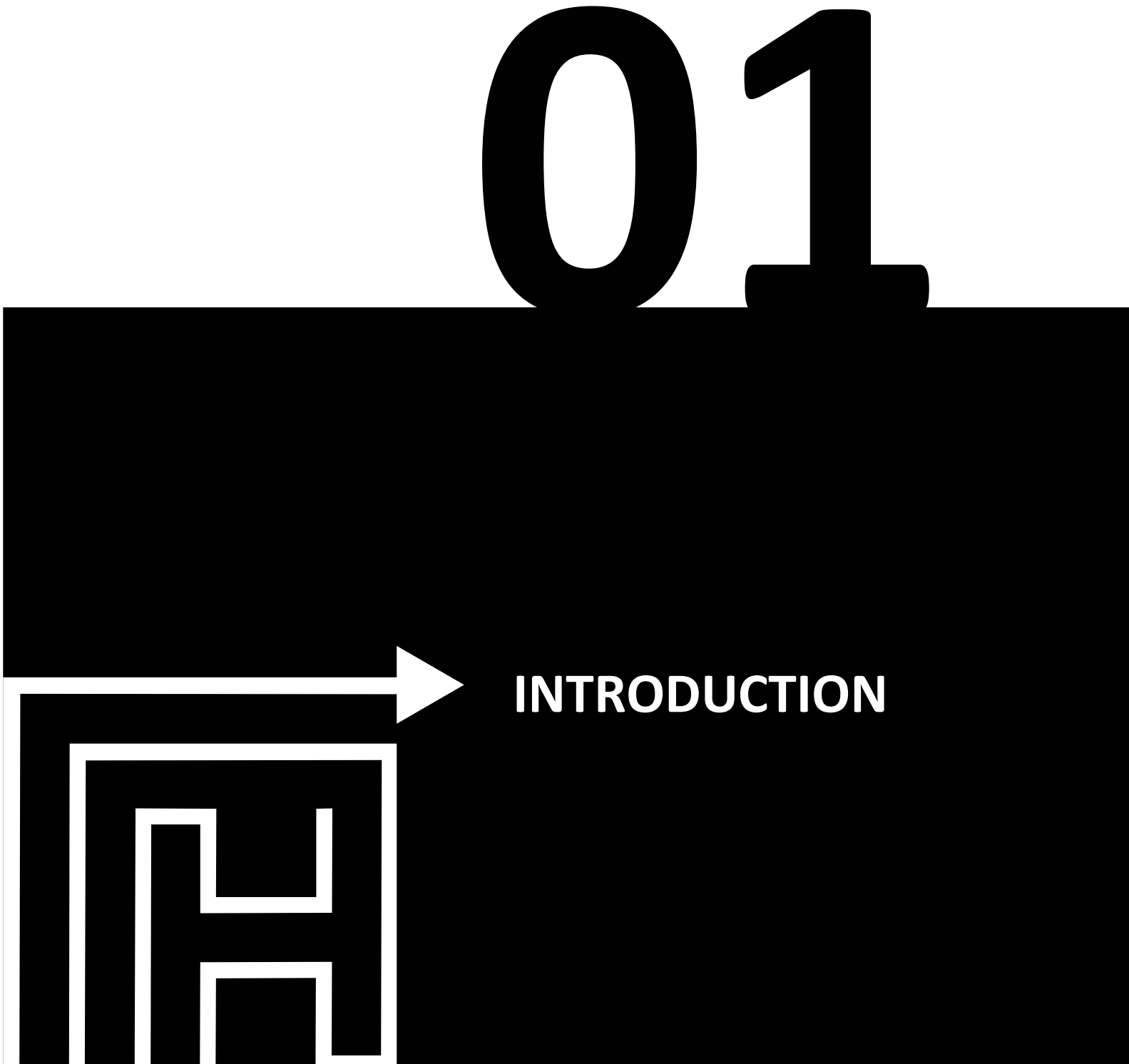
01 | INTRODUCTION

What skills and literacies do you need as a future digital cultural heritage professional? This OER will give a short overview of a basic skillset for the work in digital cultural heritage and will discuss the topic of Digital and Multimedia Literacy vs. Metamodal Mastery (Mary Leigh Morbey, 2011). The key point of it is the jump from mere understanding and reflected “consumption” of media towards production skills and being an active part of the participatory culture.



| DIGITAL LITERACY OR METAMODAL MASTERY

What is Digital Literacy or Metamodal Mastery? And why does a digital mindset matter?

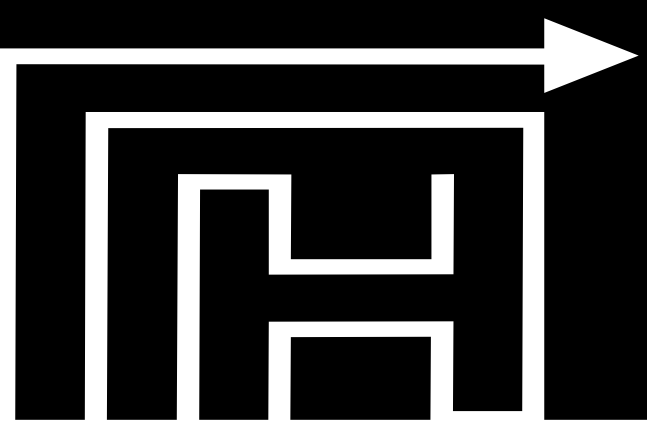
The term of digital literacy usually covers "the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills" (Office of Information Technology Policy & Digital Literacy Task Force, 2011), according to the American Library Association. Hiller Spires, a professor of literacy and technology, sums up digital literacy in three core areas: "1) finding and consuming digital content; 2) creating digital content; and 3) communicating or sharing it" (Loewus, 2016).

In the introduction to digital humanities Anne Burdick et al write: "The advent of Digital Humanities implies a reinterpretation of the humanities as generative enterprise: one in which students and faculty alike are making things as they study and perform research, generating not just texts (in form of analysis, commentary, narration, critique) but also images, interactions, cross-media corpora, software and platforms"(Burdick et al., 2012, p. 21). This means, on the one hand, that for Digital Humanities scholars and digital heritage practitioners it is important to be able to make sense of cultural artifacts in different modalities beyond text including innovative and interactive digital media formats, from web-based social media to games or immersive virtual environments as subjects of research. Students and researchers thus need to know visual rhetorics and be able to read interfaces, databases and other digital content models. On the other hand the outcome and product of this research as well as mediation and communication of it diversifies and goes beyond longform papers or books, bringing new forms of argumentation beyond a static page. This includes "sound, motion graphics, animation, screen capture, video, audio, and the appropriation and remix of code that underlies game engines" (Burdick et al., 2012, p. 12). But also the creation of web platforms, digital publication formats, (interactive) visualizations databases or research software are now part of digital humanities practice. In fact, digital scholars need to learn not only to work in, analyze and understand digital formats or cultural objects through digital methods, but really focus on the production aspect.

The education researcher Mary Leigh Morbey speaks of a shift from Digital (or Multimedia) Literacy to Metamodal Mastery (MM), focusing on the production aspect. This concept was developed especially with working in virtual research environments or even shared virtual spaces like the metaverse in mind, but is applicable to Digital Humanities in general as well. In her definition MM "acknowledges the ability to work strategically and with degree of personal agency across media and disciplines. […] MM does not prioritize individual ability but rather a level of expertise that is fully realized only when students, educators, and researchers with expertise in multiple fields come together to collaborate on the production of digital projects that would be beyond the ability of any one person or field." (Morbey, 2011, p. 9) Thus a crucial aspect is collaboration across disciplines in a learning and research environment, that fosters looking at the world through different lenses (see Morbey, 2011, p. 10) and embraces an open and digital mindset. Digital Humanities is a team effort, and this includes also the collaboration with people who are not formally researchers or experts, but – in the case of cultural institutions – visitors. Merete Sanderhoff writes that cultural institutions "must take a new role as catalysts of the users' knowledge and creativity" (Sanderhoff, 2014, p. 24). This is a central aspect also in "critical mediation of art" (Mörsch, 2011) which shift from reproduction of existing knowledge in museum learning or gallery education to co-creating new knowledge together with the visitors and foster them to actively engage with cultural objects and cultural data as well as share their own interpretation. As Sanderhoff said in an interview with Maria Elena Colombo (2018): "Digital is not about technology, but attitude — to paraphrase Jasper Visser. Digital has taught the world to be open-minded, in dialogue, working together, sharing processes, knowledge and tools openly to go further, faster, together."

02

DIGITAL LITERACY



What could be part of a digital skillset for digital cultural heritage?

As the area of digital cultural heritage and Digital Humanities is quite broad and the market allows for different specializations, there is no single coherent skillset, that a future cultural heritage specialist could fall back on. But rather there are different areas of skills to look into.

1. **Computation & Processing**

This is area is a foundation of computational activities within digital humanities. The basic level would be programming or being able to write step-by-step procedures in a programming or scripting language. A second level involves doing data processing "taking advantage of the ability of computers to automate certain tasks useful in answering the sort of research questions that were initially asked by humanities scholars" (Burdick et al., 2012, p. 17). Basic operations on data are for example sorting, searching, calculating or matching. The advent of Markup-Languages such as XML-based TEI (https://tei-c.org) facilitates the addition and annotation of structured data to contents for analysis and display. This enrichment brought a further dimension of analysis and interpretation into the digital data.
Not everybody needs to be able to program or produce structured data, but having a basic literacy in understanding and reading code, and having enough understanding of the processes and workflows to be able to talk to technicians and computational specialists is really helpful.

2. **Analysis**

Analysis refers to the processing of the data and the application of statistical and quantitative methods. This refers to methods of "distant reading" which are looking at larger bodies of data at once, and offer an entry point to human interpretation. They ideally lead to "close reading" using qualitative methods in descriptive, textual and context data. Oftentimes, the analysis goes hand in hand with the visualization of data to provide a visual overview or deep dive into a selection of data, mainly, as a means to communicate the results of an analysis visually. Yet, visualizations can serve as a tool for analysis itself and provide a computational point of view as a starting point of interpretation.

3. **Digitization**

Digitization is concerned with the actual translation of physical cultural artifacts into cultural data and bringing them together with born digital cultural expressions into a digital ecosystem. Mia Ridge defines cultural data as follows: "Cultural data is data about objects, publications (such as books, pamphlets, posters or musical scores), archival material, etc., created and distributed by museums, libraries, archives and other organisations. Data can refer to different types of content, from metadata or tombstone records (the basic titles, names, dates, places, materials, etc. of a catalogue record), to entire collection records (including data such as researched and interpretive descriptions of objects, bibliographic data, related themes and narratives) to full digital surrogates of an object, document or book as images or transcribed text" (Ridge, 2013).
Digitization methods range therefore from scanning or digitally photographing images, drawings or paintings, using laser-scanning or photogrammetry to digitize 3D objects or buildings, to using markup-languages to turn textual sources into structured data.
Another aspect is the documentation of cultural objects, including art. It requires an understanding what can be translated into a digital ecosystem, and on the other hand, what information might be lost and needs to be documented differently. This otherwise lost information, which cannot be captured directly in the process of digitization, needs to be captured through metadata. Knowledge of data structures, vocabularies, documentation schemas and data modelling is

needed for this task.
Last but not least, digitization is concerned with the production of databases to store and network the produced data and metadata, to make it findable and accessible as well as reusable and interoperable with other collections or data sources. This refers to the field of digital collection management.

4. Curation

Digital curation is a field that – in the realms of cultural heritage – on the one hand encompasses maintaining, preserving and adding value to cultural data over the long term (see Digital Curation Centre, 2023). This aspect is therefore focused more on the area of data management.
On the other hand, digital curation also entails the development and curating of digital formats and offers for a digital public, mediating art and culture within cultural or research institutions (Pausanio Akademie, 2023). This demands a knowledge of different digital mediation, communication and distribution formats inside and outside of a gallery – from online collections, museum websites, or social media channels, to gallery interactives, guiding applications, virtual museums (inside and outside the metaverse), to AR or VR applications. What are the possibilities and characteristics of the different formats and how to use them strategically towards their strengths? Digital mediation therefore also needs knowledge about digital storytelling and publication (see Widmann, 2018).

5. Design

Especially when working with outlets other than long form publication, design becomes an important factor in shaping an argument. “[W]hen used to pose and frame questions about knowledge, design becomes an intellectual method” (Burdick et al., 2012, p. 13). Designers understand the possibilities and limitations of different media forms that are used in Digital Humanities projects and digital mediation. Therefore, also practitioners in digital cultural heritage need to learn e.g. “how to juxtapose and integrate words and images, create hierarchies of reading, forge pathways of understanding, deploy grids and templates to best effect and develop navigational schemata that guide and produce meaningful interactions” (Burdick et al., 2012, p. 13). And also in the creation of software and graphical user interfaces as outcomes of research and mediation projects, design principles and an understanding of usability is needed to develop a digital product that can actually be used by and is useful to potential users. A basic understanding of (User Experience) design and the involved vocabulary is important for being able to communicate and collaborate with designers. Moreover design offers frameworks for problem solving, such as “design thinking” (see IDEO, 2023).

6. Collaborative work and open mindset

Open Science and OpenGLAM (Galleries, Libraries, Archives Museums) revolutionizes how we research, publish, and access knowledge. At the core of these paradigms is an open mindset that fosters sharing and collaborating, as well as ensuring accessibility and reusability of data, research results and publications. But how can that be done efficiently? Skills range from agile project management over to knowing a tech-stack and methods for co-creation, open data and open publishing to efficient knowledge transfer.

| WHERE

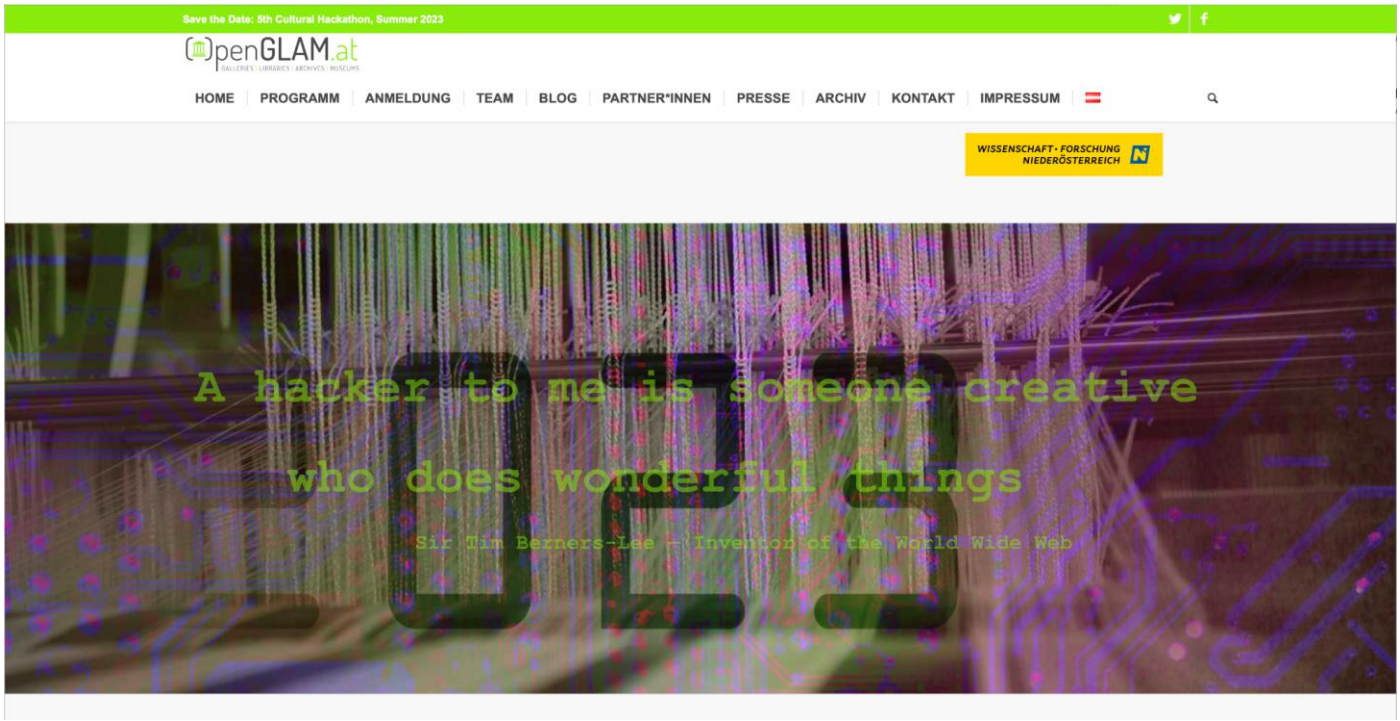
Where can I learn about these skills?

Open Educational Resources
There is a vast amount of offers to build up a digital skillset. As first entry point DARIAH – a pan-European infrastructure for arts and humanities – offers various open educational resources on Digital Humanities research in DARIAH Campus (https://campus.dariah.eu) and DARIAH Teach (https://teach.dariah.eu). Also the Social Sciences & Humanities Open Marketplace (https://marketplace.sshopencloud.eu), that resulted out of a large EU project, offers an overview over training resources on specific skills for Digital Humanities research.

Research-focused University education:
Looking at university programs in Austria, the University of Vienna and University of Graz are each offering dedicated Digital Humanities Master programs (U Vienna: https://datascience.univie.ac.at/masters/master-digital-humanities/; U Graz: https://informationsmodellierung.uni-graz.at/en/studying/master-of-arts-in-digital-humanities/). Their education usually bridges humanities education with computational basics and computer science, giving a good methodological and practical foundation for research in Digital Humanities. A list of university courses from all over Europe can be found at the Digital Humanities Course Registry (https://dhcr.clarin-dariah.eu).

Certificate Courses with focus on digital cultural heritage:
The University for Continuing Education Krems offers a range of specific certificate programs up to Master education that are aiming at cultural heritage professionals: from Digital Collections Management or Crossmedia Exhibition Development to Collection Studies and Management they offer a whole range of digital skills that include digital curating, digital mediation of art and culture, designing exhibitions and visitor experiences that incorporate analog as well as digital media and mediation formats to digital infrastructures of the cultural heritage sector (see https://www.donau-uni.ac.at/en/studies/course-overview/arts-culture.html#archivalandmuseumstudies).

Private sector, associations and public funders
Also private educational institutions like the pausanio Akademie in Germany (https://pausanio.com/akademie/), national or international museum associations such as ICOM (https://icom.museum/en/) or public funding institutions such as the MFG Medien und Filmgesellschaft in the German State of Baden Württemberg (https://kreativ.mfg.de/digitale-kultur/zukunftsstark/) offer training and exchange on topics of digital cultural heritage.



Screenshot openglam.at

Attending Hackathons

A particularly great format for learning and testing out skills in the field of digital cultural heritage are hackathons. These events are rooted in hacking culture, which wants to overcome limitations of technology in a creative way to achieve something new and innovative and to better understand technology by looking under the hood and into black boxes. These events bring together cultural institutions that offer open cultural data from their collections with creatives, coders, students, and enthusiasts interested in working with these data and experimenting with new mediation formats or digital methods. A hackathon offers an open thinking and experimentation space embracing the spirit within hacking culture that is playfulness and exploration. Therefore, a hackathon works result-oriented, but the form of possible end-results remains open. These can range from conceptional ideas to functional prototypes that can be developed further together with the institutions after the event. The projects are usually carried out in a collaborative manner in interdisciplinary teams that find each other at the event around a topic of interest and are supported by mentors who are experienced in the field of digital cultural heritage.

Prominent examples for hackatons are the Austrian Cultural Hackathon organized by openglam.at (www.openglam.at), Coding Davinci (https://codingdavinci.de) or Coding Dürer (https://codingdurer.de). There are many hackathons happening every year around Europe. Maybe you want to take part in one as well?

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