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Digital library as a digital storyteller:

Designing an interactive artists' archive for an online learning environment

Master thesis

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Abstract

The ephemerality and variability of artistic practices make their documentation crucial for protecting and disseminating art knowledge. Artist's studio has always been considered the base of these artistic practices and performances, working as a microcosm of creative resources. However, studios are considered a difficult workplace to gain entry and conduct research leading to important art educational resources to remain unknown and inaccessible in the artists' personal archives. The thesis responds to the above challenge by creating an interactive digital platform dedicated to Cypriot artists' studio visits addressing issues towards artists' materiality, process, inspiration, and concept. The digital platform uses advanced technological tools for the documentation to achieve an interactive context that will make the artists' studios accessible for valuable educational opportunities and provides an engaging understanding of the artist's work to the public audience. By applying quantitative and qualitative evaluation methods, the project will validate to which extent the platform works as an essential educational source for the Cypriot culture.

Keywords: digital library, educational platform, artists’ studios, interactive documentation, panoramic viewer

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DL……. Digital Libraries

1. Introduction

The study of artists' studios has been a vital resource to extract context and work as a critical unit to analyze artists' artistic progress. A wide range of documents in the studio provide contextual information concerning an artist's professional practice and personal life: project documentation, writings, correspondence, teaching materials, research files, photographs, audio/visual recordings, and other ephemera. (Gill, 2016) A study based on an artist's studio can initiate educational conversations about an artist's practice and provide valuable information about art history since we have evidence into artists' influences, philosophy, and working methods. However, according to Jens Hoffmann (Hoffmann, 2012), the artist's studio has received little attention as a topic of critical examination among the many subjects that art has questioned , nor is there an investigation of the art studio's importance in artistic production. Responding to this challenge, many museums, cultural institutes, and conversation centers develop artists' archives to host the documentation of creative expression resources. Despite these attempts, most of the published artists' archives provide limited access to the material, creating barriers to critical educational resources. This study aims to create an open access digital library dedicated to artists' studio visits with Cypriot artists with an educational context based on interactive digital storytelling. The implementation of interactive features in the platform will create an engaging relationship between the user and the content providing effective educational possibilities. The study's main aim is to offer a digital educational tool based on extensive research providing a highly condensed and edited story in the artist's own words. Each visit will contain a recorded interview of the artists, digital documentation of their studio, and additional information about their art career. This primary source material's value is immense, addressing issues such as materials and techniques used by the artists, the meaning of the artworks, the artist's view on conservation and presentation.

1.1 Research problem

As mentioned above, an artist's studio's study is considered an essential resource for understanding the artist's work through a critical investigation. The ephemerality and variability of artists' practices and methods make their documentation necessary for future reference and use. However, due to documentation's technical challenges, many artists cannot document their process. Important art material related to Cypriot art is in danger, with the risk of losing contemporary art history resources. Digital documentation is important for safeguarding this material but also for creating digital archives for educational purposes. Unfortunately, no digital archive is related to this topic, making essential knowledge of traditional art practices inaccessible for study and research.

1.2 Research goal and questions

The current study aims to develop an interactive digital platform for the documentation and archive of Cypriot artists' studios. Each studio visit will contain a recorded interview of the artist and digital documentation of his studio via an interactive panoramic viewer. The platform will capture artists' philosophy towards the process, materiality and techniques. The digital platform will also offer digital storage and management of the related digital data for Cypriot artists who do not have the means to show off their work to a big audience and online.

The main questions of this study are:

A) How can we make the content of the artists' studio archive more engaging to users?

One of the study's main aims is to offer a substantive engaging and interactive experience between the context of the platform and the users. The platform needs to work as an online learning tool that can align with the users' educational needs. To make this possible, the study researched existing similar platforms to collect what is missing and what kind of elements will make the content more engaging. The platform was built based on these results and was later evaluated by a group of potential users. The first part of the evaluation provided insights about the platform's preliminary version and collected feedback about users' overall engagement with the content.

B) How an artists' archive can work as an educational platform?

In continuation of the first question, the next step was to see how the digital library of artists' studios can be used as an educational tool. To answer this, twenty educators gave insights into how they can implement the platform in their teaching methods. Results helped the study to improve the platform's structure, get insights about the archive's further developments, and improve the library's educational potentialities.

1.3 Research Design

The research aim will be addressed through an exploratory sequential mixed methods design to examine if Cypriot artists' studios' digital platform works as an online learning environment. To develop a complete understanding of the research problem, the study will begin with qualitative data collection and continue with mixed-method data.(Creswell, 2014) The problem-oriented philosophy of the pragmatism worldview will use pluralistic approaches to derive data for the study.

Qualitative results will be obtained from semi-structured interviews and observations of six possible users using the digital library. Through the semi-structured interviews, users will give insights on how important the creation of the digital library is, dedicated to artists' studios based on their experience, behaviors, and needs. A short demonstration of the digital library will occur after the interview, while participants will be observed during their first interaction. In the end, the digital library will use and implement the input and recommendations by participants.

Next, a mixed-method data collection phase will be conducted as a follow-up to support the quantitative results and focus on the library's educational purposes. Through focus groups with twenty art educators, the study will receive insights on how the digital library can be used as an educational tool. Educators will give feedback on how they can create class materials for students based on the platform's context and how the interactive elements can provide innovative ways of learning.

The following figure (Figure 1) shows an overview of the data collection process:

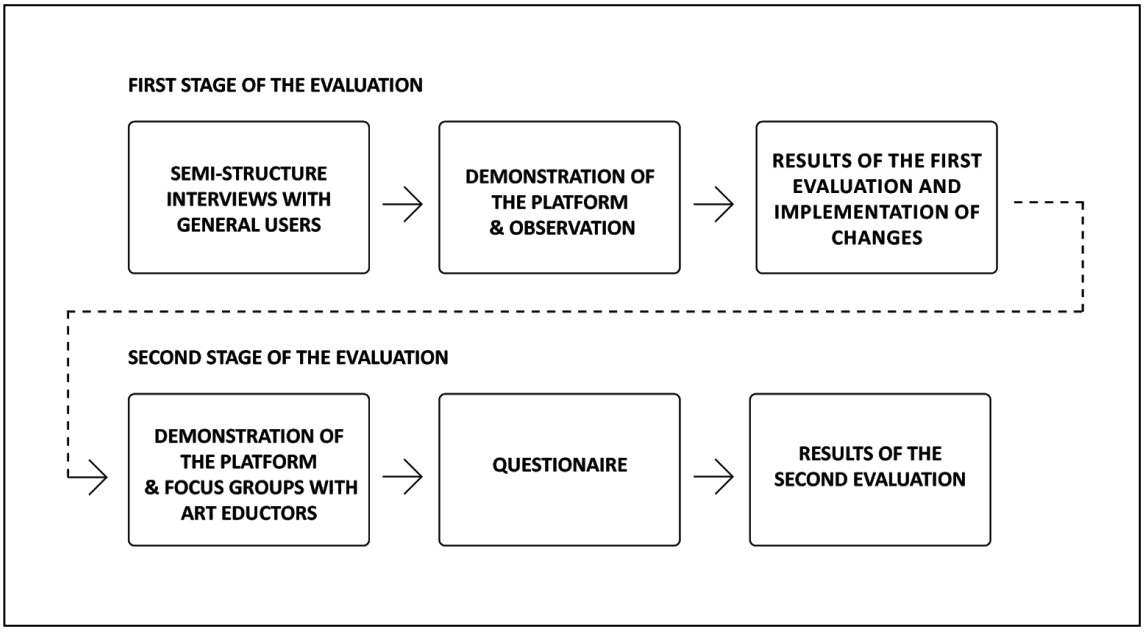

Figure 1: Data collection process of the study

1.4 Contribution of the study

The purpose of the current study is to develop an interactive digital platform for the documentation and archiving of studio visits by Cypriot artists that will work as an essential educational tool for the Cypriot culture. The value of this primary source material is immense, providing endless educational possibilities and valuable historical references about Cypriot art. This platform can provide knowledge about artists' work, their manufacturing techniques, process, methods incorporated, and their general philosophy towards their art. Not only will it promote critical thinking but also it will create interpersonal connections with artists. Through the digital platform, the user will be able to navigate the artist's studio in a 360° panoramic viewer and watch an informative video of the artists explaining in detail their art. The library creation also aims to provide space for the proper storage and management of the related digital data. The ephemerality and variability of artwork make their documentation crucial for protection, with the platform providing a solution to this issue.

2. Theoretical Contextualization

This chapter provides an overview of art documentation through the years, coming to the most recent stage, the rise of digital documentation in arts. Products of digital documentation, such as digital libraries, appeared to preserve and make art knowledge shareable online digitally. The study explores the history, challenges, and benefits of digital libraries dedicated to artists' work, followed by the importance of documenting the artist's studio as a means of conservation and dissemination strategy. The second part continues by presenting the artist's archive as an educational platform and the benefits of implementing interactive elements. At the end, the chapter evaluates existing artists' archives created by well-known museums and institutions with conclusions about the topic.

2.1 Documentation of Art

The theoretical contextualization part of the thesis starts with a historical context of documenting art through time. By looking at the past, we can realize how framing art-making behavior can enrich the information chain about the history of art, the more in-depth understanding of an artist's work, and preserving cultural heritage.

2.1.1 History of documenting art

> "What happens when a new work of art is created, is something that happens simultaneously to all the works of art which preceded it. The existing monuments form an ideal order among themselves, which is modified by the introduction of the new (the really new) work of art among them. The existing order is complete before the new work arrives; for order to persist after the supervention of novelty, the whole existing order must be, if ever so slightly, altered; and so the relations, proportions, values of each work of art toward the whole are readjusted; and this is conformity between the old and the new.''

According to TS Eliot's (1975) quote above, art is a great shape-shifter by continually evolving and growing through periods. The artist must seek guidance from the past and build a reciprocal relationship between the past and the present. Based on this retrogradation, the theoretical contextualization starts with a study for the chronological development of art documentation.

In the 18th century, a new picture gallery display was developed, marking the emergence of display and museum catalogs that we see in museums today. Between 1709 and 1717, Johann Wilhelm II von der Pfalz, a German prince, built one of the earliest European picture galleries, the Düsseldorf gallery. After the Seven Years' War (1756–1763), the gallery director had to reinstall the paintings, displaying the paintings in a didactic, symmetrical arrangement encouraging viewers to draw comparisons. (Getty Research Institute, n.d.)

The pedagogical display was printed in a catalog, with a set of large-scale prints offering an analysis of each painting -unlike earlier records that only provided inventories. The catalog aimed to educate viewers and especially students in the art-history principles and served as a representation of princely magnificence (Figure 2). ("Display and Art History: The Dusseldorf Gallery and Its Catalogue (Getty Research Institute), " n.d.)

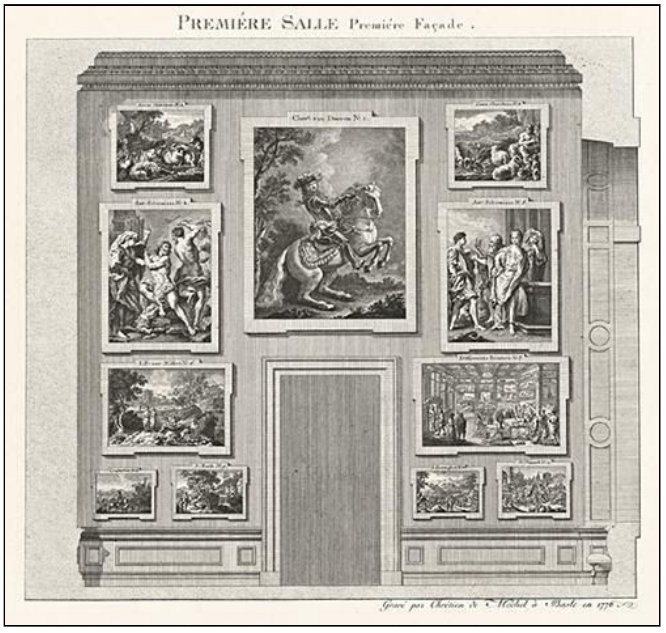

Figure 2: First Room, First Façade of the Düsseldorf Gallery, etching. 1778

In the mid-19th century, the documentary capabilities of photography appeared, with documentation of restoration treatments. Due to its inextricable connection to the real world, governments commissioned photographers to document important monuments and places. ("MoMA | The Photographic Record", n.d.) Photography started being perceived as a tool for preserving the past, extending human knowledge and understanding to a wider audience.

In 1850, the French government sent Maxime Du Camp-one of the first pure documentarians- to document Egypt's monumental ruins and hieroglyphics with calotype to preserve the monuments against their loss to time. (Figure 3). (Saunders, n.d.) By the end of the 19th century, photographic archives and catalogs spread in popularity among photographers, scientists, and historians. ("MoMA | The Photographic Record", n.d.)

Figure 3: Du Camp, M. (1850). *Colosses du Ramesséum*

Moving to the early twentieth century, the film documentation of art and cultural heritage began. When the French poet Paul Valery died in 1945, the film critic Charles Spaak regretted that he did not create a film about the poet. He mentioned, "We would have seen Valéry's actual hand and, bent over his shoulder, we would have borne witness to a rare spectacle: the expression of his thought appearing on blank paper." (Esner & Kisters, 2018). Envisaging the above scene, he epitomizes the artist film

genre, which will capture the artwork's birth. In 1915, Sacha Guilty, with an innovative film camera, captured France's most significant artists Auguste Rodin, Claude Monet, Edgar Degas, and Pierre-Auguste Renoir's 22-minute silent film called Ceux de Chez Nous (Those of Our Land) (Meier, 2017). (Figure 4)

Figure 4: Auguste Rodin – Filmed Sculpting in his Studio. 1915. [film] Directed by S. Guilty.

Films on art then developed into a noticeable phenomenon and utilized for educational purposes and cultural dissemination. In the 1950s, the International Committee for Documentation was created to guide proper cultural heritage documentation to museums and institutions. By this time, cultural heritage documentation was considered necessary to protect history due to the enormous loss of cultural assets during the second world war. In 1964, a group of conservation professionals in Venice recognized the responsibility to safeguard the cultural heritage for the future generation, creating a set of international guidelines to restore and preserve historic buildings. (UNESCO, 1964)

Each country is now responsible for applying the plan within its own culture and traditions and publishing the study. Analytical documentation, illustrated with drawings and photographs, should be available to the general public for study (UNESCO, 1964). Moving to the 70s, artists started developing artists' strategies towards documentation within the contemporary conversation. As Kalb notes, "artists continue to provide a means by which the public reflects upon its history and creates a public memory." (Kalb, 2013)

Documents were increasingly understood as subject to revision and change. As Martha Barratt (2016) describes in her essay on this issue, documentation could be used and reused "to enable resistance to historicization, " an incredibly empowering effect when the subject documented was the self. Around this time, artists began to engage with the documentation of their practice. In the early 1990s, artist-in-residence schemes required artists to publish their work in progress, and gallery exhibitions started involving artists working on site.

The developments of materiality in contemporary art made the documentation of the artwork necessary, with the creative process being part of the finished artwork. Nicholas Bourriaud (2007), in his essay Postproduction, states:

> Likewise, the contemporary work of art does not position itself as the termination point of the "creative process" (a "finished product" to be contemplated) but as a site of navigation, a portal, a generator of activities.

The complexity of their materiality makes the artworks temporary, ephemeral, or even no material form with new technologies increased the documentation methods.

2.1.2 Digital Documentation of Art

The art world and especially museums are now aware of this challenge and the fact how we reached a digital tipping point. The technological development involves digital thinking and strategies to keep pace with the evolving state of digital being and aesthetics. Their cautious and slow-adapting character must be very flexible and adaptable to the constant shifting of users' expectations while keeping their authentic communication.

With the rise of digital documentation, the expectation for public access grows higher. Museums challenge the traditional delivery methods by taking advantage of digital culture strengths such as free access knowledge, sharing, inclusivity, interaction, communication, and diversity. The digital shift started when museums and cultural institutions provided access to the public through simple digital resources such as PDF files and e-books. Simultaneously, fewer museums moved technologically further to the creation of museums' digital libraries and archives. (Stephen J. Bury, 2019) Over the past 20 years or so, museums and libraries have been digitizing their collections and increasingly making them available online. (Figure 5,6)

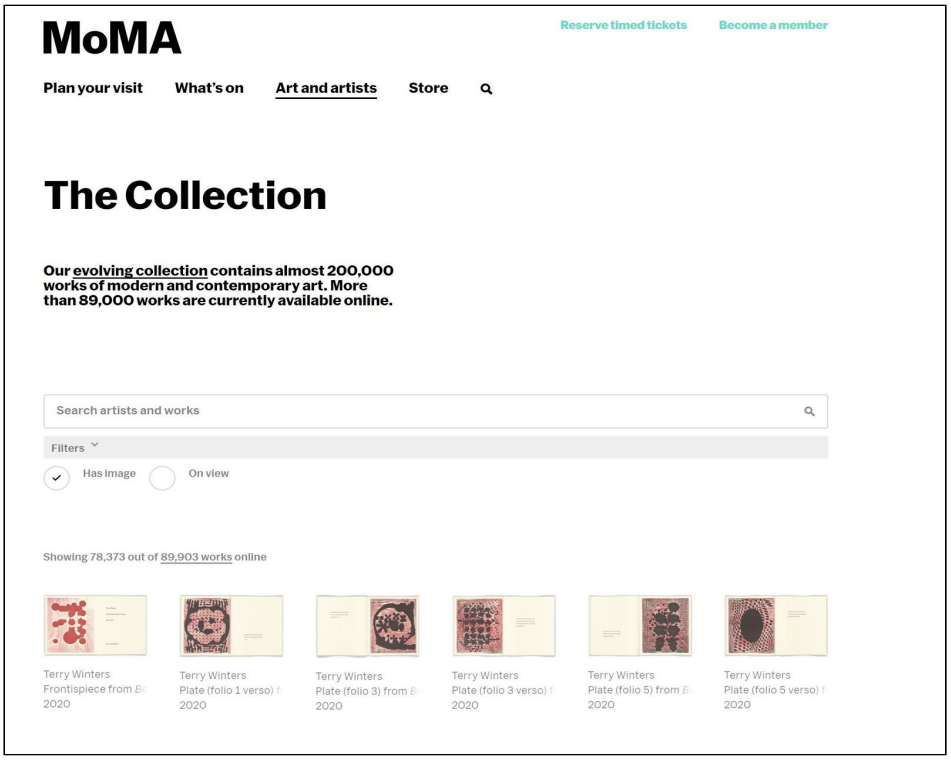

Figure 5: Online collection of the Museum of modern art

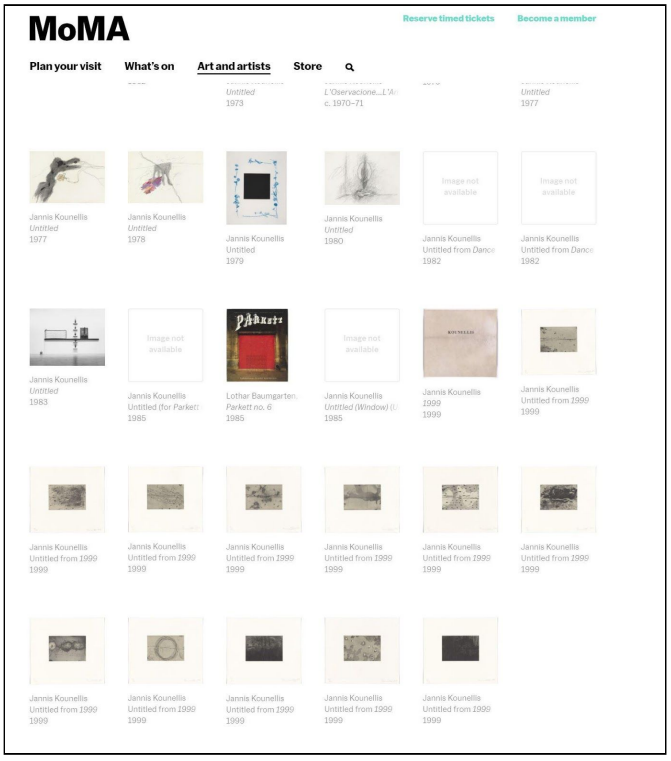

Figure 6: Online collection of the artist Jannis Kounellis at Museum of modern art

In the following sections, the thesis will examine the nature and potential of digital libraries and archives and the new interaction possibilities that can be exploited to develop innovative learning methods.

2.1.3 Digital libraries and archives

Digital libraries can be seen as a new kind of information resources with multiple learning possibilities. Within the sciences, DLs are typically referred to as "libraries"; librarians will often refer to the same systems as "databases, " and people in the arts and humanities usually call them ‘electronic archives’ (Adam Blandford, 2002). According to Sumner and Marlino (2004), they are cognitive tools, enabling students to think about and work with ideas and knowledge in new ways, support learning, and sense-making; are component repositories, and are knowledge networks. In a broader context, digital libraries tend to be regarded as digital surrogates for traditional libraries.

This study focuses on the view of DLs as structured collections of validated information in the form of an archive.

The creation of web-based platforms in the form of a library can digitally host real-world multi-media information as housed and endorsed by museums and cultural institutions. Traditionally an archive is a store of documents or artifacts of a purely documentary nature, and the digital library is the electronic version of the store ("Archive – Art Term | Tate, " n.d.). Digitally they can store, preserve, distribute, and protect digital data in different formats and, at the same time, allow interaction between the user and the contents. (Figure 7)

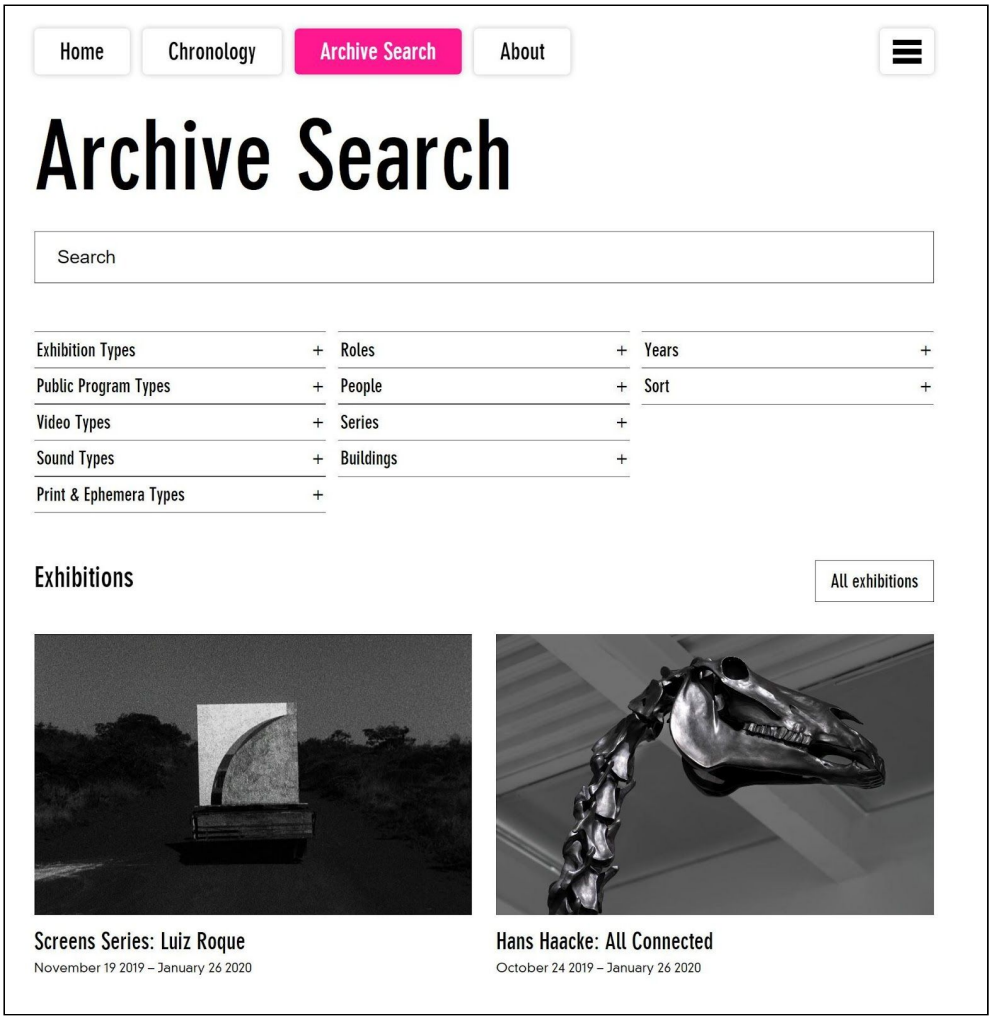

Figure 7: Digital archive of the New Museum

Interaction, engagement, collaboration, and global networking are characteristics that a traditional library transferred to its digital version. Nevertheless, they can work as digital schools that offer formal packaging for specific skills and topics and general browsing for creative discovery and self-guided, informal learning (Marchionini, Gary & Maurer, Hermann,1995).

Digital libraries have gradually proved the following benefits for users:

- Ubiquity: a digital library can be accessed from many simultaneous users by many locations without any physical boundary. They offer technology-based information to enable users to access their content anytime, anywhere without any cost. Users can reformat the material with faster access due to advanced search and hyperlinks for navigation.

- Educational Opportunities: free access to multiple educational resources enrich distance learning. The dissemination of knowledge through public platforms maintains general support for educational dissemination.

- Preservation and conservation: digitization initiatives serve as a preservation function. Preservation is understood as an act of responsible custody to prevent cultural heritage materials' deterioration and restore their usefulness and information value (Conway, 2010). Digital libraries can also store work as an archive for the storage of ensuring their longevity.

The long-term preservation of material through sustained public access and dissemination might seem ideal but creating a digital archiving can grow many challenges and concerns. A digital archive works like a living organism, an organization of machines and people that work together to create a project. Digitization is an integral part of this process; still, it can be seen as an expensive and time-consuming activity since it considers many parameters related to financial budgeting. According to Pandey and Misra (2014), some parameters are:

- Equipment and supplies: an appropriate technology needs to be acquired to complete the object's proper digital documentation based on its needs. Objects prone to deterioration need more attention and special maintenance, affecting at the same time, the cost of digital documentation. Advanced imaging technologies have to be used to handle the growing volume of material types.

- Maintenance, licenses, and communications chargers (technological obsolescence): software and hardware upgrades are required to avoid unusable platforms. Along with the technological advances, the applications need to be upgraded to assure access to the material over time. Backing up the data, refreshing the digital files, and migrating them are also essential processes. (Verzosa, 2005).

- Staff training: Creating a digital archive requires trained staff and experts to respond to any technical challenges that might occur. People need to monitor continually evolving documentation technologies and be up-to-date with the latest trends.

- Services, contracts, and legal fees: copyright permissions and policy statements should be prepared in advance. Copyright permissions have to be obtained for digitized materials, particularly those that do not belong in the government domain. (Fabunmi, Beatrice & Paris, Matthew & Fabunmi, Martins, 2009).

2.2 Digital Libraries as an educational platform

The rapid technological development with the proliferation of information systems provides instant dissemination of knowledge through digital learning environments. Digital libraries are becoming an inseparable part of online learning as educational platforms can bring together independent learners with educational resources.

Introducing digital libraries into the education process has been underway in distance education for several years (Arms, 2000). The application of a digital library as an educational platform ranges from schools through institutions covering all disciplines

and a range of topics. According to the report "Digital Libraries in Education: analytical survey" published by UNESCO, a digital library can restrict the current higher-education enterprise into a global "knowledge and learning industry." As natural complements to education, they function as digital schools that offer proper packaging for specific skills and topics and general browsing for creative discovery and self-guided, informal learning. (Radovan, 2017).

The library's digital nature offers a wide range of resources that do not exist physically, with most of them available with open access from any place at any time. Any individual can participate in online education programs regardless of geographic location, age, physical limitation, or personal schedule. Everyone can access repositories of educational materials, easily recall past lessons, update skills, or select from among different teaching methods to discover the most effective style for that individual. Educational programs can be customized to each individual's needs so that our information revolution reaches everyone and no one gets left behind (Sharifabadi, 2006). Remote access and availability to unique digitized resources make learners exposed to more varied and richer educational materials.

The learning process through a digital library can become more inclusive for the following reasons: shared material; authors can publish the material with free access, customization; the user can access and require any material format in a unified way such as text, image, audio, video, and reuse; the material can be flexible to be developed further and combine further evaluation. Through the digital library's information space, learners can form learning communications and maximize sharing collaboration. The technological advantages offered by digital libraries increase learners' comprehensiveness of the material and make them more excited about the studied material.

Since a library is accessible, individualized, and facilitates knowledge sharing, its content should be flexible according to different users' needs. In theory, digital libraries have endless predispositions to support flexible online learning, but in practice, most of them are not oriented towards all user's real needs and expectations. Most digital libraries are built to respond to a particular community's needs and rarely involve people with any previous domain experience. (Kani-Zabihi, Elahe & Ghinea,

Gheorghita & Chen, Sherry. 2006). A digital library can work as an educational platform when the content is diversified to users' needs.

2.2.1 Interactive Possibilities in digital libraries

As described above, the rapid developments of technology create the digital libraries' potential to be more than just a collection of information resources and work as a digital community for users' communication, an e-learning platform, and research (Hu, Hu, & Yan, 2014). Technological advances helped digital libraries to develop and promote new learning resources through new interaction possibilities. When the digital library is interactive, it gives the user the ability to engage with the content and various elements actively.

Coleman and Oxnam (2002) define interactional digital libraries as being made up of information spaces, learning spaces, and interaction spaces. McKnight (2000) uses information space to mean "objects (real or virtual)" to which the individual turns to acquire information. In the interactional digital library, information spaces are increasingly made up of heterogeneous formats called complex objects. These objects are structured as learning spaces; i.e., they display the best information for learning optimally; they incorporate intelligent, interactive information retrieval, customized for or controlled by users' learning styles (Coleman et al., 2001). The interactional digital libraries free the user from physical limitations and provide the benefits of virtual interactions and communities to digital libraries (Winograd, 2002).

According to Caroline Arms (2000), libraries have always supported interactions with the fund of knowledge, interactions that come in many shapes and sizes; interacting with knowledge is what lifelong learning is all about. Consequently, these developments helped to emphasize the convenience of users' information needs and behaviors. The implementation of interactive design in digital libraries targets to make the content more accessible and user friendly. Users expect to interact with easy to use, helpful, and reliable content. According to Jeong's (Joo & Choi,2015) statement, the ease of use and usefulness and DLs' affinity will affect DLs' user satisfaction. When the perceived quality goes beyond the expected quality, users' information needs will be completely satisfied, and they will gain satisfactory experiences. (Fang & Jia, 2018) This will lead to a content relationship with the platform, trust the content, and feel loyal to the digital

library's purpose. Besides, loyalty was conceptualized as "a feeling of attachment to or affection for a company's people, products, or services" in Jones and Sasser (1995).

The implementation of interaction in digital libraries will also create a more personalized experience for the user. An interactive platform allows users to interact and automate each visitor's experience. From a passive to an active engagement with the content, the user will create a deeper relationship. Good interactive learning content will make e-learning resources more engaging and effective. The user's motivation and engagement with the study material can be increased when taking interactive learning ("Benefits of Interactive Learning, " 2019). The content can be more immersive and flexible, adding another advantage to interactive digital libraries since interactive content can recreate the sense of presence and provide immediateness.

Users can explore learning environments that can design to stimulate real-life settings to make users feel emotionally engaged with the content. People around the world can have immediate interaction with meaningful and contextual information from virtual educational environments. (Jia, 2012) However, in interactive educational platforms, the platform's increased complexity can create important challenges for the user that might be evident during the user's dynamic engagement with the media.

Compared to traditional educational systems, an interactive digital library requires technological knowledge or skill from the user. Interactive features should be simple, easy, and provide much-needed information as soon as possible to the user. Along with the simplicity of the media, the interaction features should provide personalization to the user. As Riecken (2000) pointed out, personalized attention is a way of "building customer loyalty by establishing a one-to-one relation." Users often feel overwhelmed by the digital library's content, arranged in a way that does not reflect visitors' interests. Interactive features should offer differentiated access to information and services tailored to a visitor's specific profile to encourage visitors' engagement and learning. (McCray, 2010) The interactive features in a platform allow exploiting new and innovative ways to make learning mobilization beneficial from the new innovative technologies.

Another important component of personalization is how digital platforms can include metadata. Metadata has the potential for simplifying the discovery of accessible resources and thus saving the time of users. Also, they add efficiency to assistive technologies in processing information resources and weave the foundation where users'

needs and preferences can be mapped to available, accessible solutions (Beyene, 2017). Metadata, particularly about the accessibility features, capabilities, and adaptability of resources, can remove significant barriers to access (Cheetham et al., 2014).

2.2.2 Implementation of Interactive Design through digital storytelling

One of the most fundamental benefits explained in the previous chapter of adding interactive elements in a digital library or archive is how engaging it makes the content to users. Users are curious to know more about the archive, and through the use of storytelling, these questions can be addressed. John Seely Brown (2003) explains, "stories have always been a kind of dialectic or conversation between the storyteller and the listeners." (McLellan, 2008).

Storytelling is a uniquely human experience that helps us to convey diverse aspects of ourselves and others and real or imagined worlds that we inhabit through the language of words (McDury & Alterio, 2003). Storytelling can capture everyday examples of practice and turn them into an opportunity to learn–encouraging reflection, a deeper understanding of a topic, and stimulation of critical thinking (McLellan, 2008).

The traditional narrative form of storytelling has been enriched into a more dynamic and powerful communication system with sound, music, visuals, interactivity navigation, and user-control mechanisms, producing a new digital storytelling genre. In the case of digital libraries or archives, digital storytelling is the bridge between the content and the user. According to Meadows (2003), digital storytelling is a narrative tool in which life stories are reconstructed using computer software wherein text, photos, moving pictures, animation, narration, and music make up the story to facilitate an emotional connection to the content. (Kieler, 2010)

In the educational sector, digital storytelling has been used as a communication method to promote learning and knowledge to educational platforms, take advantage of user-directed content, and users learn how to use technology productively. There is no guarantee that a digital platform will achieve a sufficient learning experience just by applying digital storytelling in the content; still, digital storytelling is structured focused on education and can expand the media possibilities for learning.

Digital storytelling can help learners ‘create, discover knowledge, and understand ways to apply knowledge effectively’ rather than merely ‘transfer, remember, and recall’ as with the traditional learning process (Stolterman, 2008). Paull and Salpeter (2005) state how numerous findings have been reported on the benefits of multimedia projects in which students have shown an increase in research skills and organizational skills and a greeted interest in the content being taught. When students use digital storytelling, they learn to ‘convert data into information and transfer information into knowledge’ (Cradler, MacNabb, Freeman, & Burchett, 2002). Previous studies have reported that the project-based digital storytelling approach can enhance students’ learning achievements, problem-solving competence, and positive learning attitudes in constructivism learning environments such as collaborative learning. (Hung et al., 2012) Users can connect and engage with the story and the storyteller’s thinking process, explore personal aspects, and create a scaffolding in online collaborative learning environments.

Since digital storytelling promotes interactive learning, users can be encouraged to work with self-directed learning and personal initiatives. Researchers such as Burmark (2004) have found that integrating visual images with written text enhances and accelerates student comprehension. Digital storytelling is an excellent technology tool for collecting, creating, analyzing, and combining visual images with written text. Teachers who can create their own digital stories may find that they can be beneficial in engaging students in the content and facilitating discussion about the topics presented in a story, and making abstract or conceptual content more understandable. A multimedia-rich digital story can serve as an anticipatory set or hook to capture students’ attention and increase their interest in exploring new ideas.

According to Robin (2006), there are three main categories of digital storytelling in education: personal narratives - stories focused on significant incidents in one’s life; historical documentaries- stories focused on historical events and informative stories that help the viewer to understand a particular concept.

The thesis will focus on personal narratives by the artist reciting and sharing personal stories about his practice through a studio tour.

3. Review of the existing archives

Documentation of an artist's practice is now an important activity for museums. The constant and growing need to form new documentation methods and develop updated data acquisition systems developed various art documentation initiatives. Museums and research institutes have shown significant interest in investing in the long-term preservation and dissemination of digitized art with a digital learning environment approach. This part of the thesis studies existing digital archives dedicated to artists' studios and work within educational content.

3.1 Digital archives about artists' studio

Traditionally the studio has been considered as the conjuring place of new artworks, concepts, forms, and styles by the artists. Sometimes it even comes to be seen as a romantic situation with a lonely artist painting in the middle of the night, or the grand workshops of old masters such as Eugène Delacroix or Johannes Vermeer. Andy Warhol's Factory can be one of the most characteristic pictures that people cling to the studio's idea, a noisy, chaotic place with eccentric characters. Most likely, these clichés do not resemble the reality of the working area of artists today. The diversity of contemporary art of its forms and manifestations makes the artist carry out the artwork outside of a studio. During the heyday of conceptual art in the late 1960s and 1970s, the concept of 'art as an idea' penetrated more traditional artistic production, suggesting a move away from the 'hand' of the artist, the physical, creative act, and perhaps any consideration of skills at all. (Hoffmann, 2012).

In many cases, the traditional materials have been replaced by or mixed with materials designed for industrial or domestic use, everyday objects, and assembled in the most disparate and contradictory ways. (Chiantore, Dell'Aquila & Rava, 2012). Art in a digital form has also been added to the list expanding with the studio's concept.

Many artists do not have typical studios anymore, but they maintain some working space (Hoffmann, 2012). Still, the studio remains an essential instrument for an artist's

artistic performance. The artist's studio is a space from which an art form's alchemy cannot be ultimately revealed. With all its material, the studio is a space whose materialities are manifestations, documentations, and traces of studio processes and visual artists' work (Sjöholm, 2013). As an artist myself, with the status of an 'insider,' I can say how the studio works as storage not only for your work but storage for your creative resources, revealing clues and traces behind the process of making. According to Jens Hoffmann, the artist's studio has received little attention as a critical examination topic among the many art questions. (Hoffmann, 2012). But what makes the study and the digital documentation of an artists' studio so important?

An archive about the studio of an artist can clarify the creative process and activity of an artist. An artist's creative process documentation provides another story to a completed work of art, especially the studio practice. The archive can give an insight, a behind-the-scenes narrative account of how the artist constructed the artwork and provide a personal story to his/her practice. (Figure 8)

Figure 8: Barbara Hepworth - The Plaster Studio, Trewyn Studio, St Ives. 1975

Collections are physical manifestations of their experience and archival impulses in artistic research. The reference can be seen as ‘identical inventories’ that express placed practice and personal experience. (Sjöholm, 2013). Collecting references and pieces of evidence about their artistic practice can be valuable in a historical context and sense. As Latour (1999) notes, references serve as ‘silent witnesses’ for specific and future claims and work. An archive based on the artist’s studio can initiate educational conversations about an artist’s practice. An archive about artists’ studios can be a primary source of education for connecting the users with Cypriot art, bridging the gap between often seemingly distant environments such as the studio of an artist. The access to an artist's personal space promotes critical thinking about the artist’s work, creates interpersonal connections, and studies every artist’s work in depth.

An archive about artists’ studios is essential for the art-making process documentation but is equally essential for preserving cultural heritage. The ability to digitize artists’ studios can make primary source materials available to public audiences and users worldwide who want to study an artist's work. The content is accessible and useful for research and safeguards the material for future use since the impermanence and variability of artworks make their documentation crucial for protection. Although contemporary artists incorporate new media into their work, many artists are still unfamiliar with technology, making many artworks remain in the artists' personal archive. The collection found in the studio can provide an insightful biography of the work of the artist. The studio can partly be read as text and being as revelatory as artworks themselves’. (Breakell and Worsley, 2007)

Without the studios’ documentation, the risk of losing these creative resources as part of our cultural heritage can be high. Researchers and art historians can gain insights into an artist’s influence, social relationships, and working methods (Gill, 2016). Only with the help of technology we can protect this creative process and promote these rich sources within the broader cultural scene.

3.2 Initiatives for documentation of artists' studio

The below table (Table 1) presents online archives created by widely-known international museums and institutes that show the artist's process-based approach through various resources. Since every digital archive approaches the material's deliverable differently, the comparison was based on a fixed set of criteria. The published platforms dedicated to artists' work and working material are limited; therefore, the selection criteria had to be more flexible. First, the focus was to select archives created by institutions with the resources and technical abilities to host digital archives.

The criteria were to choose platforms with open-access content and provide content for the artist's work and working process narrated from the artist and other museums and institutions staff. The selection covered platforms that provide from minimum to maxim advanced capabilities for exploration and have content that can be used for educational purposes. The purpose of this review is to identify the strengths and weaknesses of different published platforms and discover new ways of delivering the content of a platform in an educational context. Evaluating existing similar projects will help the study to develop the platform in the most engaging way.

Table 1: List of existing digital platforms dedicated to artists' studios

Name of the project	**Museum/Institute**	**Type**	**Interactivity**
The Artist Initiative	San Francisco Museum of Modern Art	Online Collection / Archive	Video
Artist Documentation Program (ADP)	Menil Collection Museum	Online Collection / Archive	Video
Artist Interview Program	Hirshhorn Museum	Online Collection / Archive	Video(upon request)
Inside Installation	Netherlands Institute for Cultural Heritage (ICN)	Online Collection / Archive	Video
Tate shots	TATE	Online Collection / Archive	Video(able to comment)
Art in L.A	Getty Research Institute	Online Collection / Archive	Video(able to comment)
Artemak	Academy of Fine Arts Dresden	Online Collection / Archive	N.D.
Artist Archives Initiative	New York University	Online Collection / Archive	N.D.
Artist Interview	San Francisco Museum of Modern Art	Online Collection / Archive	Video(able to comment)
Interviews with artists	The Foundation for the Conservation of Contemporary Art (SBMK)	Online Collection / Archive	Video (upon request)

Artist Initiative: The San Francisco Museum of Modern Art (SFMOMA) developed a series of collaborative and interdisciplinary research projects based on contemporary art conservation and presentation. Curators, conservators, and art historians collaborated closely with living artists to explore complex work issues, such as preservation, working process, and display. The project team was selected to investigate five artists represented from the SFMOMA collection covering all the curatorial departments' photography, painting and sculpture, media arts, architecture, and design. Private educational workshops, symposia, peer colloquiums, and interviews with the artist took place to study the artwork. (Figure 9) The research outcomes were published on a digital platform in an archive for free public access and constant updating until today. Users can watch video interviews with the artists at their studios talking with curators and conservators talking about the work. The platform is available in English and open to the public.

Link: https://www.sfmoma.org/artists-artworks/research/artist-initiative/

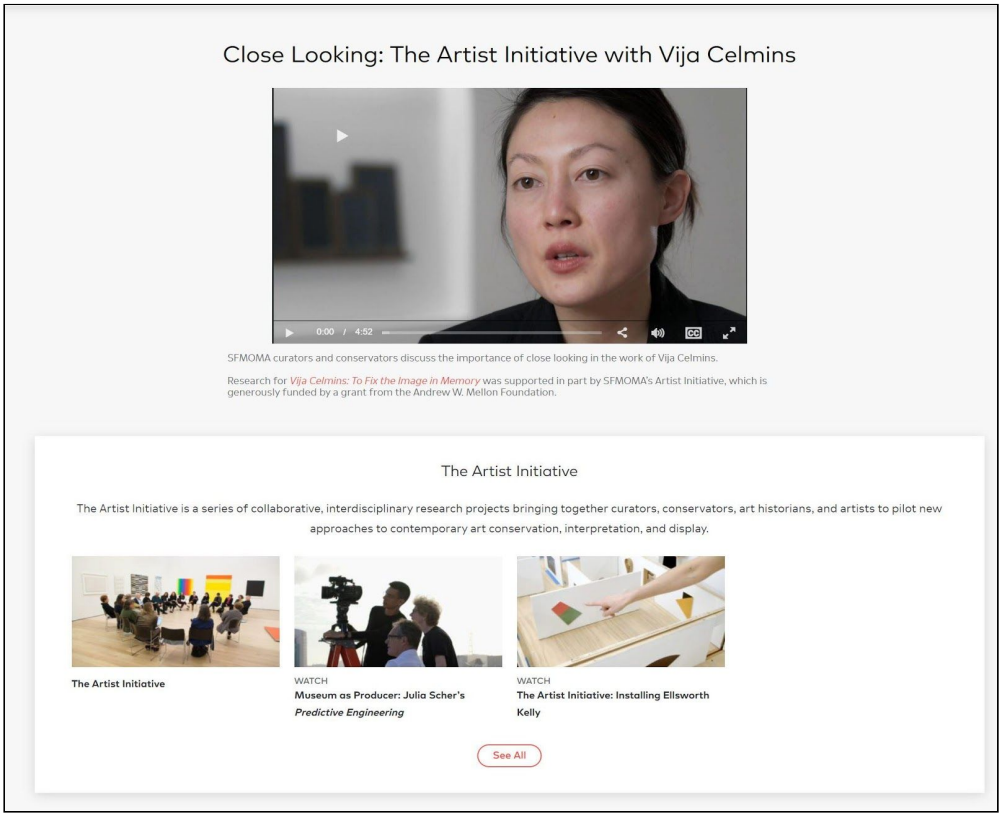

Figure 9: Screenshot of "Artist Initiative" Platform

Artist Documentation Program (ADP): In 1990, the Menil Collection created a series of video interviews with artists in front of their artworks. The talks targeted developing an in-depth exploration of the artworks to capture the artist's attitude toward the preservation challenges and conservation treatment of their artworks that are often materially ephemeral, time-based, interactive, or conceptual. (Figure 10) Through the interview, viewers can better understand the creation process, material, and technique selection. The interviews collate in an online archive and are open to the public. The bulk of the collection is presented digitally in two formats: standard—streaming video accompanied by downloadable research aids (transcripts and subject indices); and enhanced/rich media—synchronized streaming video and research aids, which allow researchers to navigate to, and share, specific video segments, and to search within or across videos for essential names or keywords. (Manoogian, 2011)

Link: http://adp.menil.org/

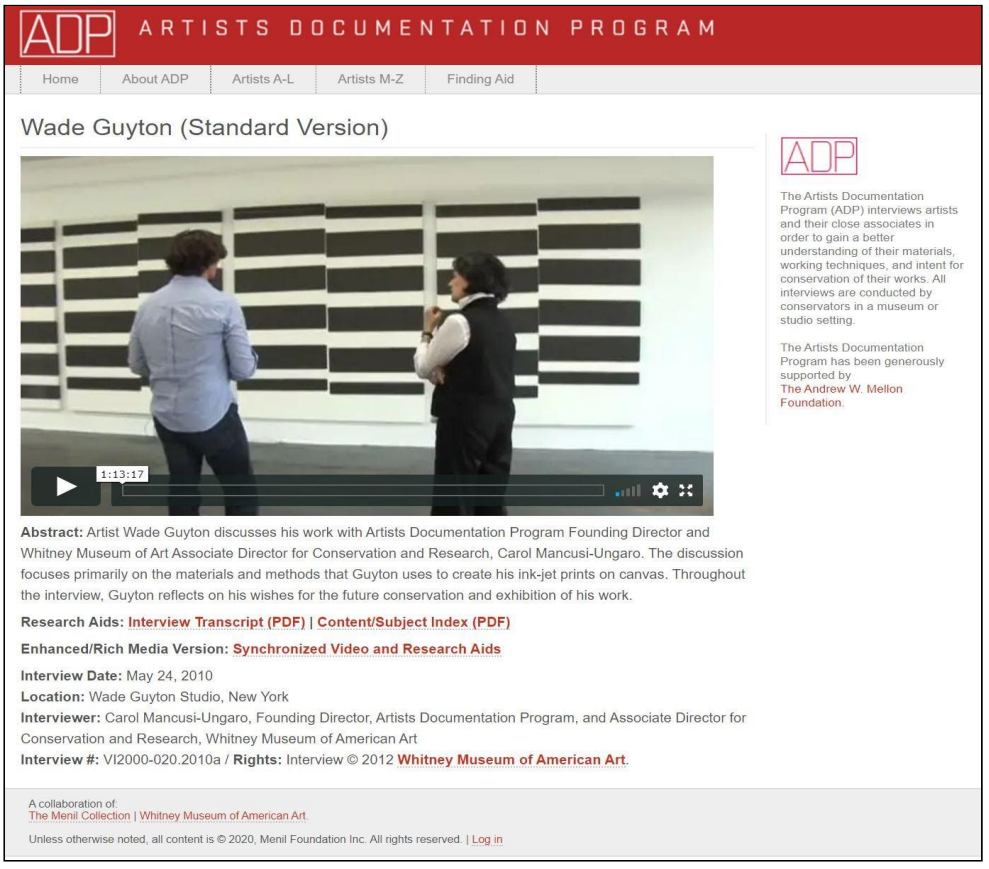

Figure 10: Screenshot of "Artist Documentation Program (ADP) " platform

The Hirshhorn Artist Interview Program: Hirshhorn Museum recognized that artist interviews are a crucial part of the conservation of modern and contemporary art by creating a series of artist interview programs for the institution. Hirshhorn's team consisted of conservators, curators, educators, and staff who created a series of preservation-focused dialogues with artists about their work in the Hirshhorn collection. During the conversation, the artist explains the motivation behind the work and reveals the process. (Figure 11) The series aims to be part of the acquisition, exhibition, and treatment process that manages this information in a meaningful way. Another reason is to provide valuable information and study material for future caretakers regarding an artwork's preservation (Ryan & O'Banion, 2016). The outcomes are available to interested users upon request.

Link: https://hirshhorn.si.edu/explore/about-artist-interview-program/

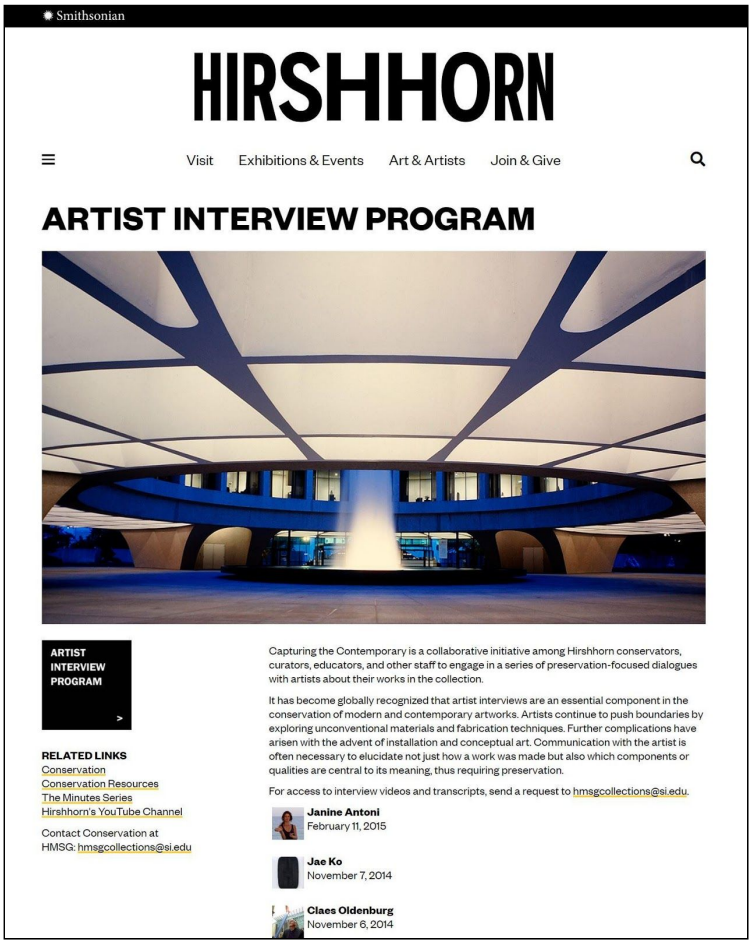

Figure 11: Screenshot of 'The Hirshhorn Artist Interview Program' platform

Inside Installations: In 2004, the European Commission funded a collaborative project of twenty-five European museums and institutions to study thirty-three cases of art installations dating from 1995 to 2005. A multidisciplinary team worked and studied the cases to provide insight into the needs and guidance for safeguarding future generations' installations. Since art installations are significantly different from traditional artworks, the project aimed to support their conservation and re-installation. Aspects such as the installation's materiality varying from ephemeral and time-based media, the complexity of re-installation, and the communication with the artist make their study necessary. The series covers all the above topics through artist interviews and technical experts about the artwork– documenting the details of the equipment and maintenance procedures needed to sustain the preservation of the artwork. (Figure 12) The project's outcome is in a public digital platform as a knowledge base, including interviews, sections from workshops, articles, and research activities. The platform is currently not up-to-date with difficult navigation.

Link: https://www.tate.org.uk/about-us/projects/inside-installations

Figure 12: Screenshot of 'Inside Installations' platform

TateShots: Tate Museum launched in 2007 an online art program featuring various documentation activities such as artist interviews, studio visits, behind the scenes with curators and conservation experts. Well-known British artists give a glimpse of their studios through videos to discuss their new artworks and provide background material for their past or upcoming exhibitions or even show the preparation behind an art performance. (Figure 13) The museum was publishing six videos per month, with the opportunity for free downloading.

Link:
https://www.tate.org.uk/research/publications/performance-at-tate/resources/films-and-videos/vito-acconci

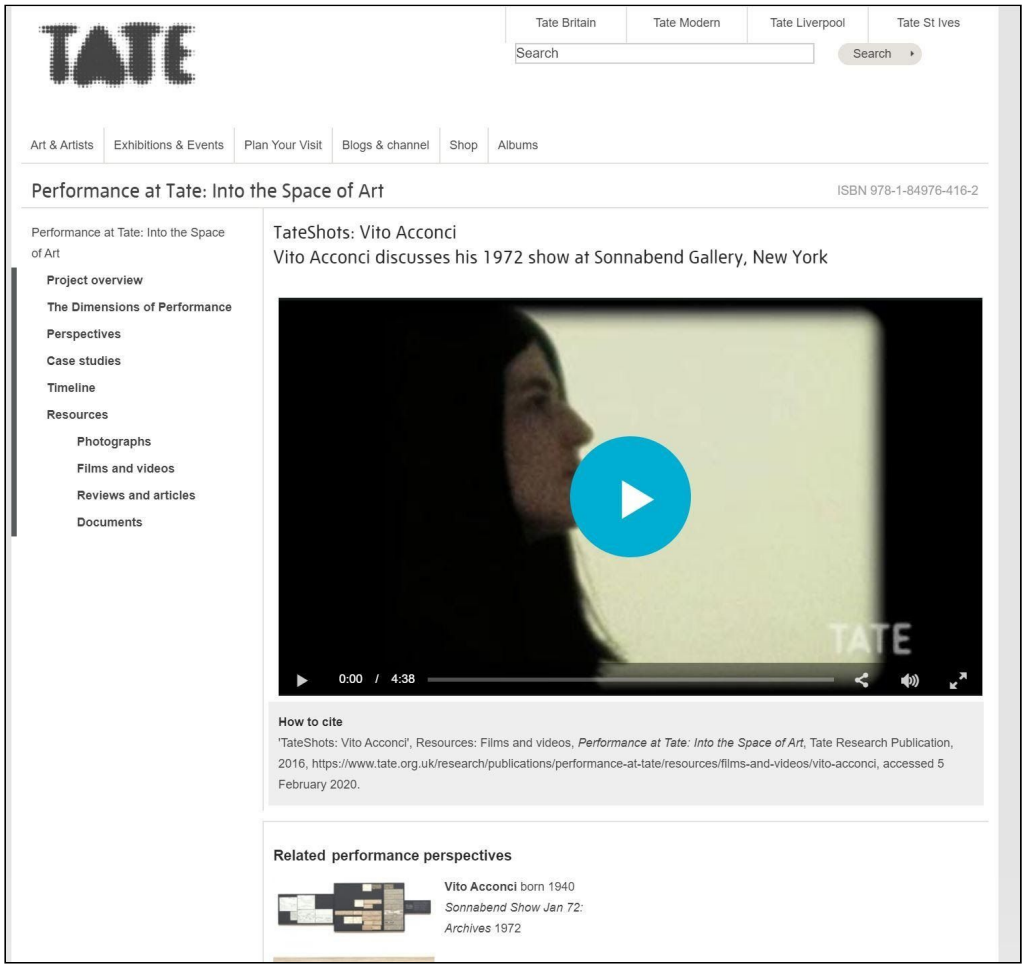

Figure 13: Screenshot of "TateShots" platform

Art in L.A.: Getty Foundation created a video series, "The Artist Dialogues" with artists engaging in conversations about their art, materials, fabrication process, and working methods, as well as their thoughts on conservation. Every dialogue is based on contemporary art, exploring materiality, process, concept, longevity, legacy, and preservation. (Figure 14) The project aimed to capture artists' philosophy and make it accessible to the public, art historians, curators, and conservation experts. The interviews are open to the public, with the full interviews' transcript upon request.

Link: https://www.getty.edu/conservation/our_projects/science/art_LA/artist.html

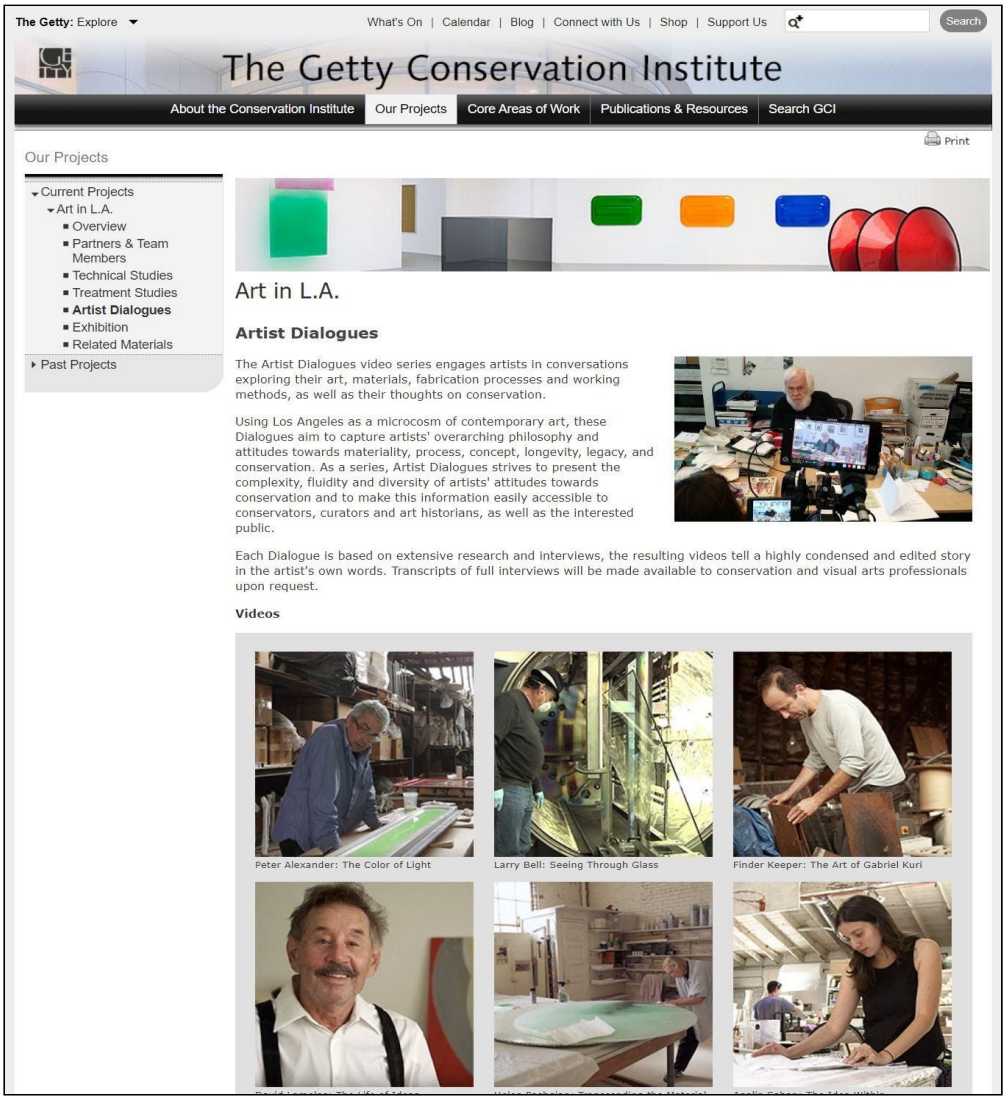

Figure 14: Screenshot of "Art in L.A" platform

Artemak: Artemak is a project created by Erich Gantzert-Castrillo and Elisabeth Bushart at the Dresden Academy of Fine Art, which began in the 1970s and continued in 2019. The project started with the publication of the book "Archive for Techniques and Working Materials of Contemporary Artists Volume 1, " It stayed with the book's digital edition to ensure its long-term use. The digital platform worked as a publication medium to show the material to a more significant number of interested users and, at the same time, to be freely accessible. (Figure 15) Users can read the process-based approach of artists and discover their philosophy of conceptualizing an artwork until realizing the work. The platform is available in the German language without any multimedia features.

Link: https://artemak.art/

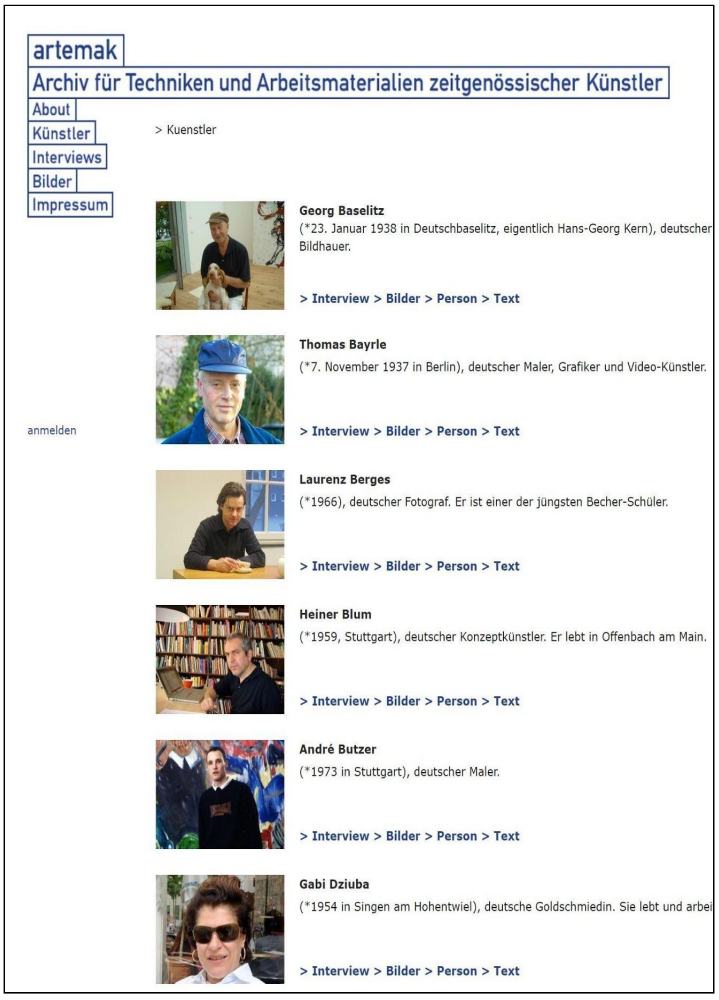

Figure 15: Screenshot of "Artemak" platform, Screenshot of "Artemak" platform

The Artist Archives Initiative: The project was founded at New York University by an interdisciplinary research team to promote research and disseminate contemporary art display and care knowledge. The project supports museum teams and archive professionals to collect material for future treatment and re-activation of artworks. The first undertaking of the project was based on the artist David Wojnarowicz and Joan Jonas. The platform works as an information resource with technical and historical information about the artist collected by curators and project researchers. Users can read transcripts of interviews, annotated guides to other resources, and information regarding the challenges of exhibiting and conserving his work. (Figure 16) During the project, the team organized symposia, workshops, and publications at the same time.

Link: http://artistarchives.hosting.nyu.edu/Initiative

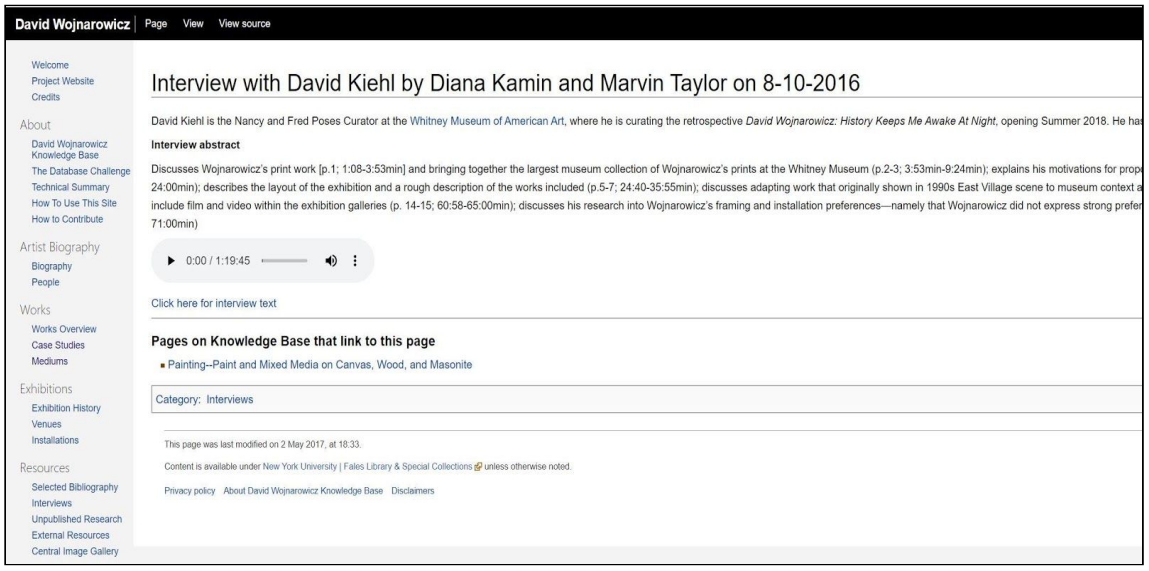

Figure 16: Screenshot of "The Artist Archives Initiative" platform

Artist Interviews: San Francisco Museum of Modern Art has one of the longest-running artist interview programs, going back to the mid-1990s until today with an archive of an interview of artists who have worked in the SFMOMA collection. The museum offers the public audience the opportunity to watch well-known artists talking in their studios or another creative environment about a specific work of art in their own words. Users can see the artworks in the museum exhibition, having a more in-depth explanation through the videos. The museum collected all the video interviews from the 90s until the recent ones in a digital archive for public use. (Figure 17) Users can also

find the videos on the official YouTube channel to comment and share information with other users.

Link: https://www.sfmoma.org/series/artist-interviews/

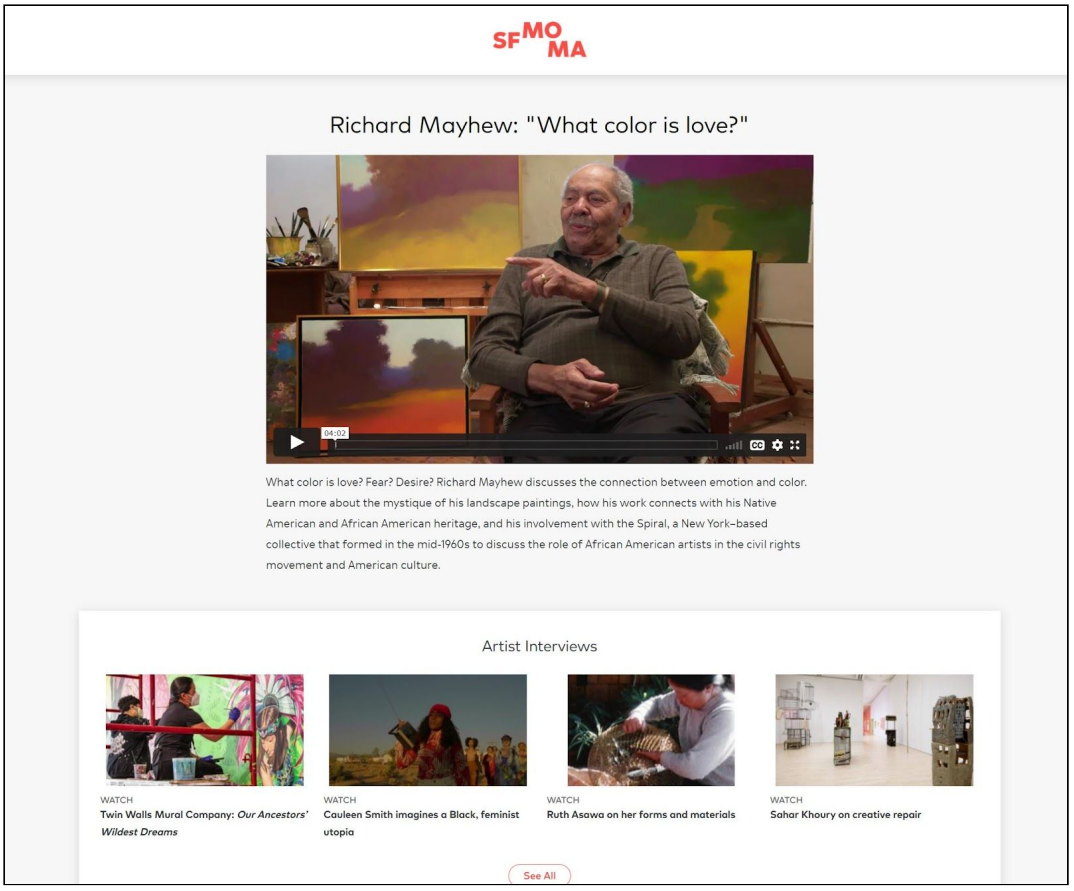

Figure 17: Screenshot of "Artist Interviews" platform

Interviews with artists: The Foundation for the Conservation of Contemporary Art (Dutch abbreviation: SBMK) has been occupied with projects related to the maintenance and conservation of contemporary visual art. Developing digital resources with authentic, content-relates, and technical information about contemporary art produced an archive of twenty interviews with artists talking about working methods, the use of materials and techniques, and the meanings relevant to the artist's work whole. (Figure 18) The content is available to interested users upon request.

Link: https://www.sbmk.nl/en/

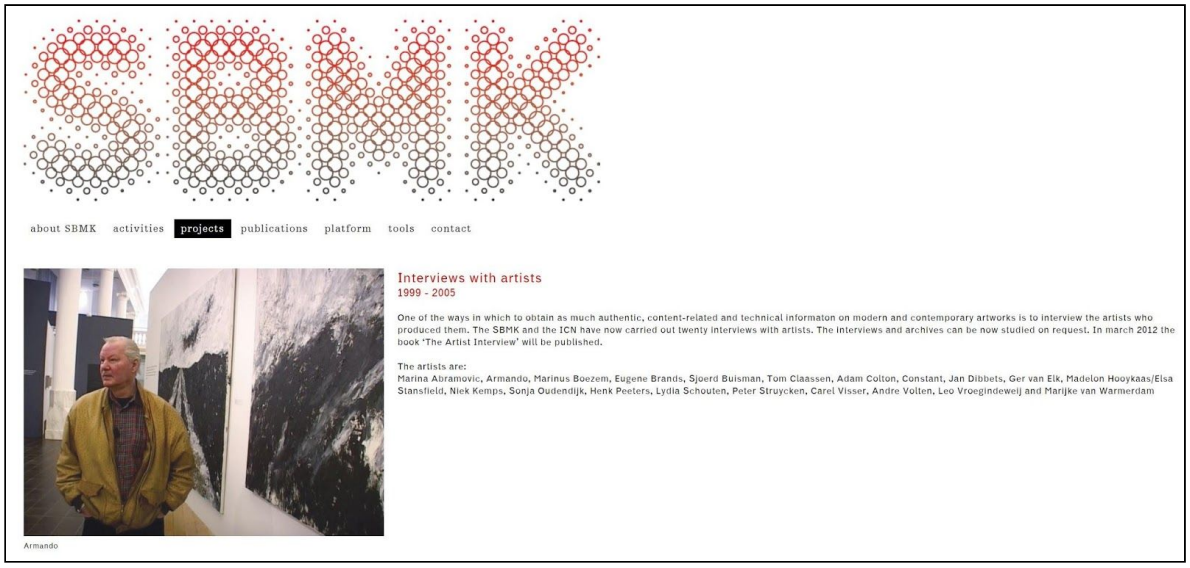

Figure 18: Screenshot of 'Interviews with artists'

3.3 Conclusion

The review presented a categorization of museums and institutes' initiatives to develop a digital archive of artists' interviews to create a digital learning environment. Through the study of ten existing projects, topics related to accessibility, interactivity, and material delivery were identified. Answers to the criteria would be:

1. Most of the examined digital libraries can work as an online educational environment. Users have free public access to multiple contents without any advanced technical knowledge and can share and download the material for future use. Their learning-centric structure gives the ability for users to study wherever and whenever they want. Most of them adapt to the user's requirements by permitting any cognitive and visual impairments, such as adjusting the text size or increasing the font size. Half of the digital archives are still active, giving up to date material and access to various content types from articles, videos, and interviews to design their learning pathway.

2. Most well-known institutions have managed to identify the growing need to create a more personal and intense experience to better captivate their project's purpose through an engaging and interactive context. From the technological

perspective, most digital archives dedicated to artists use video interviews as the primary medium of information with transcripts. According to the Social Science Research Network, since 65% of people are visual learners, one of the best ways to drive the message home is through visual content. (Bradford, 2011) Video content is engaging, educational, and consumable. Interviews add tremendously to the studies, as they provide a vast amount of direct information about the projects' purpose. In these cases, the artist's storytelling, with a short informative video, can keep the users engaged with the context and work as an excellent means of educational transmission. Most of the museum's archives focus on artwork from their permanent collection to enhance users' intuitive and natural curiosity. The specific artworks hide their captivating history behind the display glass, with the video explanation giving a more personal connection between the user to the object and its story. In some cases, the transcript is available upon request. The use of transcripts can help the user follow along or quickly pull out the interview's useful point (Powell, 2018). Users with disabling hearing loss or temporarily hard-of-hearing due to noisy environments can visually understand the information presented without hearing the audio information (Deacon, 2019). Captions and transcripts broaden the video's reach and make the video content accessible to all the users since the video's content. Most digital libraries are made available to the general public, with few being private, and share their content only upon request. Digital libraries should promote remote and instant access to educational content without restrictions.

4. Research Methodology

This part of the thesis includes the study's research process, the steps for creating the study, the participants, and the data collection methodology. Next, the evaluation techniques are explained, followed by the documentation of the procedure.

4.1 Process

The research procedure starts by studying the theoretical background and review of existing archives to examine previous research and study existing digital platforms dedicated to artists' studios. Based on the examined platforms' identified limitations and strengths, the review worked as a foundation stone to develop this study's digital platform to provide innovative and educational possibilities. The second stage includes the creation of the platform and the collection of the content. During this period, one artist's studio was digitally documented with advanced imaging technologies. The digital data was curated and classified, and at the end, it was uploaded to the platform. In the third stage, once the platform was completed, two groups of participants were evaluated with multiple evaluation methods. The first group of participants included different kinds of possible users with a central connecting point in their art and humanities background. Participants had semi-structured interviews and had the opportunity to interact with the digital library while they were observed. The results offered constructive feedback about the library's interactive elements and showed the importance of the project. Moving to the fourth step, the platform applied the feedback and proceeded to the second part of the evaluation. In the second part of the evaluation, the fifth stage, the procedure was focused only on art educators. The aim was to see how the platform can be used as a creative resource for teaching. Through focus groups, twenty art educators gave insights, suggestions, and recommendations on how effective the platform is for education. In the sixth stage, the data were analyzed to understand how the platform can work as an educational environment for different needs and how the interactive features make the content more engaging with conclusions. The following table (Table 2) shows the research process of the study in steps.

Table 2: Research process of the study

Steps of research	Research	Method
Step 1: Theoretical background	Study the digital documentation of art with digital libraries/archives and how they can work as an educational platform	Research and Literature review
Step 2: Creation and material collection of the platform	Collect all the necessary data to complete the first artist entry on the platform	Digital Documentation of the artist's studio
Step 3: First evaluation of the prototype	Test and evaluate the platform to see how successfully the platform works	Qualitative methodologies: semi-structured interviews, observations
Step 4: Results of the first evaluation and implementation of changes	Study the results and find ways to advance the platform	Apply the changes in the evaluation to improve the platform
Step 5: Second evaluation of the prototype	Evaluate the platform to see how the platform works as an educational tool	Mixed methodologies: focus groups and questionnaires
Step 6: Analyse the data	Work and study the data extracted from the evaluation	Study the results and find ways to advance the platform

4.2 Creating the platform

The thesis is based on the digital library for Cypriot Artists' Studio, an online repository capturing artists' philosophy and attitude towards materiality, process, concept, legacy, and conservation. The library was created for the purposes of this master thesis at the Cyprus Institute. It utilized the institute's expertise and state-of-the-art imaging and computation technologies to document and study the artist's studio. The library's interactive features allow users to digitally explore the artists' studio, listen, and watch personal audio documents and interviews of the artist and study. Specifically, the platform offers the following advanced interactive features:

Virtual Tour: An essential element of the platform is the artist's studio's interactive virtual tour. The user has the opportunity to view the studios in full panoramic 360° views– see the artist and explore the environments in which they create. The studio's documentation with a 360° panoramic viewer provides a higher than a regular resolution to zoom into an incredible level of detail and explore all the studio objects. The panoramic experience offers a wealth of exploration and investigation opportunities, as it can enable users to tap on different objects around the studio (from artworks to paintbrushes) and read or hear a descriptive text about the specific item. In that case, a pop-up window appears, giving a high-resolution photograph of the object and its details (size, medium, dimensions). The panoramic viewer can support various audio record features, deep zoom, and generally additional information such as links to essays and other links.

Video interview: High-resolution video documentation used to document the whole interview and the tour of the studio. This will help the viewer experience firsthand the studio's atmosphere and notice things that would not be available to see through a single shot picture. Moreover, through a high-resolution video, the viewer will meet the artist more organically, rather than a worldly description, as one will both hear and see the artist.

The creation of the platform followed the following steps:

1. Creation of the platform: The platform was created with the help of the Cyprus Institute's technical specialist, Avgoustinos Avgousti, using the Drupal 8 content management system. Drupal provided easy content authoring, reliable performance, and excellent security for the content of the library. Every artist's entry is supported by metadata that describes and provides information about their profile, such as personal details, type of art, and movement (Figures 19, 20). The platform uses the Schema.org metadata standard to make the digital data machine-understandable and establish a common understanding of the metadata meanings. Link to the platform: http://artiststudios.cyi.ac.cy/

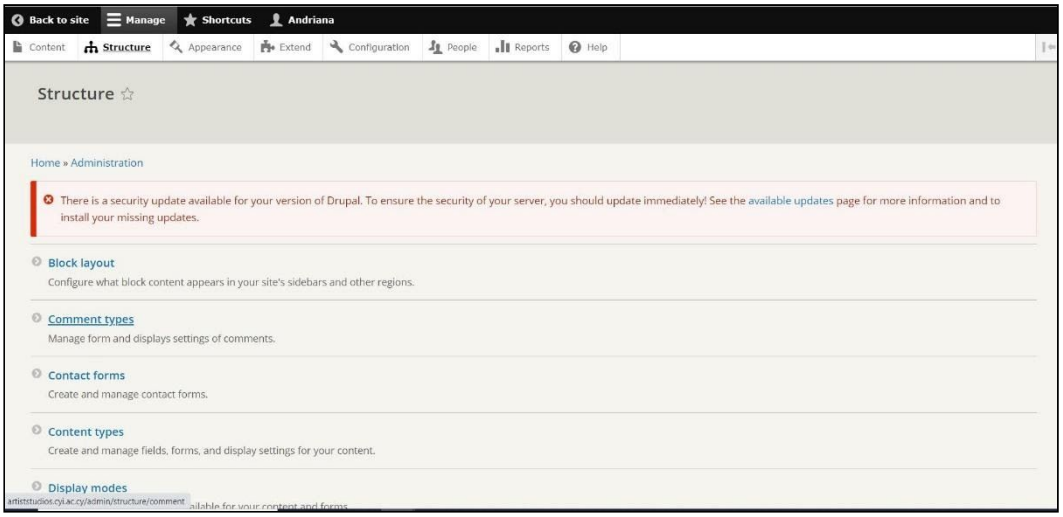

Figure 19: Technical preparation of the platform

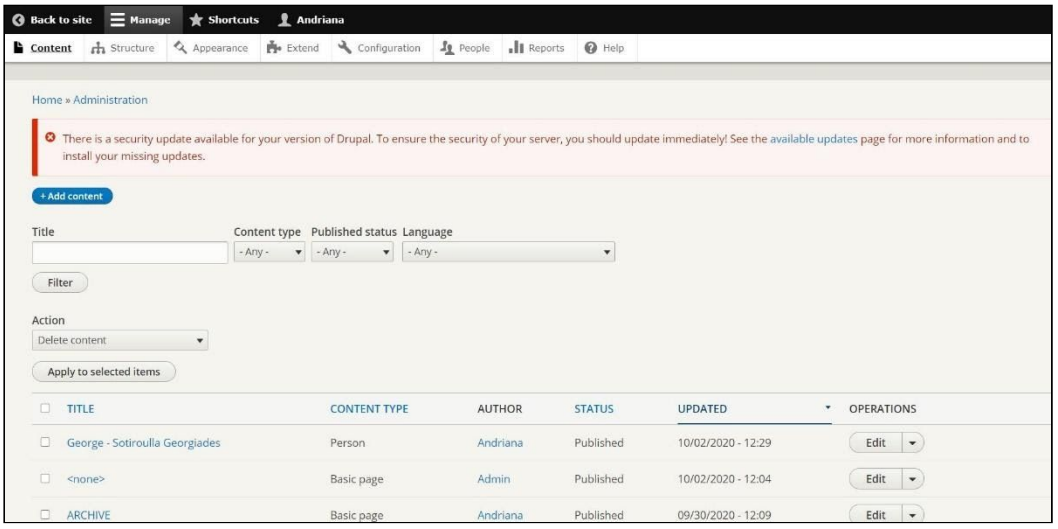

Figure 20: Technical preparation of the platform

2. Data collection: the data collection was the most time-consuming part of this stage as I was responsible for taking care of the organization, structure, and deliverable of the documentation. The selected artist for the first entry was the potter Giorgos Georgiades, an expert in glazed pottery using traditional methods from Lapithos, the most well-known area in Cyprus with the oldest tradition in glazed ceramics. Giorgos Georgiades is considered one of the few potters in Cyprus who still uses traditional techniques to make pottery. In his studio, you can find various pottery tools, materials, and objects that make his workplace a bank of knowledge about traditional pottery making of Cyprus. His work is considered very important for Cyprus's contemporary cultural heritage and art

history, making the documentation of his studio and work very important. After selecting the artist, I got in touch with him months in advance to arrange our meetings and communicate about the visitor's needs. I created factual background information about the artist and his practice to be prepared for the interview. The studio visit flowed naturally and efficiently since I had a rich knowledge about the artist. Through literature research, I gathered all the necessary information for the first visit to discuss the documentation plan with the artist. The studio documentation process took three months to be completed, including the video recording and the panoramic documentation. (Figures 21, 22) (see Appendix J)

Figure 21: Data collection / documentation for the platform

Figure 22: Data collection / documentation for the platform

3. Upload the data: For the final stage, the digital data was curated, edited, and approved by the artist. (Figures 23, 24) Then it was uploaded to the repository, finalized and reviewed, and was ready for publication. (Figures 25, 26) (see Appendix K)

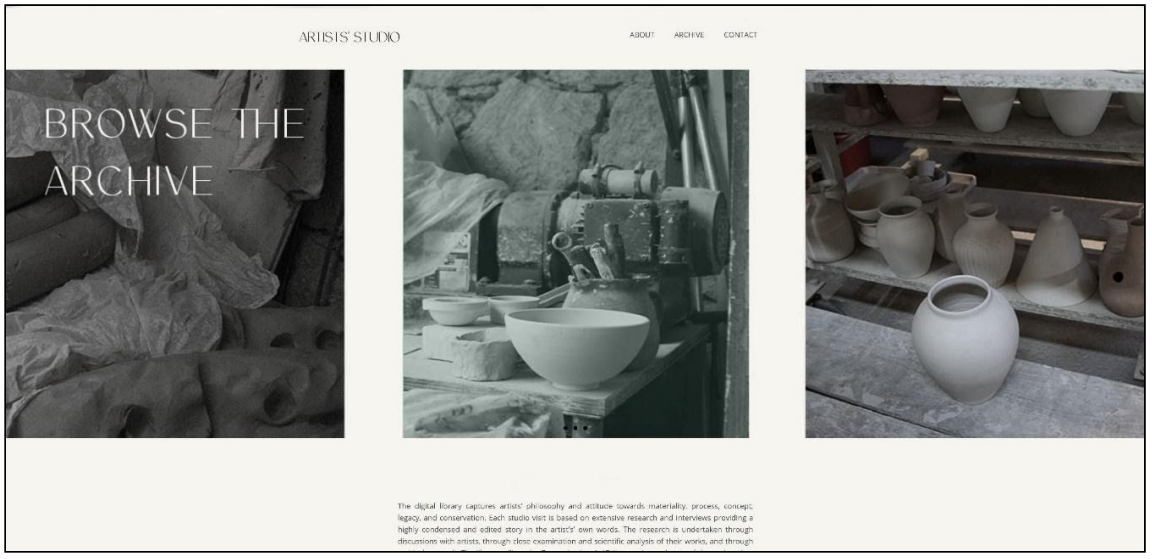

Figure 23: Screenshots from the artists' studio platform

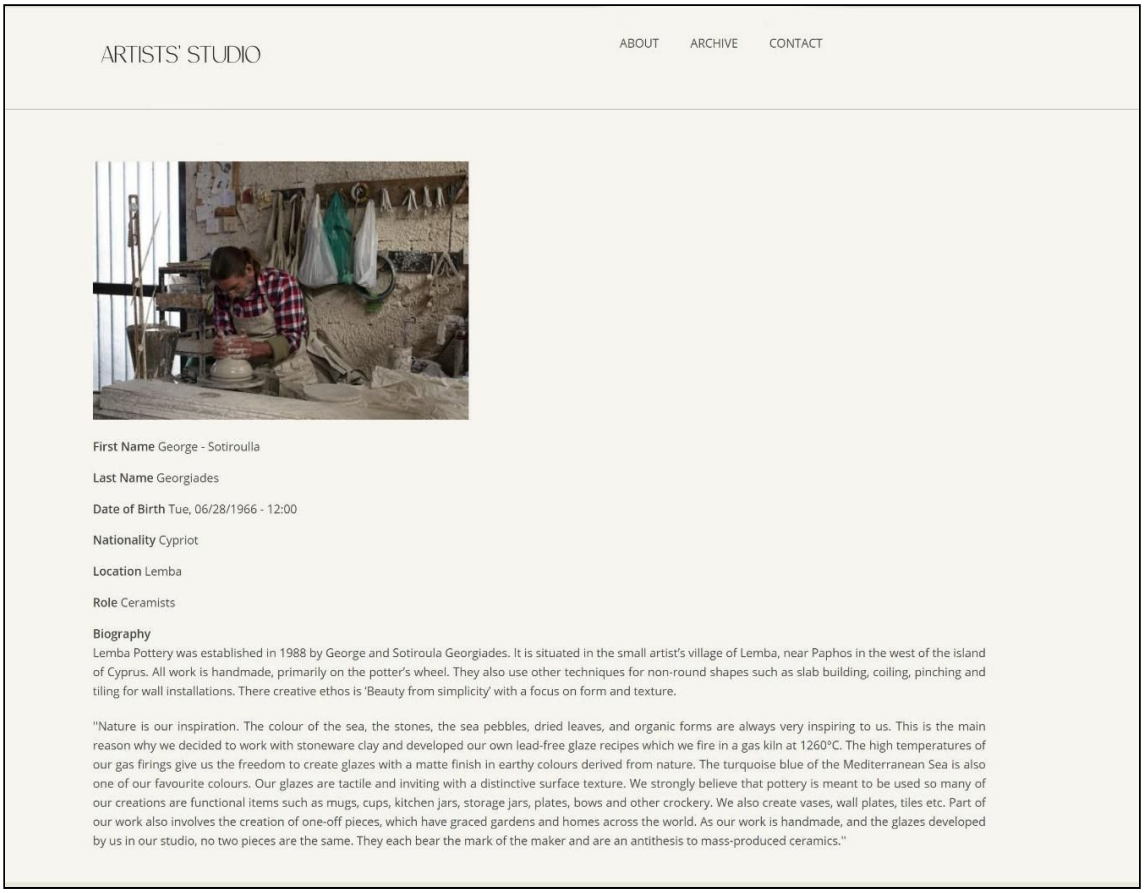

Figure 24: Screenshots from the artists' studio platform

Figure 25: Stills from the artist's interview video

Figure 26: Stills from the panoramic viewer

4.3 Participants

The study's evaluation process was conducted in two parts, with the first part including a smaller group of participants and the second a larger group.

The first evaluation part aimed to target a wide range of six possible users interested in using the platform for professional or personal use regarding age, educational level, and age. The group included a museum staff responsible for educational activities, a cultural heritage teacher, an art historian, an artist, a Ph.D. student in Digital cultural heritage, and a person interested in art as a hobby. Participants took part in semi-structured interviews related to the platform's concept and were observed while interacting with the platform.

The second part of the evaluation was conducted with twenty art educators from different disciplines, such as art teachers and cultural heritage professors. Participants took part in focus groups and filled a questionnaire related to the educational possibilities of the platform.

All participants took part in the study voluntarily. In the following table (Table 3), the profile of every participant is explained in detail.

Table 3: Participants of the study

Evaluation Part / Group	Evaluation Methods	Number of Participants	Participants
First	Semi-structured Interview, Observations	6	- Museum staff responsible for educational activities -Cultural Heritage Teacher -Art Historian (Academian) -Artist -Digital Cultural Heritage Ph.D. -A user interested in art as a hobby
Second	Focus groups, Questionnaire	20	-Art educators (art and cultural heritage teachers)

4.4 Data collection

The research of the study aims to explore how the platform of Cypriot artists' studios can work as an educational platform for learning and at the same time how the interactive content of the platform can boost the engagement of the users. The study shared four evaluation methods to acquire the most appropriate data for the research questions:

1. Semi-structured interviews based on the digital library concept to collect data on individuals' personal experiences to see how people perceive the platform's importance.

2. Observations of the participants while interacting with the platform as a method for detailed investigation of individuals' perspectives and behavior.

3. Focus groups with a larger group of participants focused on education to collect information through discussions with different educational views and

4. An online questionnaire to confirm the previous method's results and provide a general overview of the evaluation results.

The first step of the evaluation was to approach all the participants, inform them about the study, and ask their permission. I got in touch with every participant through telephone and email communication to discuss the thesis and arrange our meeting. During our first communication, I explained why their input is essential for the study and how their feedback can improve the platform. Due to Covid-19 safety measures, all the data collection was conducted online, through the telecommunication application of Skype. The procedure of every method is explained further:

Semi-structured interviews: The study conducted six semi-structured interviews with the first group of participants. (see Appendix C) The talk included general introduction questions about the participant's background, followed by questions focused on the importance of an artist's documentation regarding their experience and field.

Observations: The second evaluation method used for this study was the participants' observation. During their interaction with the platform, participants were observed to study and recognize patterns in their behavior. Observations lasted for approximately twenty minutes. Since the meeting was held online, the level of difficulty to observe the participant appropriately and demonstrate the platform at the same time was higher. For this reason, a second observer was necessary to watch the meeting simultaneously and write notes that later were studied to confirm my observations. The observations' main focus was to see how participants interact with the library's interactive elements and get feedback on how the library can be adjusted to their professional and personal needs. Since all the participants from the first group come from different backgrounds, observations showed how many times specific interactions occurred and how people perceive the platform's functionalities.

Focus group: Focus groups were conducted in the second group of participants, the educators, to provide more in-depth insights from an educational point of view and to draw upon their attitudes, beliefs, and experiences. (see Appendix D) Since every

educator has his/her approach to educational delivery methods, focus groups helped gather all the different perspectives.

Questionnaire: The fourth evaluation method was to provide a questionnaire to the second group of participants after the focus groups shared their thoughts about their experience with the platform. The questionnaire used closed questions to collect data. (see Appendix E)

4.5 Procedure

4.5.1 First Part of Evaluation

Methods used: (online) semi-structured interviews, (online) observations

Participants: six possible users (artist, art historian, cultural heritage teacher, a Ph.D. student in digital cultural heritage, museum staff, a user having art as a hobby)

Objectives:

To gain insights:

1. On how aware are people about the need for safeguarding and documenting art methods, techniques, and works
2. On how important people think is the creation of an archive for Cypriot cultural heritage
3. On how people will use the platform for benefiting personal or professional
4. On the interaction between people and the platform
5. On how the platform can be improved and update it
6. On how to make the content of the platform more engaging

Process: Before starting the interviews, participants were sent the Informed Consent Form to sign (see Appendix A) and ask further questions before the interview. The meetings began with some general questions to make the participants more comfortable and relaxed. (Figure 27) The interviews were recorded and transcribed directly after the meeting. After the interview was completed, I demonstrated the platform and its main features in detail. Participants were informed to feel free to ask questions during the

presentation. While I was showing the platform, I took notes and documented participants' actions and behaviors. Once the first group's evaluation was done, the results were examined with the observations and interviews analyzed in thematic analysis to extract the main patterns of interviews. After the results' study, the platform got updated with the feedback of the evaluation.

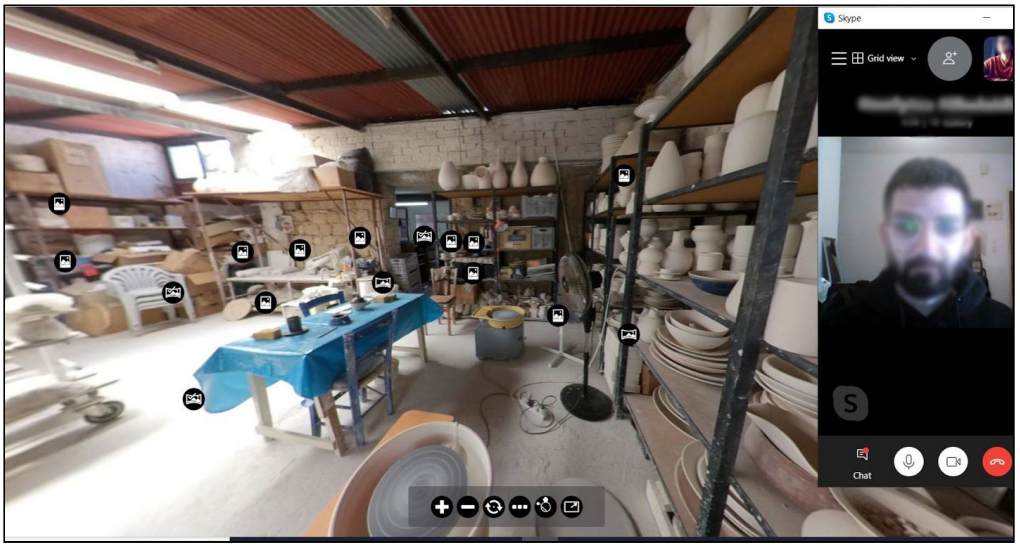

Figure 27: Still from the first part of the evaluation during skype meeting

4.5.2. Second Part of Evaluation:

Methods used: (online) focus groups, questionnaire

Participants: twenty art/cultural heritage educators

Objectives:

To gain insights:

1. About the educational possibilities of the platform
2. On how educators can use the platform
3. On how engaging are the interactive features of the platform
4. On how to make the platform more engaging

Process: Before starting the focus groups, participants were sent the Informed Consent Form to sign (see Appendix B) and ask further questions before the interview. For the last part of the evaluation, twenty educators from the public and private sectors participated in focus groups to evaluate the platform. The group included art teachers and cultural heritage professors engaging in a group conversation. After the focus groups, participants filled a questionnaire for their broad experience with the platform. The online focus groups were organized in four groups with five participants each. (Figure 28) Once the second group's evaluation was done, the results were examined, with the focus groups being transcribed and analyzed in thematic analysis to extract the main patterns of focus groups.

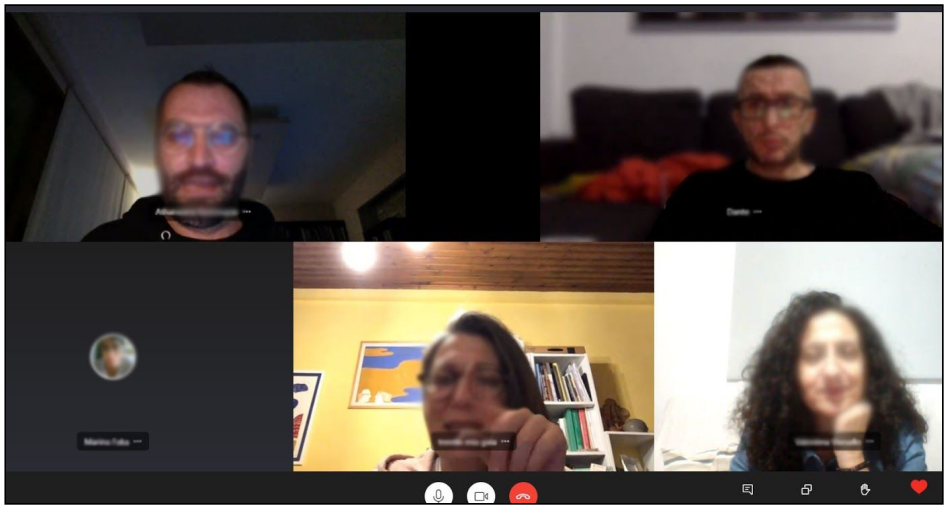

Figure 28: Still from the second part of the evaluation during skype meeting

5. Results from the evaluation

5.1. First Part of Evaluation

Interviews: For the first part of the evaluation, the interviews' results showed how potential users perceived the platform's context and how it can benefit their personal and professional use.

The data were analyzed with thematic analysis to extract similar patterns and insights from the interviews. (see Appendix F) The thematic analysis followed a six-step process:

1. Familiarization: the data got a thorough overview, the audios got transcribed, and some initial notes were gathered to get familiar.
2. Coding: for the second step, the interview answers were organized into "codes" to describe the content. Phrases or sentences that jumped out as relevant and exciting from the interviews were highlighted and were labeled. At the end of the process, I collected all the data into groups identified by code to get a general overview of the expected points and meanings.
3. Generating themes: next, the codes were collected to create ‘themes’ with a broader meaning, with some of the codes combined into a single theme. Some codes were the same as their themes.
4. Reviewing themes: when themes and codes were finished, a general review happened to ensure how everything was labeled correctly.
5. Defining and naming themes: themes were described to define their meaning and how they apply in understanding the data
6. Writing up: at the end, the data was written up to provide the conclusions and results

The thematic analysis of the first interviews showed sixteen codes (Figure 29):

1. Familiarity with DL
2. Professional and personal use
3. Important research tool
4. Part of History and Culture

5. Impact on the community
6. Shaping culture
7. Importance of documentation
8. Important educational tool
9. Preservation of Cypriot art
10. Promotion of Cypriot art
11. Provide insights into Cypriot art
12. Unfamiliarity with DL
13. Motivation to learn
14. Safeguarding the Cypriot art
15. Inspirational
16. User Friendly

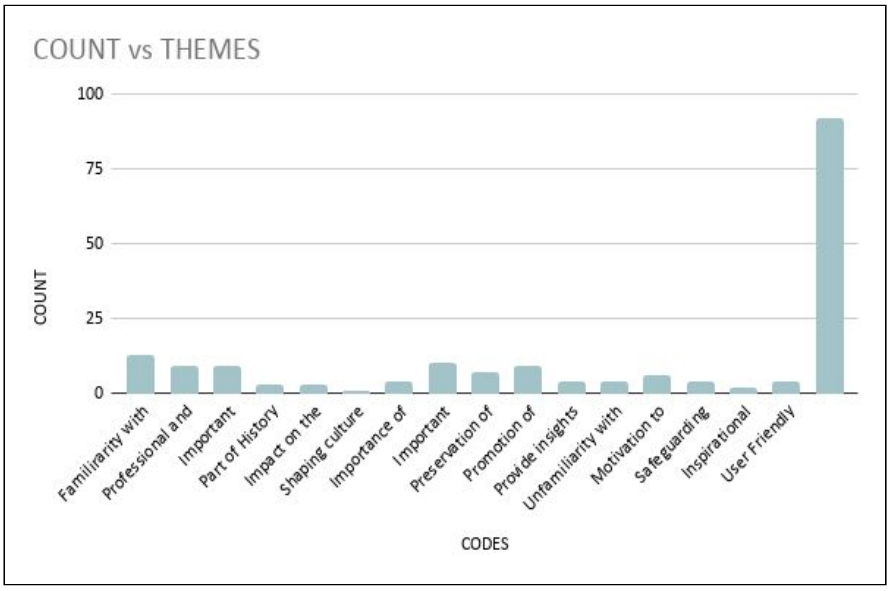

Figure 29: Codes from the thematic analysis of the first part evaluation

The thematic analysis of the first interviews showed six themes (Figure 30):

1. Familiarity with digital libraries
2. Motivation to learn digital resources
3. Recognize the importance of the project
4. Acknowledge the risk
5. Show personal interest
6. Unfamiliarity with digital libraries

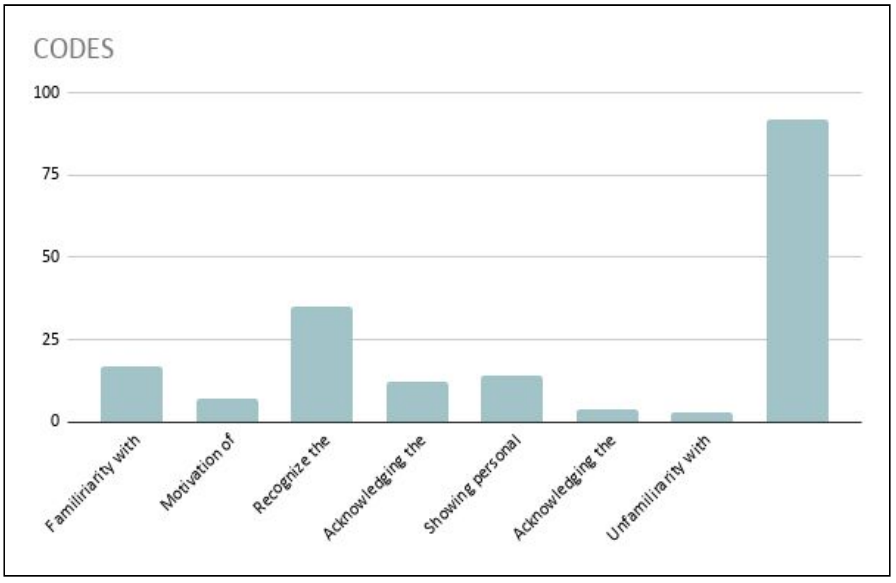

Figure 30: Themes from the thematic analysis of the first part evaluation

Familiarity with digital libraries: The interviews showed how most participants are familiar with digital resources in general. This shows how participants have experience using digital resources, with their results being based on reliable, experienced feedback.

Motivation to learn digital resources: Most participants were familiar with using digital libraries and digital resources in general. Participants who are not aware or do not have any technical knowledge showed interest and motivation to learn how to use it, especially if the platform is user-friendly and well-designed; anyone with internet access can use it.

Recognize the importance of the project: As for the platform's importance as an educational tool, all of them agreed how valuable and necessary the platform will be, not only from an educational perspective but also from a research perspective. Participants called the platform *"great impact on the community"* and a way to *"shape Cyprus's culture."* The creation of the digital library may contribute to preserving artists' traditional techniques and promote knowledge. Traditional methods need to be preserved and documented as an important aspect of our cultural heritage in the island's history of art and intangible cultural heritage.

Some participants mentioned how this initiative will safeguard the local art, which is the need of the moment, and will be an essential part of Cyprus's history and culture. The documentation of these artworks would save it and promote Cypriot art. It will showcase contemporary artists who continue to get inspired by traditional techniques that are slowly dying.

Most participants agreed how the platform would showcase the close and interdependent relationship between artists and their space and give access to their daily experience in their studios. They can also see their work and the tools, inspirations, particular context of their artistic creation and productions.

Overall, they mentioned how the digital documentation would safeguard and promote Cypriot art to a public audience and help the education section during the hard time of Covid-19. Since field trips or other educational trips are limited, students can study and explore the platform's material online without missing important information. Also, students can look back and see what impact those artists have on that community's culture. It can be useful to students interested in the arts to locate people in the community with similar artistic mindsets.

Acknowledge the risk: All of the participants acknowledged the risks of not having the working practice of Cypriot artists documented and how valuable it will be for promoting Cypriot art to the public.

Show personal interest: As of how beneficial it will be for personal and professional use, the interviews revealed how every participant would use the platform differently based on their needs, such as:

- An educational tool for students to learn about a Cypriot artist's working progress and explore the close and interdependent relation between artists and the space they work.
- A foundation for teachers and museum staff to create classes and educational programs related to art history and cultural heritage based on the archive of the platform
- An inspiration for other artists to be introduced to the concept, materiality, and creative thinking of other artists and learn about their practice

- An information resource to study Cypriot art, especially for art historians. According to the participants is a field that lacks information. The opportunity to capture their work and creativity in the context of an artist studio will be an invaluable contribution and in line with recent developments internationally.
- A research tool for underlining the direct relation of an artist's work with their daily artistic experience and production, and this cannot be done well unless it is recorded within the space that is created.

Observations: For the next part of the evaluation, the participants watched a live demonstration of the platform to gain insights from their reaction, behavior, mood, and talk about their first interaction with the platform. The demonstration followed after the interview to make the participants focused on the concept. Since the meetings were online for Covid-19 safety measures, I had to be extra careful to pay attention to the participants and deliver an appropriate demonstration. During the evaluation, I took notes, and another person was sitting next to me, taking notes to confirm the results. The demonstration followed a specific narration of actions, showing first the home page, discussing a bit about the interface and structure followed by the tab "archive" where users can find in the future the completed collection of artists. Then, the profile of the artist was shown to discuss the index card. Participants read the artist's biography, watched the video, and explored the panoramic viewer. In the end, I asked them if they wanted to share their screen and experiment with the panoramic viewer. At the end of every demonstration, I filled a list with every participant's observations, interpretations, and final comments. (see Appendix G) The list helped the study identify the common elements in their first interaction with the platform and find the fundamental corrections that I need to make to proceed with the evaluation.

Most participants had similar patterns of interaction, such as:

- Participants more familiar with technology seemed more relaxed to explore the platform, while the participants with less technological knowledge felt slightly nervous.
- Most of the participants did not ask particular questions about the platform's structure and seemed to follow the demonstration steps easily.
- People coming from an educational and academic background were taking notes.

- Some participants had questions about the archiving process, how the future completed list of artists' entries will be curated, and what factors will be considered for selecting artists.
- All of the participants were excited with the interactive features, commenting on how engaging it is for them.
- Most of the participants characterized the video cinematic with the right balance of information and visual components.
- According to most participants, the artist's index card needs more development about their work, career, life, and work.
- Participants suggested in the future to add academic essays from art historians, archaeologists, and art experts to enrich the artist profile.
- A video transcript is needed for the index card.
- Participants were more concentrated when the panoramic demonstration took place
- Most of them wanted to experiment on their own with the panoramic viewer.
- Most of the participants commented on how confusing was the navigation of the panoramic and how it can be more improved and supported by more multimedia.

After analyzing and interpreting the observations, the feedback is:

Positive points:

- The platform's interface is well designed, giving the participants a good impression to stay longer on the platform, keep their interest, and invite them to take action.
- The navigation of the platform is straightforward and user-friendly. Participants mentioned how easy it is to navigate through the platform and find the principal components.
- The artist's profile is well structured, providing a complete order of information for limited technical knowledge participants.
- Multimedia features of the platform proved to be an excellent and effective delivery method of information to participants. Participants felt intrigued to try, explore, and gain more information from the features.
- The artist's studio's video took very positive feedback, giving a cinematic sense to the participants. The video's duration was sufficient to keep the participant

active; the shots were straightforward, providing the necessary information without talking that might have confused the viewers.

- The panoramic viewer was the highlight of the platform, with most of the participants getting thrilled to test it on their own.
- All participants felt familiar with the platform's content and quickly identified how the content could be applied to their personal/professional interests.

Improvements:

- Starting from the artist's profile, many participants mentioned the lack of written information about his work, career, and life—more written text needed to be added.
- Participants suggested adding a search filter in the future when the list of artists will be longer. The filter will help the users to narrow down their search.
- Specific essays and links to other resources need to be added to make the written part more academic and educational.
- A transcript of the video needs to be added.
- Navigation of the panoramic viewer needs to be simplified.
- More pop-ups need to be added to the panoramic viewer showing more audio, videos, and photos from the studio.
- The pop-ups in the panoramic viewer need to be more visible.

5.1.1. Addressing the feedback from first evaluation

The platform has been updated following the above suggestions and feedback from the first evaluation. Most of the participants mentioned how the navigation of the panoramic viewer needs to be improved. The platform simplified the panoramic viewer for more effective navigation by making the navigation toolbar more visible and rich. The panoramic viewer added more pop-up windows with images and changed the colors for better accessibility and navigation through the artists' studio. (Figures 31, 32) Also, a transcript in the English language has been added to make the video more accessible to the general public. (see Appendix L) The rest of the suggestions, such as enriching the written information by adding academic essays and links, will be implemented in the digital library since it requires in-depth research and study.

Figure 31: Screenshot of ‘Digital Library of Artists’ Studio’ before the implementation of changes

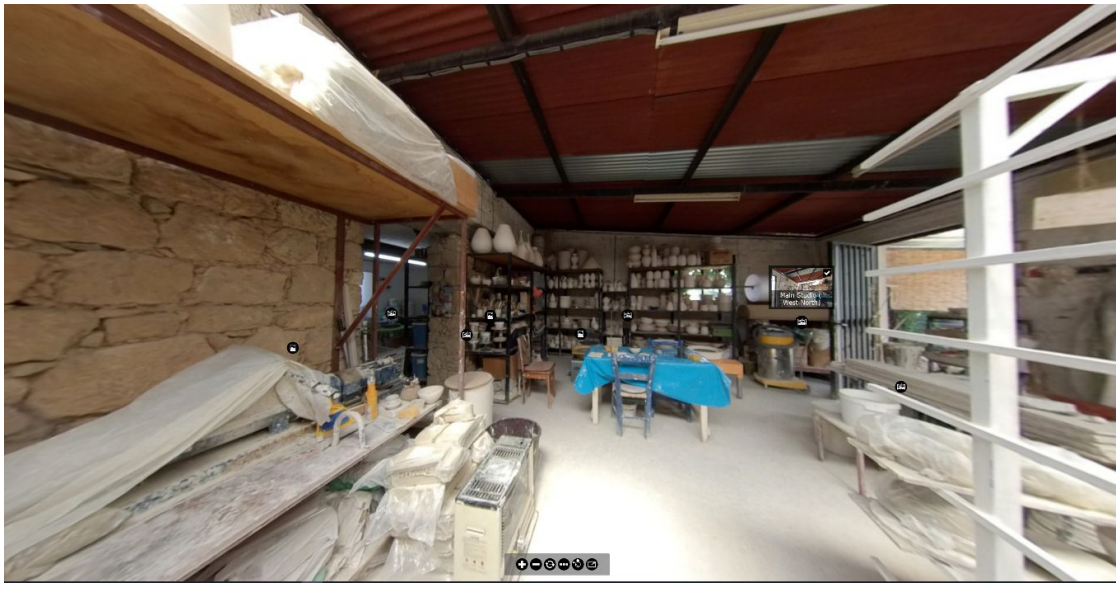

Figure 32: Screenshot of ‘Digital Library of Artists’ Studio’ after the implementation of changes

5.2. Second Part of Evaluation

Focus Groups: The second part of the evaluation aimed to show the platform's updated version with recommendations and changes from the first part of the evaluation. Twenty participants had an online group discussion about their thoughts on how effective interactive digital resources in teaching and how familiar they are with applying them to their class. During the discussion, participants watched an online demonstration of the updated platform. A conversation followed up with the group sharing their first impressions and discussing how the library can help their professional use. The focus groups were analyzed with thematic analysis using the same method described before for both educators. (see Appendix H)

The thematic analysis of the focus showed the following twenty-one codes and ten themes (Figures 33, 34):

Codes:

1. Usability of the platform
2. Familiarity with digital resources during Covid-19
3. Familiarity with Digital Libraries
4. Not familiar with Digital Libraries
5. Physical vs. Digital
6. Students behavior / Engagement with interactive resources
7. School involvement
8. Engagement with interactive resources
9. Familiarity with Digital resources / Use of DR at work
10. Useful educational tool
11. Safeguarding data for future
12. Convenient tool for artist
13. Positive student interaction
14. Practical use of the library
15. Issues to consider
16. Engaging, interactive elements
17. Positive usability/interface
18. Physical and visual engagement
19. Teaching suggestion using DL

20. Suggestion for improvement
21. Practical use of the library
22. Useful educational tool / more in-depth understanding of art
23. Not Use of DR at work/ Interest in doing so

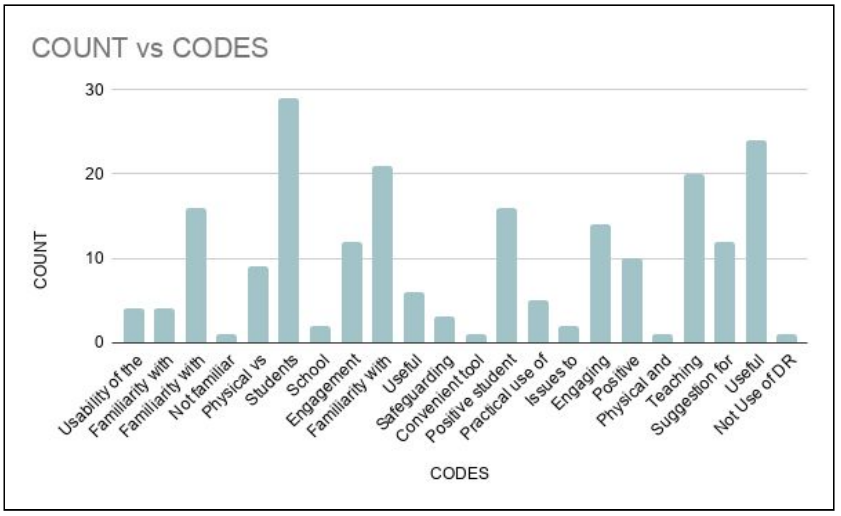

Figure 33: Codes from the thematic analysis of the first part evaluation

Themes:

1. Usability of the platform
2. Covid-19 and digital familiarity
3. Familiarity
4. Physical vs. Digital
5. School involvement
6. Positive Engagement
7. Unfamiliarity
8. Useful educational tool
9. Teaching suggestion
10. Improvement

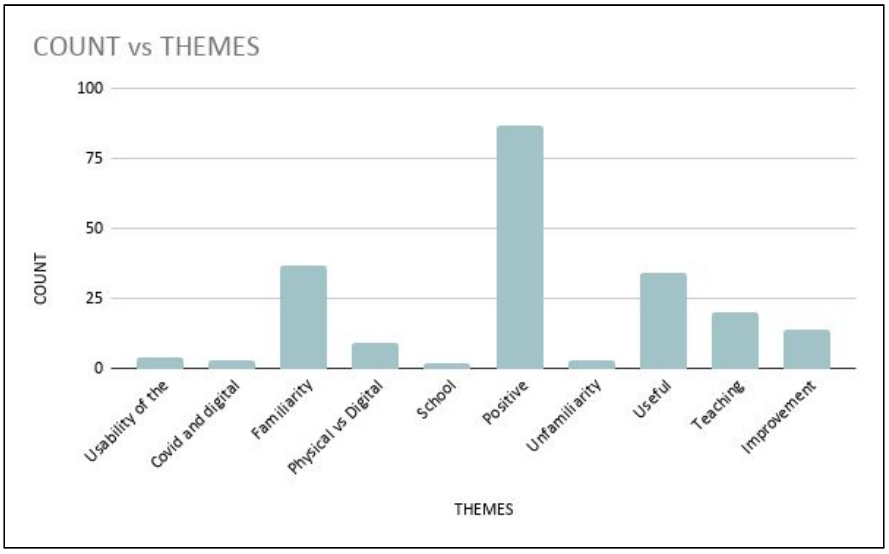

Figure 34: Themes from the thematic analysis of the first part evaluation

Usability of the platform: All of them agreed that the platform is very beneficial for their professional use. It can support the theoretical part of the lesson and enrich students' physical involvement with visual elements. The digital library is the implementation of theory in action. Educators explained how the library would be beneficial to students for:

1. making them aware of the whole creative process of the artist and their inspiration,
2. learning new art techniques and skills
3. study how the studio is a living space for constant creativity and
4. developing their critical thinking in general.

Also, many participants mentioned how this digital library would make their teaching more practical and convenient. If there is inaccessibility in the physical material for any reason, the library can support and replace it.

As for the interactive elements, all educators agreed on how the platform's interactivity would keep their students engaged and focused since they will directly connect to the digital library. The opportunity to explore, get closer to an object, and find on their own the information will make the students excited. "*I felt I was having an exclusive tour and a different perspective of the artist's work. The fact I can decide what to see and*

select a path was very interesting and enhanced my curiosity and willingness to learn and discover". They also agreed on how the interactive elements would engage their students since there is some level of interactivity and familiarize themselves with our programs' general concepts. Some students learn better by hearing or by watching, and it will "*make it more accessible because they can be used in different settings, each fulfilling a different need. It is what makes it more interesting, I believe*".

Covid-19 and digital familiarity: During this challenging period of Covid-19, educators agree how the library can overtake the new educational challenges such as physical limitations. The digital library can be a useful alternative solution to deliver a class since educators can show the artist's space without being physically there. Educators mentioned how, during the difficult time of Covid-19, they could use the library to create alternative lessons. Specifically, one educator planned to visit an artist's workspace, but it had been canceled due to safety measures. "*Personally, I had in my annual planning to bring my students to a working space of artists, but due to Covid-19 is impossible. With this platform, I can still make this idea happen"*" "*Sometimes when you have physical limitations, and now due to Covid-19, we have more limitations than before, this kind of library can be used as a great and helpful educational tool*". This library's content can be used to create a new lesson and not miss the opportunity to work in an artist studio.

Familiarity: Most educators are familiar with using digital libraries and feel comfortable interacting with online resources. Most of them used digital resources during their studies and now are part of their work. They mentioned how familiarity with the digital libraries depends on how easy the usability and accessibility are; the more user-friendly the platform, the easier their interaction will be. Some of them were more familiar with digital resources since their work is involved with digital archives and digital infrastructures. The friendly user interface and navigation is an essential factor that users take into consideration when they select digital resources as well. Educators who are more familiar with digital resources tend to include digital teaching in their professional use and prefer platforms that are more user- friendly and accessible to younger audiences. If the platform is difficult to access with kids, it makes the experience difficult.

Physical vs. Digital: Educators also pointed out the importance of using interactive digital resources as a supporting tool and not to replace the physical material. Again the point of physical vs. digital came up with participants agreeing how it cannot replace the knowledge a student or a user can get with a first-person interaction either with the artist or the artifacts (or ideally both).

School involvement: All participants agreed how interactive digital resources for teaching and learning are quite effective. They also recognize the benefits of such technologies in learning and training activities. According to their answers, digital resources enrich the teaching content, offering new knowledge in attractive ways while stimulating curiosity. First, they recognize how the new generation is 'born digital' and "*it will be tough for them to deal with traditional tools (books, physical libraries…)*". Digital tools can crucially contribute to students' involvement and immersion in the classroom. For this reason, digital sources open the door to interactive new teaching methods. Second, they recognize how most people tend to learn better when they have something presented visually, mainly if there is also a level of interaction with the media.

For the cultural heritage educators, most of their students have background knowledge in humanities. It is always easier for them to understand and see the teaching material's potential by showing interactive digital resources.

Another point was how interactive digital resources need to be applied depending on the subject's content since some topics are keener to be understood better digitally. Digital resources are efficient and necessary, mainly under the present circumstances. All art educators use digital resources to support classes, enrich the topics, and show students online museum collections and information about artists' techniques and artworks. For cultural heritage educators, digital resources are an essential part of their work for studying and dissemination purposes. A good point is how digital resources are quite necessary for Cypriot art educators since exploring prominent museums, workshops, and exhibitions are quite limited in Cyprus.

All of the art educators agreed that when students are not passive readers and feel freer to experiment and express themselves, the lesson's delivery becomes easier. Since both of the interactive elements and the panoramic viewer require the students' participation,

the lesson will become more productive. Most educators agreed that the library's interactive features make the content more engaging, unique, and more memorable than others. According to the educators, most students will feel like playing an online game with the panoramic viewer since they have to discover, explore, and find information by activating objects. Their curiosity about the lesson will increase, and their focus will be more active. "*The panoramic viewer makes the audience pay attention to the exciting points for themselves. So they can always find an interesting point to see and discover in the videos., For those matters mentioned, interactive elements in this digital library engage my audience*".

During our talk, an educator shared his experience with the public schools on how they cannot support advanced technologies or even provide a fast internet connection. Another point related to education that came up is how the digital library needs an internet connection, with many public schools not providing this, making the library inaccessible.

Positive engagement: Most of the educators agreed how the interface is very user-friendly, the structure is simple, and the navigation is accessible, without creating any confusion. Most of the educators characterized the library as "*motivating*" and "*innovative*." Some art educators mentioned how the artist woke up inside them and felt the need to go back to their studios and experiment with materials. "*While I was watching the demonstration not only felt the need to learn how to create ceramics but also how my students can entertainingly learn about the potter*." From an educator's perspective, the interface's simplicity and friendly-tone make them feel safe using it without any technical problem. The educator who is not familiar with technology found the library easy to use without any demonstration or any difficulty. The library's interactive elements got the most attention since most of them agreed on how they felt the need to immerse themselves in the panoramic.

They agreed how the interactive part of the panoramic viewer with the spots to interrogate was the most exciting part of the library. Generally, the first impression was positive, mentioning how it will inspire students and educators to find exciting ways to use it. All the participants agreed how the interactive elements make the digital library innovative and unique since*"you cannot find these kinds of elements in digital libraries*

very often," *"their combination is efficient to keep and foster the users*" interest in learning. These elements can satisfy a large public's needs and interests, not only people who are interested in arts professionally. For the panoramic viewer, educators mentioned that it *"gives a realistic impression of the studio"* and choosing the objects you want to study makes the process more engaging to explore and learn more. You can also look closer at many different items in the artist's studio, "*the pop-up information could explain the different phases of the ceramic production more in detail*." As for the video, some educators empathize with the artists' psychological state since you can discover many personal insights about the artists' work. The footage also let the educators have a bigger picture of the studio as "*I can see the other parts of the room like I am there. In this way, we also do not have to rely on the recorder's biases because it captures all room. We can create a way of watching these interactive interviews according to our perspective*".

Unfamiliarity: Only two participants were unfamiliar with digital resources, but both showed a willingness to develop their technical knowledge and enrich their classroom delivery more with interactive help.

Useful educational tool: The concept of having a digital library showcasing artists' studios found all the participants agreeing how it is not only a great educational tool with a lot of potential but also an excellent research tool. Most of the participants agreed that it is a great opportunity to create many thematic classes based on the library. It covers a wide range of art topics such as art history, art documentation, and creative making. The concept of having insight information provides a better understanding of the artist's way of thinking, the artist's tools and equipment, which are usually not accessible. The digital library will address different senses, hearing, and seeing simultaneously, which helps for an easier and better learning experience. "*Whenever I go to their studios, I feel a deeper connection with their work; I feel like I am investing in something very personal and deep, and I believe that will be a very effective educational tool for students.*"

Teaching suggestions: During the online discussion, educators shared how they can implement the platform in their learning process like:

1. Organize workshops based on the specific artist, or arrange public-private seminars. Also, educators mentioned how they would utilize the library to host workshops about Cypriot art and art history

2. Study the materiality and get inspired by the methods and techniques of the artist with the students. "*(through the panoramic) where you are getting closer to the object that you are interested in, you study it and at the same time explore the materials, have clay and students watch the artist.*" "*I imagine teaching them about clay and pottery in Cyprus, then showing them this interactive studio of an artist; the students will grasp more in-depth information. It will be a plus for the student*". They will also teach the students the ancient ceramic process since modern artisanal ceramic production follows the same procedures and steps as in antiquity.

3. Educators will use the platform for younger age students to create fun activities and use it as an online game. Younger students can use the panoramic as a game to find hidden objects in the studio for a specific task.

4. On a more academic level, educators mentioned the platform as supporting material for lectures. They will use it for remote talks and lectures to talk about Art history, Cypriot Cultural Heritage, and even talk about digital visualization.

5. Also, they mentioned how the library could be used for its content and its technical capabilities. Educators will use the digital library with students interested in 3D visualization to *"show them how they can build up a three-dimensional space and use all the information available."*

Improvement: During the focus groups, participants gave useful feedback to improve the platform in the future. Some suggestions about the interactive elements were:

1. Make the video interview in more languages for the public audience.

2. Create the possibility to tag the video interview and connect the keywords with different ceramists' topics.

3. The user can click on an artifact or an art piece and be able to bring it closer and orbit it as a 3D model. Therefore, the user will get a better glimpse of the actual object, providing a more pleasing feeling and learning.

4. Provide the experience of using the platform on different devices, such as tablets or mobiles. Moreover, the platform can expand the panoramic viewer's possibilities in the future into the development or customization for wearable devices (googles) and the opportunity to download the panoramic.

5. *The opportunity* to make the platform work without an internet connection so it can make the use of the digital library impossible for public school

Online questionnaire: The online questionnaire results verified the educators' positive feedback during the focus groups and gave more insights about their interaction with the platform. (see Appendix I)

The majority gave positive results, with 17 out of 20 stating how they will use the platform frequently, showing how the digital library has many potentials to integrate into the participants' professional use. (Figure 35)

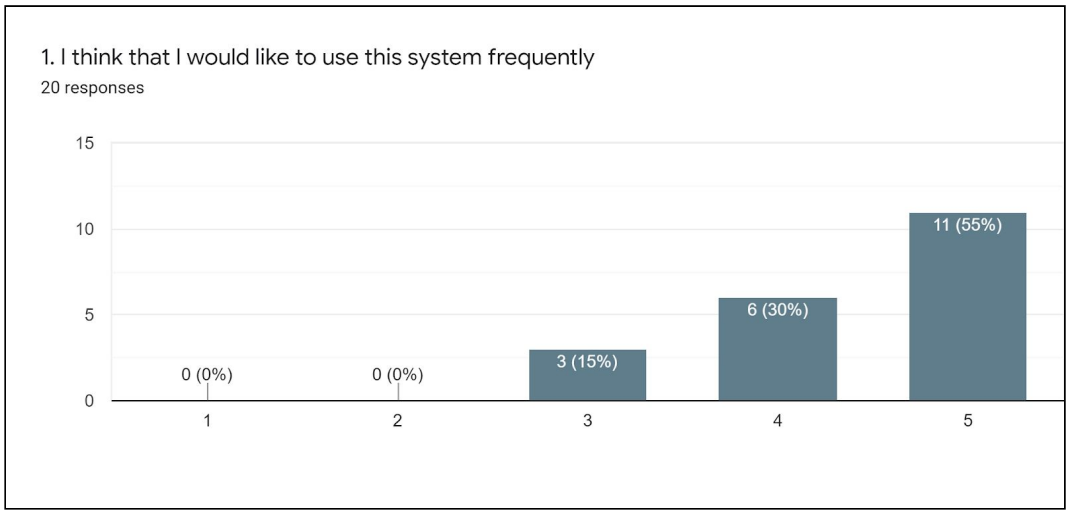

Figure 35: Results showing if participants would like to use the platform frequently

Educators also gave feedback on how accessible and user-friendly the platform is. Most of them agree that the digital library is not complicated and provides an easy navigation system. (Figures 36, 37)

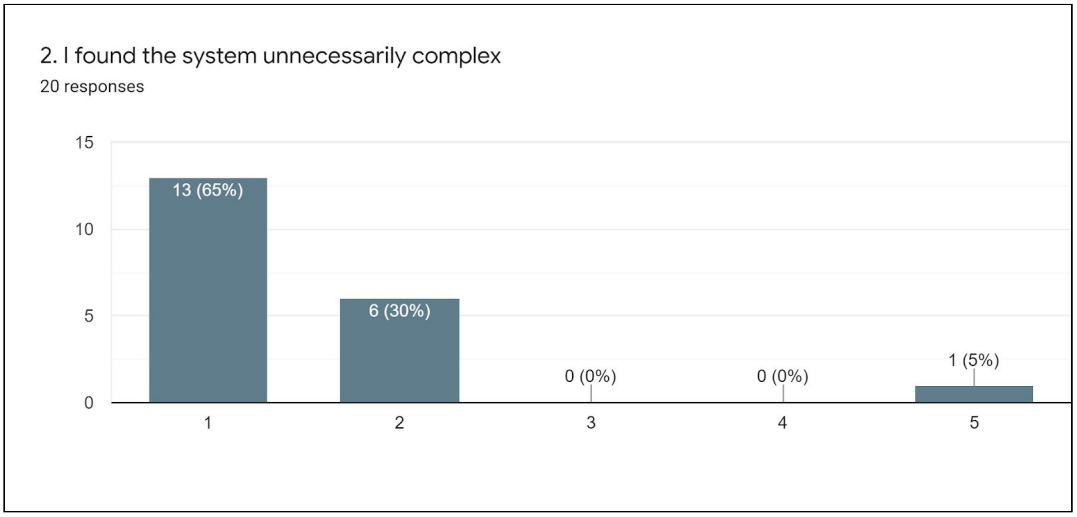

Figure 36: Results showing if participants found the system unnecessarily complex

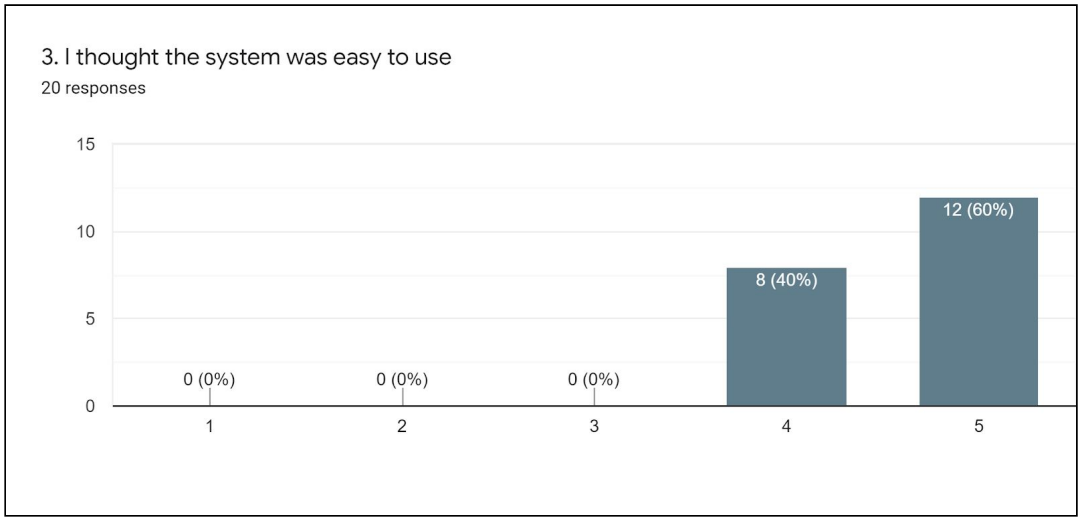

Figure 37: Results showing if participants found the system easy to use

Results also confirmed the focus groups' feedback on how the platform has a friendly user interface and how a technical person's support is unnecessary for learning how to use it. (Figure 38)

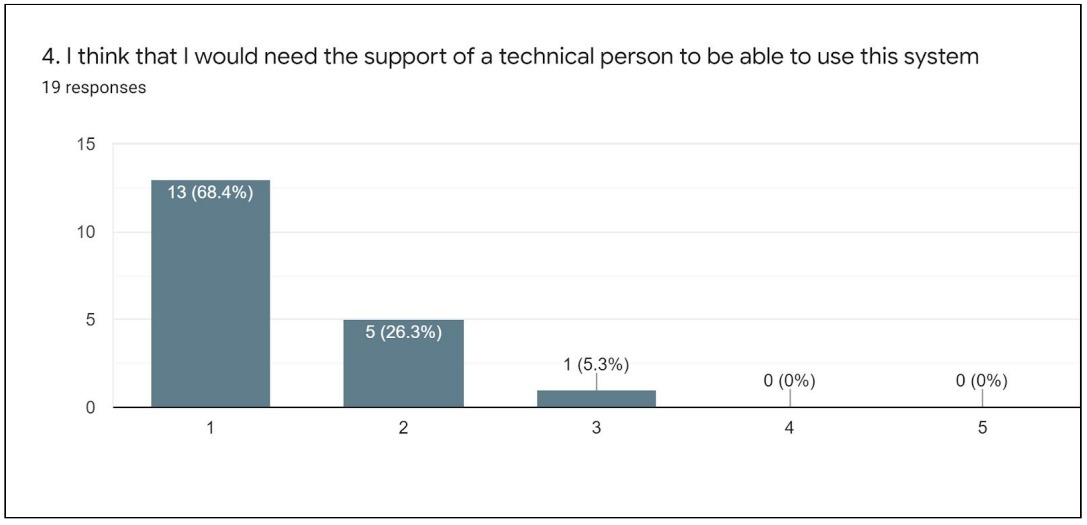

Figure 38: Results showing if participants think the support of a technical person is necessary to use the platform

When educators were asked to give feedback on how the system's various functions are well integrated, most of them gave positive feedback, with only two participants disagreeing with it. The fact that most educators had already technical experience might help. (Figure 39)

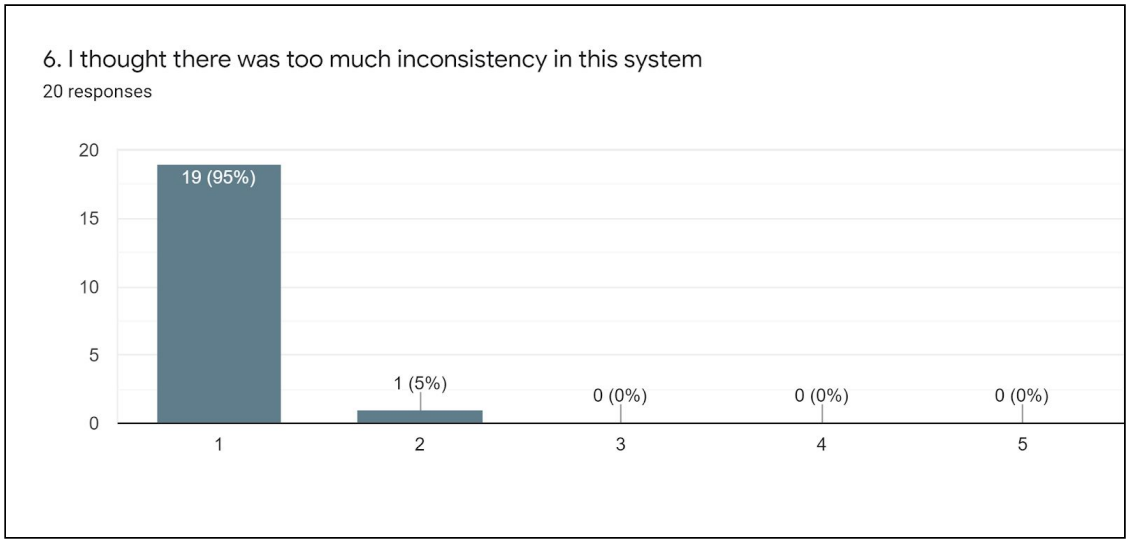

Figure 39: Results showing if participants found the various functions in this system were well-integrated

The platform's content received positive feedback from all the educators, showing no digital platform inconsistency. This can be a result of the fact that there is still not enough material on the platform. (Figure 40)

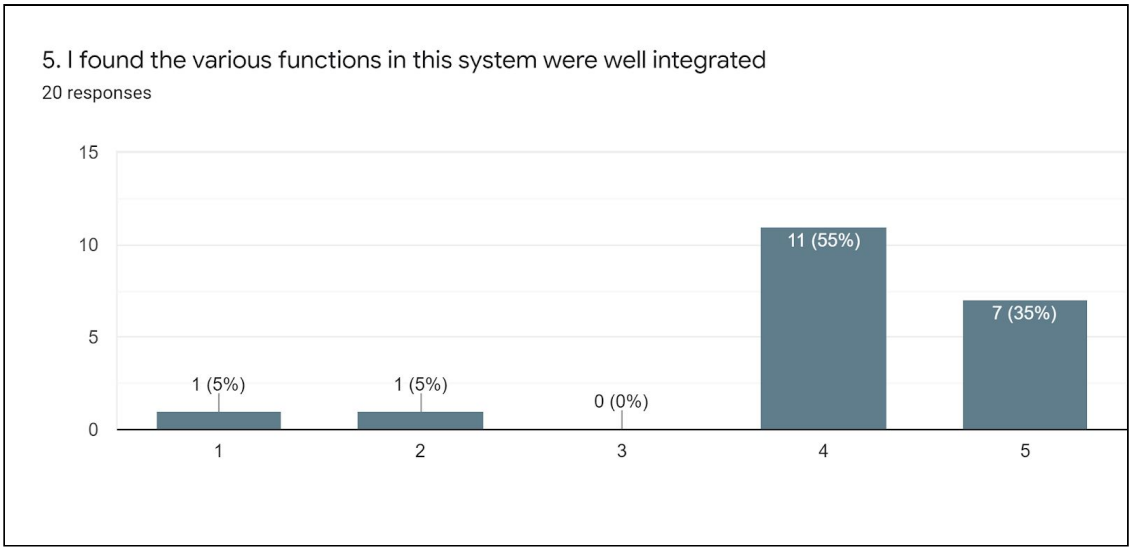

Figure 40: Results showing if participants think there was too much inconsistency in the platform

Adding to the platform's easy usability, educators agree how the platform's system is easy without being cumbersome. (Figures 41, 42)

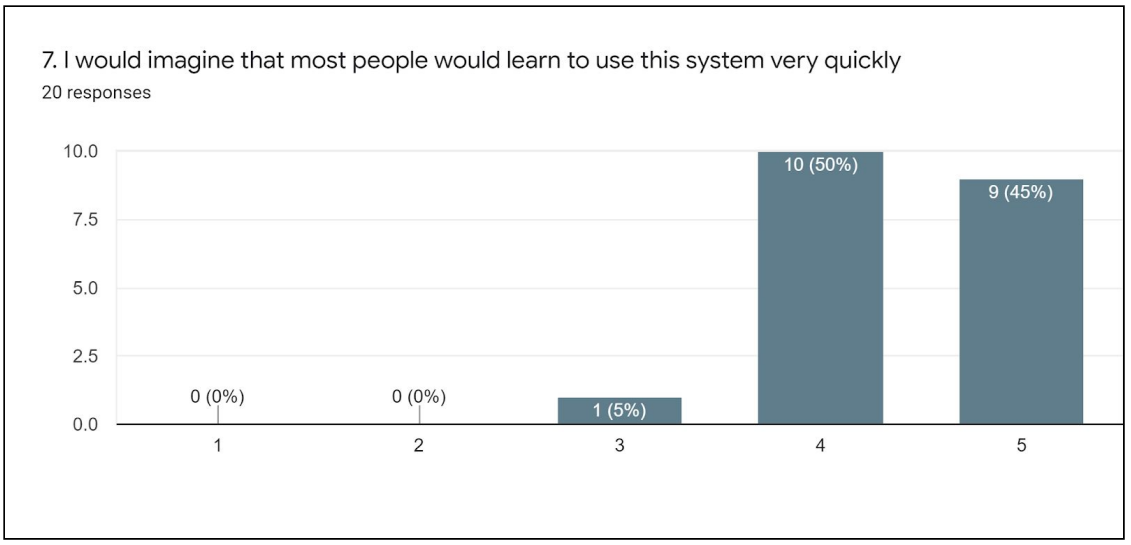

Figure 41: Results showing if participants think people would learn to use this system very quickly

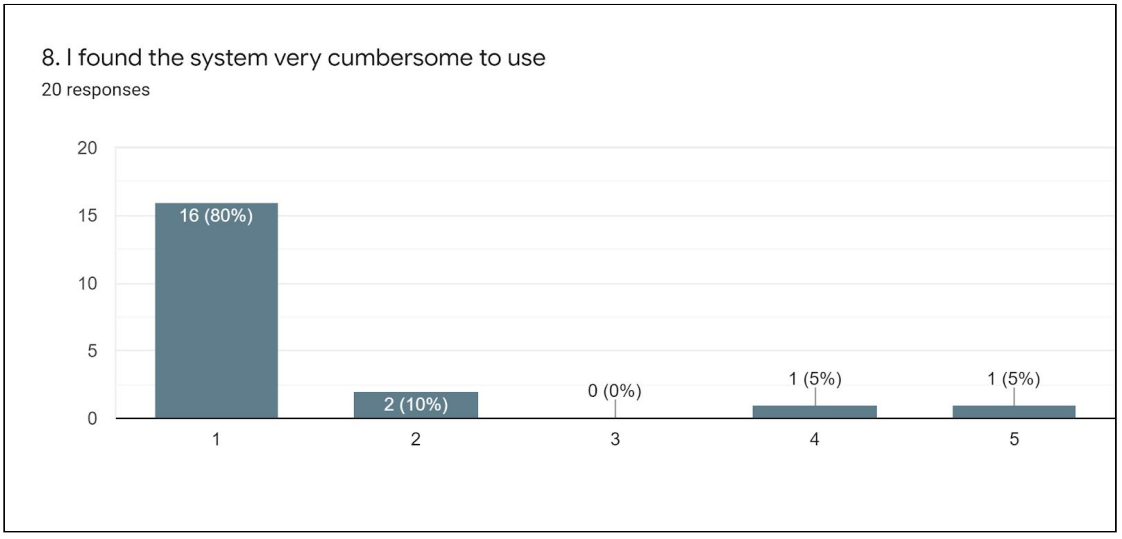

Figure 42: Results showing if participants find the system very cumbersome to use

As to how familiar and confident they are feeling to use the system, most of them replied how they feel able to use the system without a problem and how there is no need to learn many things before using the library. (Figures 43, 44)

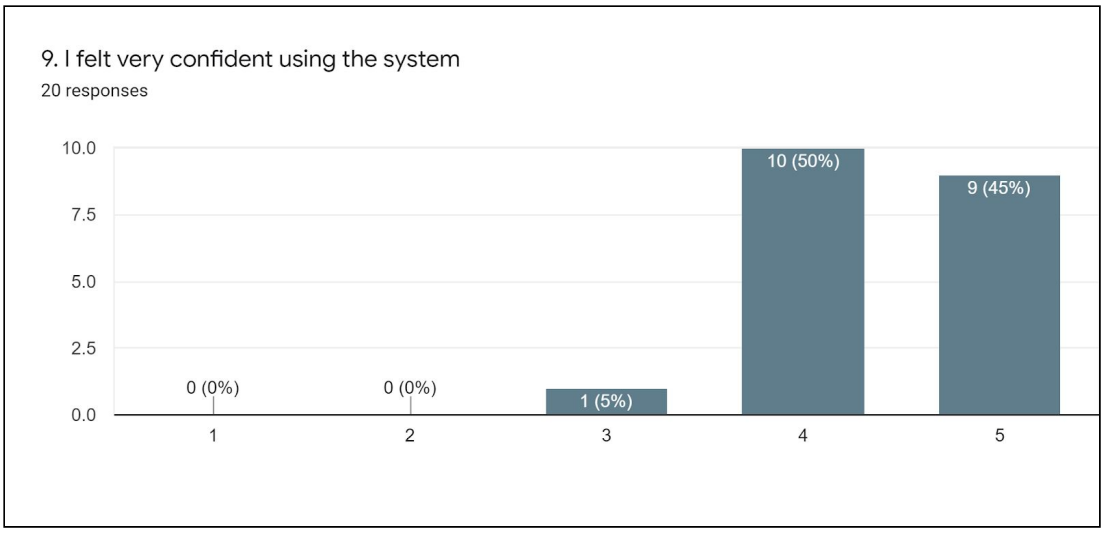

Figure 43: Results showing if participants felt very confident using the platform

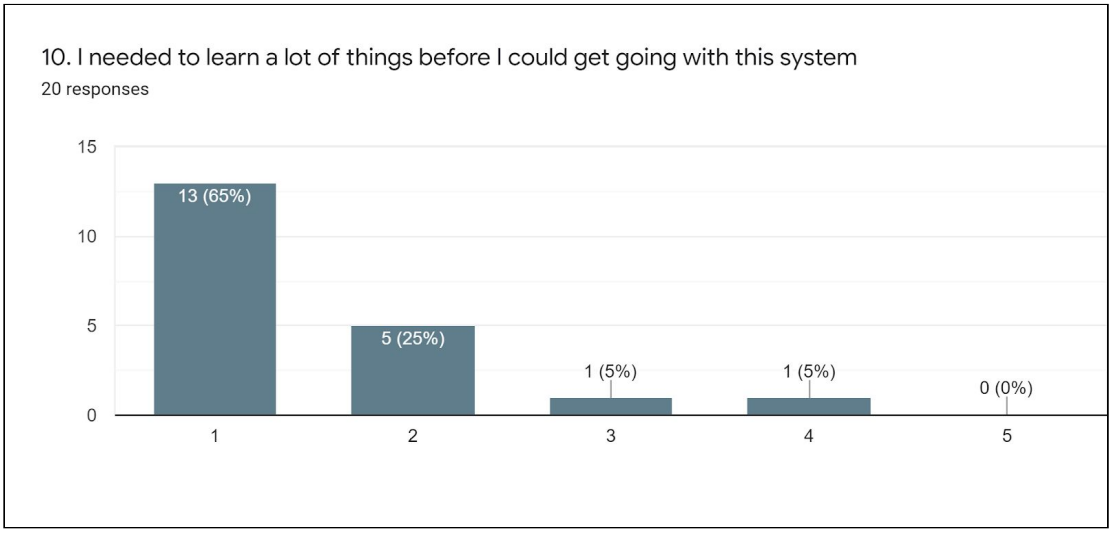

Figure 44: Results showing if participants need to learn many things before they could get going with the platform

5.2.1. Addressing the feedback from second evaluation

The feedback from the second part of the evaluation might not lead to any practical changes in the platform but provided equally essential insights on how participants engage with the platform. Most of the participants agreed on how easy and accessible the system is and how they can interact independently without assistance. This means how users can easily consume information without any advanced technical knowledge or expertise. Although a significant percent felt confident in using the platform's interactive elements, two to three users out of twenty replied how they are not confident to navigate the interactive features. Since the purpose of a well-designed and accessible digital library is to ensure equal remote access to its content in the future, the platform can add extra support and guidance on how to use the interactive platform.

5.3. Summary of the results

The results from both evaluations were positively associated with the study's main research topics related to education and interactivity. The first part of the evaluation confirms how users find the created digital library essential not only for educational purposes but also for safeguarding knowledge related to cultural heritage. The interactivity of the platform made users motivated to explore the content but also feel more familiar with using digital resources. Users from different backgrounds and technical knowledge levels perceived the platform's overall system as very straightforward and user friendly.

As for the second part of the evaluation, which was more focused on the platform's educational possibilities, educators also gave positive feedback. Educators mentioned how the platform worked as a great digital tool during the new Covid-19 confined reality. The platform's technical opportunities can align with students' needs, and creatively offer new teaching methods. The study used the feedback to update the platform with changes related to better accessibility and navigation. For practical and technical reasons, since the platform is in the early stage of creation, not all the suggestions could be delivered. The study will consider the proposed suggestions on enriching the platform's content for future implementation and improvement.

6. Discussion

The last chapter summarizes findings from the evaluation process, the study's limitations, and how the pandemic of Covid-19 affected the study. The contribution of the study and future plans are also explained and discussed.

6.1 Summary of findings

This study's findings provide insights into how a digital library dedicated to artists' studios can work as an interactive educational tool and how this digital library's content can be more adaptable to students' needs. The results gave answers to the main research questions and provided relevant findings in linked topics. Results covered topics such as the relationship between educators and digital resources, the students' approach towards interactive learning, and how the new reality of Covid-19 affects the need for an online library of artists' studios.

From the analysis of data, findings were as follow for the research questions of the study:

A) How can we make the content of the artists' archive more engaging to the users?

The findings gave insights to understand how we can make the content more engaging, with the following topics:

Digital libraries for artists' studios and usability: The digital archives dedicated to artists' studios are almost non-existent, with the published digital archives for artists' studios having multiple accessibility barriers. The majority of the digital archives are not open to the public, requiring users' access through a time-consuming process. Also, language is a vital accessibility barrier since few of them are not in English. Moreover, most of them lack interactivity, presenting static images or limited multimedia, making them passive. By evaluating the platform, educators confirmed the literature review's findings on the accessibility of the existing digital archives to artists' studios. Most of

them did not come across a digital library dedicated to artists' studios before, even though they all found it necessary. Educators are aware of how these barriers prevent students' access to a vast amount of knowledge and do not align with their needs.

Students' needs: One of the most fundamental findings of the study was about the needs of today's students through the perspective of art and cultural heritage educators. Students now are more about the visual delivery of information. Most of the students are digitally raised, spending most of their time in front of a screen, looking for a digital engagement. They are getting more and more familiar with technology every day, with their interests and needs been directed towards visual information. Educators are aware of these needs, and they highly support how the pedagogy needs to align and meet those needs to be more effective. Interactive educational resources make students more curious, captivate their interests, and make them feel more familiar with the educational material. Interactivity not only supports the deliverable but also makes the students more immersed and involved. Students need to feel more engaged in the classroom and have control over how they grasp the knowledge.

Educators' familiarity with digital resources: The use of digital resources in education is positively related to how familiar the educator is with using digital resources. Results showed how most of the educator participants use digital resources not only for professional reasons but also for personal research as well. The majority of educators feel confident to use digital resources and are willing to educate themselves more and integrate digital resources in their classrooms. After demonstrating the digital library, results showed how participants would use the digital library frequently since the content is well integrated, easy to use, and not complicated.

The interactivity of the digital library: The results showed how the interactive elements of the digital library would make the students more engaged in the library context, according to educators. From their experience, when students participate in the lesson, the delivery becomes more straightforward and more creative. According to educators, the library's interactive elements will make the students' curiosity-driven since they will have the control and show much willingness to experiment with it.

Summarizing the findings for this research question, we can clearly say how the artists' studio's content can be more engaging by making the digital library aligned with the

student's needs. The library's interactive elements, such as the panoramic viewer and the video-interview, successfully make the user feel more engaged with the content and feel part of the experience. Educators confirmed how students feel freer to express themselves and experiment with the lesson when they feel more familiar. The interactive elements in the digital library will make them feel familiar and creative. Educators agreed how these features make the library unique provide a fascinating way to introduce artists to the public, learn about their art but also to see in which environment they created their project

The panoramic viewer will allow the students to participate, make their observations, and advance their curiosity and critical thinking. One educator said, "*I can imagine them being excited to open all the active objects in the studio, learn more about them, and try to find connections between tools and equipment in the studio*." Students will be able to control the story and the learning style. Many educators compare the panoramic viewer to a "game" where the users try to find connections between objects and decode and reveal hidden information. "*Students will want to experiment, will keep asking questions like "oh, what is that? How is this working? Can I click on that?*". The interview received positive feedback as well, and educators agree that students will feel part of the tour while watching the video. Seeing other studio details through the video makes the user do not rely on the recorder's biases since it captures all space.

B) How an artists' archive can work as an educational platform?

The study also tried to answer how users can use the digital library of artists' studio as an educational tool, giving insights into the following topics:

Importance of a digital library for artists' studio: Findings through the digital library's evaluation process through educators gave important insights on how important is the creation of a digital library. Educators believe how the platform can promote remote access to educational resources. The platform offers access to an artist's workspace, and students can look at the artist's tools and equipment. "*It would have been exciting to see an artist working in their studio and experience, in a way, the artistic process in motion rather than just explaining it to the students*." Students will benefit from the library's content, learning in-depth about the work of artists, their methods and techniques, and gain insights into the details of how they work and what

inspires them. Educators agreed that the library could offer long term preservation of important art-material of Cypriot art accessible anytime by the public. The only nature of the libraries' research can produce a virtual bank of knowledge for the coming generations.

Educational tool: As on how important they find the digital library as an educational tool, results showed how educators feel very interested in using the digital library in their classrooms. "*Great opportunity to create plenty of lessons based on the archive and use it to prove to students how the process of an artwork is beautiful*." The content will enrich the class delivery adding a supporting story that will bring the students closer to comprehend the artist's work more. The platform promotes knowledge in different art disciplines such as art history, art, and cultural heritage and works as a research tool for their digital familiarity. Students will learn to use simple and easy interactive elements and understand the correct use of technology. Based on that, results showed how educators would use the platform for students interested in 3D digitization to familiarize themselves using digital environments.

Implementation of the digital library in education: One of the most critical findings in evaluating the digital libraries by educators was to see how they can practically implement the digital library in their classrooms, lectures, and deliverables. The majority of educators will use the digital library to teach about an artist's life and work from the archive. Since the first artist in the archive is a ceramist, educators will teach them about clay in Cyprus, techniques, and methods on how Cypriot artists prepare and bake the pottery. Educators who are also working for educational programs will utilize the library to host workshops about Cypriot art and art history since the modern artisanal ceramic production follows the same procedures and steps as in antiquity. Educators will use the digital library with students interested in 3D visualization to "*show them how they can build up a three-dimensional space and use all the information available*."

Summarizing the findings for this research question, we can see how the digital library's nature and content support plenty of educational purposes. Firstly, educators will utilize the library's interactivity to enrich and help their deliverable students by making the teaching material more engaging and approachable to the students' needs. Students will learn more about the process, the materiality, techniques, and artist methods through the panoramic viewer. The panoramic viewer gives the students the control to explore,

discover, and reveal information in the artist's studio that enriches their knowledge about his/her work. Educators will use these interactive elements to host workshops, lectures, and theme-classes related to the artists of the digital library. Students will also be more familiar with digital environments and learn how the digitalization of an object or space can support digital education.

6.2 Limitations

Although the research has reached its aims, there were some unavoidable limitations. Since the thesis was conducted during the COVID-19 outbreak in Cyprus, the study had to follow all the government safety guidelines. The artist's visit was held before the spread of the virus in Cyprus; therefore, it did not affect the documentation. The study's evaluation took place during the pandemic; consequently, the evaluation's preliminary plans had to change. For participants' safety in the study, the interaction had to be virtual. It was challenging to have the interviews and observe participants' behavior through the screen and analyze their first interaction. Also, participants could not test the platform with me physically, which could have affected the results. The next part of the evaluation was supposed to be held in a school, demonstrating the platform to students by creating a lesson plan based on the platform's content. The direct engagement with students would have provided essential insights, but unfortunately, due to Covid-19 safety measures, a school visit was not allowed. Teaching the lesson plan online with the students was also practically impossible due to the school restrictions. The alternative solution was to focus the second part of the evaluation only on educators since it is built for educational purposes. Therefore, the study could not collect feedback directly from students only from the perspective of educators.

The educators' focus groups also had limitations since it was challenging to coordinate twenty participants and arrange skype group calls. Since most of the educators were unfamiliar with each other, most of them preferred to have their cameras off. This did not allow me to see their reaction and behavior during the demonstration. The focus groups were in the English language since participants came from Cyprus, Greece, Italy, and the United Kingdom. Some educators had difficulties speaking in English, making the conversation a bit challenging.

The platform's demonstration was again shown online, with the participants unable to interact physically with the platform. This limited the study's evaluation results not only

because I could not observe the participants but also since the visual interaction was missing, the process was dull.

Lastly, after finishing the evaluation, I realized how evaluating only one artist profile in the platform was also limiting the results. Due to time availability, it was practically impossible to document more artists. Studying a completed archive would have given more data and feedback from the participants.

Despite the above challenges, finding alternative solutions to evaluate the study was very beneficial not only for the study but also for the participants. Participants experienced how to participate in a wholly digital evaluation and get more familiar with the technology.

6.3 Contribution and Future work

Both the analysis of the evaluation and the findings' discussion lead to significant contributions not only in education but also in digital documentation. At first, it contributed to creating a digital library showcasing artists' studios in Cyprus with the primary aim to develop interactive educational possibilities. The study produced a digital library that can offer a digital interactive tour to artists' studios and in-depth information about an artist's creative process through a video.

During the new reality of Covid-19, the library gives alternative solutions and bridges the physical limitations created by the virus. This study's creation offers unique and innovative digital resources for art topics such as art history, fine arts, or crafts. It can be seen as an innovative research tool for the general public. Through the first part of the evaluation, six potential users evaluated the platform giving positive feedback on how users can use this digital library to expand their knowledge.

Next, it contributes to a better understanding of digital resources in schools and the limitations for students and educators. The digital library evaluation from twenty art and cultural heritage educators helped to understand better how educators perceived digital resources, how often they use them, and how familiar they are with implementing them in their classroom. This is a helpful insight to see how developed the educational system in Cyprus is and its ability to support digital resources. The study provides what kind of technology needs the students have now based on the educators' perspective.

Another contribution of the study is to gain an in-depth understanding of educators from public and private sectors in art and cultural heritage interacting with the digital library. Educators gave multiple suggestions on how they can use the platform in their classroom for students. According to their background and their technological skills, they offered creative ideas that can be used by other educators to develop further their educational material.

The digital library's potentiality can be further developed when the digital library will include more artists in the archive. More artists will be added, covering a wide range of disciplines that will make the digital library more accessible and multidisciplinary. Additionally, some limitations that have not been surpassed, such as the library's use without an internet connection or the library's use on different devices such as phones or tablets, will be developed. In the future, the digital library will be evaluated by students to gather insights from the perspective of the other side of users.

6.4. Recommendations for future work

The study identified a range of areas for improvement in education and digital resources based on the findings and conclusions. The recommendations are:

1. Implementation of digital resources in schools: The traditional teaching methods should be more flexible and interactive since the new generation of students is raised with digital technologies. According to R. Buckminster Fuller (n.d.), "If you want to teach people a new way of thinking, do not bother trying to teach them. Instead, give them a tool, the use of which will lead to new ways of thinking". The study's findings highlight how students are very reliable on digital devices and spend much time online chasing the latest digital trends. Schools need to provide students new practical educational tools to explore new ways of learning and thinking. Students can benefit from new ways of retaining information, learning at their own pace, and evolve along with their wants and needs.

2. Equip educators with technology: The findings showed how most educators see the benefits of digital learning in their students' achievements and teaching effectiveness. Also, the majority of educators expressed their willingness to learn

how to use digital resources. The effectiveness of education hinges on the willingness of the educators' willingness to trade tradition for tech. (CIP, 2019) Educators need to immerse themselves in students' needs and proactively adopt technology in their classrooms to archive an excellent and efficient class. The study findings revealed how most educators believe that digital teaching resources can work as a supporting tool and not as a replacement for physical interaction.

3. Schools investment in technology: Public school educators expressed their disappointment for schools' limited investment in digital resources. The use of the digital library in some public schools seemed impossible since they lack fundamental technological supporting instruments such as updated computers and projectors. The world-at-large has radically changed to adopt the technology, and schools need to change along with it. Schools need to invest in the learning process of their students by focusing on the pedagogical transformation. Research (Gifkins, 2015) has shown that audience attention in lectures begins to wane every 10-20 minutes. To counter this drop-off in concentration, Jess Gifkins (2015), a Research Fellow at the Asia-Pacific Centre for the Responsibility to Protect, suggests: "Use a different approach to learning every 15 minutes (which means changing the way students are engaged, rather than changing topics). Active learning promotes recall and deeper understanding of the material, as students are engaging with the content rather than simply listening to it." Schools do not need to invest in the latest technology, but they can invest in the versatile technology students already have. This will help the school meet their needs, encourage their interests, and control how they learn creatively.

4. Digital resources as a supporting tool: two topics that educators very well explained after the interaction with the digital library was the usability of the digital resources. Most educators mentioned how friendly usability and the interactive elements of the digital libraries play an essential role in their familiarity. If the platform's interaction is not easily accessible, educators find it challenging to keep using it. Also, if the material provided is challenging to comprehend, educators will not offer it to students. Since the libraries' nature is accessible anywhere and anytime, they should provide an easy interaction without navigation, interface, or access difficulties.

7. Conclusion

This study created a digital library showcasing artists' studios in Cyprus, with the artists sharing their philosophy behind their work, showing their artistic process, and giving access to their workspace through an interactive panoramic 360° viewer. This results proved how the platform can work as a supportive educational tool for studying the fabrication processes used by Cypriot artists and present the fluidity and diversity of Cypriot Art. Educators found the platform very engaging and efficient to keep and foster the students' interest in learning. The platform can be used to create lessons, seminars, workshops, and lectures based on the digital library's content. During the Covid-19 crisis, the platform can also be used to provide remote learning possibilities.

The results also show how the platform's interactive elements create a digital narrative based on exploring a workplace, such as an artist's studio. Educators believe that it will help the student explore new ways of thinking, encourage them to be autonomous learners promoting their creativity and curiosity about art history and cultural heritage. However, the results proved how many public schools in Cyprus were not able to support digital resources. One of the most critical future plans of this platform is to find alternative ways to challenge this barrier and make it adjustable to any digital circumstances.

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9. Appendix

9.1 Appendix A: Informed Consent Form for Evaluation (Part 1)

Cyprus University of Technology

Cyprus University of Technology
Department of Multimedia and Graphic Arts
Master in Interactive Design

Informed Consent Form - Group 1

Digital library as a digital storyteller: designing an interactive artists' archive for an online learning environment

Andriana Nikolaidou (andriana@idmaster.eu)

Research purpose: The aim of this study is to explore how the digital library of Cypriot Artists studios can work as an educational platform for online learning and if the interactive features of the library make the platform more engaging.

Introduction: The digital library was created for the thesis as an important educational source for the Cypriot culture and safeguard for the art of Cypriot artists. You are invited to participate in the evaluation process of the digital library of Cypriot Artist Studios as a possible user.

Procedure: If you agree to participate in my research, I will conduct an online interview with you at the time of your choice. The interview will involve questions about the importance of art documentation, a demonstration of the platform followed by questions about your experience with the digital platform. During your interaction with the platform, you will be observed in order to study your overall testing.

- The interview should last about 30 minutes.
- With your permission, I will audiotape and take notes during the interview. The recording is to accurately record your participation and will be used for transcription purposes only. If you choose not to be audiotaped, I can take notes instead or I can turn off the recorder at your request at any time.
- The study expects to conduct only one interview, however, follow-ups may be needed for added clarification by mail/phone.

Benefits: As a researcher, the study will be greatly assisted from your participation and input as it is expected to gain knowledge from participants related to education and art fields. You will also take the considerable advantage of experiencing a state-of-the-art resource and contribute to providing the best possible version of the platform.

Risks / Discomfort: Participation in this research does not include any predictable risks of discomfort. We respect your approval and we will not share your personal information with third parties. You are free to decline to answer any questions you don't want or to stop the interview at any time.

Confidentiality: Your study data will be used only for the master thesis' purposes and will be handled as confidentially as possible. Your name will not be associated with any data that is collected during this evaluation session to protect the anonymity of the participants. The collected information data and the original transcripts will be limited to the researcher, supervisor and the examiner of the master thesis. The interview will be transcribed as soon as possible and then they will be destroyed.

Participants' rights: your participation in this research is completely voluntary and may choose to withdraw at any time without any penalty.

Consent: If you wish to participate in this study, please sign and date below. You will be given a copy of this consent form to keep for your records.

I _____ consent to participate in the research conducted by Andriana Nikolaidou and I have understood the nature and purpose of the study. I agree with the statements above and the signature below indicated my consent.

_____ _____

Signature (Participant) Date

_____ _____

Signature (Researcher) Date

Figure A1: Informed Consent Form for the first part of evaluation

9.2 Appendix B: Informed Consent Form for Evaluation (Part 2)

Cyprus University of Technology

Cyprus University of Technology
Department of Multimedia and Graphic Arts
Master in Interactive Design

Informed Consent Form - Group 2

Digital library as a digital storyteller: designing an interactive artists' archive for an online learning environment

Andriana Nikolaidou (andriana@idmaster.eu)

Research purpose: The aim of this study is to explore how the digital library of Cypriot Artists studios can work as an educational platform for online learning and if the interactive features of the library make the platform more engaging.

Introduction: The digital library was created for the thesis as an important educational source for the Cypriot culture and safeguard for the art of Cypriot artists. You are invited to participate in the evaluation process of the digital library of Cypriot Artist Studios as a possible user.

Procedure: If you agree to participate in my research, I will conduct an online focus group with another five educators like you at the time of your choice. The focus group will begin with a demonstration of the platform followed by questions about your experience with the digital platform. During your interaction with the platform, you will be observed in order to study your overall testing.

- The interview should last about 30 minutes.
- With your permission, I will audiotape and take notes during the interview. The recording is to accurately record your participation and will be used for transcription purposes only. If you choose not to be audiotaped, I can take notes instead or I can turn off the recorder at your request at any time.
- The study expects to conduct only one interview, however, follow-ups may be needed for added clarification by mail/phone.

Benefits: As a researcher, the study will be greatly assisted from your participation and input as it is expected to gain knowledge from participants related to education and art fields. You will also take the considerable advantage of experiencing a state-of-the-art resource and contribute to providing the best possible version of the platform.

Risks / Discomfort: Participation in this research does not include any predictable risks of discomfort. We respect your approval and we will not share your personal information with third parties. You are free to decline to answer any questions you don't want or to stop the interview at any time.

Confidentiality: Your study data will be used only for the master thesis' purposes and will be handled as confidentially as possible. Your name will not be associated with any data that is collected during this evaluation session to protect the anonymity of the participants. The collected information data and the original transcripts will be limited to the researcher, supervisor and the examiner of the master thesis. The interview will be transcribed as soon as possible and then they will be destroyed.

Participants' rights: your participation in this research is completely voluntary and may choose to withdraw at any time without any penalty.

Consent: If you wish to participate in this study, please sign and date below. You will be given a copy of this consent form to keep for your records.

I _____ consent to participate in the research conducted by Andriana Nikolaidou and I have understood the nature and purpose of the study. I agree with the statements above and the signature below indicated my consent.

_____ _____

Signature (Participant) Date

_____ _____

Signature (Researcher) Date

Figure B1: Informed Consent Form for the second part of evaluation

9.3 Appendix C: Interview Script for Evaluation (Part 1)

Cyprus University of Technology

Cyprus University of Technology
Department of Multimedia and Graphic Arts
Master in Interactive Design

Evaluation -Group 1

1) Interview

Welcome:

Thank you for agreeing to talk today with me about my master thesis study, and give your input to improve the platform. You have been selected as an evaluation participant for the platform, and your input is very important for the completion of the project. For this reason, I will kindly ask you to be as honest and open as possible to get honest feedback about the study.

You can not fail in any part of the test since there is no right or wrong answer. Please remember that I am not in any way evaluating you. The interview will be pretty informal, and if you get stuck or confused, please don't worry. The study needs to identify problems to develop a better platform.

Before we start, do you have any questions?

[confirm with the participant to record the interview and give the permission form to sign]

Open-ended questions:

1. Could you please introduce yourself?
2. Could you please tell me a few things about your work?
3. How familiar are you with digital libraries/archives?
4. Have you ever used a digital library for personal or professional reasons? Why?
5. Do you think you have adequate knowledge and skills in using a digital library?
6. How would you describe the relationship between your profession with digital resources? Do you use digital resources at your work?
7. Do you believe a digital library showcasing artists' studios and presenting the artist's work and thoughts are useful for safeguarding the history of art in Cyprus? Why?
8. Would there be any value for Cypriot culture to have a digital library with studios of artists? Why?

9. How would this project be relevant to your personal or professional use? Why?
10. How do you think you can utilize this digital library to your advantage? Why?

2) Introduction to the digital library

Would you be willing to look at the digital library?

We will go through the digital library together to demonstrate how the platform works and how all the interactive features work. As we go, you can think aloud and share your thoughts with me. If you get confused or don't understand something, please let me know. Also, if you have something you like, please tell me that as well. As mentioned in the consent form, the study requires the participant to observe the participant's experience to understand the participant's behavior with the platform in a natural context. After the demonstration, I will give you a questionnaire to fill to study your interaction with the platform.

[confirm with the participant to take notes during the demonstration of the platform]

Figure C1: Interview Script for the first part of evaluation

9.4 Appendix D: Interview Script for Evaluation (Part 2)

Cyprus University of Technology

Cyprus University of Technology
Department of Multimedia and Graphic Arts
Master in Interactive Design

Evaluation - Group 2

1) Interview

Welcome:

Thank you for agreeing to talk today with me about my master thesis study, and give your input to improve the platform. You have been selected as an evaluation participant for the platform since your input is very important for completing the project. For this reason, I will kindly ask you to be as open as possible to get honest feedback about the study.

You can not fail in any part of the test since there is no right or wrong answer. Please remember that I am not in any way evaluating you. The discussion will be pretty informal, and if you get stuck or confused, please don't worry. The study needs to identify problems to develop a better platform.

Before we start, do you have any questions?

[confirm with the participant to record the interview and give the permission form to sign]

1) Focus Group

---

1. Could you please introduce yourself?
2. Could you please tell me a few things about your work?
3. Do you think you have adequate knowledge and skills in using a digital library?
4. Do you believe using interactive digital resources for teaching is effective? Why or why not?
5. How would you describe the relationship between your profession with digital resources? Do you use digital resources at your work?
6. Do you believe a digital library showcasing artists' studios and presenting the work and thoughts of the artist can be a useful educational tool? Why?

***** DEMONSTRATION - Introduction to the digital library *****

Would you be willing to look at the digital library?

We will go through the digital library together to demonstrate how the platform works and how all the interactive features work. As we go, you can think aloud and share your thoughts with me. If you get confused or don't understand something, please let me know. Also, if there is something you like, please tell me that as well. After the demonstration, we will carry on with a few more questions. At the end of our conversation, I will send you a questionnaire to fill your interaction with the platform.

[confirm with the participant to take notes during the demonstration of the platform]

7. What are your first impressions of the digital library?
8. Do you believe this digital library can be beneficial for your professional use? How?
9. Is there anything in the platform you would utilize on your daily practice(lessons, tours, educational programs)?
10. What are your thoughts about the interactive elements of the platform(video interview and panoramic viewer)?
11. Do you believe the interactive elements will engage your audience (lessons, tours, educational programs) more? How?

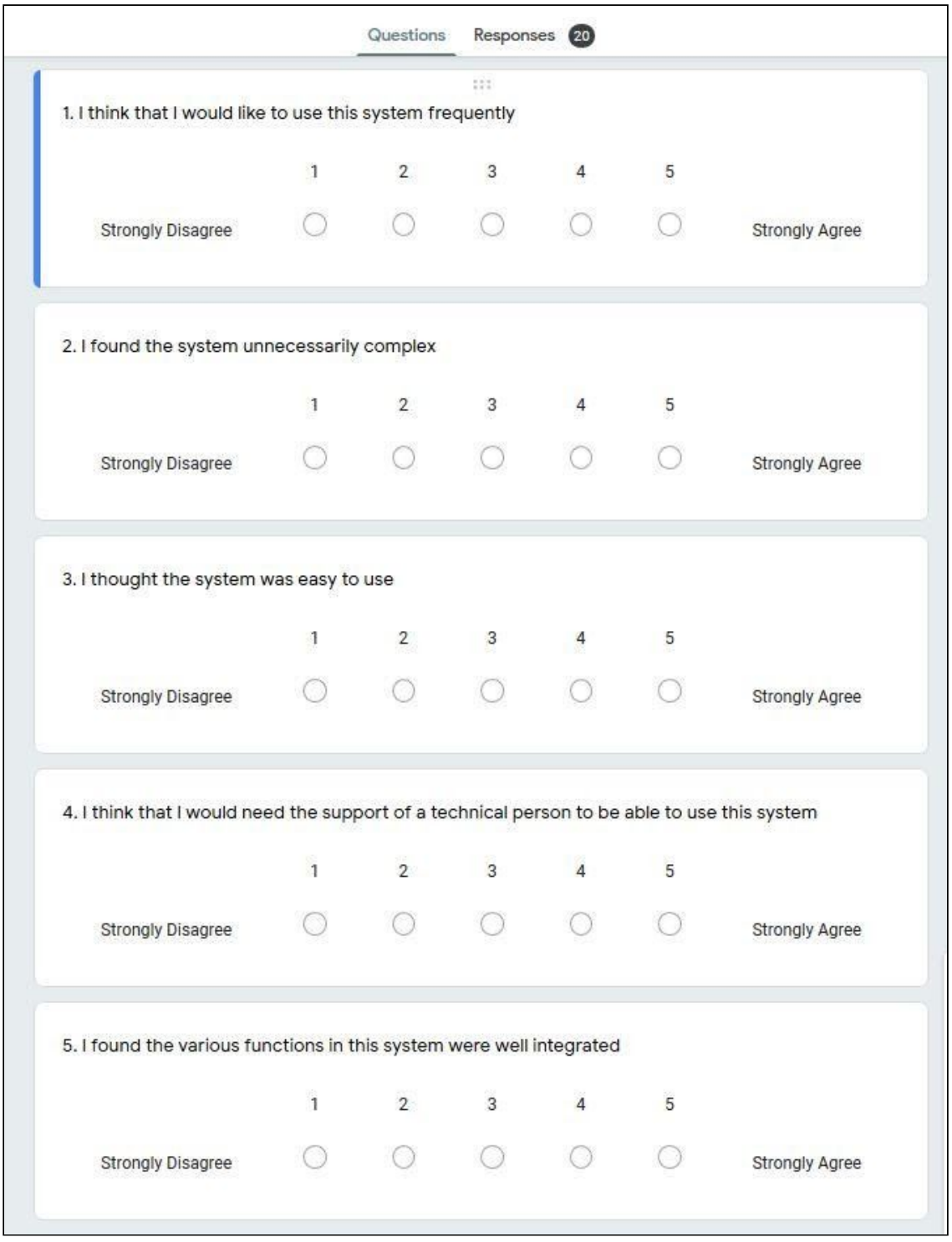
2) Questionnaire

We can now proceed to the questionnaire; please ask for help if you are unsure about them. This is not a test where there are no right or wrong answers- just your own opinions. Please tick the box to the answer, which is closest to your opinion.

[send the questionnaire to the participants]

Figure D1: Interview Script for the second part of evaluation

9.5 Appendix E: Online Questionnaire for Evaluation (Part 2)



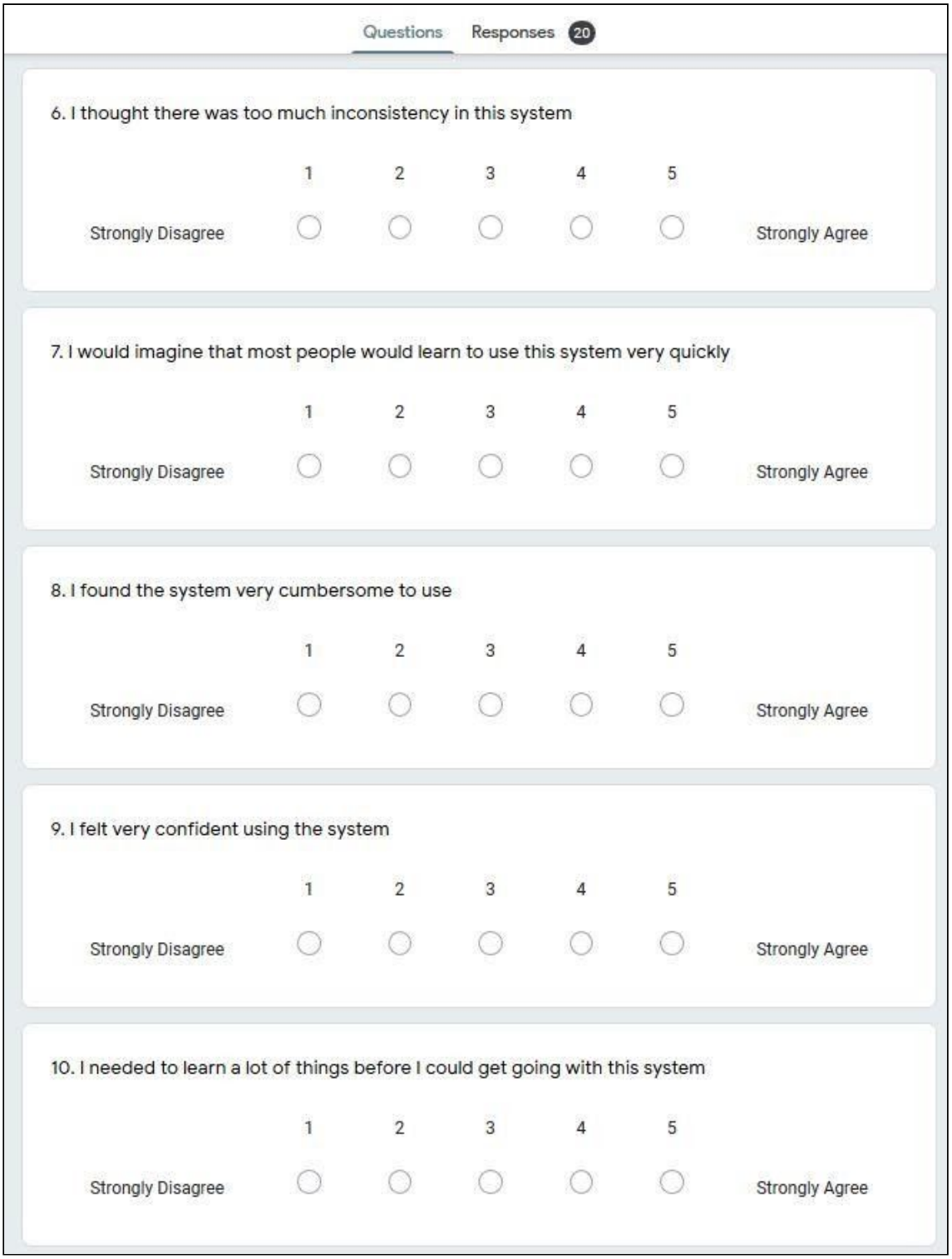
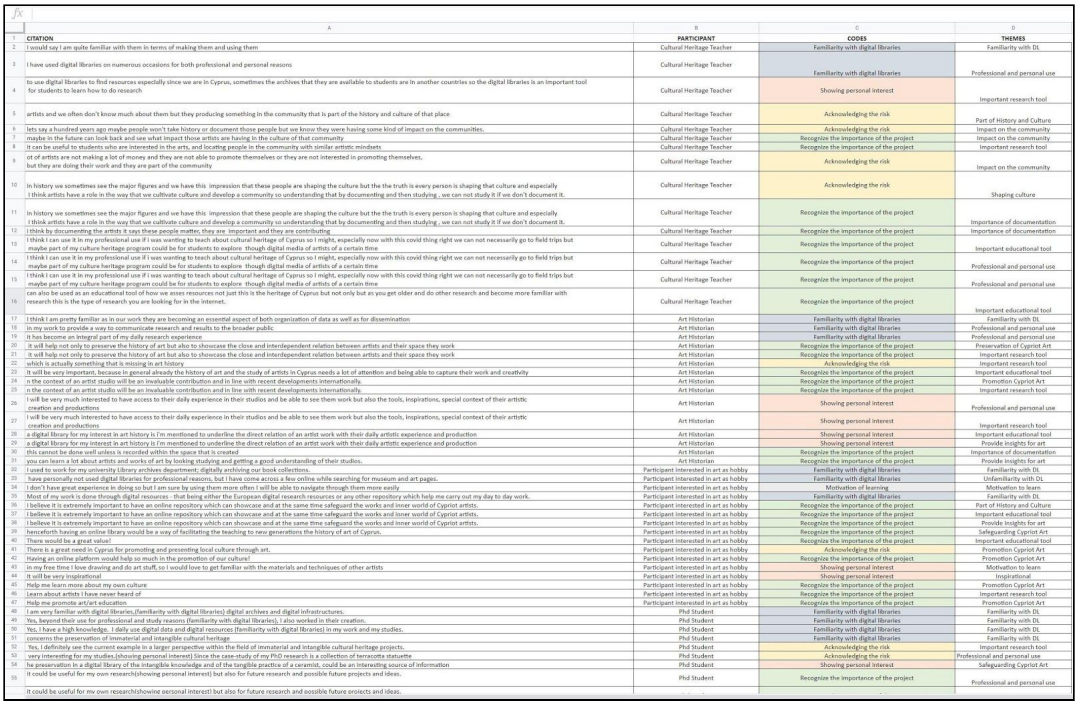


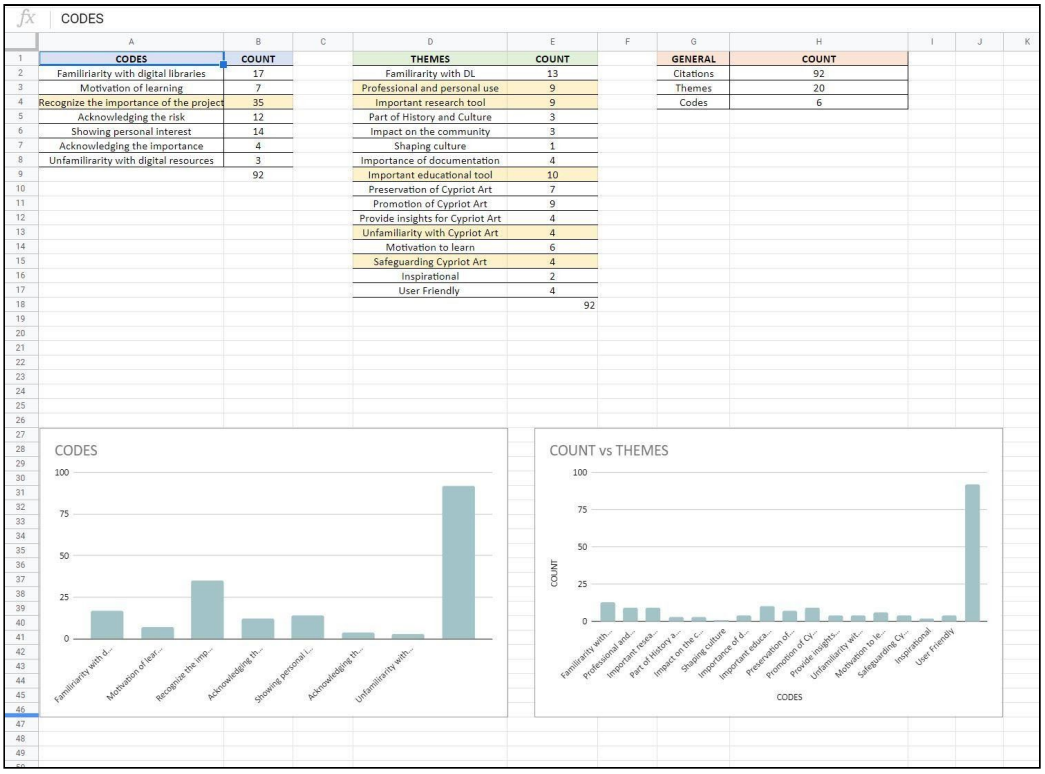
Figure E1: Online questionnaire for the second part of evaluation

9.6 Appendix F: Results for Evaluation (Part 1- Interviews)

Online version available:
https://docs.google.com/spreadsheets/d/1KlDMfh-lSJBTjILvHyhLpzQwplLo90D5iQ4pIqzokuI/edit#gid=1977835889



CITATION	PARTICIPANT	CODES	THEMES
I would say I am quite familiar with them in terms of making them and using them	Cultural Heritage Teacher	Familiarity with digital libraries	Familiarity with DL
I have used digital libraries on numerous occasions for both professional and personal reasons	Cultural Heritage Teacher	Familiarity with digital libraries	Professional and personal use
to use digital libraries to find resources especially since we are in Cyprus, sometimes the archives that they are available to students are in another countries so the digital libraries is an important tool for students to learn how to do research	Cultural Heritage Teacher	Showing personal interest	Important research tool
artists and we often don't know much about them but they producing something in the community that is part of the history and culture of that place	Cultural Heritage Teacher	Acknowledging the risk	Part of History and Culture
lets say a hundred years ago maybe people won't take history or document those people but we know they were having some kind of impact on the communities.	Cultural Heritage Teacher	Acknowledging the risk	Impact on the community
maybe in the future can look back and see what impact those artists are having in the culture of that community	Cultural Heritage Teacher	Recognize the importance of the project	Impact on the community
It can be useful to students who are interested in the arts, and locating people in the community with similar artistic mindsets	Cultural Heritage Teacher	Recognize the importance of the project	Important research tool
ot of artists are not making a lot of money and they are not able to promote themselves or they are not interested in promoting themselves, but they are doing their work and they are part of the community	Cultural Heritage Teacher	Acknowledging the risk	Impact on the community
In history we sometimes see the major figures and we have this impression that these people are shaping the culture but the the truth is every person is shaping that culture and especially t think artists have a role in the way that we cultivate culture and develop a community so understanding that by documenting and then studying , we can not study it if we don't document it.	Cultural Heritage Teacher	Acknowledging the risk	Shaping culture
In history we sometimes see the major figures and we have this impression that these people are shaping the culture but the the truth is every person is shaping that culture and especially t think artists have a role in the way that we cultivate culture and develop a community so understanding that by documenting and then studying , we can not study it if we don't document it.	Cultural Heritage Teacher	Recognize the importance of the project	Importance of documentation
I think by documenting the artists it says these people matter, they are important and they are contributing	Cultural Heritage Teacher	Recognize the importance of the project	Importance of documentation
I think I can use it in my professional use if I was wanting to teach about cultural heritage of Cyprus so I might, especially now with this covid thing right we can not necessarily go to field trips but maybe part of my culture heritage program could be for students to explore though digital media of artists of a certain time	Cultural Heritage Teacher	Recognize the importance of the project	Important educational tool
I think I can use it in my professional use if I was wanting to teach about cultural heritage of Cyprus so I might, especially now with this covid thing right we can not necessarily go to field trips but maybe part of my culture heritage program could be for students to explore though digital media of artists of a certain time	Cultural Heritage Teacher	Recognize the importance of the project	Professional and personal use
I think I can use it in my professional use if I was wanting to teach about cultural heritage of Cyprus so I might, especially now with this covid thing right we can not necessarily go to field trips but maybe part of my culture heritage program could be for students to explore though digital media of artists of a certain time	Cultural Heritage Teacher	Recognize the importance of the project	Professional and personal use
can also be used as an educational tool of how we asses resources not just this is the heritage of Cyprus but not only but as you get older and do other research and become more familiar with research this is the type of research you are looking for in the internet,	Cultural Heritage Teacher	Recognize the importance of the project	Important educational tool
I think I am pretty familiar as in our work they are becoming an essential aspect of both organization of data as well as for dissemination	Art Historian	Familiarity with digital libraries	Familiarity with DL
In my work to provide a way to communicate research and results to the broader public	Art Historian	Familiarity with digital libraries	Professional and personal use
It has become an integral part of my daily research experience	Art Historian	Familiarity with digital libraries	Professional and personal use
It will help not only to preserve the history of art but also to showcase the close and interdependent relation between artists and their space they work	Art Historian	Recognize the importance of the project	Preservation of Cypriot Art
It will help not only to preserve the history of art but also to showcase the close and interdependent relation between artists and their space they work	Art Historian	Recognize the importance of the project	Important research tool
which is actually something that is missing in art history	Art Historian	Acknowledging the risk	Important research tool
It will be very important, because in general already the history of art and the study of artists in Cyprus needs a lot of attention and being able to capture their work and creativity	Art Historian	Recognize the importance of the project	Important educational tool
n the context of an artist studio will be an invaluable contribution and in line with recent developments internationally.	Art Historian	Recognize the importance of the project	Promotion Cypriot Art
n the context of an artist studio will be an invaluable contribution and in line with recent developments internationally.	Art Historian	Recognize the importance of the project	Important research tool
I will be very much interested to have access to their daily experience in their studios and be able to see them work but also the tools, inspirations, special context of their artistic creation and productions.	Art Historian	Showing personal interest	Professional and personal use
I will be very much interested to have access to their daily experience in their studios and be able to see them work but also the tools, inspirations, special context of their artistic creation and productions.	Art Historian	Showing personal interest	Important research tool
a digital library for my interest in art history is I'm mentioned to underline the direct relation of an artist work with their daily artistic experience and production.	Art Historian	Showing personal interest	Important educational tool
a digital library for my interest in art history is I'm mentioned to underline the direct relation of an artist work with their daily artistic experience and production.	Art Historian	Showing personal interest	Provide insights for art
this cannot be done well unless is recorded within the space that is created	Art Historian	Recognize the importance of the project	Importance of documentation
you can learn a lot about artists and works of art by looking studying and getting a good understanding of their studios.	Art Historian	Recognize the importance of the project	Provide insights for art
I used to work for my university Library archives department; digitally archiving our book collections.	Participant interested in art as hobby	Familiarity with digital libraries	Familiarity with DL
have personally not used digital libraries for professional reasons, but I have come across a few online while searching for museum and art pages.	Participant interested in art as hobby	Familiarity with digital libraries	Unfamiliarity with DL
I don't have great experience in doing so but I am sure by using them more often I will be able to navigate through them more easily	Participant interested in art as hobby	Motivation of learning	Motivation to learn
Most of my work is done through digital resources - that being either the European digital research resources or any other repository which help me carry out my day to day work.	Participant interested in art as hobby	Familiarity with digital libraries	Familiarity with DL
I believe it is extremely important to have an online repository which can showcase and at the same time safeguard the works and inner world of Cypriot artists.	Participant interested in art as hobby	Recognize the importance of the project	Part of History and Culture
I believe it is extremely important to have an online repository which can showcase and at the same time safeguard the works and inner world of Cypriot artists.	Participant interested in art as hobby	Recognize the importance of the project	Important educational tool
I believe it is extremely important to have an online repository which can showcase and at the same time safeguard the works and inner world of Cypriot artists.	Participant interested in art as hobby	Recognize the importance of the project	Provide insights for art
henceforth having an online library would be a way of facilitating the teaching to new generations the history of art of Cyprus.	Participant interested in art as hobby	Recognize the importance of the project	Safeguarding Cypriot Art
There would be a great value!	Participant interested in art as hobby	Recognize the importance of the project	Important educational tool
There is a great need in Cyprus for promoting and presenting local culture through art.	Participant interested in art as hobby	Acknowledging the risk	Promotion Cypriot Art
Having an online platform would help so much in the promotion of our cultural	Participant interested in art as hobby	Recognize the importance of the project	Promotion Cypriot Art
In my free time I love drawing and do art stuff, so I would love to get familiar with the materials and techniques of other artists	Participant interested in art as hobby	Showing personal interest	Motivation to learn
It will be very inspirational	Participant interested in art as hobby	Showing personal interest	Inspirational
Help me learn more about my own culture	Participant interested in art as hobby	Recognize the importance of the project	Promotion Cypriot Art
Learn about artists I have never heard of	Participant interested in art as hobby	Recognize the importance of the project	Important research tool
Help me promote art/art education.	Participant interested in art as hobby	Recognize the importance of the project	Promotion Cypriot Art
I am very familiar with digital libraries,(familiarity with digital libraries) digital archives and digital infrastructures.	Phd Student	Familiarity with digital libraries	Familiarity with DL
Yes, beyond their use for professional and study reasons (familiarity with digital libraries), I also worked in their creation.	Phd Student	Familiarity with digital libraries	Familiarity with DL
Yes, I have a high knowledge. I daily use digital data and digital resources (familiarity with digital libraries) in my work and my studies.	Phd Student	Familiarity with digital libraries	Familiarity with DL
concerns the preservation of immaterial and intangible cultural heritage	Phd Student	Familiarity with digital libraries	Familiarity with DL
Yes, I definitely see the current example in a larger perspective within the field of immaterial and intangible cultural heritage projects.	Phd Student	Acknowledging the risk	Important research tool
very interesting for my studies.(showing personal interest) Since the case-study of my PhD research is a collection of terracotta statuette	Phd Student	Acknowledging the risk	Professional and personal use
he preservation in a digital library of the intangible knowledge and of the tangible practice of a ceramist, could be an interesting source of information	Phd Student	Showing personal interest	Safeguarding Cypriot Art
It could be useful for my own research(showing personal interest) but also for future research and possible future projects and ideas.	Phd Student	Recognize the importance of the project	Professional and personal use
It could be useful for my own research(showing personal interest) but also for future research and possible future projects and ideas.			



CODES

CODES	COUNT
Familiriarity with digital libraries	17
Motivation of learning	7
Recognize the importance of the project	35
Acknowledging the risk	12
Showing personal interest	14
Acknowledging the importance	4
Unfamiliriarity with digital resources	3
	92

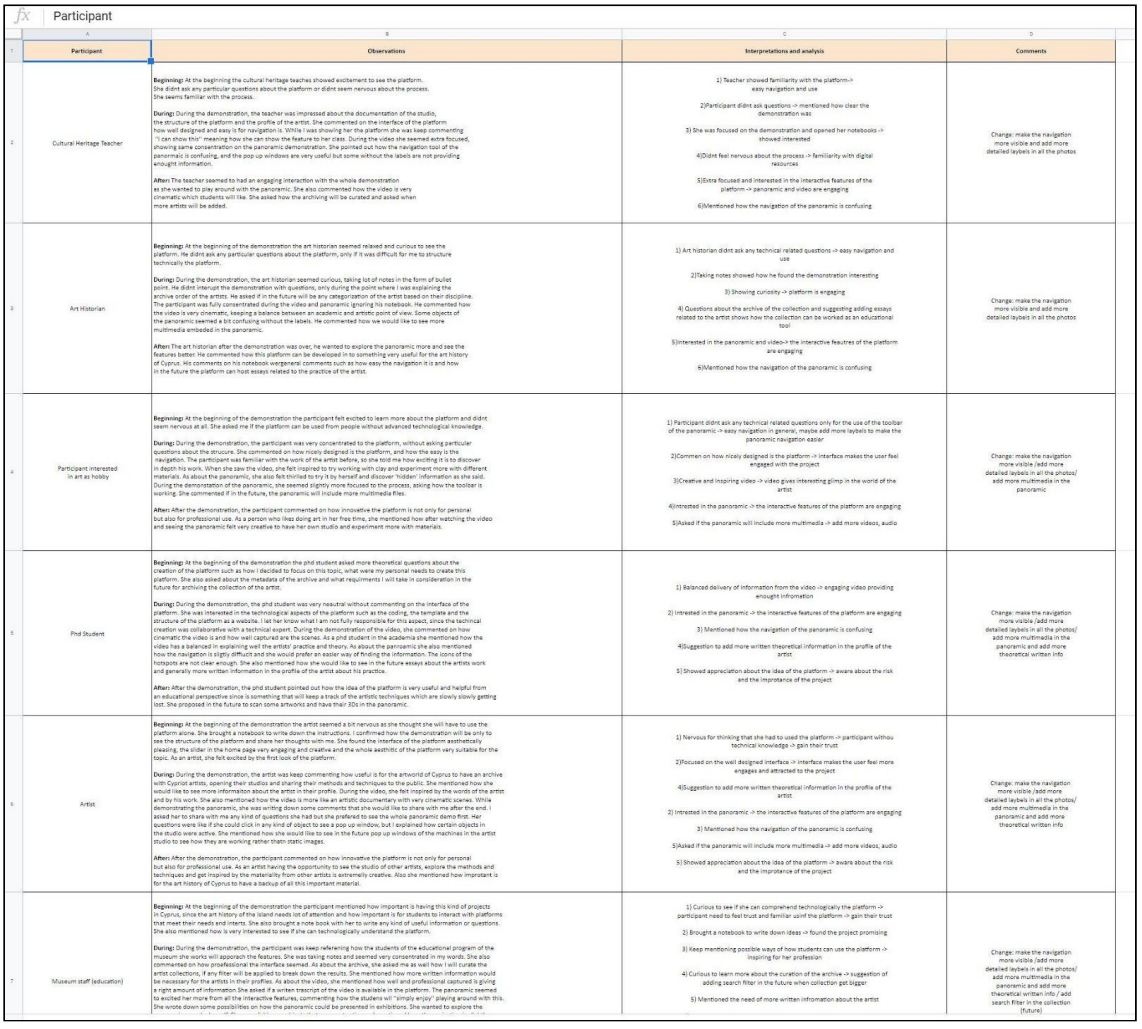
THEMES	COUNT
Familiriarity with DL	13
Professional and personal use	9
Important research tool	9
Part of History and Culture	3
Impact on the community	3
Shaping culture	1
Importance of documentation	4
Important educational tool	10
Preservation of Cypriot Art	7
Promotion of Cypriot Art	9
Provide insights for Cypriot Art	4
Unfamiliarity with Cypriot Art	4
Motivation to learn	6
Safeguarding Cypriot Art	4
Inspirational	2
User Friendly	4
	92

GENERAL	COUNT
Citations	92
Themes	20
Codes	6

Figure F1, F2: Results of the interviews in the first part of evaluation

9.7 Appendix G: Results for Evaluation (Part 1- Observations)

Online version available:
https://docs.google.com/spreadsheets/d/1hnp9U79tI1MBvVY_bbPlWbMXfsIcMvHDBVvI-6K0hOQ/edit#gid=1218446093



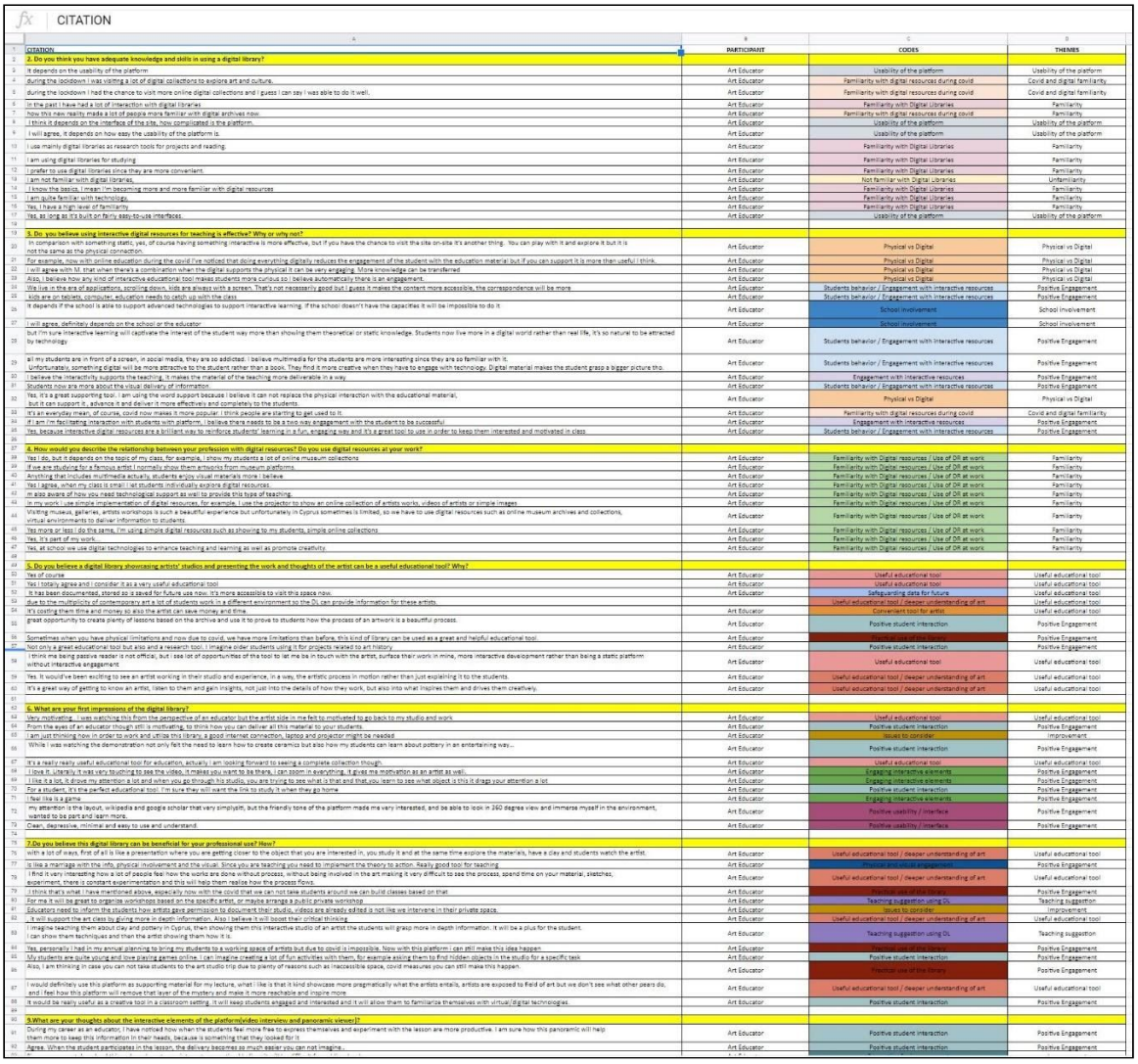
Participant	Observations	Interpretations and analysis	Comments
Cultural Heritage Teacher	**Beginning:** At the beginning the cultural heritage teaches showed excitement to see the platform. She didnt ask any particular questions about the platform or didnt seem nervous about the process. She seems familiar with the process. **During:** During the demonstration, the teacher was impressed about the documentation of the studio, the structure of the platform and the profile of the artist. She commented on the interface of the platform how well designed and easy is for navigation is. While I was showing her the platform she was keep commenting "I can show this" meaning how she can show the feature to her class. During the video she seemed extra focused, showing same consentration on the panoramic demonstration. She pointed out how the navigation tool of the panormaic is confusing, and the pop up windows are very useful but some without the labels are not providing enought information. **After:** The teacher seemed to had an engaging interaction with the whole demonstration as she wanted to play around with the panoramic. She also commented how the video is very cinematic which students will like. She asked how the archiving will be curated and asked when more artists will be added.	1) Teacher showed familiarity with the platform-> easy navigation and use 2)Participant didnt ask questions -> mentioned how clear the demonstration was 3) She was focused on the demonstration and opened her notebooks -> showed interested 4)Didnt feel nervous about the process -> familiarity with digital resources 5)Extra focused and interested in the interactive features of the platform -> panoramic and video are engaging 6)Mentioned how the navigation of the panoramic is confusing	Change: make the navigation more visible and add more detailed laybels in all the photos
Art Historian	**Beginning:** At the beginning of the demonstration the art historian seemed relaxed and curious to see the platform. He didnt ask any particular questions about the platform, only if it was difficult for me to structure technically the platform. **During:** During the demonstration, the art historian seemed curious, taking lot of notes in the form of bullet point. He didnt interrupt the demonstration with questions, only during the point where I was explaining the archive order of the artists. He asked if in the future will be any categorization of the artist based on their discipline. The participant was fully consentrated during the video and panoramic ignoring his notebook. He commented how the video is very cinematic, keeping a balance between an academic and artistic point of view. Some objects of the panoramic seemed a bit confusing without the labels. He commented how we would like to see more multimedia embedded in the panoramic. **After:** The art historian after the demonstration was over, he wanted to explore the panoramic more and see the features better. He commented how this platform can be developed in to something very useful for the art history of Cyprus. His comments on his notebook wergeneral comments such as how easy the navigation it is and how in the future the platform can host essays related to the practice of the artist.	1) Art historian didnt ask any technical related questions -> easy navigation and use 2)Taking notes showed how he found the demonstration interesting 3) Showing curiosity -> platform is engaging 4) Questions about the archive of the collection and suggesting adding essays related to the artist shows how the collection can be worked as an educational tool 5)Interested in the panoramic and video-> the interactive feautres of the platform are engaging 6)Mentioned how the navigation of the panoramic is confusing	Change: make the navigation more visible and add more detailed laybels in all the photos
Participant interested in art as hobby	**Beginning:** At the beginning of the demonstration the participant felt excited to learn more about the platform and didnt seem nervous at all. She asked me if the platform can be used from people without advanced technological knowledge. **During:** During the demonstration, the participant was very concentrated to the platform, without asking particular questions about the strucure. She commented on how nicely designed is the platform, and how the easy is the navigation. The participant was familiar with the work of the artist before, so she told me how exciting it is to discover in depth his work. When she saw the video, she felt inspired to try working with clay and experiment more with different materials. As about the panoramic, she also felt thrilled to try it by herself and discover 'hidden' information as she said. During the demonstration of the panoramic, she seemed slightly more focused to the process, asking how the toolbar is working. She commented if in the future, the panoramic will include more multimedia files. **After:** After the demonstration, the participant commented on how innovative the platform is not only for personal but also for professional use. As a person who likes doing art in her free time, she mentioned how after watching the video and seeing the panoramic felt very creative to have her own studio and experiment more with materials.	1) Participant didnt ask any technical related questions only for the use of the toolbar of the panoramic -> easy navigation in general, maybe add more laybels to make the panoramic navigation easier 2)Commen on how nicely designed is the platform -> interface makes the user feel engaged with the project 3)Creative and inspiring video -> video gives interesting glimp in the world of the artist 4)Intrested in the panoramic -> the interactive features of the platform are engaging 5)Asked if the panoramic will include more multimedia -> add more videos, audio	Change: make the navigation more visible /add more detailed laybels in all the photos/ add more multimedia in the panoramic
Phd Student	**Beginning:** At the beginning of the demonstration the phd student asked more theoretical questions about the creation of the platform such as how I decided to focus on this topic, what were my personal needs to create this platform. She also asked about the metadata of the archive and what requirments I will take in consideration in the future for archiving the collection of the artist. **During:** During the demonstration, the phd student was very neautral without commenting on the interface of the platform. She was interested in the technological aspects of the platform such as the coding, the template and the structure of the platform as a website. I let her know what I am not fully responsible for this aspect, since the technical creation was collaborative with a technical expert. During the demonstration of the video, she commented on how cinematic the video is and how well captured are the scenes. As a phd student in the academia she mentioned how the video has a balanced in explaining well the artists' practice and theory. As about the panroamic she also mentioned how the navigation is slighty difficult and she would prefer an easier way of finding the information. The icons of the hotspots are not clear enough. She also mentioned how she would like to see in the future essays about the artists work and generally more written information in the profile of the artist about his practice. **After:** After the demonstration, the phd student pointed out how the idea of the platform is very useful and helpful from an educational perspective since is something that will keep a track of the artistic techniques which are slowly slowly getting lost. She proposed in the future to scan some artworks and have their 3Ds in the panoramic.	1) Balanced delivery of information from the video -> engaging video providing enought information 2) Intrested in the panoramic -> the interactive features of the platform are engaging 3) Mentioned how the navigation of the panoramic is confusing 4)Suggestion to add more written theoretical information in the profile of the artist 5) Showed appreciation about the idea of the platform -> aware about the risk and the improtance of the project	Change: make the navigation more visible /add more detailed laybels in all the photos/ add more multimedia in the panoramic and add more theoretical written info
Artist	**Beginning:** At the beginning of the demonstration the artist seemed a bit nervous as she thought she will have to use the platform alone. She brought a notebook to write down the instructions I confirmed how the demonstration will be only to see the structure of the platform and share her thoughts with me. She found the interface of the platform aesthetically pleasing, the slider in the home page very engaging and creative and the whole aesthitic of the platform very suitable for the topic. As an artist, she felt excited by the first look of the platform. **During:** During the demonstration, the artist was keep commenting how useful is for the artworld of Cyprus to have an archive with Cypriot artists, opening their studios and sharing their methods and techniques to the public. She mentioned how she would like to see more information about the artist in their profile. During the video, she felt inspired by the words of the artist and by his work. She also mentioned how the video is more like an artistic documentary with very cinematic scenes. While demonstrating the panoramic, she was writing down some comments that she would like to share with me after the end. I asked her to share with me any kind of questions she had but she prefered to see the whole panoramic demo first. Her questions were like if she could click in any kind of object to see a pop up window, but I explained how certain objects in the studio were active. She mentioned how she would like to see in the future pop up windows of the machines in the artist studio to see how they are working rather than static images. **After:** After the demonstration, the participant commented on how innovative the platform is not only for personal but also for professional use. As an artist having the opportunity to see the studio of other artists, explore the methods and techniques and get inspired by the materiality from other artists is extremely creative. Also she mentioned how important is for the art history of Cyprus to have a backup of all this important material.	1) Nervous for thinking that she had to used the platform -> participant withou technical knowledge -> gain their trust 2)Focused on the well designed interface -> interface makes the user feel more engages and attracted to the project 4)Suggestion to add more written theoretical information in the profile of the artist 2) Intrested in the panoramic -> the interactive features of the platform are engaging 3) Mentioned how the navigation of the panoramic is confusing 5)Asked if the panoramic will include more multimedia -> add more videos, audio 5) Showed appreciation about the idea of the platform -> aware about the risk and the improtance of the project	Change: make the navigation more visible /add more detailed laybels in all the photos/ add more multimedia in the panoramic and add more theoretical written info
Museum staff (education)	**Beginning:** At the beginning of the demonstration the participant mentioned how important is having this kind of projects in Cyprus, since the art history of the island needs lot of attention and how important is for students to interact with platforms that meet their needs and interts. She also brought a note book with her to write any kind of useful information or questions. She also mentioned how is very interested to see if she can technologically understand the platform. **During:** During the demonstration, the participant was keep referening how the students of the educational program of the museum she works will approach the features. She was taking notes and seemed very consentrated in my words. She also commented on how proefessional the interface seemed. As about the archive, she asked me as well how I will curate the artist collections, if any filter will be applied to break down the results. She mentioned how more written information would be necessary for the artists in their profiles. As about the video, she mentioned how well and professional captured is giving a right amount of information.She asked if a writen trascript of the video is available in the platform. The panoramic seemed to excited her more from all the interactive features, commenting how the students will "simply enjoy" playing around with this. She wrote down some possibilities on how the panoramic could be presented in exhibitions. She wanted to explore the	1) Curious to see if she can comprehend technologically the platform -> participant need to feel trust and familiar uoinf the platform -> gain their trust 2) Brought a notebook to write down ideas -> found the project promising 3) Keep mentioning possible ways of how students can use the platform -> inspiring for her profession 4) Curious to learn more about the curation of the archive -> suggestion of adding search filter in the future when collection get bigger 5) Mentioned the need of more written infromation about the artist	Change: make the navigation more visible /add more detailed laybels in all the photos/ add more multimedia in the panoramic and add more theoretical written info / add search filter in the collection (future)

Figure G1: Results of the observation in the first part of evaluation

9.8 Appendix H: Results for Evaluation (Part 2- Focus Groups)

Online version available:

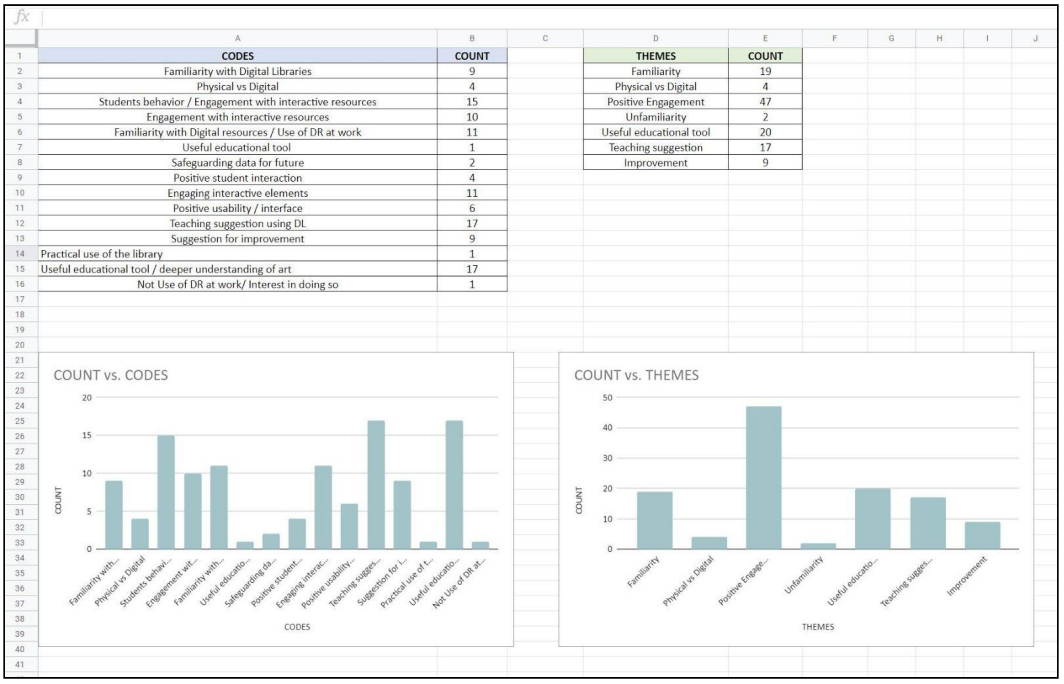
https://docs.google.com/spreadsheets/d/1G9FahsPPp2rLOzLsJjjFOq4zJGyavreFA7P1nL3jRZk/edit#gid=1977835889



CITATION

CITATION	PARTICIPANT	CODES	THEMES
2. Do you think you have adequate knowledge and skills in using a digital library?			
It depends on the usability of the platform	Art Educator	Usability of the platform	Usability of the platform
during the lockdown I was visiting a lot of digital collections to explore art and culture.	Art Educator	Familiarity with digital resources during covid	Covid and digital familiarity
during the lockdown I had the chance to visit more online digital collections and I guess I can say I was able to do it well.	Art Educator	Familiarity with digital resources during covid	Covid and digital familiarity
In the past I have had a lot of interaction with digital libraries	Art Educator	Familiarity with Digital Libraries	Familiarity
how this nav reality made a lot of people more familiar with digital archives now.	Art Educator	Familiarity with digital resources during covid	Familiarity
I think it depends on the interface of the site, how complicated is the platform.	Art Educator	Usability of the platform	Usability of the platform
I will agree, it depends on how easy the usability of the platform is.	Art Educator	Usability of the platform	Usability of the platform
I use mainly digital libraries as research tools for projects and reading.	Art Educator	Familiarity with Digital Libraries	Familiarity
I am using digital libraries for studying	Art Educator	Familiarity with Digital Libraries	Familiarity
I prefer to use digital libraries since they are more convenient.	Art Educator	Familiarity with Digital Libraries	Familiarity
I am not familiar with digital libraries,	Art Educator	Not familiar with Digital Libraries	Unfamiliarity
I know the basics, I mean I'm becoming more and more familiar with digital resources	Art Educator	Familiarity with Digital Libraries	Familiarity
I am quite familiar with technology,	Art Educator	Familiarity with Digital Libraries	Familiarity
Yes, I have a high level of familiarity	Art Educator	Familiarity with Digital Libraries	Familiarity
Yes, as long as it's built on fairly easy-to-use interfaces.	Art Educator	Usability of the platform	Usability of the platform
3. Do you believe using interactive digital resources for teaching is effective? Why or why not?			
In comparison with something static, yes, of course having something interactive is more effective, but if you have the chance to visit the site on-site it's another thing. You can play with it and explore it but it is not the same as the physical connection.	Art Educator	Physical vs Digital	Physical vs Digital
For example, now with online education during the covid I've noticed that doing everything digitally reduces the engagement of the student with the education material but if you can support it is more than useful I think.	Art Educator	Physical vs Digital	Physical vs Digital
I will agree with M. that when there's a combination when the digital supports the physical it can be very engaging. More knowledge can be transferred	Art Educator	Physical vs Digital	Physical vs Digital
Also, I believe how any kind of interactive educational tool makes students more curious so I believe automatically there is an engagement.	Art Educator	Physical vs Digital	Physical vs Digital
We live in the era of applications, scrolling down, kids are always with a screen. That's not necessarily good but I guess it makes the content more accessible, the correspondence will be more	Art Educator	Students behavior / Engagement with interactive resources	Positive Engagement
kids are on tablets, computer, education needs to catch up with the class	Art Educator	Students behavior / Engagement with interactive resources	Positive Engagement
It depends if the school is able to support advanced technologies to support interactive learning. If the school doesn't have the capacities it will be impossible to do it	Art Educator	School involvement	School involvement
I will agree, definitely depends on the school or the educator	Art Educator	School involvement	School involvement
but I'm sure interactive learning will captivate the interest of the student way more than showing them theoretical or static knowledge. Students now live more in a digital world rather than real life, it's so natural to be attracted by technology	Art Educator	Students behavior / Engagement with interactive resources	Positive Engagement
all my students are in front of a screen, in social media, they are so addicted. I believe multimedia for the students are more interesting since they are so familiar with it. Unfortunately, something digital will be more attractive to the student rather than a book. They find it more creative when they have to engage with technology. Digital material makes the student grasp a bigger picture tho.	Art Educator	Students behavior / Engagement with interactive resources	Positive Engagement
I believe the interactivity supports the teaching. It makes the material of the teaching more deliverable in a way.	Art Educator	Engagement with interactive resources	Positive Engagement
Students now are more about the virtual delivery of information	Art Educator	Students behavior / Engagement with interactive resources	Positive Engagement
Yes, it's a great supporting tool . I am using the word support because I believe it can not replace the physical interaction with the educational material, but it can support it, advance it and deliver it more effectively and completely to the students.	Art Educator	Physical vs Digital	Physical vs Digital
It's an everyday mean, of course, covid now makes it more popular. I think people are starting to get used to it.	Art Educator	Familiarity with digital resources during covid	Covid and digital familiarity
If I am I'm facilitating interaction with students with platform, I believe there needs to be a two way engagement with the student to be successful	Art Educator	Engagement with interactive resources	Positive Engagement
Yes, because interactive digital resources are a brilliant way to reinforce students' learning in a fun, engaging way and it's a great tool to use in order to keep them interested and motivated in class	Art Educator	Students behavior / Engagement with interactive resources	Positive Engagement
4. How would you describe the relationship between your profession with digital resources? Do you use digital resources at your work?			
Yes I do, but it depends on the topic of my class, for example, I show my students a lot of online museum collections	Art Educator	Familiarity with Digital resources / Use of DR at work	Familiarity
If we are studying for a famous artist I normally show them artworks from museum platforms.	Art Educator	Familiarity with Digital resources / Use of DR at work	Familiarity
Anything that includes multimedia actually, students enjoy visual materials more I believe.	Art Educator	Familiarity with Digital resources / Use of DR at work	Familiarity
Yes I agree, when my class is small I let students individually explore digital resources.	Art Educator	Familiarity with Digital resources / Use of DR at work	Familiarity
m also aware of how you need technological support as well to provide this type of teaching.	Art Educator	Familiarity with Digital resources / Use of DR at work	Familiarity
In my work I use simple implementation of digital resources, for example, I use the projector to show an online collection of artists works, videos of artists or simple images.	Art Educator	Familiarity with Digital resources / Use of DR at work	Familiarity
Visiting museus, galaries, artists workshops is such a beautiful experience but unfortunately in Cyprus sometimes is limited, so we have to use digital resources such as online museum archives and collections, virtual environments to deliver information to students.	Art Educator	Familiarity with Digital resources / Use of DR at work	Familiarity
Yes more or less I do the same, I'm using simple digital resources such as showing to my students, simple online collections	Art Educator	Familiarity with Digital resources / Use of DR at work	Familiarity
Yes. It's part of my work.	Art Educator	Familiarity with Digital resources / Use of DR at work	Familiarity
Yes, at school we use digital technologies to enhance teaching and learning as well as promote creativity.	Art Educator	Familiarity with Digital resources / Use of DR at work	Familiarity
5. Do you believe a digital library showcasing artists' studios and presenting the work and thoughts of the artist can be a useful educational tool? Why?			
Yes of course	Art Educator	Useful educational tool	Useful educational tool
Yes I totally agree and I consider it as a very useful educational tool	Art Educator	Useful educational tool	Useful educational tool
It has been documented, stored so is saved for future use now. It's more accessible to visit this space now.	Art Educator	Safeguarding data for future	Useful educational tool
due to the multiplicity of contemporary art a lot of students work in a different environment so the DL can provide information for these artists.	Art Educator	Useful educational tool / deeper understanding of art	Useful educational tool
It's costing them time and money so also the artist can save money and time.	Art Educator	Convenient tool for artist	Useful educational tool
great opportunity to create plenty of lessons based on the archive and use it to prove to students how the process of an artwork is a beautiful process.	Art Educator	Positive student interaction	Positive Engagement
Sometimes when you have physical limitations and now due to covid, we have more limitations than before, this kind of library can be used as a great and helpful educational tool.	Art Educator		Positive Engagement
Not only a great educational tool but also and a research tool. I imagine older students using it for projects related to art history.	Art Educator	Positive student interaction	Positive Engagement
I think me being passive reader is not official, but i see lot of opportunities of the tool to let me be in touch with the artist, surface their work in mine, more interactive development rather than being a static platform without interactive engagement.	Art Educator	Useful educational tool	Useful educational tool
Yes. It would've been exciting to see an artist working in their studio and experience, in a way, the artistic process in motion rather than just explaining it to the students.	Art Educator	Useful educational tool / deeper understanding of art	Useful educational tool
It's a great way of getting to know an artist, listen to them and gain insights, not just into the details of how they work, but also into what inspires them and drives them creatively.	Art Educator	Useful educational tool / deeper understanding of art	Useful educational tool
6. What are your first impressions of the digital library?			
Very motivating . I was watching this from the perspective of an educator but the artist side in me felt to motivated to go back to my studio and work	Art Educator	Useful educational tool	Useful educational tool
From the eyes of an educator though still is motivating, to think how you can deliver all this material to your students.	Art Educator	Positive student interaction	Positive Engagement
I am just thinking how in order to work and utilize this library, a good internet connection, laptop and projector might be needed.	Art Educator	Issues to consider	Improvement
While I was watching the demonstration not only felt the need to learn how to create ceramics but also how my students can learn about pottery in an entertaining way...	Art Educator	Positive student interaction	Positive Engagement
It's a really really useful educational tool for education, actually I am looking forward to seeing a complete collection though.	Art Educator	Useful educational tool	Useful educational tool
I love it. Literally it was very touching to see the video, it makes you want to be there, I can soon in everything, it gives me motivation as an artist as well.	Art Educator	Engaging interactive elements	Positive Engagement
I like it a lot, it drove my attention a lot and when you go through his studio, you are trying to see what is that and that,you learn to see what object is this it drags your attention a lot	Art Educator	Engaging interactive elements	Positive Engagement
For a student, it's the perfect educational tool. I'm sure they will want the link to study it when they go home	Art Educator	Positive student interaction	Positive Engagement
I feel like is a game.	Art Educator	Engaging interactive elements	Positive Engagement
my attention is the layout, wikipedia and google scholar that very simplysitt, but the friendly tone of the platform made me very interested, and be able to look in 260 degree view and immerse myself in the environment, wanted to be part and learn more.	Art Educator	Positive usability / interface	Positive Engagement
Clean, depressive, minimal and easy to use and understand.	Art Educator	Positive usability / interface	Positive Engagement
7.Do you believe this digital library can be beneficial for your professional use? How?			
with a lot of ways. first of all is like a presentation where you are getting closer to the object that you are interested in, you study it and at the same time explore the materials, have a clay and students watch the artist.	Art Educator	Useful educational tool / deeper understanding of art	Useful educational tool
is like a marriage with the info, physical involvement and the visual. Since you are teaching you need to implement the theory to action. Really good tool for teaching	Art Educator	Physical and visual engagement	Positive Engagement
I find it very interesting how a lot of people feel how the works are done without process, without being involved in the art making it very difficult to see the process, spend time on your material, sketches, experiment, there is constant experimentation and this will help them realize how the process flows.	Art Educator	Useful educational tool / deeper understanding of art	Useful educational tool
I think that's what i have mentioned above, especially now with the covid that we can not take students around we can build classes based on that	Art Educator	Practical use of the library	Positive Engagement
For me it will be great to organize workshops based on the specific artist, or maybe arrange a public private workshop	Art Educator	Teaching suggestion using DL	Teaching suggestion
Educators need to inform the students how artists gave permission to document their studio, videos are already edited is not like we intervene in their private space.	Art Educator	Issues to consider	Improvement
, it will support the art class by giving more in depth information. Also I believe it will boost their critical thinking	Art Educator	Useful educational tool / deeper understanding of art	Useful educational tool
I imagine teaching them about clay and pottery in Cyprus, then showing them this interactive studio of an artist the students will grasp more in depth information. It will be a plus for the student. I can show them techniques and than the artist showing them how it is.	Art Educator	Teaching suggestion using DL	Teaching suggestion
Yes, personally I had in my annual planning to bring my students to a working space of artists but due to covid is impossible. Now with this platform I can still make this idea happen	Art Educator	Practical use of the library	Positive Engagement
My students are quite young and love playing games online. I can imagine creating a lot of fun activities with them, for example asking them to find hidden objects in the studio for a specific task	Art Educator	Positive student interaction	Positive Engagement
Also, I am thinking in case you can not take students to the art studio trip due to plenty of reasons such as inaccessible space, covid measures you can still make this happen.	Art Educator	Practical use of the library	Positive Engagement
I would definitely use this platform as supporting material for my lecture, what I like is that it kind showcases more pragmatically what the artists entails, artists are exposed to field of art but we don't see what other pears do, and I feel how this platform will remove that layer of the mystery and make it more reachable and inspire more.	Art Educator	Useful educational tool / deeper understanding of art	Useful educational tool
It would be really useful as a creative tool in a classroom setting. It will keep students engaged and interested and it will allow them to familiarize themselves with virtual/digital technologies.	Art Educator	Positive student interaction	Positive Engagement
8.What are your thoughts about the interactive elements of the platform(video interview and panoramic viewer)?			
During my career as an educator, I have noticed how when the students feel more free to express themselves and experiment with the lesson are more productive. I am sure how this panoramic will help them more to keep this information in their heads, because is something that they looked for it	Art Educator	Positive student interaction	Positive Engagement
Agree. When the student participates in the lesson, the delivery becomes so much easier you can not imagine...	Art Educator	Positive student interaction	Positive Engagement

Figure H1: Results of the interviews in the second part of evaluation



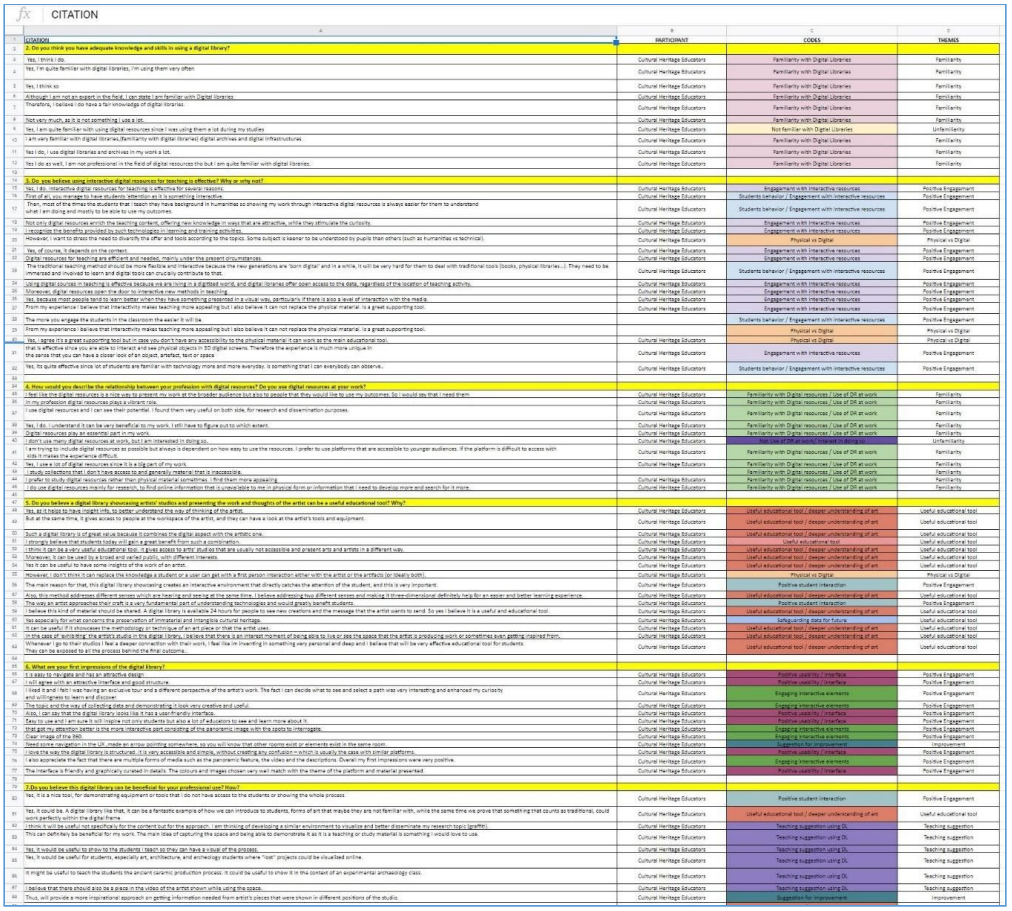
CODES	COUNT
Familiarity with Digital Libraries	9
Physical vs Digital	4
Students behavior / Engagement with interactive resources	15
Engagement with interactive resources	10
Familiarity with Digital resources / Use of DR at work	11
Useful educational tool	1
Safeguarding data for future	2
Positive student interaction	4
Engaging interactive elements	11
Positive usability / interface	6
Teaching suggestion using DL	17
Suggestion for improvement	9
Practical use of the library	1
Useful educational tool / deeper understanding of art	17
Not Use of DR at work/ Interest in doing so	1

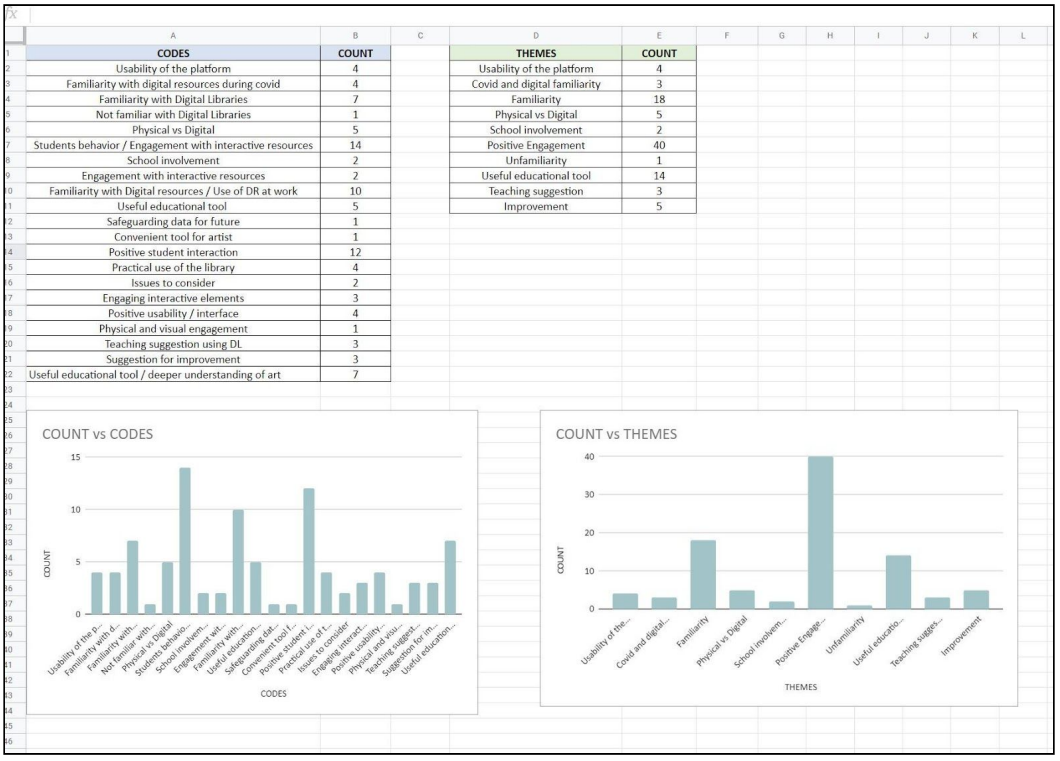
THEMES	COUNT
Familiarity	19
Physical vs Digital	4
Positive Engagement	47
Unfamiliarity	2
Useful educational tool	20
Teaching suggestion	17
Improvement	9

Figure H2: Results of the interviews in the second part of evaluation

Online version available:

https://docs.google.com/spreadsheets/d/1jRF4vQQ17pdcvnUSVXj2wQw9ZUOZ1uHyhQk6OAH_ilE/edit#gid=1977835889





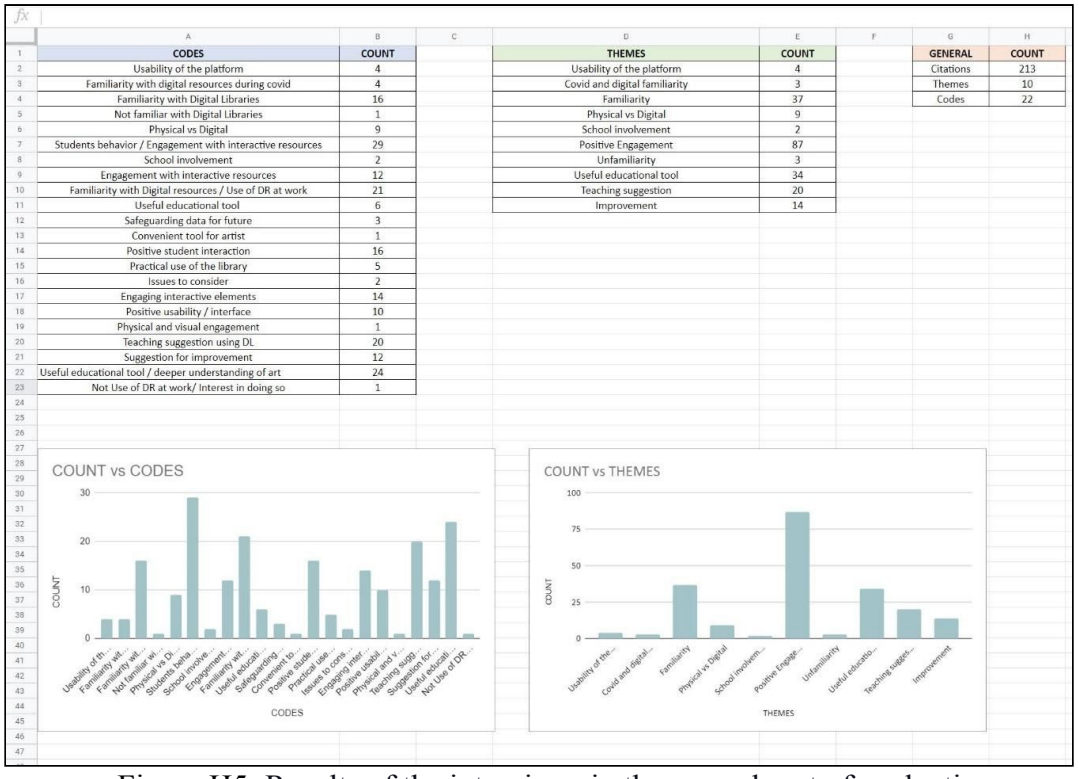
CODES	COUNT
Usability of the platform	4
Familiarity with digital resources during covid	4
Familiarity with Digital Libraries	7
Not familiar with Digital Libraries	1
Physical vs Digital	5
Students behavior / Engagement with interactive resources	14
School involvement	2
Engagement with interactive resources	2
Familiarity with Digital resources / Use of DR at work	10
Useful educational tool	5
Safeguarding data for future	1
Convenient tool for artist	1
Positive student interaction	12
Practical use of the library	4
Issues to consider	2
Engaging interactive elements	3
Positive usability / interface	4
Physical and visual engagement	1
Teaching suggestion using DL	3
Suggestion for improvement	3
Useful educational tool / deeper understanding of art	7

THEMES	COUNT
Usability of the platform	4
Covid and digital familiarity	3
Familiarity	18
Physical vs Digital	5
School involvement	2
Positive Engagement	40
Unfamiliarity	1
Useful educational tool	14
Teaching suggestion	3
Improvement	5

Figure H3, H4: Results of the interviews in the second part of evaluation

Online version available:

https://docs.google.com/spreadsheets/d/1OMWRXgcSqBNhD5Rkcn0fnHBwNK181oSAZ789loU-8V0/edit#gid=1017203474



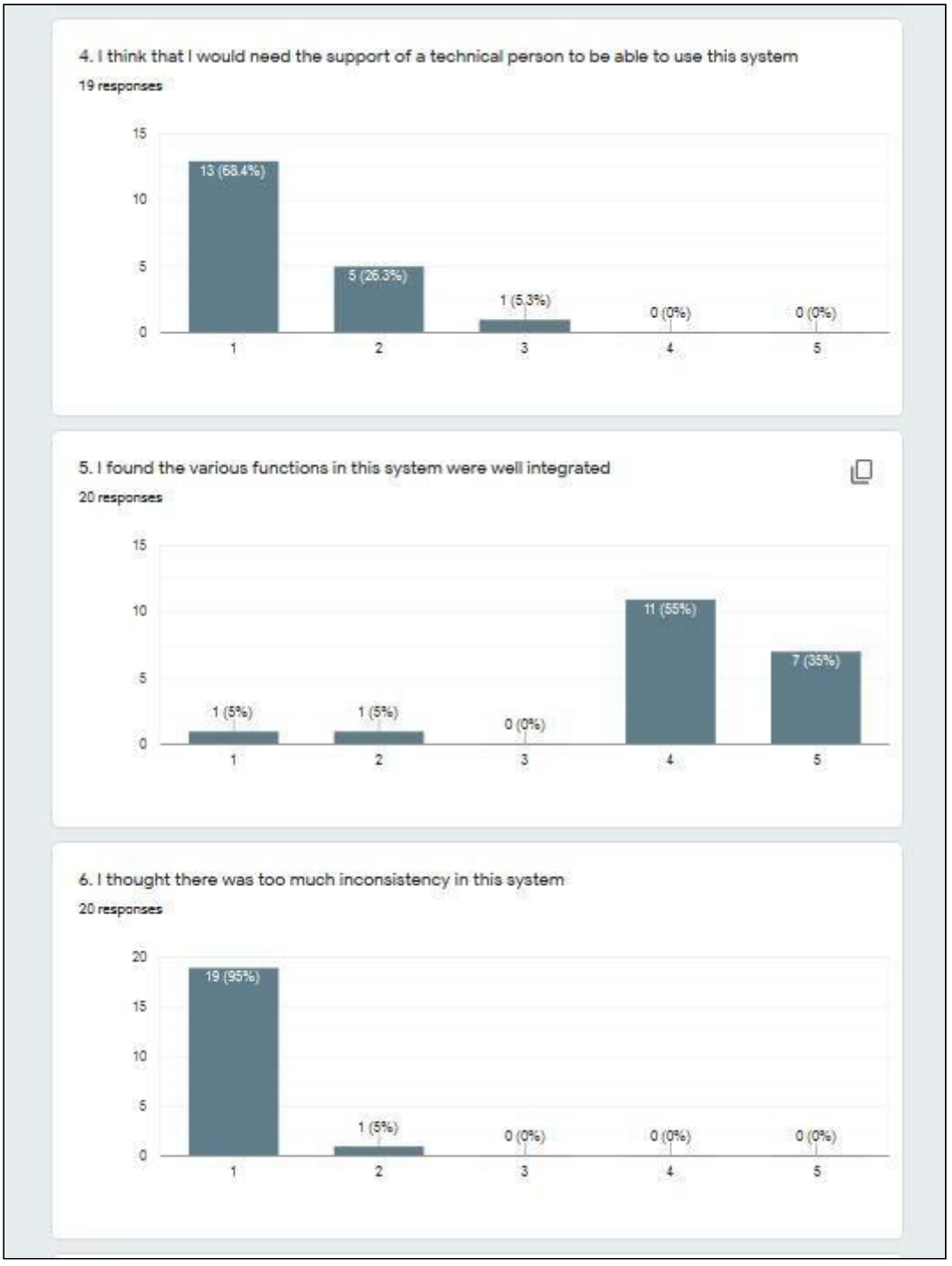
CODES	COUNT
Usability of the platform	4
Familiarity with digital resources during covid	4
Familiarity with Digital Libraries	16
Not familiar with Digital Libraries	1
Physical vs Digital	9
Students behavior / Engagement with interactive resources	29
School involvement	2
Engagement with interactive resources	12
Familiarity with Digital resources / Use of DR at work	21
Useful educational tool	6
Safeguarding data for future	3
Convenient tool for artist	1
Positive student interaction	16
Practical use of the library	5
Issues to consider	2
Engaging interactive elements	14
Positive usability / interface	10
Physical and visual engagement	1
Teaching suggestion using DL	20
Suggestion for improvement	12
Useful educational tool / deeper understanding of art	24
Not Use of DR at work/ Interest in doing so	1

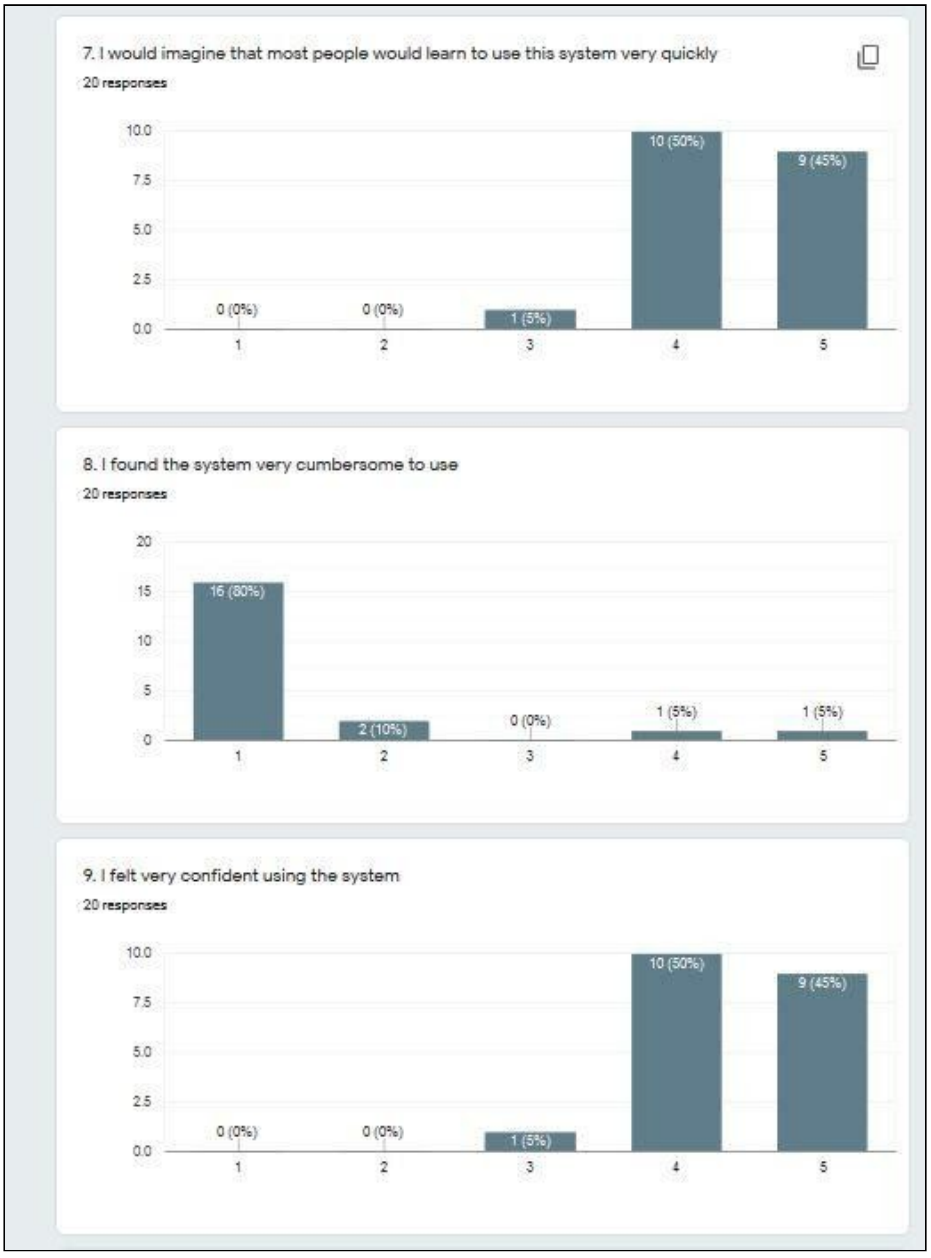
THEMES	COUNT
Usability of the platform	4
Covid and digital familiarity	3
Familiarity	37
Physical vs Digital	9
School involvement	2
Positive Engagement	87
Unfamiliarity	3
Useful educational tool	34
Teaching suggestion	20
Improvement	14

GENERAL	COUNT
Citations	213
Themes	10
Codes	22

Figure H5: Results of the interviews in the second part of evaluation

9.9 Appendix I: Results for Evaluation (Part 2- Online Questionnaire)





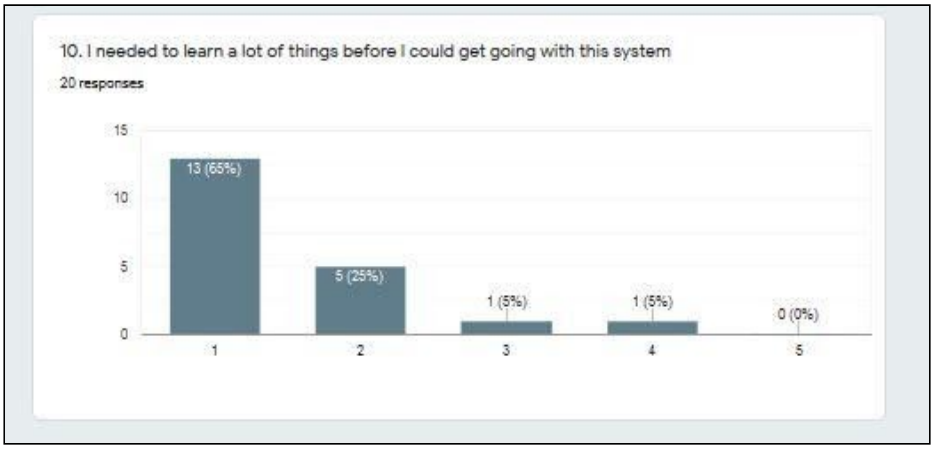


Figure I1: Results of the online questionnaire for the second part of evaluation

9.10 Appendix J: Photos from the documentation of the artist

Figure J1: Data collection / documentation for the platform

Figure J2: Data collection / documentation for the platform

Figure J3: Data collection / documentation for the platform

Figure J4: Data collection / documentation for the platform

9.11 Appendix K: Screenshots from the artists' studio platform

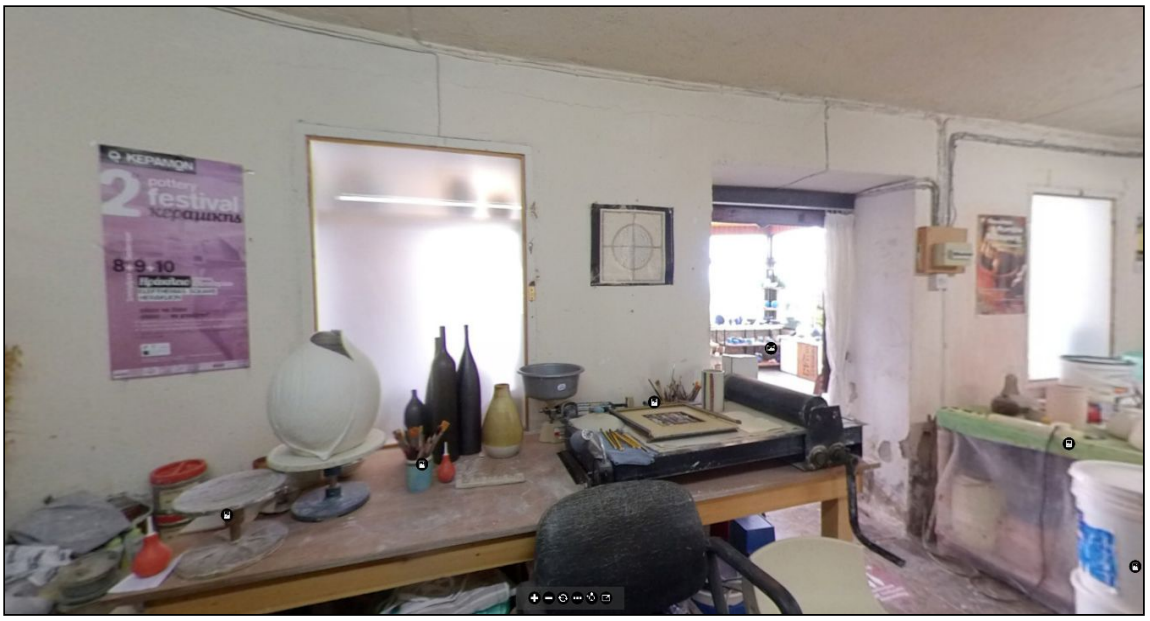


Figure K1: Stills from the panoramic viewer

Figure K2: Stills from the panoramic viewer

9.12 Appendix L: Addressing the feedback from first evaluation

Figure L1: Screenshot of ‘Digital Library of Artists’ Studio’ before the implementation of changes

Figure L2: Screenshot of ‘Digital Library of Artists’ Studio’ before the implementation of changes

Figure L3: Screenshot of ‘Digital Library of Artists’ Studio’ after the implementation of changes

Figure L4: Screenshot of ‘Digital Library of Artists’ Studio’ after the implementation of changes