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# **NEW TECHNOLOGIES IN MUSEUM EXHIBITIONS AS A TOOL FOR EDUCATING SENIORS**

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A handbook of best practices

MAY 31, 2023  
THE FILM MUSEUM IN LODZ  
Łódź, plac Zwycięstwa 1

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## Introduction

This *Handbook of Best Practices* is the result of a project carried out by the staff of the Film Museum in Łódź as part of the program Erasmus+ for adult education – Key Action 1: Learning Mobility of Individuals. The Museum received funding for the project in 2020, but due to restrictions arising from the COVID-19 pandemic, mobility activities took place between 2022 and 2023.

The main goal of the project was to explore the strategies and approaches of other European institutions regarding senior education. We particularly focused on the inclusion of older adults in educational activities related to the use of new technologies (such as tablets, multimedia applications, and audio guides). We defined seniors as individuals above the age of 60 who, with the rapid technological development at the turn of the 21st century, had to adapt to a new multimedia environment with widespread Internet access, touch screens, and a variety of features not seen in earlier devices.

Prior to the mobility activities, each of the five participants completed a language course. While they could choose different languages, they mostly opted for English.

In total, the staff of the Film Museum in Łódź – employees of the Exhibitions and Projects Department and the Film Education and Culture Department – took part in nine mobility activities at seven museums across Europe (two mobility activities were combined). Our aim was for each hosting institution to offer their visitors content related to film and cinematography and to use a range of new technologies in permanent exhibitions.

The mobility activities were carried out in the form of job shadowing, which involved observing the practices and solutions implemented by the host institutions. Project participants asked questions, engaged in conversations with members of various departments, took part in educational workshops for children and adults, visited museum exhibitions, and observed visitor reactions. The most important aspect was observations related to new media used for educating seniors. The focus was on both the technologies available in permanent and temporary exhibitions, as well as on the devices used in educational activities.

In addition, the mobility activities improved the quality of work for the staff of the Film Museum in Łódź by enhancing their language and interpersonal skills. They led to new professional contacts and built awareness about the functioning of film museums across Europe.

The first chapter presents the profiles of the host organizations, including their exhibitions, the use of new media in those exhibitions, and the scope of their activities with a particular focus on educational programs. Our aim was to present the greatest possible number of aspects relevant to the project topic that we observed during the mobility activities.

The second chapter provides a description of workshops for seniors conducted by the staff of the Department of Film Education and Culture at the Film Museum in Łódź. The sessions allowed for the practical implementation of the theoretical knowledge acquired during the mobility activities and promoted the use of new technologies in museum exhibitions, leading to original insights.

The third chapter serves as a summary of all the mobility activities and observations. It was based on a series of meetings conducted with all the participants of the Erasmus+ project at the Film Museum in Łódź. The exchange of experiences, conversations, and discussions helped extract the essential best practices in educating senior individuals through new technologies. The authors proposed original solutions in this regard.

We hope that our observations, conclusions, and suggested best practices will inspire the employees of museums and other educational institutions to participate in senior education initiatives.

**The handbook is there for you to peruse it!**

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## Chapter 1: Presentation of strategic partners

### Berlin: The Deutsche Kinemathek

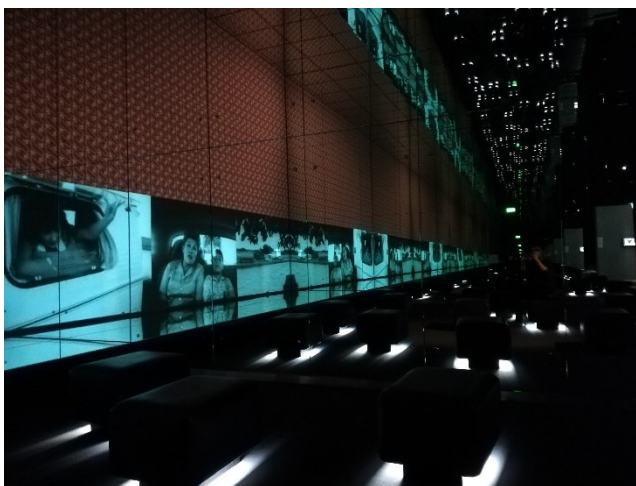
**Participant: Kornel Nocoń | The Exhibitions and Projects Department  
| The Film Museum in Lodz**

**Mobility activity dates: 17.10.2022–21.10.2022**

The institution is dedicated to the collection, preservation, and dissemination of the German cinematic heritage. Its collections include objects donated by pioneers of the New German Cinema (such as Werner Herzog), items related to the silent film era, a Marlene Dietrich collection, as well as tens of thousands of film copies on tape, video cassettes, and DVDs.

These objects can be viewed at the permanent exhibition devoted to the history of German cinema, at temporary exhibitions, and in the Television Record Library, which houses 9,000 TV programs.

The permanent exhibition tells the complete history of German cinema, from its beginnings to contemporary film productions. Among the multimedia devices are classic screens displaying clips from the most important works of German cinema (sometimes presented in the form of artistic split screens) as well as touch screens enabling the use of applications. This simultaneous use of two types of monitors can be misleading for visitors who try to interact with every encountered device. However, the architecture of individual rooms is extremely interesting, with their appearance, decorations, and arrangements reminiscent of specific historical periods, movements, or titles in German cinema.



In addition to its museum activity, the Deutsche Kinemathek organizes public events, including retrospectives as part of the Berlin International Film Festival (Berlinale), and educates people of all ages through workshops, e.g., on stop-motion animation. The classes take place in the Kinemathek building (Sony Center at Potsdamer Platz) or in other educational institutions (e.g., schools, preschools).

The staff of the Deutsche Kinemathek makes every effort to ensure that the collections are accessible to the widest possible audience, including members of the marginalized groups. During the temporary exhibition on Marlene Dietrich, vision-impaired and blind individuals were able to explore the details of the actress's stage and evening costumes by means of copies of sequins, buckles, and other decorative elements specially made for the exhibition. The platform FilmSpielplatz.de, created in cooperation between the Deutsche Kinemathek and the Deutsches Filminstitut in Frankfurt am Main, features video materials with sign language interpretation.

Seniors constitute a regular group of visitors to the Deutsche Kinemathek in Berlin. On the other hand, the educational offerings are primarily directed towards young audiences, as reaching this group is one of the priorities of the institution's activities.

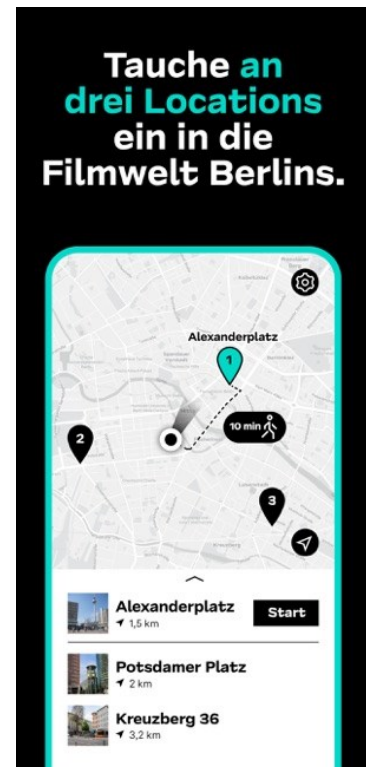
The Deutsche Kinemathek was established in 1963.



## Application: “On Set – Film in Berlin”

As a result of the COVID-19 pandemic museums were closed for over a year. During that time, their employees endeavored to transfer the institutional framework of the museums into the virtual world. The mobile application “On Set – Film in Berlin”, which was created at that time, is considered a supplement to the permanent exhibition of the Deutsche Kinemathek.

The application allows users to watch clips from the most important German films and TV series in the exact locations where they were filmed (known as on-location shoots). It covers three locations in Berlin: Potsdamer Platz, Alexanderplatz, and Kreuzberg 36. Additionally, users can immerse themselves in the created world of films through augmented reality – for example, by taking photos styled as frames from *Wings of Desire* directed by Wim Wenders (1987).



Detailed operating instructions for the application are explained upon its first launch. Actress Almila Bagriacik guides users through the options offered by “On Set – Film in Berlin”. The video tutorial greatly facilitates navigating the application. It is helpful for individuals, including some seniors, who rarely use mobile applications or have difficulty discovering their many features.

“On Set – Film in Berlin” can be downloaded onto your own smartphone or other multimedia device using QR codes located at the permanent exhibition and in public spaces in the city (e.g., lampposts at Potsdamer Platz). Alternatively, the application can be installed through the Play Store. The application is free of charge. Unfortunately, it is only compatible with the newer models of phones and tablets.

The application is also used during guided tours organized by the Deutsche Kinemathek. One has a choice of guided tours of Potsdamer Platz, Alexanderplatz, or Kreuzberg 36. The tour guide, a Deutsche Kinemathek employee, provides an iPad with the application and audio equipment. They display clips from films and TV series



from the application on the iPad, adding their own commentary and new information. This form of using “On Set – Film in Berlin” is more convenient for seniors. Berlin’s public infrastructure includes numerous benches where seniors can sit and rest during the tour. In this context, it is crucial for the guide to be sensitive to the endurance and condition of the guided group.

When giving a guided tour of Berlin using the application in question, an important factor is the guide's own tech-savviness. There is a lot of equipment involved. The guide carries an iPad and a wireless speaker that connects to the screen via Bluetooth.



The promotional video material for the application features only young people. When asked about the target audience, the developers of “On Set – Film in Berlin” specifically mention the younger generation. In their opinion, it is more challenging for the Deutsche Kinemathek to reach out to youth with its standard offerings. One of the reasons why seniors were not specifically considered as a target audience was that they are a regular group of visitors to exhibitions, screenings, and special events.

### **Application: “Audio Guide. Deutsche Kinemathek” and “Werner Herzog”**

Deutsche Kinemathek offers audio guides that enhance experience at both permanent and temporary exhibitions. “Audio Guide. Kinemathek” provides an additional context to the permanent exhibition. “Audio Guide. Werner Herzog” enriches the temporary exhibition with the director’s commentary, a questionnaire about the controversial aspects of his work, and the biographies of people associated with him.

Audio guides are installed on devices resembling early models of mobile phones and are offered at the ticket counter. The museum staff demonstrates how to use the device when it is provided. The audio recordings are activated by scanning the numbers

at activation points located throughout the exhibition space. Visitors have the opportunity to try out the device under in the presence of a staff member at the time of receiving it at the ticket counter.

One can also download the “Audio Guide” app on one’s own multimedia device (smartphone or tablet). The museum provides visitors with access to an open Wi-Fi network. The “Audio Guide. Kinemathek” app requires approximately 75 MB of storage space.

In either case, whether one uses the audio guide on one’s own device or on a device provided by the museum, one must use one’s own headphones, which are rarely carried around by senior visitors.

The audio guide allows you to explore the exhibition in a more personal way than a guided organized group. Visitors can adjust the pace of viewing exhibits according to their physical abilities. Particularly helpful in this context are portable “seat sticks,” which can be obtained free of charge at the entrance to the exhibition. Such seats can be unfolded in any exhibition space depending on the visitor's needs.

Using the activating codes to start narration in the audio guide is very simple: one can just hold the device near the number displayed at the exhibition or enter the corresponding number into the app. The numbers are written in two ways – in raised Arabic alphabet and Braille alphabet.

Similarly to the “On Set – Film in Berlin” app, the “Audio Guide” also follows the museum’s policy of extending its resources beyond its institutional framework. One can listen to audio guide recordings



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at home or any other location away from the Deutsche Kinemathek. This way visitors can reinforce new information.

## Prague: NaFilm: Národní filmové muzeum

**Participants:** Robert Konsztat | The Film Education and Culture Department,  
Kornel Nocoń | The Exhibitions and Projects Department | The Film Museum in Lodz  
**Mobility activity dates:** 08.11.2022–12.11.2022

NaFilm is the only film museum in the Czech Republic. This young cultural institution was opened in January 2019 upon the initiative of a group of film studies graduates from Charles University in Prague. The museum is located in the historic Mozarteum building in Prague's New Town. Its excellent location and a captivating interactive exhibition make it one of the highest-rated and most visited museums in Prague.



NaFilm is a museum focused on engaging visitors with new technologies. At each exhibit there are special QR codes developed and dedicated exclusively for this institution.

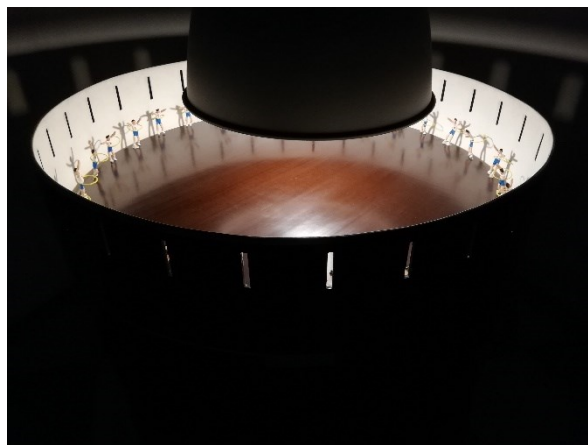
On the first level of the museum, there is a soundproof recording studio where visitors can try their hand at sound imitation. In another part of the exhibition on the same level, one can use VR glasses and headphones to experience virtual reality. On the lower level, there are various attractions, including a stop-motion animation station and a small

cinema where visitors can watch short Czech animations.

NaFilm skillfully combines the exploration of film history with contemporary technologies in both permanent and temporary exhibitions, which earned the institution the Czech Lion, a prestigious award for Extraordinary Audiovisual Achievements from members of the Presidium of the Czech Film and Television Academy.

NaFilm collaborates on numerous international projects with cultural institutions from Hungary, Poland, Sweden, Belgium, the Czech Republic, Austria, Croatia, Serbia,

the Netherlands, Italy, and Germany. Through these collaborations, the institution continues to evolve, constantly seeking innovative approaches to exhibitions and museum education. The Czech film museum is also a partner in the international Muse.ar project, which received support from the Creative



Europe program in 2020. The project aims to support cultural and educational organizations and enable them to work with their collections in innovative and meaningful ways, utilizing contemporary digital technologies.

NaFilm has also established the international platform ThinkFiLM, dedicated to film education. Additionally, the museum collaborates with Czech film festivals on a yearly basis and offers a professional film and audiovisual education program during the annual Summer Film School in Uherske Hradiste.

The main target audience for NaFilm are primary and secondary school students.

### **Interactive station: Creating sound effects**

The NaFilm permanent exhibition consists of numerous interactive spaces. In one of them visitors can record original sound effects. The station is located in a closed and soundproofed room with an empty interior. On the wall directly in front of the entrance, there is a console operating a simple program that enables adding the created sound track to a film clip. The side walls are covered with wooden panels to which various sound-producing materials are attached.

The film material that is being sound-designed can be previewed on a large screen. Visitors can choose one of three available clips: an experimental animation, an animated film for children, or a video material reminiscent of the early days of cinema. The console makes it possible to view each audiovisual material in two versions, with different soundtracks, enabling users to explore the impact of sound effects on the style of the final film.



The complex sound editing process is translated into a relatively user-friendly interactive space. The buttons on the console are arranged in such a way as to guide visitors step-by-step through the process. First, users need to select a film clip using the three buttons located at the top of the console with each button corresponding to a specific clip. Users can choose whether to watch the video with a pre-existing sound track (two options) or as a silent clip prepared for editing. The buttons are positioned in the middle of the console, alongside keys for managing the edited material (functions: record, rewind, delete). At the bottom of the console, there are buttons directly related to sound recording: stop, play, and pause.

Both the buttons and the various stages of producing sound effects are described in both Czech and English. This allows visitors to use the exhibit without prior knowledge of sound editing in films. The function of each button is represented with a pictographic icon (stop = filled square; pause = two vertical lines, etc.) typical of audiovisual equipment and multimedia players. The station is intuitive to use, regardless of the user's age.



### **Interactive station: Stop motion animation using the application Stop Motion Studio**

On the lower level of the permanent exhibition at NaFilm, visitors come across a small interactive space for creating stop-motion animations. The exhibit features a wooden table measuring approximately 80 x 40 cm with a large drawer containing materials for creating animated films. In the central part of the tabletop, there is a glass panel approximately A3 in size, on which users animate pre-made cardboard characters specially prepared for this purpose. Beneath the tempered glass, there is a backdrop serving as a set design, which can be arranged as desired. Above the glass panel, mounted on a metal arm, there is a multimedia device functioning as a camera. Lamps are positioned on two opposing edges of the exhibit. On the left side of the tabletop, there is a multimedia device with the application Stop Motion Studio installed.

The application is used for recording stop-motion animations. One of the advantages of this tool is the extensive functionality of its free version, which can be installed on various devices such as tablets, computers, and phones. With its help, users can create an unlimited number of films consisting of any number of frames. The application provides a convenient editor that enables the easy removal of unnecessary shots, the duplication of selected frames, editing multiple selected frames, as well as the rearrangement and reversal of frame order. In the free version,



users can also set the frame rate, enable a self-timer for capturing images, add dubbing, and switch to manual camera mode. Although this may sound complex, the program is intuitive and user-friendly. Visitors only need to operate a few buttons with universal icons on the touchscreen of the device. Seniors who have had experience with any traditional audiovisual devices such as tape recorders, VCR, or DVD players will have no difficulty using this application. Additionally, a small panel near the exhibit provides a brief explanation of how to operate the application along with descriptions of the meaning of each icon.





## Amsterdam: The Eye Film Museum

**Participant: Zuzanna Woźniak | Exhibitions and Projects Department  
| The Film Museum in Łódź**

**Mobility activity dates: 06.12.2022–10.12.2022**

The Film Museum in Amsterdam was established in 1946. Since 2012, it has been located in the modern Eye building, which features permanent and temporary exhibition spaces, educational spaces, four screening rooms, and offices for the museum staff.

Eye carefully designs its program. The events, screenings, exhibitions, and workshops they organize are aligned with the institution's overall strategy. Their approach to film focuses on promoting cinema as a form of art and artistic expression.

Eye's exhibition activity focuses on organizing temporary exhibitions on subjects which go beyond filmmaking (although it has held, e.g., an exhibition on Federico Fellini). An important element of the museum's exhibition plan is the presentation of works by visual artists. The space dedicated to temporary exhibitions is significantly larger than that devoted to the permanent one, which is located in another part of the Eye building. The permanent exhibition provides an overview of the development of inventions and technological innovations that led to the emergence and development of cinema.

Eye has four screening rooms which show contemporary film programs as well as numerous film retrospectives. The screenings proposed by the programming department are highly popular among seniors. Film screenings



are often accompanied by meetings with filmmakers or moderated discussions with experts from various fields. In addition, the museum offers contemporary films and holds premieres, mainly in the arthouse cinema genre.

Seniors are one of Eye's main target audiences. However, the institution is primarily focused on engaging younger viewers and encouraging their participation in the programs and exhibitions offered. Eye conducts numerous educational activities aimed at, e.g., teachers, who can utilize their knowledge of film history in their daily work with young people. Additionally, Eye holds workshops based on the film medium. *Cinema Remix* is a workshop designed for students aged 13–18. During the workshop, students learn how to use the Adobe Premiere software to create their own “remixes” by combining an original film footage with popular music. The students are supposed to create short video clips. The film material is sourced from the Eye's collection and consists of fragments of films from the early 20th century.



### Multimedia in permanent and temporary exhibitions

The Eye permanent exhibition is located in a small space on level -1 of the building. It is divided into two thematic areas. The first area presents the techniques preceding the emergence and development of cinematography. Here, visitors can see various optical toys, a mutoscope, a diorama, the stereoscopic technique, and a Taxiphote. The second area showcases the technologies and equipment

that have dominated cinematography, including cameras and projectors adapted to various film widths, the first digital cameras, and smartphones.

Moreover, some screens display presentations about selected exhibits in conjunction with replicas of the devices, which can be tested by visitors. The screens show animations explaining the inner workings of the exhibits or the optical illusions created by them. For example, the screen next to the mutoscope provides a detailed explanation of its principle of operation.

Another feature of the permanent exhibition are interactive cubicles with a quiz game testing the visitors' knowledge of the history of cinematography. Inside the cubicle, a guide on the screen explains how to provide answers and proceed (it is easy to do by means of interactive buttons). The quiz consists of film excerpts from international cinematic classics as well as local Dutch productions.



### **Temporary exhibition: *Fiona Tan. Mountains and Molehills***

The temporary exhibition showcasing the work of visual artist Fiona Tan was available at Eye during the mobility activity in December 2022. The artist's works were presented on multimedia devices and video installations arranged within the space. The multimedia used in the exhibition, such as projectors, large-format screens, and listening stations were not very interactive and the exhibition was designed to be easily accessible also for senior audiences. The large-format screenings could be viewed while seated, and the section containing listening stations, where recordings of Fiona's and her family's life stories were presented, was designed to be user-friendly.

### **Interactivity in Eye spaces**

Eye has prepared two activities for younger visitors. The corridors, waiting areas, and foyer of Eye hold an additional exhibition and educational elements related to the history of filmmaking.



**Eye Explore** is an interactive reconstruction of optical toys, such as the phenakistoscope and zoetrope, located in the corridor space. Visitors can obtain a free activity card at the Eye ticket counter. The card guides them to find answers to the questions it contains while interacting with the exhibits in the corridors. The correct answers can be found on the institution's website.

Another activity involves a multimedia guide on a tablet, which can be obtained at the ticket counter. **Eye Walk** takes young visitors through designated points in the building, explaining how special effects are created. The guided tour lasts fifteen minutes and is designed for children aged 7-12. During the short walk, the tablet displays film characters such as Darth Vader from the *Star Wars* series or the vampire from *Nosferatu: A Symphony of Horror* directed by Friedrich Wilhelm Murnau (1922). The tour concludes with the participants independently recording a film scene using a green screen located in the Eye permanent exhibition space. Later on, the participants can send the results of their work to a personal email address.

**Eye Listen** is a permanent feature in the Eye foyer. The seating areas are equipped with headphones and a selection of oral histories. Each bench contains four recordings related to different aspects of filmmaking: screenplay, camera work, editing, and music. The presented stories include films such as Steven Spielberg's *Jaws* (1975) – camera work, Roman Polanski's *Chinatown* (1974) – screenplay, and Tom Tykwer's *Run Lola Run*



(1998) – editing. The primary target audience for this activity consists of adults and seniors waiting in the for foyer film screenings or for admission to the exhibition.



## Paris: The Museum of Cinema of the Cinémathèque Française

**Participant: Paweł Hapka | The Film Education and Culture Department  
| The Film Museum in Lodz**

**Mobility activity dates: 06.12.2022–10.12.2022**

The Cinémathèque Française is an institution dedicated to gathering, preserving, and disseminating materials related to French and international cinema. Its collection of film reels, cinematic equipment, and other cinema-related objects is one of the most extensive in the world. Located at Rue de Bercy in the 12th arrondissement of Paris, the Cinémathèque holds daily screenings of films from around the world, primarily focusing on those that have made their mark in the history of cinema. The institution frequently welcomes film experts, including filmmakers, film historians, and artists, who deliver lectures and talks before screenings and engage with the audience. Various activities are also organized for participants from different age groups.



Founded in 1936 by Henri Langlois and Lotte H. Eisner, the institution's mission is to collect and provide access to film reels. One of its first acquisitions was the collection of Georges Méliès, a pioneer of fantasy in cinema. The current permanent exhibition presents Méliès within the context of the emerging film industry in France and worldwide. The Cinémathèque Française also offers temporary exhibitions dedicated to specific artists, genres, and film movements.

The institution's offerings cater to people of all ages, but its classical profile primarily attracts seniors. Its screening repertoire, focusing on outstanding works of French and international cinema that may not be screened in commercial cinemas, accommodates "vintage cinema" enthusiasts for whom watching films from the past holds additional nostalgic value. Seniors are regular attendees of screenings, filling the three cinema rooms located on the ground floor.

The institution is also geared towards film education for younger audiences. Preschool-age children can participate in activities involving the magic lantern. Elementary school students are offered workshops on creating stop-motion animation shorts. Finally, high school and college students can take part in workshops on film history and theory, expanding their knowledge and developing critical thinking about cinema.



The Cinémathèque's education department offers unique interactive workshops that encourage active exploration of cinema through dialogue between the lecturer and students. The workshops take place in a specially designated cinema room on the first floor. Students watch and then discuss excerpts from classic and contemporary films focused on specific topics (e.g., war images, rebels, use of color in cinema). By comparing sequences and motifs from films spanning different decades, participants discover parallels between the cinema they are familiar with and the cinema they discover during the workshops.

### **The permanent exhibition**

The Cinémathèque's permanent exhibition is entitled "The Méliès Museum: The Magic of Cinema" and is dedicated to Georges Méliès, the first cinema artist and pioneer of cinematic fantasy. His accomplishments are presented in the context





of the development of the film medium at the end of the 19th and in the early 20th centuries. The exhibition also highlights the influence of Méliès's work on later creators of phantasmagorical and science fiction cinema. The exhibition features numerous photographs, engravings, set designs, models, and film props. There are screenings of numerous excerpts from Méliès's works as well as films inspired by him from later

periods. The arrangement of props follows a chronological narrative of Méliès's artistic journey, taking the visitor on a journey from the beginnings of cinema to its latest achievements (contemporary science fiction). For example, in the first room, visitors can view magic lanterns and other optical toys from the turn of the 20th century (zoetropes, stereoscopic glasses, etc.), as well as exhibits related to the artist's stage activity, such as a miniature magician's cabinet and an automaton prototype taken from Martin Scorsese's *Hugo* (2011). Visual materials presented on projection screens and on wall-mounted tablets provide an additional context to the exhibits. For example, fragments of films such as Luchino Visconti's *Ludwig* (1972) and Ingmar Bergman's *Fanny and Alexander* (1982) are shown alongside a collection of magic lanterns, demonstrating the practical functioning of those devices. Similarly, in the case of Scorsese's proto-robot prop, a fragment from the film *Hugo* shows Méliès's magical tricks performed on a theater stage. The multimedia elements that visitors can activate include excerpts from Méliès's interviews accompanied by animated visualizations.

Each room features descriptions in French, English, and Spanish (the exhibits themselves are only labeled in French). The exhibition spans two levels. The vast space allows "breathing room" for the exhibits and accommodates a significant number of visitors. Some areas,





such as the room screening Méliès's iconic film *A Trip to the Moon* (1902), are designed with educational activities in mind, and a group of more than a dozen people can be seated in front of the screen.

The permanent exhibition is traditional in nature, with multimedia elements complementing the exhibits. Audio guides are available in three languages: French, English, and Spanish.



### Temporary exhibition

The temporary exhibition at the Cinémathèque is entitled “Top Secret: Cinema and Espionage.” It explores the relationship between espionage and film from the early days of cinema and examines how spies have been portrayed on screen. Visitors will discover cinematic patterns in depicting secret agents with a focus on both male and female spies. The exhibition juxtaposes film props with authentic espionage equipment, highlighting the correlation between the development of film technology and the world of espionage. It features film exhibits, reconstructions of famous props, authentic spy

equipment from various intelligence agencies throughout the 20th century (with an emphasis on World War I, World War II, and the Cold War), as well as film clips, photos of film stars, film posters, brochures, and propaganda posters. The exhibition follows a thematic layout, occasionally disrupting



chronological order, while clearly marking historical periods. It finally leads to the latest technological advancements used by intelligence agencies and the film industry. The exhibition invites reflection on the cinematic portrayal of spies (which has real-life implications for the behavior of actual agents) and explores the essence of cinema, which involves observing, and indeed spying on, people's lives.

Each room features descriptions in French, English, and Spanish. The extensive exhibition space covers one floor. Its layout is visually appealing and enables easy orientation in the theme of each segment (e.g., through large-format photos printed on the walls, posters, and projected film clips). The rooms with film screenings are furnished with benches for seated viewing. Among the authentic spy equipment, particular attention should be given to the reel-to-reel tape recorder Nagra used by Cold War spies, which was designed by Stefan Kudelski, a Polish engineer living in Switzerland.

Similarly as in the case of the permanent exhibition, the temporary one features objects, but there is a greater presence of multimedia, especially in the final segment, where visitors can interact with a console displaying a world intelligence map (hovering over a selected area starts the display of materials such as film excerpts and documentaries on the screen). Both the permanent and temporary exhibitions offer

audio guides as well as the services of a guide-educator who tailors the narration to the age of the participants.



### Film studio

The institution has specially designed spaces for educational activities and workshops. The main target group are primary and secondary school students, while the educational offering also caters to teachers wishing to expand the range of film-related activities provided by their schools (which are included in the French curriculum). This does not exclude organized activities for senior groups, as the film studio offers attractive sessions familiarizing participants with new media and their practical use.

Particularly popular among mature individuals are workshops offered in film production facilities. Located on the third floor of the building, they have the necessary equipment for professional filmmaking, including cameras, projectors, speakers, microphones, exhibits, and props. The workshops can be either individual sessions or part of a series. In longer workshops, participants gain comprehensive knowledge about the process of filmmaking and familiarize themselves with its essential aspects



under the guidance of professionals collaborating with the Cinémathèque. For example, during a five-hour workshop led by professional lighting technicians participants learn about the role of lighting in a film studio. The instructors demonstrate the most important and effective methods of creating mood by directing a beam of light onto individual objects and around the room. Participants apply the acquired knowledge in practice by producing a short film demonstrating various lighting techniques.



## Frankfurt: DFF – Deutsches Filminstitut & Filmmuseum (The German Film Institute and Museum)

Participant: Zuzanna Woźniak | Exhibitions and Projects Department  
| The Film Museum in Łódź

Mobility activity dates: 23.01.2023–27.01.2023

The Deutsches Institut für Filmkunde (German Institute for Film Studies) was established in 1949. The exhibition activities of the Deutsches Filminstitut und Filmmuseum (DFF) began in 1984 with the opening of the Film Museum in a building that still serves as the institution's headquarters today. The historic townhouse, located on the banks of the River Main, underwent extensive modernization between 2009 and 2011. As a result of renovation work, the exhibition spaces were completely redesigned and rearranged between the floors. The institution was reopened in August 2011, unveiling two new permanent exhibitions:

1. *Cinema Perception* – presenting a history of optical inventions and toys predating the development of the cinematograph;
2. *Cinematic Storytelling* – presenting the four elements of filmmaking, i.e., acting, sound, image, and editing.



Permanent exhibitions have remained almost unchanged for twelve years. The museum's curatorial team has just begun work on modernizing the exhibition's

appearance. The planned changes will focus on incorporating principles of sustainable development, environmentally friendly solutions, and increasing inclusion. Another challenge for the DFF staff is the need to modify multimedia materials, with some interfaces falling short of today's standards. The exhibition will be modernized in stages with some of its segments temporarily closed down, which will allow the museum to remain open.

The DFF also holds temporary exhibitions, typically three per year. During the mobility activity, the multimedia exhibition *RAPTURE OF THE DEEP. FILM UNDER WATER* presented images of underwater depths in world cinema. It was based on film materials and included a video installation (essay) on recurrent themes and a similar artistic approach to capturing underwater scenes throughout the decades of film history.



The DFF has several educational spaces where numerous workshops aimed at different age groups are conducted. A blue screen room is available to visitors and workshop participants, allowing them to create clips where they are “inserted” into the world of cinema. A team collaborating with DFF educators also carries out activities outside the institution's premises, e.g., in preschools, schools, and other cultural institutions. The Education Department creates its offerings in a ladder-like fashion. It starts by developing projects for the youngest viewers, and once specific solutions

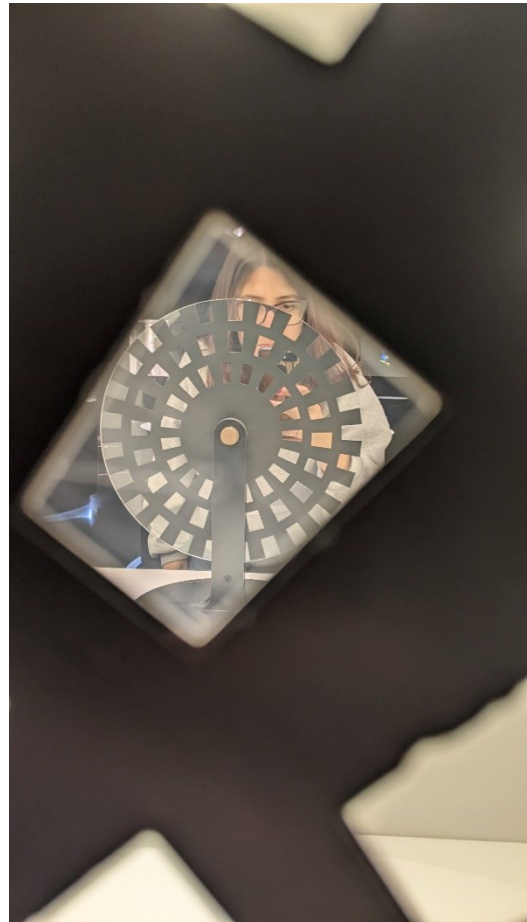


are implemented, they move on to the next target group. Seniors and adults are on their list of priorities for the future, but similarly to some of the other institutions participating in the project, the emphasis is initially placed on reaching out to younger audiences with the DFF's offerings.

### **Cinematic Perception**

The first part of the DFF exhibition is dedicated to pre-film and early film technologies. The curators have divided the exhibition space into six segments, each focusing on a different aspect of films, namely curiosity, motion, shooting, projection, moving images, and cinema.

Each segment features original objects and interactive replicas created specifically for the exhibition and made available for visitors to use. In this part of the exhibition, the use of multimedia is kept to a minimum. The exhibition largely relies on the presentation of the inner workings of numerous inventions, such as a Taxiphote, mutoscope, magic lantern, camera obscura, and zoetrope.



### **Cinematic Storytelling**

The second part of the permanent exhibition focuses on the principles of the film language. The centerpiece of this section is the artistic installation called "The Film Room," which showcases the diversity of cinematic means of expression and techniques. The nearly eighty-minute material serves as the architectural centerpiece and soundtrack for the entire exhibition. Excerpts from dozens of films are displayed on four large-format screens. The immersive montage of diverse and yet well-known film clips enables visitors to deeply engage with exhibition experience and identify recurring motifs and cinematic solutions. The remaining part of the exhibition is placed "behind

the screens” and presents the filmmaking backstage. Its four segments showcase various museum objects related to image, sound, editing, and acting.

Additional spaces include a green screen where visitors can see themselves in three different film worlds. The studio also showcases various lighting techniques used in cinematography.

This part of the permanent exhibition incorporates numerous interactive multimedia solutions. The multimedia applications enable visitors to modify film fragments. In the sound section, they can see familiar scenes from *The Matrix* by Lana and Lilly Wachowski (1999) with altered dialogue tracks, music, and other modifications (such as muted dialogues, music, or sound effects). In the editing section, viewers have an opportunity to edit film materials themselves and arrange them in a new sequence. One of the tasks is to count the number of cuts in selected scenes. The applications supplement the exhibits and serve as a way for conveying knowledge about film production techniques and the significance of film language.



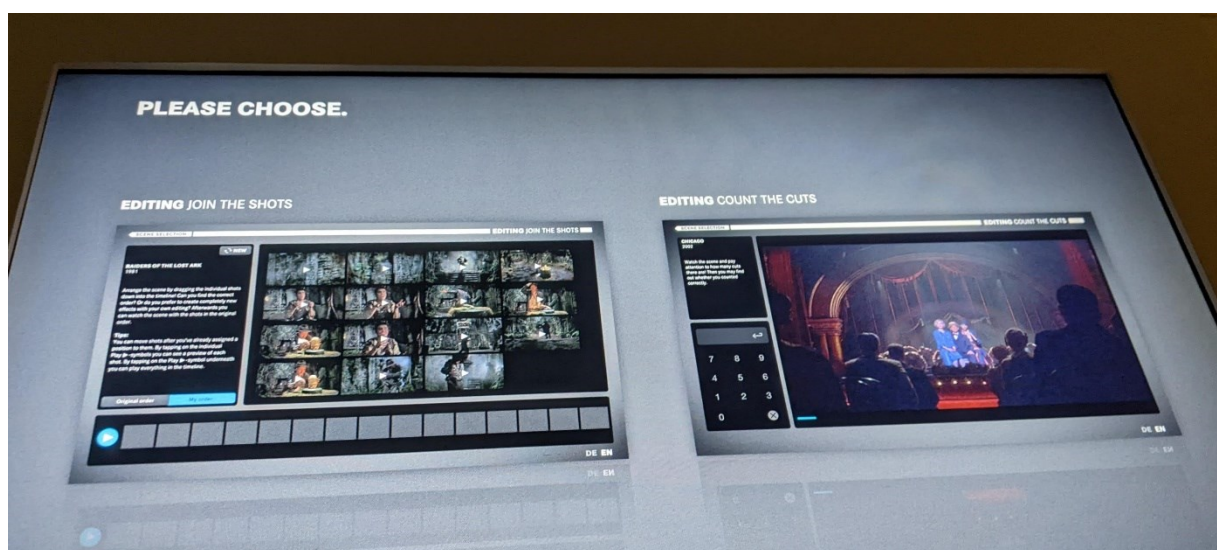


## MultiMediaGuide

At the museum ticket counter, visitors can rent a multimedia guide free of charge. The symbol of the device appears next to selected exhibits, indicating that additional information is available in the guide.

The MultiMediaGuide was developed as part of a participatory project. The guide was prepared over three years in collaboration with three school-age children groups: 8–9, 10–13, and 16–18-year-olds. The children attended special workshops and sessions at the museum once a week for six months. Their task was to select some exhibits and create materials about them for the guide. The students developed descriptive materials, made short recordings about the exhibits along with commentaries, and conducted interviews with various individuals associated with them. For example, in the case of the costume from Ridley Scott's *Alien* (1979), the students interviewed Kathrin Sundermann, the costume conservator responsible for preparing it for display.

Later on, the guide was supplemented with a schedule of the institution's activities, along with descriptions of all the spaces accessible to visitors. At the beginning of the tour, visitors are greeted by a message from the director of DFF, Ellen Harrington, who assumed her position in 2018. The application is easily accessible, and its operation should not pose difficulties even for moderately tech-savvy users.



## Tallinn: Filmimuuseum

**Participant: Kornel Nocoń | Exhibitions and Projects Department  
| The Film Museum in Łódź**

**Mobility activity dates: 01.02.2023–05.02.2023**

The Film Museum in Tallinn is part of the Eesti Ajaloomuuseumist (Estonian History Museum). It is housed in the Maarjamäe Palace complex, located several kilometers from the city center. Each building is dedicated to a different exhibition devoted to the following subjects: *Take One* (Film Museum), *My Free*



*Country* (Estonia's struggle for independence from the 20th century to the present day), *Glass Makers: The History of the Estonian Glass Industry* (glass art and design). The main attraction for children is a large interactive space (slides, climbing walls, touch screens, and tunnels) located in the Maarjamäe Palace.

The permanent exhibition of the Film Museum consists of two parallel narratives. The first one shows the filmmaking process – from the conception of a screenplay idea, to the film set, to a red carpet grand premiere. The second narrative focuses on presenting the most important titles in the history of Estonian cinematography. It features film equipment such as cameras, projectors, and props from Estonian films, as well as set elements (e.g., from Rainer Sarnet's *November*, 2017). Interactive multimedia stations and various implementations of new technologies are significant elements of the exhibition.

The creators of the exhibition made an effort to offer visitors a different set of new media in each room. The section devoted to pitching a screenplay idea is presented through a karaoke-style application that records a video with the visitor's voice and then sends the edited material to a selected email address. Another application allows visitors to create their own sound effects for a film. In addition, visitors can experience technologies such as VR goggles, VHS cassette players, green screens, and touchable

holograms. An imitation of the press wall used at premieres encourages visitors to use their own “new technology”: a camera or a phone. At this spot, visitors can take a photo (a “selfie”) against an original backdrop and “tag” the museum on social media.

The second floor of the exhibition consists of oversized optical toys, with the magic lantern being approximately 1.5 meters tall. Some interactive installations are literally powered by the visitors’ legs, such as an optical toy with stationary bicycle pedals that activates the mechanism projecting images onto the wall.

Additionally, the Film Museum building houses a large cinema hall, which is exclusively used for special events (e.g., official film premieres) and temporary exhibition spaces. During the mobility activity, the Museum opened the *Goricature* exhibition, featuring the caricaturist Vello “Gori” Agor. The event was accompanied by a screening of Raimo Jõerand’s film *Gori the Caricaturist* (2022).

Guided tours at the Film Museum are primarily enjoyed by preschool and school groups. The educational offering enabling the creation of stop-motion animation is highly popular.



The location of the Film Museum presents an obstacle to audiences other than school groups or families with children. It is situated at a distance from the center of Tallinn, and it can be challenging to reach by public transportation (it requires multiple changes). The Palace building itself is accessed by steep stairs without a ramp or escalator.

The Tallinn Film Museum exhibitions are among the most advanced in terms of multimedia and interactivity among all the institutions visited as part of the project.

### **Filmimuuseum: applications and new technologies at the exhibition**

Each room in the Filmimuuseum tells the story of specific aspects of creating a feature film. All rooms feature multimedia devices offering original applications, which explain the room's theme in a popular-science manner through short games. The creativity of the programs and the arrangement of the multimedia stations deserves special recognition. Each application has unique rules and individual controls (gameplay). Some of them may be challenging to use due to the absence of instructions.

For example, visitors can record a karaoke simulating script pitching. In this case, the design of the station is straightforward and it is clear how to use the application. The screen displays a text that changes color as the song progresses, and in the background, a professional film material specifically shot for the application can be seen. Visitors can choose one of three audiovisual materials with different song options and use the installed microphone. The designed station is clear in terms of the required interactions and their effects. The final video with the recorded song can be sent to an email address provided by the visitor.

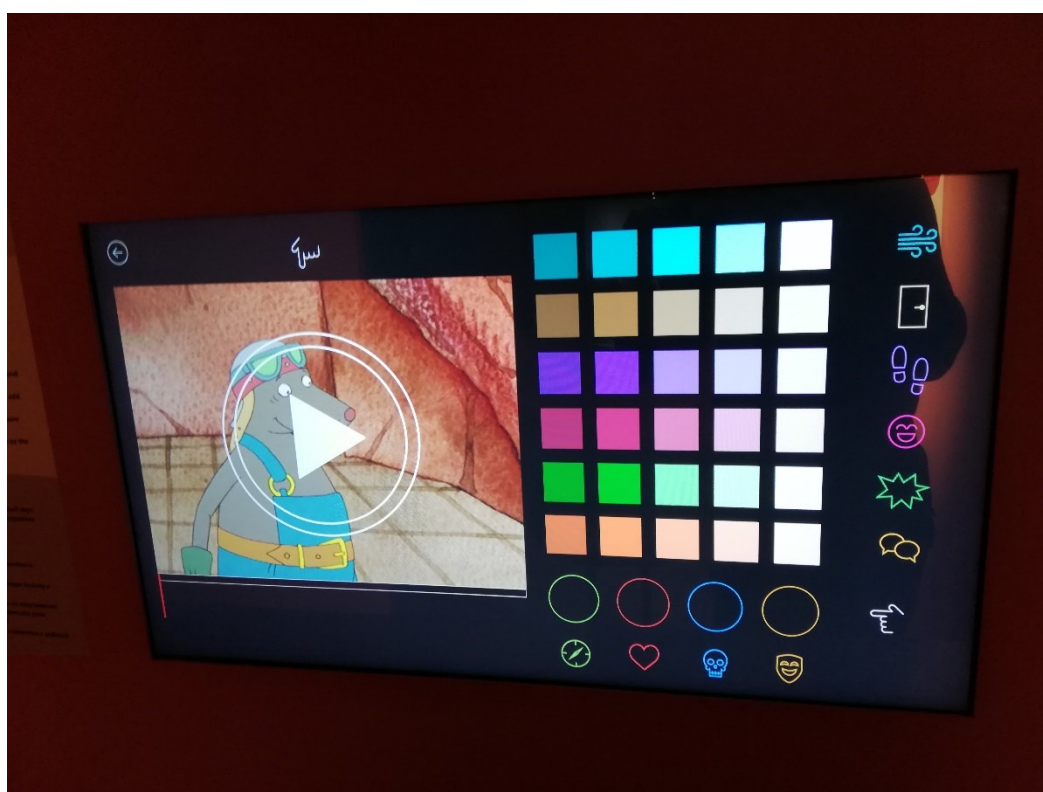
Unfortunately, it can be difficult to understand how to operate the applications in other rooms. Some of them have numerous buttons reminiscent of arcade game machines from the late 20th century. Although each button is labeled with a universal





pictogram, understanding the controls and operation principles of some applications may be challenging.

The sound editing program offers an opportunity to record a sound track for one of four film clips. A wide range of sounds are designated by colored squares, and the application user must memorize 30 sound effects and apply them to the video material. There is no room for error, and playback cannot be paused at any moment. Visitors must therefore record the entire sound track in one go. The station may initially seem easy to use, but actually it is very difficult to complete the task.



In addition to the new technologies available at the exhibition, the Filmimuseum suggests that visitors use their personal multimedia devices, such as smartphones with cameras. Visitors can take photos of themselves in a replica costume from an Estonian film or on a red carpet. Allowing the use of personal devices in the exhibitions is less likely to cause difficulties and mistakes such as those associated with operating the museum's interactive stations.

## Porto: Serralves / Casa do Cinema Manoel de Oliveira

**Participants:** Dominika Ogłaska | The Film Education and Culture Department;  
Zuzanna Woźniak | The Exhibitions and Projects Department  
| The Film Museum in Lodz

**Mobility activity dates:** 26.04.2023–30.04.2023

Established in 1989, the Serralves Museum of Contemporary Art is an institution dedicated to contemporary art, architecture, cinema, and the environment. It closely collaborates with Portuguese and international artists. The Serralves Collection currently comprises of over 4,300 works, with over 1,700 items owned by the Serralves Foundation and the remaining 2,600 coming from various private and public collections. The museum presents numerous temporary exhibitions and will soon introduce a new permanent one. It is also one of the most visited museums in Portugal, offering visitors an opportunity to stroll through the extensive park that surrounds it, explore the main museum building, visit Casa de Serralves, the former residence of the complex's original owners, and delve into the world of cinema while discovering the Casa do Cinema collection.

Casa do Cinema is a branch of Serralves dedicated entirely to the work and memorabilia of the director Manoel de Oliveira. Established in 2019, it focuses on an artist whose career spanned over eighty-four years. Manoel de Oliveira directed his first film in the era of silent cinema, while his last film premiered in 2014.

The exhibition of the filmmaker's oeuvre is currently the only permanent exhibition in Serralves (apart from the garden, which represents a separate area of the institution's activity). Housed on the first floor of a newly renovated



pavilion, the exhibition presents a small collection of the director's major awards and personal memorabilia. Additionally, a video wall allows visitors to browse scans of a large part of the collection. The main highlight of the exhibition is a video installation presenting separate visual essays on three films by Oliveira, simultaneously displayed on four large-format screens.

Temporary exhibitions are held on the ground floor of the pavilion. The exhibition that was featured during the mobility project was created solely from archival materials donated by Manoel de Oliveira. Archive shelves transformed into display cases demonstrating the extent and nature of the items comprising the director's collection, including the first desktop computer, as well as folders containing his personal photographs, notes, and film awards.

Serralves is an institution with a broad educational profile, catering to diverse audiences and offering activities for organized groups ranging from preschool children to school students, adults, and seniors. Individual visitors can participate in a rich and varied program of activities, including guided tours, family workshops, lectures, and meetings with artists. The institution also holds a range of educational programs.

Casa do Cinema Manoel de Oliveira addresses its educational offerings to all age groups, primarily attracting adults and seniors due to the content presented in its exhibitions. The institution has an auditorium that can accommodate fifty-nine spectators, where it holds the series *Sunday at the Movies: Casa do Cinema Manoel de Oliveira* and *Portuguese Cinema 1*. The program offers screenings of Portuguese films accompanied by commentary; the program corresponds to the director's work. These screenings attract large audiences and are available both





in the original language version and with English subtitles. The auditorium is also utilized by Casa do Cinema educators for educational activities, such as lessons and workshops. Moreover, two fully equipped classrooms serve as additional educational spaces. Each of these locations is accessible for individuals with mobility disabilities by ramps and elevators.

### New technologies

The limited Manoel de Oliveira exhibition space in Casa do Cinema contains a selection of new media. On the upper floor of the pavilion, two multimedia installations exemplify an unconventional approach to Oliveira's filmography. Visitors to the permanent exhibition can engage with an interactive video wall which presents fifty of Oliveira's productions, taking viewers on a journey spanning over eight decades of the director's work. The medium is organized chronologically, featuring film sequences, photographs, documents, and drawings related to each title in the Portuguese filmmaker's filmography. The extensive selection of archival materials allows visitors to notice periods of hiatus and discern the influence of prevailing trends



on Oliveira's films. The video wall is user-friendly and accessible to seniors, enabling exploration in both Portuguese and English, as well as an option to zoom in on the displayed content.

### Workshop: *I AM 25 YEARS OLD*

*I AM 25 YEARS OLD* is an intergenerational educational project carried out by educators collaborating with Serralves in the suburbs of Porto. In each town where the workshop is held, the educators conduct a series of thirty-three sessions: eleven



sessions with seniors living in nursing homes, eleven sessions with youth in orphanages, and eleven sessions where youth and seniors meet under the guidance of project facilitators. The seniors' are asked to share stories from their young years. Their memories are recorded and watched by the youth and other participating seniors. The project facilitators explained that for many older individuals involved in the project, it was their first opportunity in life to see themselves on a recording. The participating youth learn how to operate film equipment and use film editing software. During the workshop, they also record their own film segments. The main goal of the project is to explore intergenerational relationships using new technologies. The final outcome of the project is a five-minute film summarizing the collective journey and stories that emerged from the workshop.

What is striking to an observer of the workshop is the seniors' enthusiasm for active participation. Participants interested in the new technology utilized during the workshop are happy to share their stories and attentively listen to each other's narratives. Conducting workshops aimed at bringing together such diverse age groups, with the additional use of technology, is a very intriguing idea that has the potential to yield valuable insights.

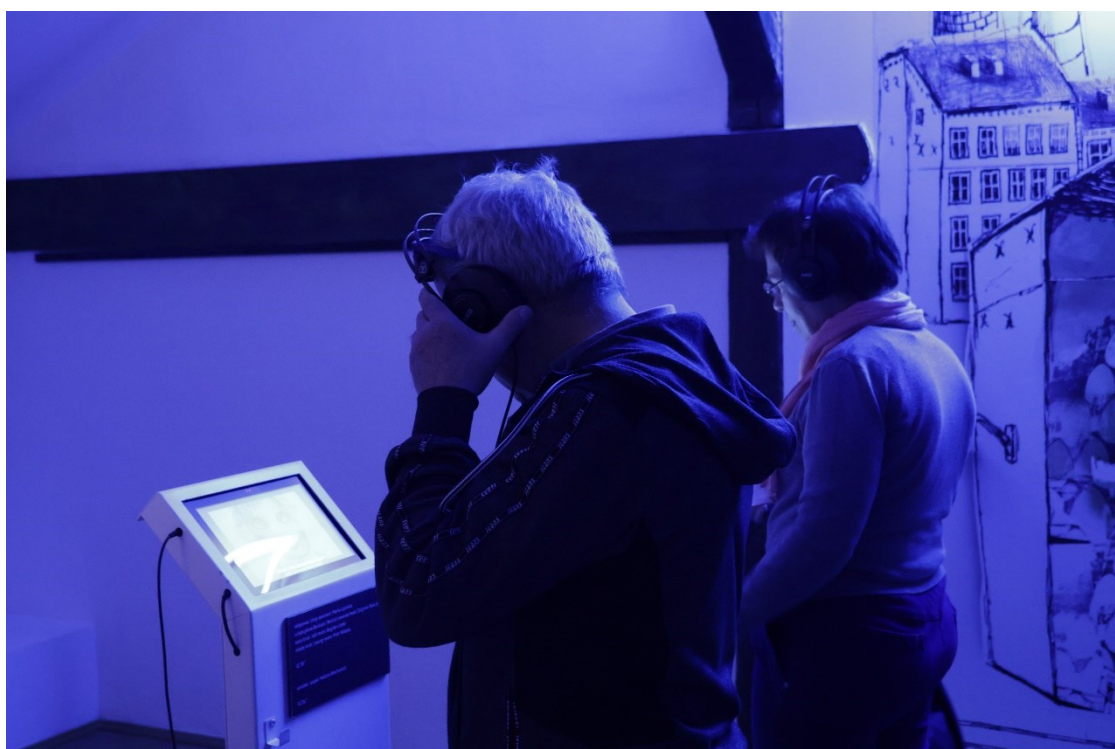
## Chapter 2: Observations and conclusions from workshops for seniors

### Workshop: *On the wall and on the screen*

Based on the experience gathered during the mobility project, on May 18, 2023 we organized a workshop entitled *On the Wall and on the Screen* at the Film Museum in Lodz. The event took place as part of the permanent exhibition *Łódź in Film* and the temporary exhibition *Mariusz Wilczyński: Kill It and Leave This City*. Its main focus was to educate seniors on the use of new technologies in museums. Interactive devices available at the exhibition served as learning tools.

The dominant age group participating in the workshop were people between 60 and 70 years old (a total of fourteen seniors took part).

The event was preceded by a survey collecting information from the participants regarding their familiarity with new technologies and how often they used them. We are aware that a study group consisting of 14 respondents is not representative, but it provides insights into the attitudes of seniors residing in a large city (Łódź) to new technologies. The workshop did reveal their expectations regarding the intermediality of museum exhibitions.



Seniors unanimously declared that they had daily contact with new media. Eleven individuals reported ownership of laptops, while nine used smartphones or iPhones. Equally popular among the respondents were Smart TV sets (7 respondents). They mostly acquired knowledge about using technology from their close ones (10 individuals), the manuals accompanying the devices (8 individuals), and instructional materials available on the Internet (6 individuals). A small group of seniors (5 individuals) had previously participated in classes dedicated to using new technologies.

During the workshop, we guided the seniors through the permanent and temporary exhibitions, demonstrating each type of interactive device offered by the museum. In the case of multimedia tables, the seniors were asked to find specific information on different tabs of the application. The presentation of available functions of interactive devices proved helpful. This allowed seniors to correctly identify all the required information, such as matching an event with a date on the calendar. The seniors were reassured by the presence of instructors who could assist them in case of any mistakes or confusion. Their initial skepticism quickly gave way to interest in the technologies. Workshop participants approached the devices (including tablets), even those that were not included in the lesson plan, on their own. They attempted to interact with them and used them correctly.



We noticed that the lack of instructions for multimedia devices posed a significant challenge for seniors. Brief guidelines explaining the essential features of the available applications would have been helpful. Some icons on the video players displaying film clips were not easily readable for some members of the guided group. Particularly unfriendly were options related to opening the player window and moving scans of exhibits sideways. Many members of this group of technology consumers are used to watching displayed content rather than actively interacting with it.

The results of the evaluation questionnaires conducted at the end of the workshop indicate that 10 seniors acquired new knowledge in using new technologies. Even more satisfying is the response to the question of whether the workshop encouraged participants to use interactive devices in museum exhibitions, where the feedback was 100% positive.

The issue of using new technologies can be sensitive for seniors who do not want to be excluded from the world of evolving media. One of the comments in the feedback questionnaire stated, "New technologies are widely used (laptops, smartphones), and so they are not entirely new." On the other hand, we noticed a sense of mistrust,





and perhaps even trepidation, in using touch screens and multimedia applications among the majority of workshop participants.

### **Workshop: *Quiet on Set***

The next event organized as part of the Erasmus+ project was a workshop for seniors teaching them how to record a soundtrack for a film clip. Due to the small space in the workshop room, the group had a limited number of participants, with a maximum of five people. Four female seniors between



the ages of 60 and 70, and one between the ages of 70 and 80, took part in the workshop.

The workshop took place in the educational space of the Film Museum in Łódź – the sound studio. Due to the complicated multimedia equipment present in the studio, the participants could access it only under the supervision of an educator.

First, the seniors watched a film clip on the screen. The video was presented in two versions – silent and with a demonstration soundtrack. This allowed the participants to understand the purpose of the workshop and the desired effects. Then, the educator provided objects that produced characteristic sounds, which the participants were instructed to record using several microphones. The microphone served as a simple technology with which the participants interacted most directly during the workshop.

The opportunity to create background sounds (such as hoofbeats) proved to be attractive to the seniors who had not previously had direct experience with this technology. The multimedia sparked their creativity, and they were not afraid to use new technologies. On the contrary, their familiarity with multimedia allowed them to experiment with capturing sounds. The recorded sounds were “pasted” into the film using the software FL Studio Team. Due to the advanced level of the application, this was done by the educator, who explained to the group the various steps of inserting the sound and creating a complete film clip as the work proceeded.

The workshop was positively received, as reflected by the feedback questionnaire. All the seniors reported that they gained new knowledge in the field of technology. Some even requested another edition of “Quiet on Set” specifically for senior participants. Interestingly, two participants provided their personal email addresses, to which the film clip with the soundtrack created during the workshop was sent.



## Chapter 3: New technologies in museum exhibitions as a tool for senior education – best practices

The amount of new technologies in museum exhibitions is usually determined by the target audience of a particular institution. At NaFilm in Prague, interactive stations took precedence over the traditional exhibition focused on the presentation of objects. In the Estonian Filmimuuseum, the number of new media was proportional to the amount of tangible film artifacts (such as cameras, props) and formed the narrative backbone of the exhibition. Both institutions excelled in the use of new technologies in their permanent exhibitions compared to other places visited in the project. They were the only ones that expressed a greater interest in catering to young people or organized groups of children rather than seniors.

Other museums visited in the project indicate that their primary audience consists of seniors, and the main challenge in promoting their institutions lies in reaching younger people. This is one of the reasons why the Deutsche Kinemathek decided to develop the “On Set – Film in Berlin” application.

This preliminary analysis suggests that the creators of European exhibitions often target new technologies primarily at young people. When designing applications and multimedia player interfaces, they seldom consider their accessibility for seniors. On the other hand, educational activities based on new technologies are also rarely addressed exclusively to senior groups.

In the subsequent part of the best practices handbook, we will present our observations and experiences resulting from nine study visits to museums across Europe. We will list all the ways of educating seniors through new technologies that we were able to observe during our mobility project. We will also describe best practices in designing interactive stations in terms of their accessibility for older adults.

## New technologies in museum exhibitions

### Audio guide

When it comes to new technologies, the primary equipment in most museums is an audio guide. The devices are usually provided at the ticket counter, which is very convenient for the visitors. Individuals renting audio guides have contact with members of the museum staff (cashiers), who can explain how to use them. The ticket counter at the Deutsche Kinemathek is equipped with a demonstration version of the device, with a button that replicates those in the exhibition. Users can learn how to use the devices in a simple and easy way.

### Operating instructions

Operating instructions for devices are crucial to the quality of interaction with multimedia at exhibitions. They help users familiarize themselves with the new technology, understand its workings, and overcome barriers between them and the digital medium. This becomes even more important when museums offer visitors game applications (e.g., multimedia at the exhibition in Tallinn). Instructions can be presented as a looped video on a separate screen (optical toys at the Eye Film Museum), precede the activity in the application (“On Set – Film in Berlin” at the Deutsche Kinemathek), or be displayed as a classic label with text and icons (the animation station at NaFilm). It is erroneous to assume that users, and especially seniors, will figure out how to use devices on their own. Therefore, particularly complicated multimedia are only available under the guidance of coordinators from the museum during educational workshops (e.g., the film studio at the Cinémathèque Française).

In this context, QR codes placed at exhibitions are often unclear to seniors. If the museum staff decide to use them, they should provide instructions explaining how QR codes work.

### Design consistency

When designing an exhibition, it is important to maintain consistent design principles. We drew such conclusions from the workshop *On the Wall and on the Screen*. All the touchscreen tablets used in permanent exhibitions were placed on white stands.



Identical tablets were also installed in the temporary exhibition *Mariusz Wilczyński: Kill It and Leave This Town*, with the difference being that we disabled the touchscreen functionality and looped the material. Seniors accustomed to what they found on the previous floors of the exhibition attempted to interact with the tablets. Similar challenges arise in every exhibition that combines multimedia on interactive screens and traditional ones that only display audiovisual content (e.g., the German television exhibition at the Deutsche Kinemathek).

This brings to light the difference between the youngest exhibition visitors, who try to interact with every display, and the oldest ones, who usually view screens as a fixed element in space that does not require any intervention from them. Many exhibition staff members in the museums we visited shared this insight.

Taking into account the needs of different audiences, a good practice in using new media in permanent exhibitions is to consider the knowledge and competencies of the visitors. The designer should evaluate whether the touchscreen interface is a universal technology suitable for all age groups. An alternative solution is to use classic buttons that allow interaction with the device and perform actions on the screen (e.g., quizzes and listening stations in Eye, applications in the Filmimuseum).

### Pictograms – a universal language

It is extremely important to make sure that interactive stations and applications have appropriate “new media” icons consistent with symbols familiar from other devices. For example, an equilateral triangle symbolizes the *play* function, parallel lines indicate a *pause*, and a square represents the *stop* option. Graphic icons serve as a universal symbol that transcends language barriers and the experiences of various age groups.

On the other hand, the workshop *On the Wall and on the Screen* showed us that not all symbols used in applications are easily understandable for seniors. It was particularly challenging to enlarge the player window and close it as the icons were not intuitive. In such situations, we suggest labeling functions (preferably in multiple languages) or providing operating instructions next to the device.

## Availability of multimedia stations

The arrangement of multimedia devices in exhibitions is equally important. Based on our observations, applications that enhance the exhibition experience should consist of short audiovisual materials. The duration of video materials and interactive games should not exceed five minutes. An example of best practices in this regard is the short form of multimedia content at the Cinémathèque Française. Moreover, it would be beneficial for multimedia stations or projection areas to provide some seating. This way, seniors would have space to rest, and their physical limitations would not affect the length of their interaction with new technologies. Good examples of such practices are the seating areas next to large-scale projections in temporary exhibitions such as *Fiona Tan. Mountains and Molehills* and *Werner Herzog*. The seating does not have to be an integral part of the multimedia station. The Deutsche Kinemathek uses collapsible “seat sticks,” available for rental free of charge at the entrance to the exhibition, which can be set up anywhere (e.g., in front of a touchscreen with an application about special effects in *Metropolis*). The location of screens is also crucial; they should not be placed too high to be easily accessible for all visitor groups.

Multimedia applications should also feature an option enabling the user to change font size and invert colors to make them accessible to a wider range of audiences, including seniors.

## Summary

Many institutions participating in the Erasmus+ project treat new technologies as a supplement to traditional exhibitions – a tool aimed at complementing the exhibits in an attractive way (e.g., the video wall at the Serralves Museum of Contemporary Art). In other cases, multimedia are used to entertain visitors waiting for a screening or a guided tour, as seen in Amsterdam’s Eye (Eye Listen station).

Each time when planning to incorporate new media into the museum space, it is essential to remember that the entertainment value of the equipment and applications should not overshadow their accessibility and intuitive operation for users of all ages. A good practice in the process of installing technology at the exhibition is allocating a budget for their maintenance and technical support. It is also crucial

to bear in mind that technological progress quickly renders some media outdated, as experienced by the staff at the German Film Institute (DFF) in Frankfurt am Main.

Interestingly, curators and designers tend to utilize new technologies more frequently in temporary exhibitions than in permanent ones. A notable example of this trend is *Werner Herzog* at the Deutsche Kinemathek, where various forms of new media served as the primary means of conveying content. In that case objects and exhibits complemented the multimedia content rather than take center stage. Similarly, *RAPTURE OF THE DEEP. FILM UNDER WATER* at the DFF in Frankfurt consisted solely of screens displaying attractive video material. In *Fiona Tan. Mountains and Molehills*, audiovisual materials took precedence over physical exhibits.

#### Best practices in using new technologies in museum exhibitions:

- In the case of the most commonly used devices in an exhibition (e.g., audio guides), a demonstration device should be available for the staff to explain their operating principles.
- Operating instructions should be provided for each application, new technology, and multimedia station; it should have the following features:
  - written in at least two languages;
  - with a graphical presentation of its instructions;
  - presented in straightforward language.
- If the museum decides to use QR codes in an exhibition, it must explain how they work.
- Individuals taking advantage of complicated multimedia should remain under the supervision of the museum staff.
- One should design multimedia stations consistently (e.g., devices with identical applications should be placed on the same or similar pieces of furniture).
- Each multimedia station should be equipped with seating.
- If a museum uses both touchscreens and traditional screens, their functions must be clearly marked (e.g., a “Do not touch” warning could be placed next to screens with a disabled touch function).
- New technologies should be universal in terms of their operation; for instance touchscreens may be replaced with traditional button-operated screens.

- A universal language should be applied, such as pictograms or other graphical explanations, to show how to use the multimedia at the exhibition.
- Video materials presented in applications and on screens as well as multimedia content should not exceed 3 to 5 min.
- Applications must enable font size adjustment and color reversal.



## New technologies as a tool for educating seniors

Education is one of the crucial pillars of museum activity. Museums across the world organize workshops for people of various ages and conduct guided tours of exhibitions for interested visitors. Interestingly, only one among all the institutions participating in the Erasmus+ project (the Serralves Museum of Contemporary Art) offered workshops specifically targeted at seniors. The other museums provided workshops for “adults” without specifying any particular age groups.

### On-site and off-site workshops

Many museums offered workshops on stop-motion animation catering to children, youth, and educational staff. These activities required the use of new technologies for recording and editing animated materials. Such workshops can be divided into two categories based on different approaches to multimedia: those that could only be conducted on-site due to technology availability (e.g., stop-motion animation at NaFilm) and those that can be conducted off-site. Participants in Deutsche Kinemathek workshops downloaded an application onto their private devices, and so they could be held off-site (e.g., at schools).

Off-site educational activities could be one of the answers to the challenges of engaging seniors in museum-led educational initiatives. The employees of some museums pointed out that the location of the institution at a distance from the city center posed a significant problem for seniors, who were less likely to participate in their offerings. Organizing workshops in nursing homes, community centers, or parishes facilitates the activation and education of the elderly. The organizing institution should provide the necessary equipment. Another solution is to work with mobile applications available online, accessible for download on participants’ smartphones or tablets.

An excellent example of such practices is *I AM 25 YEARS OLD* carried out by educators from the Serralves Museum of Contemporary Art, who organize workshops in towns neighboring Porto. Their initiatives increase the territorial outreach of the institution, expands its recognition, and brings educational offerings to areas with a limited access to culture.

An increasing number of seniors are now using new technologies, such as during video calls with their families. Online workshops have proven effective as an alternative to off-site educational activities. In our opinion, this approach works well for lectures or thematic sessions that do not require participants to interact with modern technology other than a laptop or smartphone.

### The role of the person leading the workshop

An educator conducting a workshop using new media provides a sense of reassurance and support to individuals unfamiliar with advanced technologies in their daily lives. During the workshop *On the Wall and on the Screen*, we noticed that seniors were initially hesitant and afraid to use multimedia devices at the exhibition. However, we were able to remove most of the participants' concerns by following the appropriate approach: by patience and explanations of how the multimedia worked.

Senior individuals are afraid that they lack the necessary skills to operate devices or that they might accidentally damage them. A proper introduction to the workshop – setting clear objectives and explaining the functioning of the devices in detail – sets the participants at ease. The educator should give clear and precise instructions and allocate more time for conducting the workshop as compared to younger participants. Actions taken by the educator on the computer screen (e.g., stop-motion animation editing) should be accompanied by commentary familiarizing the participants with the steps taken.

If the educator exhibits the aforementioned qualities, then seniors can participate in any type of workshops – both those where multimedia devices are treated merely as tools and those focused on exploring the workings of new technologies.

### Workshops for seniors – paid or free of charge?

When organizing workshops for seniors, educators should consider the issue of charging fees to participants. *I AM 25 YEARS OLD* workshops are conducted free of charge, which makes them more attractive to private individuals and organizations engaged in promoting senior participation in cultural activities.

Museum institutions typically honor Senior Cards that provide discounts on ticket prices. It would be a good practice to include workshops for seniors in the list of activities covered by the Senior Card in a given city, region, or country.

On the other hand, public institutions can apply for funding for educational activities through various grant projects. This approach allows them to obtain financial support to cover the costs of conducting workshops.

## Summary

The engagement shown by seniors in a workshop such as *Quiet on Set* and the enthusiasm they displayed during the project *I AM 25 YEARS OLD* prove that the lack of workshops for seniors in the majority of European institutions is a gap in their educational programs that needs to be filled. Workshops encompassing all adult age groups are not the solution. Older individuals may feel uncomfortable among younger participants who are more proficient in handling new technologies. Addressing educational offerings to this specific group creates a safe space for the eldest members of society to acquire knowledge. Educational activities conducted in cultural institutions can become spaces for building relationships and activating seniors who might otherwise be at risk of social exclusion. Additionally, participatory projects that involve educating seniors in the company of children and youth offer an interesting perspective.

## Best practices in educating seniors using new technologies:

- Consider what form of workshops is most appropriate for seniors in your area (province, town, municipality). You can hold your workshop on-site, at your institution, or at a place convenient for seniors.
- Remember that new technologies are only a tool for attaining the goal of an educational workshop. Do not make them the sole focus of the activity.
- Do not ask seniors to download applications onto their own mobile devices; prepare materials beforehand using museum devices.
- The educator running workshops should be patient and careful – his or her instructions should be simple and precise.

- Make sure that workshops for seniors are inexpensive and honor discount cards. The best solution is to give workshops free of charge.
- Provide a detailed commentary on each of your interactions with multimedia devices observed by the seniors.
- Remember that you should not be infantile in your approach to seniors, who are often quite proficient at using some of the new technologies.



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The museums' efforts to provide educational offerings aimed at engaging seniors in the use of new technologies open up numerous possibilities for development. Despite often being a target audience of exhibitions or event programs, seniors are sometimes overlooked in the design of museum spaces or educational workshop programs. Based on our experiences conducting educational workshops that encourage this audience to use new technologies, we have found that they are highly interested and readily embrace educational challenges.

The collected experiences have demonstrated best practices in utilizing new technologies in museum exhibitions and educational settings. Museums should be places of exploration for all individuals, regardless of age or individual visitor predispositions.

We would like to encourage members of museum staff to design educational offerings that engage and empower seniors. Our own experience shows that such initiatives are warmly welcomed by them and further enhance their skills in using new technologies.

We hope that our observations and conclusions will motivate museum professionals to develop educational offerings that actively engage seniors. They are an important audience who appreciate and value efforts to eliminate barriers to digital culture.

*New Technologies in Museum Exhibitions as a Tool for Educating Seniors. A handbook of best practices*, The Film Museum in Lodz, 2023

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