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HYBRID EVENT TECHNOLOGY AND PROGRAMMING AT THE FREUD MUSEUM LONDON



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Hybrid Event Technology and Programming at the Freud Museum London
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Abstract

The goal of this project was to recommend improvements to the Freud Museum London's (FML) Video Room and Exhibition Room to be more conducive to hybrid (i.e. online and in-person) events. To achieve this, we researched hybrid event technology, assessed online event practices at London institutions, and analyzed FML's programming via staff interviews and member surveys. We offer separate recommendations for programming and technology. For programming, we recommended that FML prioritize its content and offer hybrid options for conferences and events but keep learning sessions online only. For technology, we recommended that the museum use Zoom and install ceiling microphones, cameras, and speakers and add a monitor in the Exhibition Room following our design plans.

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Executive Summary

Project Introduction

The goal of our project was to recommend improvements to the Freud Museum London's Video Room and Exhibition Room for hybrid (i.e. online and in-person) events and exhibitions. To achieve our goal the team identified four major objectives: (1) Assess current and best practices used within various hybrid events in London, (2) evaluate the current use, needs, and limitations of the Video and Exhibition Rooms at FML to deliver hybrid events and exhibition space, (3) evaluate stakeholder perspectives on recent FML in-house and online events, courses, conferences, and learning sessions, and (4) recommend appropriate video conferencing equipment and configurations.

Methodology

To assess the current and best practices of hybrid and online programming in London, our team scheduled interviews with staff members of other museums and organizations in London. When interviewing the staff members of other museums, we gathered information about how they hold successful online events through managing both online and in-person audiences, preparing their speakers, and programming appropriately in the hybrid format.

To evaluate the current uses and limitations of the Video and Exhibition Rooms, we interviewed the FML staff members who are closely involved in programming at the museum. We discussed their in-person and online programs, how the Video and Exhibition rooms are used during events, and which current programs offered by the Freud Museum London could be most successful in a hybrid format. Additionally, our team attended in-person and hybrid events to see what works and where there is room for improvement. Finally, we created an inventory list of the technology available to the museum staff for future reference.

To evaluate stakeholder perspectives on current programming at the FML, we developed a survey sent out by museum staff to members and past event attendees. This survey gauged their past experiences at FML programs and their interest in attending hybrid programming at the museum. The survey also had an option to sign up for a follow-up focus group. In addition to surveying and interviewing members, we interviewed professors who had spoken at the FML in the past.

Finally, to develop recommendations to the FML we did self-guided research into different hybrid hardware and software. This research also involved identifying UK suppliers and installers of hybrid event equipment. Our team visually utilized three-dimensional rendering software to configure the Video and Exhibition Rooms.

Findings

Our team executed our four project objectives to gather insight on the most appropriate hybrid program and configuration recommendations. We received many suggestions for developments to the future FML hybrid space and improvements to FML programming.

During the various programs that we attended, we found that FML programs contain great content, audibility, and hospitality. However, our team discovered first-hand and through interviews and surveys that the seating is uncomfortable after some time and the visibility is poor from the back of the room. Some interviewees mentioned that large events such as conferences would work well in the hybrid format because of the museum's limited event space and the opportunity for locals and in-person attendees to foster a better connection with nonlocals and online attendees. Some interviewees believe that learning sessions would not work in a hybrid setting because students on each end will have different learning experiences, making it difficult to collaborate all together. Many survey respondents claimed that the on-demand recordings are useful and appreciated. Survey respondents as well as FML staff members highlighted the need for user-friendly technology to ensure that their programs remain distraction-free and enjoyable.

Out of the 62 program evaluation survey respondents, 61 individuals (98.3%) would consider attending a hybrid event at FML. Some wrote that they would attend the hybrid event in person due to living close by or because they enjoy being in Freud's home, while others wrote that they would join a hybrid event online because of mobility issues or they live far away.

FML currently uses three lapel microphones and one handheld microphone which gets passed around to members of the audience during the Q&A session. There is a total of four speakers in the two rooms, with two in the front corners of each room. The Video Room contains a mounted 42-inch Panasonic monitor as well as a projector and drop-down screen.

During presentations and talks, the speakers may use the projector and laser pointer to present slides and images on the drop-down screen. For online-only programs, FML staff and speakers currently prefer using Zoom as an online programming platform for smaller events and

Zoom Webinar for larger events. Speakers record online events on the second-floor office in the museum using a 4K handheld camera and lighting ring. Guest speakers have the option to record in the FML office or their own office/home.

Recommendations

Based on our research and findings above, we compiled a comprehensive set of recommendations for FML regarding hybrid technologies and event programming. Regarding software, we suggest that the museum continues using Zoom. To alleviate the pressure on the network when hosting large programs for proper quality, we believe the museum should inquire about two separate network plans, one dedicated to the museum and one dedicated to the visitors.

Our first hardware recommendation for the museum is to acquire a 75+ inch high-resolution display that will be mounted in the center of the Video Room, replacing the smaller 42-inch display. We also advocate a second, smaller 50+ inch display located in the front of the Exhibition Room in the top-right corner. We suggest that the museum acquire two high-resolution cameras. One camera should be on the front wall of the Video Room, facing the audience. The second camera should have optical zoom and auto-tracking capabilities and will be wall- or ceiling-mounted in the top corner of the back of the Video Room. For the audio solutions, our team proposes the installation of two in-ceiling microphones that can be programmed to listen to specific parts of the room at different times. In addition to the two microphones, we recommend that the museum replaces the current wall-mounted speakers with new high-quality speakers. The best option would be to have the speakers and microphones come from the same supplier to streamline training and maintenance. See Figure ES 1 to view a potential format for the Video and Exhibition Rooms.

For programming, we recommend the museum focuses hybrid format offerings on conferences and museum events but not for learning sessions and courses. Conferences and museum events can benefit from a larger audience without overly sacrificing audience-engagement, however learning sessions and courses suffer too much disengagement when combining online and in-person programs. Furthermore, we suggest that the museum focuses more on the content of the programs and credibility of the speakers, as this was valued most by past visitors.



Figure ES 1. Potential Video Room and Exhibition Room configuration

Authorship

Section	Section Title	Main Author(s)
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2.2	The Freud Museum London	IS, JP
2.3	Event Delivery Modes	TP, DP
2.4	Online & Hybrid Event Evaluation	DP, TP
3	Methodology	All
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4.4	FML Member and Program Participant Perspectives	TP
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Chapter 1: Introduction

In 2020, the COVID-19 pandemic changed the world forever. As governments across the world implemented precautionary social distancing measures, many organizations transitioned to virtual environments. Platforms like Zoom and Microsoft Teams helped facilitate this transition (Nakash & Bouhnik, 2023). As the population recovered from the pandemic, hybrid events became more popular as a compromise between in-person and remote. Successful hybrid events allow for online and in-person attendees to engage with the content and each other nearly equally. Like other organizations, museums have had to adapt to these challenges and find innovative ways to enhance the visitors' experience and promote visitor education and engagement.

The Freud Museum London (FML) serves as a memorial to Sigmund Freud and his contributions to the field of psychology. The museum houses thousands of artifacts pertaining to his life and works. FML was once home to Sigmund Freud and his family after they fled Nazi persecution in Vienna, Austria in 1938 (*Freud Museum London*, n.d.). Like other museums, the Freud Museum London was forced to turn to online programs and exhibits to engage its audiences during the pandemic. These online activities proved enormously popular with audiences, so FML plans to create a state-of-the-art space for hybrid events, conferences, and educational/outreach sessions, displays of the permanent collections, and temporary exhibitions.

The goal of our project was to recommend improvements to the Freud Museum London's Video Room and Exhibition Room for hybrid (i.e. online and in-person) events and exhibitions. To achieve our goal the team identified four major objectives:

1. Assess current and best practices used within various hybrid events in London.
2. Evaluate the current use, needs, and limitations of the Video and Exhibition Rooms at FML to deliver hybrid events and exhibition space.
3. Evaluate stakeholder perspectives on recent FML in-house and online events, courses, conferences, and learning sessions.
4. Recommend appropriate video conferencing equipment and configurations.

We conducted background research and interview staff of other museums in London to gauge current and best practices used in hybrid events at museums and other institutions. We interviewed the FML staff, museum Members, and trustees to clarify their goals and expectations

for the new hybrid space. We surveyed attendees of previous events at FML to gauge their interests in and expectations of in-person, online, and hybrid events. Based on our findings, we recommended what hardware, software, and room configurations might best meet FML's needs.

Chapter 2: Background

To continue to work toward FML’s mission, the Director of The Freud Museum London, Giuseppe Albano, wants to transform the adjoining Exhibition and Video Rooms into a “state-of-the-art space for hybrid events, conferences, and educational/outreach sessions, displays of the permanent collections, and temporary exhibitions”. In this chapter, we discuss necessary background information to help our team provide FML with appropriate recommendations toward this goal. This background information includes museums and their role in modern society, FML and its events, common event delivery modes, and successful visitor research methods.

2.1 Museums

The concept of museums is ever evolving as visitor interests and expectations, approaches to learning, and technologies change. Museums have evolved from independently owned collections of artifacts to publicly owned buildings lined with historical memorabilia (Lewis, 2004). Museums exist to house artefacts of cultural and historical importance, but an important part of their mission is also to promote research, education, and learning. To better understand the expectations of visitors, museums have increasingly used visitor research to improve the visitor experience by meeting the diverse audience interests, needs, and expectations. Through visitor research museums have learned that technology has increased their visitors' overall engagement (Hawkey, 2004). The importance of technology increased even more during the pandemic as museums were forced to engage with audiences in a virtual setting. These virtual settings allow museums to increase visitor engagement and retainment more effectively (Dasgupta Et Al., 2021).

2.1.1 The Origins of Museums

Since the 17th century, wealthy individuals and families have collected artefacts and ephemera from around the world (often called ‘cabinets of curiosity’) for private display. In 1683, the Tradescant family’s collection was turned into the Ashmolean Museum by Oxford University, becoming widely known as the world’s first formal, public museum. Today, museums range from massive national museums with collections from many parts of the world

to small heritage museums which preserve a site, building, and associated artefacts for the education and enjoyment of the public (Lewis, 2004).

2.1.2 Definition and Goals of Museums

Although there are many different types and sizes of museums, all museums serve three main functions: maintaining collections, conducting research, and educating visitors through exhibits and special programs. As defined by the International Council of Museums (ICOM) (2022),

“A museum is a not-for-profit, permanent institution in the service of society that researches, collects, conserves, interprets and exhibits tangible and intangible heritage. Open to the public, accessible and inclusive, museums foster diversity and sustainability. They operate and communicate ethically, professionally and with the participation of communities, offering varied experiences for education, enjoyment, reflection, and knowledge sharing.”

Museums constantly strive to remain relevant in a rapidly changing world but are often perceived to be elite institutions removed from the concerns of the public. Accordingly, museums increasingly emphasize their efforts to create an attractive educational environment that combines the need to be open and accessible to all audiences and serve their local community. Social media and other marketing strategies have made it easier for museums of all sizes to interact with not only target audiences but also local community members and politicians (Ayala et al, 2019). Museums are implementing innovative audio and visual technology throughout their exhibits to attract and engage visitors. The use of this technology became even more prevalent during and following the COVID-19 pandemic as new technologies became widely used in a new virtual world (Oyelude, 2022). Visitor research plays a pivotal role in determining how museums reshape themselves to improve the visitor experience.

2.1.3 The Role of Visitor Research in Modern Museums

Visitor research began with the tracking studies of Melton (1935) but were not widely used in museums until the 1980s and 1990s (Yalowitz & Bronnenkant 2009). With the emergence of these studies, the relationship between visitors and museums changed as visitors became accepted as active performers within the museum with a willingness to learn rather than just “empty vessels” to be filled with information. Museum researchers learned that people visited museums for a variety of cultural, social, and contextual reasons (Falk & Dierking 1992)

and that they brought different expertise, interests, and learning styles (Hein 1998). As a result, museums began to shift from didactic to more visitor-centric approaches. This shift in attitude towards visitors encouraged museums to change their policies and their approaches to exhibits, programs, and events to better support the interests, expectations, and learning of visitors (Hooper-Greenhill, 2006). In recent years the museums have entered the “era of big data” where large data sets can be compiled and analyzed using algorithms. This has made it easier for museums to mine through data and identify insights about their visitors, making the scale at which visitor research occurs larger than ever before (Anderson, 2019).

Audience segmentation studies have tried to distinguish among the different approaches visitors follow during a visit to a museum. For example, Falk (2016) identifies five types of visitors: explorers, facilitators, professionals and hobbyists, experience seekers, and rechargers. Explorers are motivated to visit museums because they believe that they will find something that will grab their attention and inspire their learning. Facilitators use the museum experience to fulfill the social needs of the group with whom they visit the museum, and typically the term refers to parents facilitating their children. The third type are professionals and hobbyists, who visit museums because they feel there is a strong tie between their career or interest and expect to learn information that they can apply to their career or hobby. Experience seekers are the group of museumgoers who see museums as destinations that they need to visit to check it off their to-do list. Finally, rechargers utilize museums to relax and recuperate by absorbing material and simply being in the tranquility of a museum (Falk, 2016). In the UK, museums often engage consultants, such as Morris, Hargreaves, and Macintyre (https://www.mhminsight.com/en_us/) or the Audience Agency (<https://www.theaudienceagency.org/>) to conduct audience segmentation studies. Having a general knowledge of the types of people who visit museums allows museums to find the appropriate balance between experience and content, which is a key attribute of a museum’s success in attracting visitors (Falk, 2016).

In the shift from didactic to visitor-centric approaches, many museums have tried to innovate with the introduction of interactive exhibits to engage visitors (Allen and Gutwill 2004). Many interactives are created using innovative technologies. Implementing technology in museum exhibits creates a personalized experience for visitors which positively affects their learning and overall experience at the museums. The interactive exhibit, however, does not have

to be an elaborate display either, simple touch screens or buttons have been sufficient to increase visitor engagement (Hawkey, 2004).

Technology use in museums does not need to be limited to in-house activities to positively affect visitor learning. It is easier than ever for the average person to look up documents or artwork that are housed in museums online. The evolution of technology has removed the necessity of travelling to museums — artifacts can be viewed through a screen at home (Earle 2013). Museums have expanded their online presence even though such efforts might seem contradictory to their efforts to attract visitors to the museum in person. Museum websites, however, can extend the museum audience and encourage participation and visitation through programs, activities and events (Hawkey, 2004). With inspiration from their own websites, museums can foster learning as institutions where knowledge is spread and enjoyed by the public in an environment full of physical objects related to the subject matter (Earle, 2013). While a large focus has been put on uploading artifacts to digital interfaces, pressures of the pandemic have forced museums to expand the use of their websites and online software to provide engaging experiences for their audiences (Dasgupta Et Al., 2021). The utilization of social media technologies and websites is key to museums to bridge the gap between themselves and the younger generations. If done properly, continuous implementation of improved technologies in museum spaces will ensure a steady revisiting crowd to the museum for years to come (Ayala et al, 2019).

2.2 The Freud Museum London

The Freud Museum London, opened in 1986, is a heritage site museum that “exists to promote the intellectual and cultural legacies of Sigmund and Anna Freud for the learning and enjoyment of all,” and aims to “highlight the relevance of Sigmund Freud, Anna Freud and psychoanalysis in the contemporary world” (*Freud Museum London*, n.d.; See Appendix A for a brief summary of Sigmund Freud’s life and theories). The museum serves as a heritage site by preserving the home’s appearance, contents, and layout. Aspects like Freud’s study remain preserved, displaying a vast array of artifacts and items on permanent display, such as the psychoanalytic couch (see Figure 1), which was instrumental to Freud’s practice. Visitors learn by taking tours of the house, exploring the collection of Freud’s personal possessions, viewing

the exhibits in person or online, or participating in events, conferences, and courses (*Freud Museum London*, n.d.).



Figure 1. Sigmund Freud's Psychoanalytic Couch (*Freud Museum London*, n.d.)

2.2.1 Programming

In addition to presenting the house and displays of artefacts and ephemera, the Freud Museum engages its visitors through educational programs, events, and lectures. “Learning visits” are a popular educational offering, allowing groups exclusive access to the house and garden facilitated by a subject expert. The learning visits play a role in community outreach, allowing schools, senior citizen groups, and service user and community groups to discuss meaningful topics such as mental health and trauma through Freud’s work. Lecture-style programs are also offered, in which guest speakers discuss topics related to the psychoanalytic field and sometimes teach short courses online or in-person (*Freud Museum London*, n.d.).

Alongside the events and permanently displayed collections, the Freud Museum London offers many special exhibitions. Typically, one or two of these special exhibitions are held concurrently, featuring a diverse range of content spanning from collections of contemporary art to deep dives into the lives of Sigmund and Anna Freud. Currently, the museum is exhibiting the *Century of Ego and the Id*, an exhibition with interactive displays exploring Freud’s key concepts of id, ego, and superego. Also, currently open alongside *Century of Ego and the Id* is *Freud and Latin America*, an exhibition which investigates the impact of Freud’s work on art, culture, and psychoanalysis in Latin America. To diversify visitor experience, *Freud and Latin America* is displayed in English, Spanish, and Brazilian Portuguese (*Freud Museum London*,

n.d.). The museum's various events, exhibitions, and special programs work together to fulfill the museum's goals effectively.

2.2.2 Video Room and Exhibition Room

As the COVID-19 pandemic shocked the world, museums were forced to adapt to the effects of the lockdown. Focus was shifted from physical engagement with exhibitions to remote engagement. During the lockdown, museums utilized streaming media such as Instagram Live, Facebook Live, and Zoom to invite experts to speak to audiences on everything from museum collections to possible careers. Not all events were synchronous, however. For instance, many museum curators recorded short presentations on items within their museum's collection that they then posted as daily highlight videos to their museum's website (Clerkin and Taylor, 2021).

The Freud Museum London is no stranger to the impacts of the pandemic and adopted similar lockdown practices. As a result, the museum now offers more virtual/hybrid events and online resources than ever before, aware of the importance of engagement with visitors through different media. Today, the museum seeks to develop its physical space for more seamless hybrid events in the future. The Video Room and the Exhibition Room will be renovated in summer 2024, with the goal of creating a "state-of-the-art space for hybrid events, conferences, educational/outreach sessions, displays of permanent collections, and temporary exhibitions" (G. Albano, personal communication, January 10, 2024). The two rooms are also connected by a sliding partition wall, allowing for flexibility in event layout.

Both rooms are on the museum's second floor, directly adjacent to one another. In the Video Room's front and center is a monitor and drop-down screen, with rows of chairs providing audience seating in the middle. The room's sides are outlined with hanging artwork, furniture, and smaller displays from the museum's collection (see Figure 2). Currently, the Video Room is used for events, education sessions, conferences, and display of collection items, and the seating can be rearranged to accommodate different uses. When not being used for specific events, the monitor displays an introductory documentary video for visitors, and the seating is arranged for general viewing.



Figure 2. The Video Room (Freud Museum London, n.d.)

The Exhibition Room functions similarly to the Video Room, though it typically displays a single exhibition (Figure 3). It also has a similar layout but does not feature a monitor or seating. A visitor evaluation conducted for FML by WPI students in spring 2023 reveals that the two rooms were the museum's most skipped and least revisited rooms. While relatively few visitors entered the Video Room, those that did stayed for a relatively long time. On average, visitors stayed in each of the museum's rooms, including the Exhibition Room, for just over five minutes, but stayed in the Video Room for 9 minutes and 26 seconds. The longer dwell times are likely because the audience was watching the introductory video, but another reason may be that the Video Room is the only area of the museum with seating (Ames et al., 2023). The development of the Video and Exhibition Rooms will allow the museum to hold more unique exhibitions and hybrid events that enhance the visitor experience by adapting to the trends impacted by the pandemic.



Figure 3. The Exhibition Room (Freud Museum London, n.d.)

2.3 Event Delivery Modes

As the pandemic subsided, many organizations have found that hybrid events, the blend of in-person and online attendance, serves as a beneficial event format to expand the number and variety of attendees. Kaltura, an online video platform company, claims that in 2021, “Virtual-only was the strategy for 25% of organizations in 2021, but a hybrid approach was more popular at 67%” (Kaltura, 2021). The key to executing a successful hybrid event is by seamlessly integrating engagement between online and in-person attendees to allow for equal opportunities of participation. This section discusses the wide variety of hardware, software, and room configurations to achieve this seamless integration.

2.3.1 Hybrid Events: Opportunities and Challenges

The sudden shift from fully in-person to online or hybrid events due to the COVID-19 pandemic created the unforeseen challenge of obtaining seamless online and face-to-face (i.e., hybrid) interactions. Although these factors were initially burdensome during event coordination, they have evolved into the new standard. Many have found that “[2020] will be remembered as a time when the world changed forever because of Covid, but the fallouts from the global pandemic are likely to be felt well into 2021 and beyond” (Parry, 2021). Numerous factors contribute to the success of a hybrid event. These include having the funds and technical knowledge to produce a successful hybrid event while finding ways to encourage audience

engagement and participation. Hybrid events have diverse audiences. People who are located internationally or face disabilities now can conveniently participate in events. The absence of travel costs (i.e., money, time, and convenience) can also encourage more attendees who might have skipped the event otherwise (Plackett, 2022). These benefits have been proven to increase audience attendance in several museums. For example, in 2020, The Barber Institute of Fine Arts in Birmingham “received 8,510 virtual visitors between 12 June and 9 July, which is about 293 per day. This compares with the 157 visitors a day who attended last year’s summer exhibition” (Parry, 2021). However, this degree of success is unattainable unless all attendees feel seen and heard despite some joining through a computer screen (Plackett, 2022).

2.3.2 Hybrid Equipment Configurations

The way that a hybrid event room is arranged is the key component to a successful outcome. While investing in expensive or professional-grade equipment may ensure a seamless production, utilizing cheaper existing technology (e.g., phones and laptops with speakers and cameras) can, for many purposes, also function adequately while minimizing expenses and the need for outside vendors. Mishima et al. (2023) presented and compared five examples of hybrid event configurations. These five cases used technology ranging from professional equipment to tablets, yet all yielded favorable results. The full-style configuration implemented two different cameras, a microphone, audio and video mixers, and a preview monitor, all linked to a PC connected to a video switcher (see Figure 4).

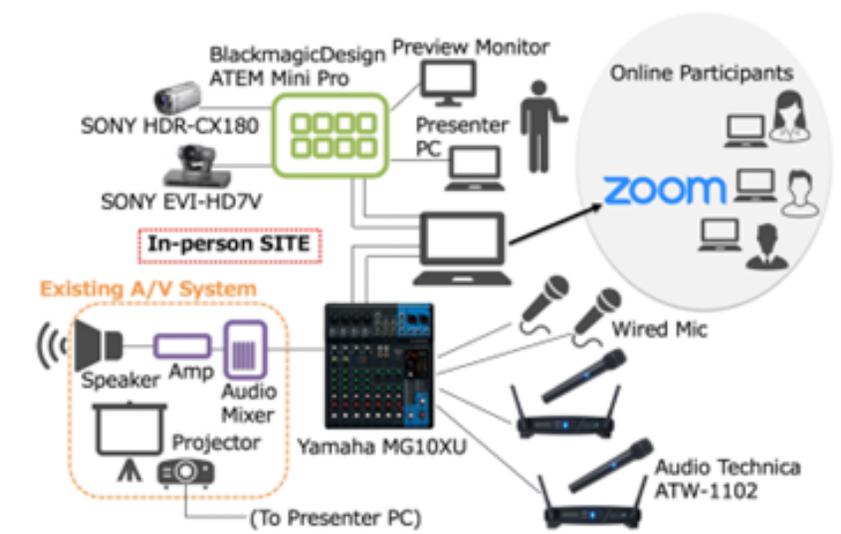


Figure 4: Full-Style Hybrid Configuration (Mishima et al., 2023)

One of the cameras was handheld, while the other remained stationary with pan, zoom, and tilt (PZT) features. This camera variety provides the online attendees with an immersive experience that they wouldn't receive with just a singular fixed camera frame. As well as purchasing the equipment itself, this configuration requires hiring people with enough technical knowledge to both arrange and operate the equipment. Although this option is expensive and time-consuming, it certainly is a viable consideration for organizations to implement if they are not constrained by budget. An alternative and more cost-effective option is to utilize existing equipment or technology (see Figure 5).

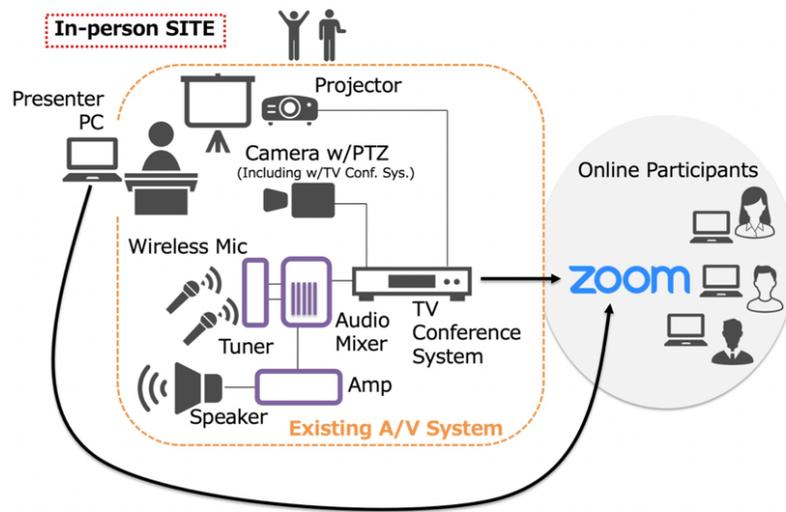


Figure 5: H.323-Based TV Hybrid Configuration (Mishima et al., 2023)

For instance, if the organization already owns an H.323-based television system, it can be used to connect to Zoom. This approach saves time and money that would have gone toward monitors and projectors. Another method is through the use of smartphones and/or tablets (see Figure 6).

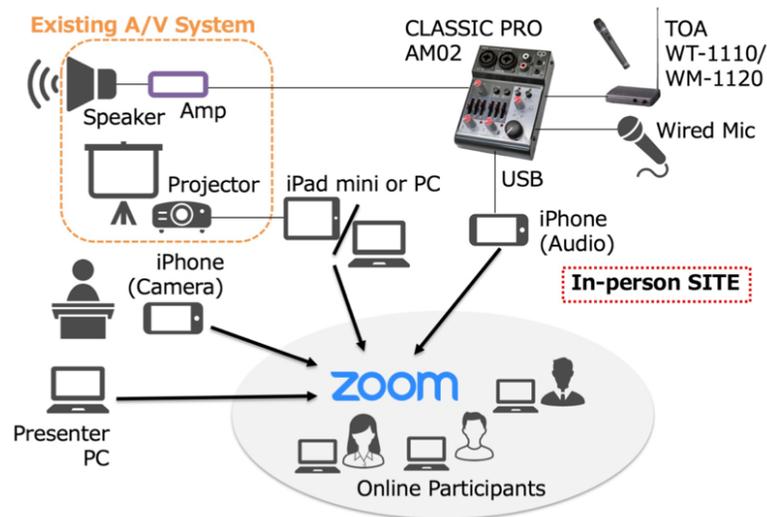


Figure 6: Smartphone Based Hybrid Configuration (Mishima et al., 2023)

This configuration is extremely cost-effective and simple yet may lack the features and functionality required in some situations (Mishima et al., 2023). See Table 1 for a breakdown of the advantages, disadvantages, and costs of the three hybrid event configurations discussed in this section.

Table 1. Hybrid Event Configuration Breakdown (Mishima et al., 2023)

CONFIGURATION	PROS	CONS	COST
FULL-STYLED EQUIPMENT	<ul style="list-style-type: none"> Professional Guaranteed high performance 	<ul style="list-style-type: none"> Costly Technical knowledge required 	High
EXISTING TV CONFERENCE SYSTEM	<ul style="list-style-type: none"> Use existing technology Professional 	<ul style="list-style-type: none"> Some technical knowledge required 	Moderate
SMARTPHONES AND TABLETS	<ul style="list-style-type: none"> Cost-effective Simple Use existing technology 	<ul style="list-style-type: none"> Possibility of low performance 	Low

2.3.3 Current Methods

A look into other organizations' event configuration can provide inspiration for what else is possible in the realm of hybrid events. Mahadewi (2023) states that streaming and simulating, along with event charts and digital room recreations, are two rising event technology trends as of 2023. Event charts and digital room recreations can improve visitor understanding of a topic by giving them tangible content when they are online. Streaming an event allows for the organizer to present the event in-person while also allowing remote visitors to view the event at the same time. Simulating is scheduling a pre-recorded event to go live during the physical one. This method helps avoid the trouble of attempting to synchronize multiple devices when going live concurrently (Mahadewi, 2023). CHIWORK — a symposium surrounding the topic of HCI (Human-Computer Interaction) and its future — held a hybrid conference where streaming was the primary source of connection between in-person and online audiences (Kun & Shaer, 2023). This conference — held in June of 2022 — was streamed due to COVID-19 still being a concern for many people. The software used to stream the conference was Zoom, including when presentation slides were shared. However, Discord was used for chatting communication. The organizers avoided using Zoom for chatting purposes as they believed it may separate the in-person and online groups into distinct conversations instead of one group one. The organizers also provided their own lighting and cameras (see Figure 7) to make the experience for remote participants as seamless as possible. Furthermore, they enabled captions and provided ASL (American Sign-Language) interpreters to ensure the conference was accessible as possible. This focus on improving the experience for online participants resulted in positive feedback after the event. However, the authors did acknowledge that online participation is still an issue due to various factors outside of their control, such as poor internet connection or difficult to hear audio (Kun & Shaer, 2023).



Figure 7. Extra lighting to improve user experience (Kun & Shaer, 2023)

2.4 Online & Hybrid Event Evaluation

Evaluating online and hybrid events is key to understanding the potential effects of different hybrid solutions on visitors and attendees. Focusing on the needs and experience of the visitors will allow for a more streamlined process when researching and presenting potential hybrid solutions for the Freud Museum. A combination of well-oriented goals and structured feedback can be key to evaluating the performance of an event.

2.4.1 User Experience

The user experience is directly tied to whether an event or exhibition can be successful. A UXE (user-experience evaluation) methodology, one that incorporates user feedback throughout the entire development process, will be a useful tool initially when programs are still being developed by the museum. The study notes that the user was performed in a setting where the final project would be, to minimize the number of free variables that could be changed. Similarly, the FML can have staff members join hybrid events in a similar setting as visitors to potentially mimic the experience and garner useful feedback. While the focus of the study was on evaluation of a web-based toolkit instead of an event, other user feedback from the study can still apply to the evaluation of hybrid events. Many participants reported liking the use of graphical and video content. Similarly, they disliked certain parts of the CETK (community engagement toolkit) that were more text heavy and elected to spend less time on those parts of

the CETK. A strength of the CETK was the design and ease of navigation. Focusing on these key points while evaluating a hybrid configuration can help improve the parts of the configuration that matter the most to users. These key areas can be evaluated using proper survey techniques to elicit thoughtful, informational responses (Asikin-Garmager et al., 2022).

To help FML continue to adapt to the evolving role of museums, our team plans to utilize and build upon our background research to guide the museum in their planned developments. As we make plans to implement our hybrid event knowledge through our methodology, our main focus remains on providing FML with the most suitable recommendations to create a dynamic and inclusive experience for all their guests.

Chapter 3: Methodology

The goal of this project was to recommend improvements to the Freud Museum London’s Video and Exhibition Rooms for hybrid (i.e., online and in-person) events and exhibitions. To achieve this goal, our team identified four major objectives: (1) Assess current and best practices in the use of hybrid event space, (2) evaluate the current use, needs, and limitations of the Video and Exhibition Rooms at FML to deliver hybrid events and exhibitions, (3) evaluate stakeholder perspectives on FML in-house and online events, course, conferences, and learning sessions, and (4) recommend appropriate video conferencing equipment and configurations.

Our team utilized several methods including interviews, surveys, and background research to accomplish these goals. Figure 8 shows the relationship between our overall project goal, objectives within the overall goal, and tasks corresponding to each objective.

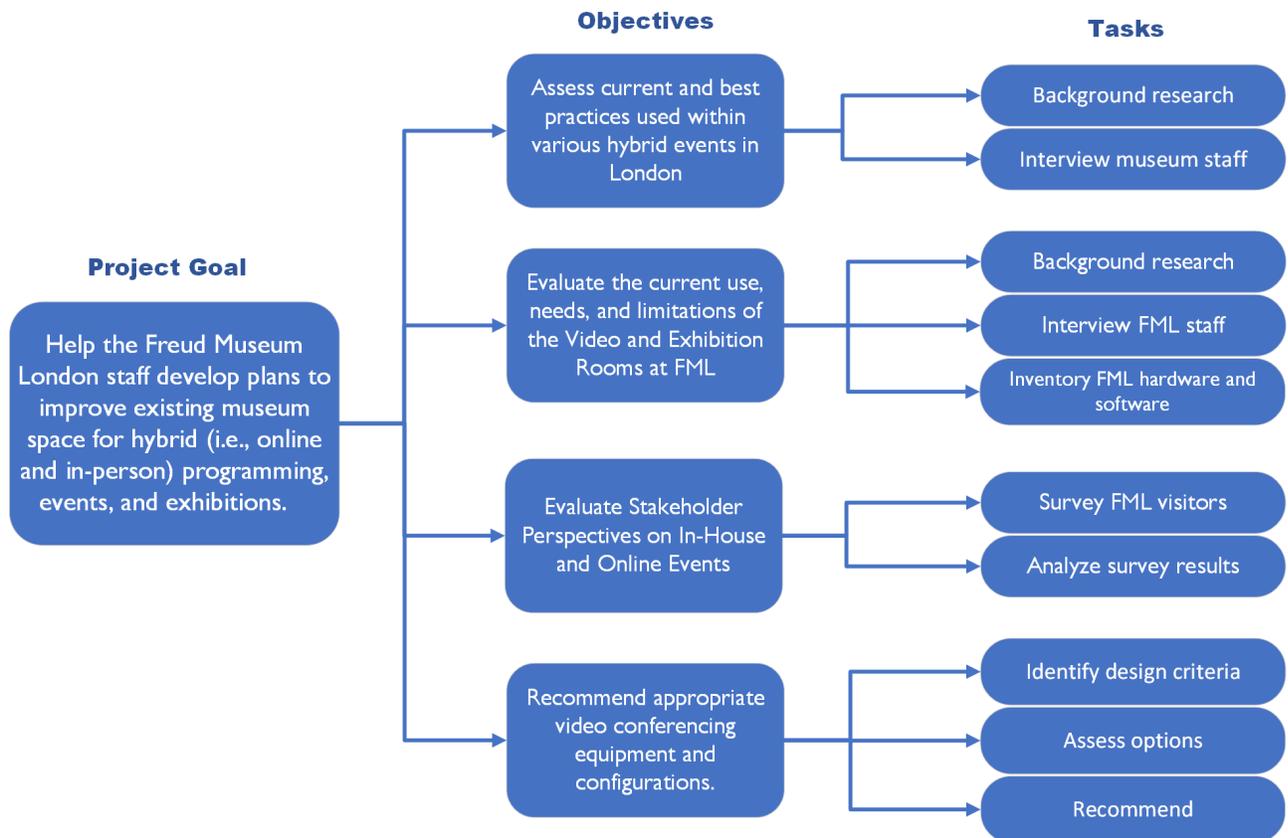


Figure 8. Project Goal, Objectives, and Corresponding Tasks

3.1 Objective 1: Assess Current and Best Practices in London

We built on our background research by visiting and interviewing staff at selected museums in London. We describe our approach to these interviews below, including our choice of museums, the kinds of questions we asked, and the protocols for conducting the interviews.

3.1.1 Identifying Museums and Staff for Interviews

We visited a range of types and sizes of museums in London, with a focus on smaller museums that are comparable with the Freud Museum. We selected museums based on our background research and the advice of FML staff. We reviewed the websites of the selected museums to determine their hybrid event offerings in advance of our visit and any interviews. We developed a snowball or referral sample by asking our interviewees to suggest other museums to visit.

3.1.2 Developing Interview Script

Prior to meeting with the interviewees, we developed an interview script and observation sheet in consultation with our advisors and the FML staff. Some relevant topics that we would discuss in our interviews include: staff opinions about the effectiveness of different types of events and hybrid arrangements; hybrid event attendee data and feedback; possible modifications they have made to the space; experiences with the transition online during COVID-19; and their preferred choices of hybrid software and hardware. We adjusted our questions to match the experience and expertise of the interviewees. During the interview, the topics and questions evolved to accommodate interviewee responses.

3.1.3 Conducting the Interviews

Our team contacted staff members of the selected museums to arrange a day and time to conduct interviews. We conducted several interviews in-person at the museum sites to encourage clarification and a deeper understanding of the museum's current operations and goals. If the museum staff member was unable to meet in person, we conducted the interviews over Zoom. At the beginning of each interview, we read a preamble to the interviewee. The purpose of the preamble was to inform the interviewee about the reasoning behind the research that our team was conducting, while also soliciting the subject's consent to record and quote what was said during the interview. The preamble also informed the interviewee that they were free to

withdraw from the interview at any time and they could review all the material used from the interview prior to publication. Interviewees also maintained the right to amend statements if they misspoke. All interview scripts were subject to refinement at the discretion of advisors, sponsors, or museum staff. A draft of this interview script with its preamble can be found in Appendix B.

3.2 Objective 2: Evaluate Current FML Video and Exhibition Rooms

We conducted interviews with the FML staff and inventoried the existing hardware and software as well as mapped the room configurations. Our team learned more about the state of the Video and Exhibition Rooms and determined what areas can benefit from improvements. We also attended in-person and online events at the museum to gain a first-hand perspective of what works well and what can be improved upon.

3.2.1 Interview Staff on Uses of the Video & Exhibition Rooms

Our team interviewed the staff of the Freud Museum London about the Video & Exhibition Rooms to uncover common concerns and potential areas for improvement. The participants included selected staff that contributed to curating programs at the Freud Museum, especially regarding the Video & Exhibition Rooms. Their names and roles can be viewed in Appendix H. The mode of communication, preamble, and pre-testing methods were like those described in section 3.1.2. The interview began with introductory questions to gain a better understanding of the staff member's role and experience at the museum. This line of discussion led into questions exploring the museum's use of online and hybrid events, such as how the FML as adapted to the COVID-19 pandemic and what they think the visitors want more of. The interview questions guided the discussion, but we pursued other questions based on the interviewee's responses. A script with the initial interview questions is presented in Appendix C.

3.2.2 Inventory Current Hardware and Software for Hybrid Events

We conducted an inventory of the FML's current hardware and software including the current video technology, audio technology, online software, and wireless network systems. Our team compared the collected inventory with potential new additions or replacements as part of objective four.

3.2.3 Attending Online and In-Person Program at the Museum

We attended two public programs: one in-person evening program and one ‘hybrid’ daytime program. We took notes throughout the program about the experience. We stayed back after the larger evening program to take additional notes of the Video and Exhibition rooms, including the equipment used and the room configuration. The daytime program, a few days after the evening one, followed the same configuration, with the addition of a laptop to cover the online aspect. Due to our team’s connection to the museum, we were invited to a private learning visit geared towards students to further our research and observations.

3.3 Objective 3: Evaluate Stakeholder Perspectives on In-House and Online Events

We gathered feedback from FML staff, surveyed past event attendees and FML Members, and interviewed selected FML trustees, Members, and past speakers/panelists to determine current views on the Video and Exhibition rooms, and ways in which the rooms can be improved.

3.3.1 Surveying Event Attendees and Members

The Freud Museum London engages with visitors through in-person, online, and hybrid educational programs, special events, and lectures. Many visitors become Members expressly to participate in such programs and events. Members and Patrons hold an elevated status at the museum as they make up most of the participants at museum programs and events. Thus, the opinions of Members and Patrons are highly valued by museum staff. Therefore, we surveyed attendees of past events and current FML Members to determine their opinions about these events. We interviewed a sample of Members willing to participate in in-depth, qualitative interviews (refer to Section 3.3.3 below). In this section, we describe our sampling strategy, survey instrument development, and survey implementation protocols.

3.3.2 Sampling Strategies for Surveys with FML Event Attendees and Members

The FML maintains email lists of attendees at past events and programs and FML Members. We requested that the FML staff distribute an email that contains a link to the survey developed by our team (Appendix D). We asked the staff to distribute the email on our behalf to maintain the confidentiality of their mailing lists.

3.3.3 Development of Surveys for FML Visitors and Members

To gain insight from the attendee perspective on potential hybrid events, our team created a program evaluation survey for attendees from past in-person and online FML events. This survey was conducted via Microsoft Forms to best fit the FML staff preference. It contained seven introductory questions regarding demographics, FML on-demand and podcast services, and lastly, the event delivery mode that respondent has attended before. To best cater to different attendee experiences, the following questions on this survey branched based on the event mode that each respondent has attended at the museum, being “in-person”, “online”, “both”, “did not attend an event, conference, or course in the past year”. Those that responded “in-person” were asked in-person specific questions concerning the visibility of the speakers and screens, acoustics of the room, hospitality. The “online” option contained questions about the ease of connecting online, audio quality, and video quality. The “both” option contained a combination of the “in-person” and “online” questions, and the “did not attend an event, conference, or course in the past year” option automatically concluded the survey.

The surveys addressed topics such as the respondent’s relationship to the museum (e.g., Member vs. non-members, first vs. repeat visitor, etc.), which types of events they have attended at FML in the past (i.e., online, in-person, hybrid event, course, conferences, learning session), and their evaluation of their experience, including a rating both video and acoustic quality of the event/program. We asked respondents if they would be willing to participate in an in-depth follow-up interview. Responses to this question were stored separately from the other responses to ensure anonymity of the main survey. The survey instrument included preamble notifying participants that the survey is anonymous, why they are being asked to complete the survey, and how our team will utilize the responses to make recommendations for the Freud Museum London’s renovation of the Video and Exhibition Rooms. We provided a link to our project hosts’ email addresses and our team’s email alias was provided if a possible respondent has any additional questions. We developed a draft survey instrument (see Appendix D). We asked FML staff to review the survey instrument and revised it prior to pretesting. We pretested the survey with a small group (3-4 Members selected by museum staff) to ensure that the survey was clear and comprehensible. The survey was distributed to both our project hosts and advisors, to identify any issues related to the clarity of the questions and response categories. We revised the survey instrument in light of the comments received.

3.3.4 Implementing and Analyzing Surveys with FML Members

We consulted FML staff regarding their preferred survey platform, as they may wish to reuse or repurpose the survey instrument in the future. The consensus was to use Microsoft Forms. We asked FML staff to send a follow-up email containing the same link to the survey five days after the initial email to increase survey responses. After the survey was live, the team left it open for 10 days, where we collected 61 responses from members and past event attendees. It was at this point when we began to analyze the feedback.

3.4 Objective 4: Interviewing FML Members and Event Speakers/Panelists

Our team interviewed selected trustees, members, and past speakers/panelists to evaluate their experiences at events hosted by FML. These individuals likely had different perspectives based on their role and position. The team aimed to learn what passionate individuals expect to see in hybrid events and the space in which they are hosted.

3.4.1 Sampling Strategies for Interviews with Members and Panelists

Our team used e-mailing lists maintained by the museum to contact past lecturers/panelists and trustees to give them a chance to sign up for either an in-person or online meetings with our team. The team was introduced over email by a staff member from FML, then a meeting time was agreed upon between the two parties. Members had the opportunity to opt-in to an interview with our team through a survey question as outlined in section 3.3, where they were asked to provide contact information (email address) so that a meeting could be set up either in-person or online. Through these avenues of sampling, we hoped to 10-15 individuals willing to sit down for an interview to discuss their experiences at a recent FML event. We identified 16 Members willing to participate in follow-up interviews. We chose to conduct group interviews with Members and attendees rather than individual interviews to provoke more complete and interesting discussions. Of the 16 individuals willing to speak with us, 4 attended the focus group sessions. We separated the groups based on the type of program(s) they had attended.

3.4.2 Development of Interview Scripts for Members and Panelists

We tailored the interviews according to whether the interview subject was a member or panelist/lecturer. Generally, the topics covered during interviews focused on past events and

what the perceived strengths and areas for improvement in future events. We also looked to address the interviewees' current views on the usefulness of the Video and Exhibition Rooms, and what they might like to see when the renovation of the rooms is completed. During our two interviews with past lecturers and panelists, we asked them to compare their experience speaking or paneling at FML to other museums or institutions that they also spoke at in the past. We also asked them about their preferred delivery method and platforms they prefer to use for online or hybrid events. The script we used for the group discussions is available in Appendices D-F. We read a preamble to the interviewee before conducting the interview, as previously explained in Section 3.1.2.

3.4.3 Implementing and Analyzing Interviews with Members and Panelists

Since there were many Members who opted-in to a live interview session it was easier for our team to conduct interviews with members in a group study or group interview session. We split these individuals into groups based on the delivery mode that they had most recently attended. We set up a Zoom meeting for each group to join after normal working hours hoping that more people would be able to join. However, when speaking with past lecturers/panelists, the interview was conducted between one individual and our team. These interviews were conducted over Zoom for ease of communicating with the lecturers/speakers. When analyzing the feedback received from interviews, the comments were in-depth and provided us with several differing detailed expectations of what successful events look like. With this information and other data collected we looked to develop several possible configurations that align with the needs of the museum to put on successful hybrid events.

3.5 Recommend Appropriate Video Conferencing Software & Equipment

The Freud Museum London identified the need for a new video conferencing layout in the Video and Exhibition Rooms to host in-person, online, and hybrid events. Our team's final goal was to recommend an appropriate set of software, hardware, and room configurations for the museum to use to improve their programming and provide an enhanced visitor experience. However, for our team to provide the most optimal recommendations, we first needed to identify the preferred design criteria based on our findings in the previous objectives and research and assess the costs and performance capabilities of a variety of software and hardware options suitable for the museum's purposes.

3.5.1 Identify Design Criteria Based on Findings from Objectives 1, 2, and 3

Our team used a set of design criteria to help research the appropriate technology. We built upon information obtained from the results of the project's previous main objectives to identify these criteria that guided our team's research and recommendations for staff at the FML.

As described previously, our first objective was to assess current and best practices in modern hybrid event spaces. Learning about the software and hardware layouts of typical hybrid spaces and how they perform helped us determine which layouts work best and which don't, helping us to identify the most important factors that impact visitor experience and event hosting.

Under Objective 2, we evaluated the current use, needs, and limitations of the Video and Exhibition Rooms. The design criteria associated with this objective involved constraints such as budget and physical limitations and an assessment of the rooms' compatibility with video and conferencing technology utilized in similar hybrid spaces.

Under Objective 3, our team evaluated visitor expectations and satisfaction with recent FML in-house and online events, courses, conferences, and learning sessions. The findings revealed what visitors want to see most out of the two rooms, where the two rooms could be improved upon, and how the redevelopment can contribute to the visitor experience. For video conferencing equipment, we determined what kinds of hybrid events FML visitors enjoy and tailored our research criteria accordingly to find suitable technology and event layouts.

3.5.2 Assess Suitable Software and Hardware Options

We conducted a thorough analysis of the software and hardware options given the abundance of choices available. This includes various camera selections, placement configurations, audio equipment, and room layouts. Our evaluation meant to carefully assess and compare each option, mindful of FML's budget and other constraints. Thus, we compared cameras with other cameras, microphones with other microphones, room configurations with others, and so forth. We spoke with UK video conferencing suppliers to discuss other suitable options available for FML to use, widening the scope of our research and allowing us to provide more well-informed recommendations.

3.5.3 Recommend Appropriate Software, Hardware, and Room Configurations

Once our team determined an appropriate set of technology, we presented our findings to the museum directors and staff via a slides presentation which included a 3D visualization of the

potential room configuration. Following this presentation, we held discussions with the museum director and staff over the feasibility of the options and the museum's next steps.

Chapter 4: Findings

This chapter presents the findings from our research. The first section will explore our experiences when touring the museum and attending online and in-person events. The next two sections discuss the results from our interviews with the Freud Museum staff and staff from other organizations around London. We then present the results and analysis from the event evaluation survey that was sent to members, previous attendees, and patrons of the Freud Museum, followed by a discussion of the results from the focus group consisting of volunteers from the initial online survey. The data and trends from these sections will help the team recommend hybrid programming technologies and techniques for their upcoming renovations.

4.1 Observation of Freud Museum Events

Our team visited the museum and its events multiple times during the project term, which helped us understand the museum from the viewpoint of a first-time visitor and member. Experiencing the special programs put on by the museum highlighted both positive and negative aspects of the museum's current configurations for online and in-person programming.

4.1.1 Provocations – A Thread of Violence

The first event the team attended was titled “Provocations - A Thread of Violence.” This event featured two guest speakers and was held in the adjoining Video Room and Exhibition Room at 7 p.m. on March 14, 2024. Roughly 60 audience members attended. The sliding door separating the video and exhibition rooms was open, which allowed for approximately 10 additional rows of seats. The speakers were at the front of the room on two wooden stools atop a small stage. There was no online option set up for this event; it was strictly in-person. Our team sat at the very back of the room in the final row. The atmosphere when first entering the room was incredibly welcoming and we took note of the audio quality, visibility, comfort, and overall experience. The seating was initially comfortable; however, after an extended period it started to feel a little rigid. The audio throughout the talk was perfectly audible. However, the visibility of the guest speakers was quite poor because of the configuration of the stage area relative to the audience area. We noticed throughout the talk that several audience members in the rows ahead of us were frequently shifting their heads left and right to find a better view of the front.

4.1.2 Therapy with Antigone – Myth, Choice, and Destiny

The second event the team attended was titled “Therapy with Antigone – Myth, Choice, and Destiny.” This talk was led by poet Ginger F. Zaimis and was an event where visitors to the museum could walk in and sit down for the talk as part of their general admission fee. The room configuration was like the one described above without the stage in the center. The program was loosely set up in a hybrid format. There was a laptop facing the speaker that streamed to an online audience on Zoom Webinar. Two members of our team joined the in-person talk, while the two other members joined the event online. The attendance was much smaller than the previous event, with about five attendees in-person. The in-person audio and visual experience was very good. The speaker projected her voice to fill the entire room. However, the speaker may have become more difficult to see if the room was filled with people as it did at the last event. The online side of the event was also satisfactory, though not as good as in-person. We noticed that the audio and video quality was good, but not great. Furthermore, the angle at which the stream was shown made it difficult to read anything displayed on the projector. While this was not important for this event as it was simply a title slide, this may be a bigger issue when the projector is displaying actual content. A camera mounted higher up that captured the entire front of the room would have provided a better viewing experience for the audience members online.

4.2 FML Staff Interview Findings

We held 20–45-minute interviews with nine staff members, many staff members were present before the pandemic and gave insightful opinions on how the museum has adapted and performed with online events. A complete table of staff members and their roles can be found in appendix H. The major topics discussed include the transition to online during COVID-19, the experiences of staff members with different program types and their potential hybrid implementation, and the feedback they have received about in-person and online programs at the museum.

4.2.1 Transition to Online During COVID-19

The Freud Museum, like many other museums, was forced to move events online during the pandemic to continue engagement with their global audience. The shift to online was relatively smooth. Many staff members noted that attendees originally struggled with the video and audio quality but, as time passed, attendees became more accustomed to their expectations

when joining programs remotely. Despite some minor concerns, the majority of FML staff members were excited by the opportunity to reach their growing international audiences. Many staff members are eager to cater to their international followers, who have become a very important group to the museum and hybrid programs will be the best way to continue to keep them engaged.

Most of the online programming that has taken place since the pandemic at the museum involves courses that require a speaker to join a Zoom webinar and allow attendees to join and view slides in this manner. Another method is through smartphones and/or tablets. from their home or office on their personal computer. However, there are some speakers who are less tech-savvy and prefer to work from the Freud Museum. For these cases, the museum has a camera and light system used to set up the webinar in a quiet space. The interviewees preferred the Zoom platform when hosting online courses. They typically use a webinar format because it has been easier to control audience comments and interruptions in this format. Staff members have mentioned that they have tested out Microsoft Teams, but they found it to be glitchy and less user-friendly than Zoom. The online programming at FML also includes an On-Demand video option to view past special events for a small fee, and staff indicated that this is very popular amongst members and international audiences.

4.2.2 Freud Museum London Staff Opinions on Hybrid Programs

During our interviews, FML staff members emphasized that late-night events with a popular speaker would work best in a hybrid format. The consensus is that this type of program, classified by the museum as a “special event,” would be most successful in a hybrid offering. These “special events” with well-known speakers are best suited to hybrid events because the museum is limited to approximately 70 in-house tickets, and demand for seats can exceed that number. With a hybrid offering, the museum can, in theory, sell an unlimited number of online tickets. The museum also offers conferences, each of which typically last a whole weekend day where attendees converse on topics related to psychoanalysis and Freudian ideas. Interviewees agreed that hybrid conferences would likely be successful and worthwhile. The ability to converse with people in remote locations through hybrid technology in the video and exhibition room would be a boon. Courses are the third major type of programming offered by the museum. Courses are a paid programs that entail weekly meetings with a lecturer who speaks on a topic over several weeks. Currently, courses are held only in an online format and the interviewees

agreed that this format works best. Interviewees were worried that learning would be hindered if two separate audiences were simultaneously attending the same event as the same attention could not be given to both audiences.

Some staff raised some concerns about hybrid events. Many were wary of their ability to engage two sets of audiences during an event. Others mentioned that putting on a hybrid event may work for those remotely joining in the UK and parts of Europe, but greater distances may cause issues with different time zones. They noted that this issue can be avoided by making a recording available on-demand. Staff members were concerned that the museum's current technology is insufficient to support hybrid events. Staff were concerned that hybrid events should not discourage in-person attendance or detract from the allure of the museums for such attendees. One interviewee mentioned how ticket sales for the Vanessa Redgrave book reading during the pandemic were good, however, the museum had to hire a production company to handle the technical side of putting on a hybrid event. This event was held outside in the garden as it occurred during the pandemic, where a small in-person audience was present, and tickets were also for an online viewing option. Staff members saw that even a professional production company had computer overheating issues which made many around the museum wary about the feasibility of putting on hybrid events. With a professional production company involved, it causes the cost of staffing the event to increase, which was another concern expressed by many staff members. Many staff also mentioned that even if a production company was not involved with an event or program, using a hybrid model would require more museum staff members to work the event and increase costs.

4.2.3 Feedback Regarding Previous Events

The museum's staff received various feedback on the programs offered by them, both online and in-person. They said the visitors and attendees of past events, both online and in-person, enjoyed the content and speakers of the program. Well-established speakers tended to draw out larger audiences and increase engagement. Attendees also preferred to receive the program's content shortly before the scheduled date to know what to expect. Visitor feedback revealed that program participants preferred having good audio quality and satisfactory or poor video quality over the opposite. This preference is likely because good audio quality can still allow the attendee to follow along with the program, whereas poor audio quality hinders them from absorbing content.

There were some negative comments regarding previous events as well. Many attendees noted the poor audio and/or video quality during some of the events hosted by the museum. This problem can potentially be attributed to a range of factors from inadequate equipment quality to poor wireless connectivity. It was noted post-pandemic event hosts and attendees became more accustomed to this nominal drop in quality over in-person events, but as the world is adopting and improving online infrastructure, the expectations of people are changing. Concerning in-person events, some attendees found the seating uncomfortable for long programs. Another major concern among the in-person attendees was that events hosted on the second floor were not accessible, especially to people who have mobility issues. The interviews revealed many other minor inconveniences that visitors noticed while attending programs. Visitors mentioned that the lighting in the room was sometimes too dim, causing many visitors, particularly younger teenagers, to lose focus. Visitors also complained about the temperature in the room, especially during the summer months when the room became incredibly hot and stuffy.

4.3 Current Hybrid Event Practices in London

To supplement FML staff interviews, we also interviewed staff at the British Library and the V&A Museum, and professors at the University of Essex and King's College London, both of whom work closely with the Freud Museum to host events.

4.3.1 Interviews Background

We conducted five interviews with staff from outside organizations. Each interviewee began working at their organization prior to the COVID-19 pandemic, which was relevant to our findings because they could discuss each organization's changes pre- and post-pandemic. Four out of five of the staff that we interviewed were involved in teaching at their institution and had insight on the performance of online and hybrid learning.

The four institutions we spoke with were the V&A Museum, the British Library, the University of Essex, and King's College London. Staff members we spoke with at the V&A Museum were part of the V&A Academy, which is responsible for facilitating learning events for school groups. These events are typically online and involve a speaker from outside of the museum. The staff member we spoke with at the British Library is involved with Culture Programs which involves a diverse array of events, some delivered online, in-person, or hybrid. The staff at the two universities were both professors who taught classes and also helped

facilitate events at the Freud Museum. We tailored our questions to reflect the interviewees' interests and expertise.

4.3.2 Attitude Towards Hybrid Events

The interviewees' attitude towards hybrid events was somewhat mixed. Some staff members viewed hybrid events favorably, while others did not. As we discovered from our interviews with FML staff members, staff members at the V&A and teaching staff at King's College London found that using a hybrid delivery mode for learning events such as school group visits and courses does not work. The hybrid setting makes it difficult for speakers to cater to both the in-person and online audiences in person. For example, if the teaching session requires showing an item to the class, it is difficult to provide the same experience for both the in-person audience and people online.

The professor at the University of Essex, who is very experienced in running hybrid events, believes that hybrid events work incredibly well, particularly for conferences. The ability to bring together speakers and audience members from across the world is an experience that cannot be easily replicated otherwise. The professor also noted that in order for hybrid events to be successful, the right technology must be used and common video conferencing rules and etiquette must be well communicated to speakers and audience members.

4.3.3 Video Conferencing Platforms

The two industry standard conferencing platforms used in online and hybrid events are Zoom and Microsoft Teams. Interestingly, the interviewees had conflicting opinions on the two platforms. Staff at the V&A heavily favored the use of Teams, including Teams Town Hall and Teams Live Events, because they believed it was more secure and simpler to use. Other interviewees favored the use of Zoom and Zoom Webinar, which they thought were secure and easy to use. Based on the interviewees' opinions, it is unclear whether one platform is significantly better than the other. The Freud Museum already uses Zoom Meetings and Zoom Webinar for its online events.

As shown in Table 2, there are substantial differences between Zoom Meetings and Zoom Webinar. The professor from the University of Essex states that these differences can contribute to two vastly different experiences. Zoom Meetings are intended for typical meeting types, such as business meetings, courses, etc. Zoom Webinars are intended for larger conference meetings

and sometimes educational lectures. Though the V&A uses Microsoft Teams, Teams has two similar platforms to Zoom Webinar called Teams Town Hall and Teams Live Events. These webinar platforms are used because they make it easier for hosts and panelists to moderate events, especially for larger audiences. The V&A typically has audience numbers in the hundreds. On the other hand, Zoom Meetings are used for smaller events with much more limited attendee participation. To encourage engagement and participation, the University of Essex professor favors Zoom Meetings due to its strength in allowing attendees to participate more fluidly. However, for larger events, Zoom Webinar makes online moderation easier and can help events run more smoothly.

Table 2: Zoom Meeting and Zoom Webinar Features

Feature	Zoom Meeting	Zoom Webinar
Participant roles	~ Host ~ Participant	~ Host and co-host ~ Panelist ~ Attendee
Audio sharing	~ All participants can mute/unmute audio ~ Host can mute/request to unmute participants	~ Only the host and panelists can mute/unmute their own audio ~ Attendees join in listen-only mode ~ Host can unmute attendees
Video sharing	~ All participants	~ Hosts and panelists
Screen sharing	✓	✓
Participants list	~ Visible to all participants	~ Visible to hosts and panelists
Chat and Q&A	~ In-meeting chat	~ Webinar chat

4.3.4 Key Practices

Many things can go wrong during online events. For instance, the speaker’s internet connection may be unstable leading to lag or a broken connection. Also, a speaker’s environment may be too noisy, or their microphone or video might not function correctly. To address these concerns, V&A Academy staff members take multiple steps. Staff at the V&A hold a one-hour call with each of their speakers prior to an event to perform a test. In this call, the V&A staff members teach the speaker how to run the event smoothly and check for any other issues that need to be addressed. For some events, a script is also written and read over during this call. One

of the V&A staff noted that this script was especially useful during an event in which the guest lecturer fully lost their internet connection, and one of the V&A staff moderating the event was able to seamlessly take over by reading the script. They then conduct a practice session with guest panelists, speakers, and lecturers prior to each event. Since most of these speakers conduct their lectures at home over Teams; the only contact the speaker has with the museum is through online communication.

The British Library holds a mix of in-person and hybrid events, but most events are hybrid. In-person attendance at events is highly encouraged because it provides a more unique experience, but online attendance is encouraged as well. A ticket pricing structure is implemented so that in-person tickets cost a premium price while online tickets can be purchased for a lower price. Additionally, the British Library records each of these events and posts them for attendees to view later. In-person and online event attendees gain exclusive access to a recording of the event shortly afterwards. The recording goes out to the public for free one month later, but the exclusive access to the recording early on incentivizes event attendance. The British Library hires a production company to record their events, allowing for a professional recording and quality event experience.

Because hybrid and online events rely on a steady internet connection, we learned that some other organizations have two Wi-Fi networks, one for guests and one for staff. Guests are not allowed access to the staff Wi-Fi network, which is used solely for staff activity and hosting online events. This separation helps prevent connection issues during events and ensures that the livestream uses the fastest speeds and highest quality internet available.

4.4 FML Member and Program Participant Perspectives

As described in Chapter 3, we developed a survey instrument to elicit the opinions of FML members and program participants. To maintain confidentiality, the FML digital manager administered this survey to an email list of 1600 members and past event attendees. From this email list, 62 individuals submitted completed surveys, yielding a 3.8% response rate. Although our team hoped for a higher response rate, the survey response timeframe included Easter weekend.

4.4.1 Sample Characteristics

As shown in Figure 9, our sample of respondents skews towards an older demographic (65.5% of respondents were 55 or older). A slight majority (54%) of respondents live in London. Out of the 62 respondents 59.7% were FML Members/Patrons and 37% are not members or patrons but had attended FML programs.

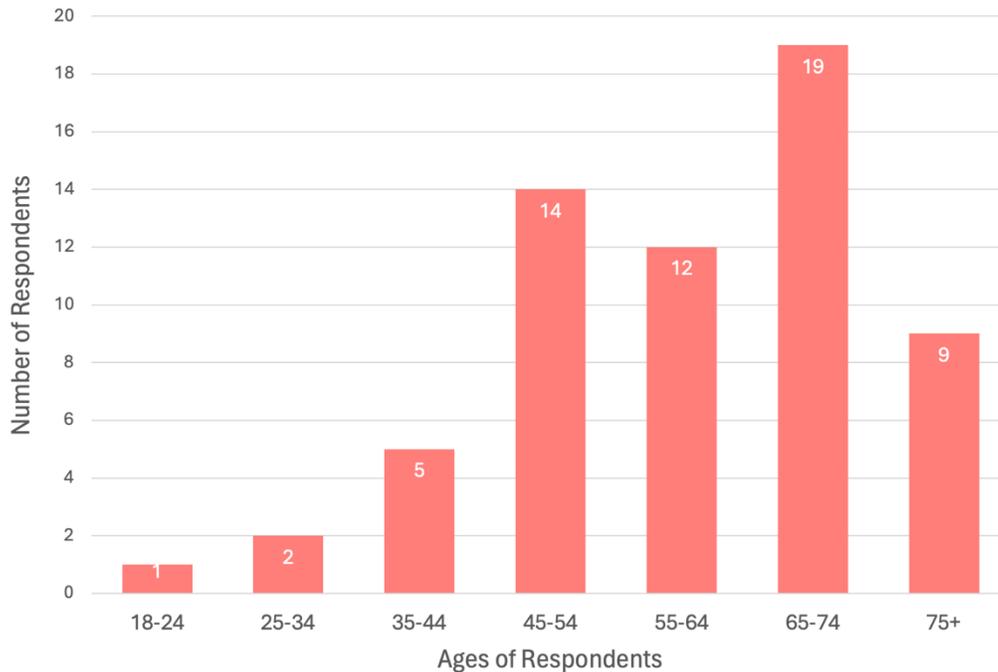


Figure 9. Age Range of Survey Respondents (n=62)

A large majority (72.6%) of respondents subscribe to the free FML podcast channel and 56.5% have viewed pre-recorded programs on the Freud Museum's On Demand service in the past year.

4.4.2 Opinions of “In-Person” Attendees

Out of the 62 total survey respondents, 8 respondents (12.9%) had only attended FML programs in person. Unfortunately, such a small sample means we cannot draw any firm conclusions with any certainty. Despite the small sample, Figure 10 illustrates that the respondents rated the registration process and hospitality as quite high and room visibility and acoustics a little lower.

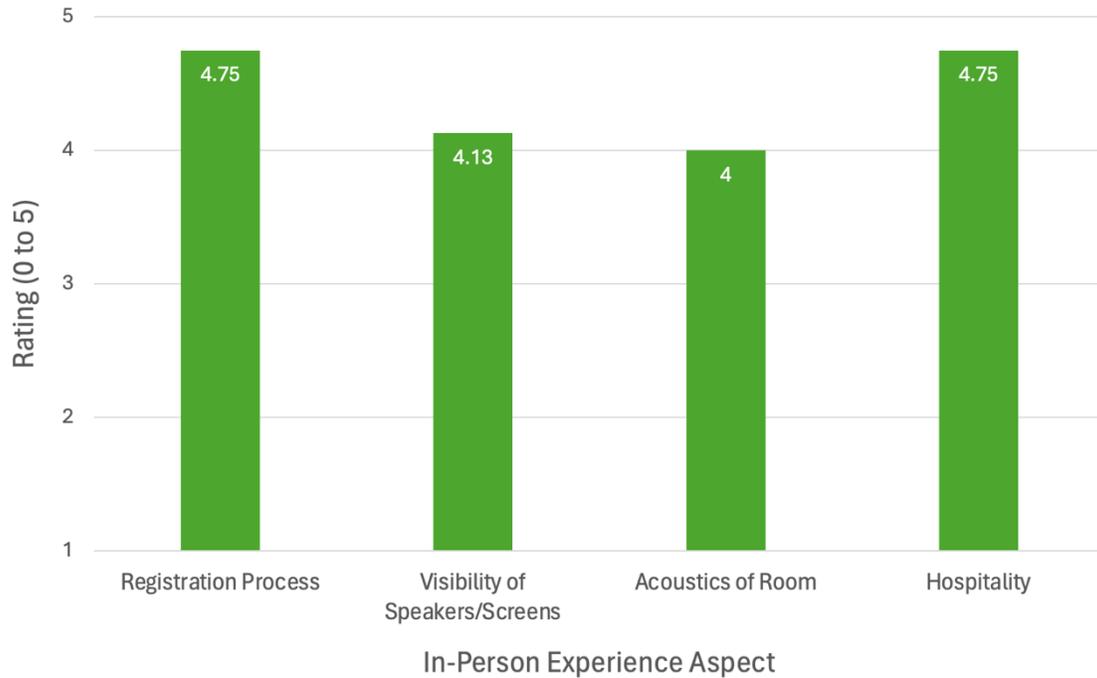


Figure 10. In-Person Experience Ratings (n=8)

When asked if they would consider attending a hybrid program, five respondents said yes, while three said maybe. All eight respondents said that they would attend a hybrid event in-person rather than online because they enjoy the hospitality and higher engagement level of an in-house event.

4.4.3 Opinions of “Online” Attendees

Thirty-one respondents (50%) have only attended online programming, including online courses, events, conferences, and ‘other’ programs as shown in Figure 11.

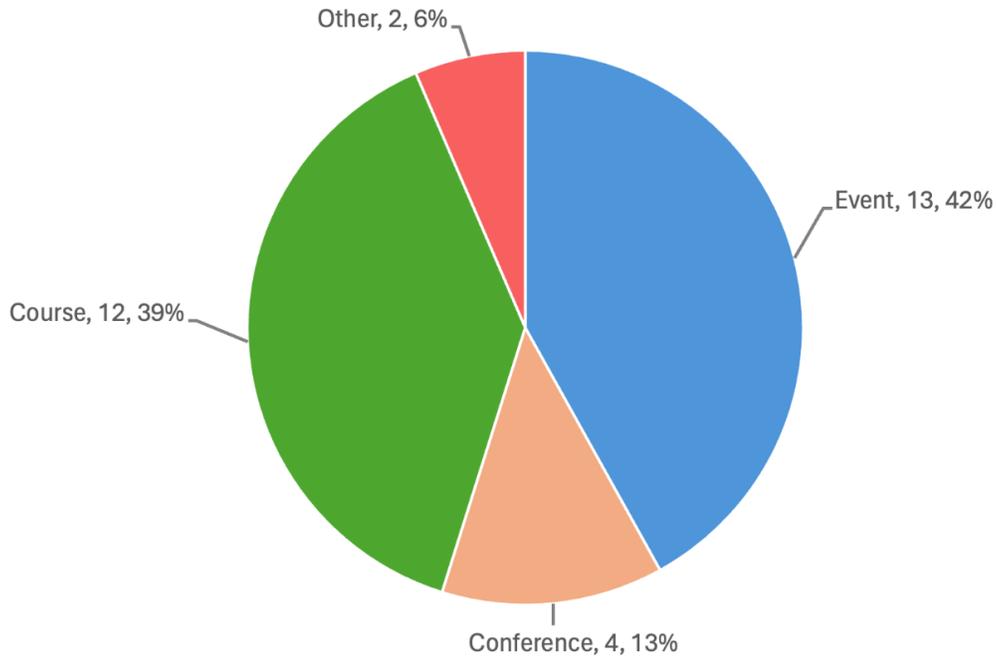


Figure 11. Distribution of Program Type Attendance (n=31)

Figure 12 shows that the online respondents rated the ease of connecting and audio and video quality quite highly.

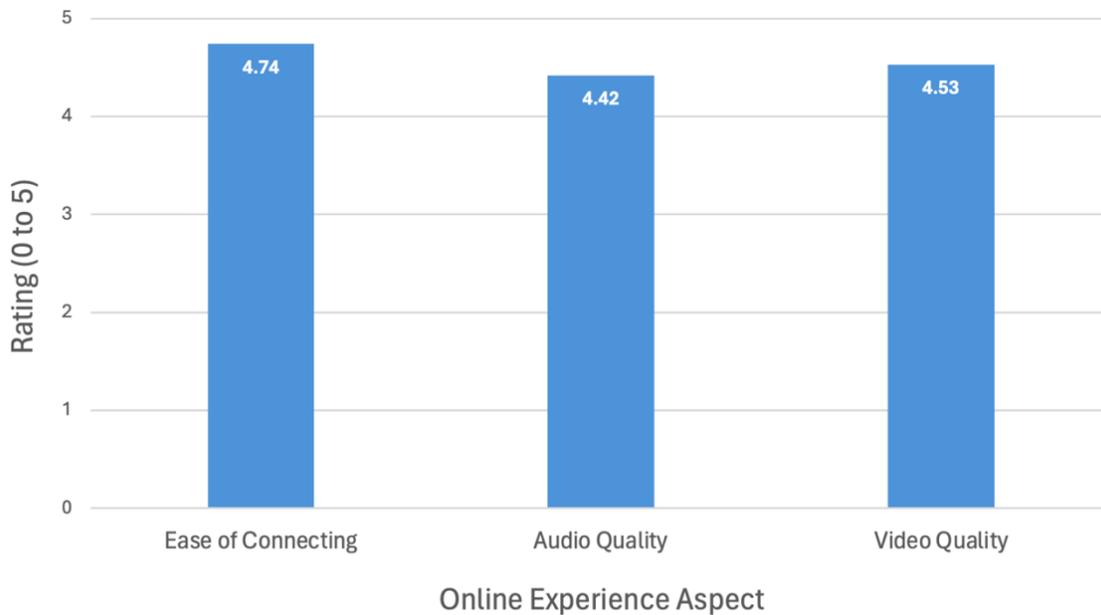


Figure 12. Online Experience Ratings (n=31)

Regarding 'attendance at future hybrid events, 26 (83%) said yes, they would attend, 3 (10%) said maybe, and 2 (6.6%) said no. Out of the participants who answered "yes" to this

question, 85.7% said that they would join the hybrid event online, while 10.7% said that they would only attend in person. Respondents explained they would prefer to join hybrid events online because they live too far away or that it is more convenient. Those who said they would join the hybrid event in person said they miss in-person events after COVID-19 and would prefer to have the option. Our team also asked the respondents what they most enjoyed about their online event experience. Common answers include: the content and discussion (Q&A was encouraged), friendly and interactive speakers, the fact that it was recorded, lots of visuals, and the moderate expense. Some respondents suggested that FML should improve their programming by increasing the number of online programs and always offering a hybrid option.

4.4.4 Attendees to Both Online and In-Person Events

Out of the 62 total survey respondents, 16 respondents (25.8%) attended both in-person and online programs, including 14 respondents that had been to events, 1 respondent who had been to a conference, and 1 respondent who had been to an unlisted program. Figure 13 shows that people attending online events rated the registration process, audio quality, and video quality higher for online rather than in-person events.

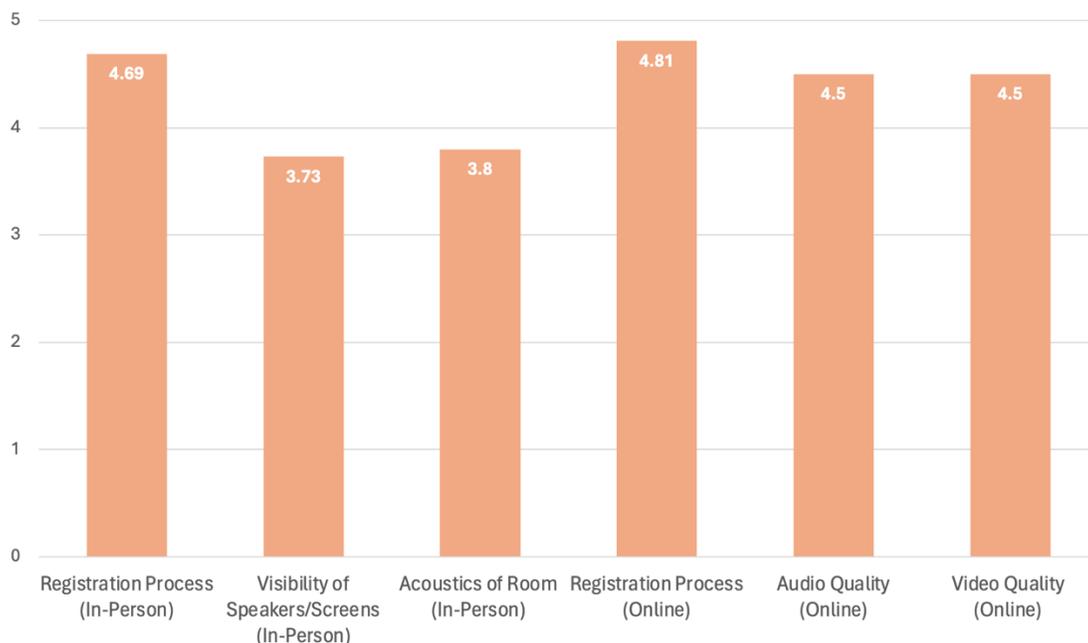


Figure 13. Both Online and In-Person Experience Ratings (n=16)

We then asked those that had attended both in-person and online programming if they would consider attending a hybrid event in the future, and 75% said yes and 25% said maybe.

Out of the respondents who answered yes to this question, 28.8% said they would attend a hybrid event online, 35.7% said they would attend a hybrid event in-person, and 35.7% said they were not yet sure. Respondents who would join the hybrid event online said that it is more convenient because they live far away, while respondents who would join the hybrid event in person said that they live nearby and prefer in-person interactions. Some common aspects that respondents enjoyed about their in-person and online experiences included the content, engaging speakers, the friendly atmosphere, having the ability to meet the speakers and other attendees, having access to the shop, the good sound quality online, the fact that the recording was sent after, and the ease of attendance. Respondents also made some suggestions to improve programming at FML. They wrote that there should be a more diverse range of representation at the programs (e.g., speakers, panelists, and moderators), more refreshment options, improvements to seat comfortability, and making sure that technology remains easy to use. One respondent wrote that “The Museum manages online events very well, but hybrid would be a better mode if it enabled online participants to feel more involved”.

4.4.5 Focus Group Interest

The last question on the survey asked each respondent if they would be interested in participating in a 30-minute follow-up group interview (i.e., focus group) to have an open discussion about their FML program experience. This option was proposed to help the team gain a more detailed perspective from all attendees. 16 respondents opted to participate in the focus group. 2 respondents have only attended in-person programs, 7 respondents have only attended online programs, and 7 respondents have attended both in-person and online programs.

4.5 Member Focus Group Findings

We hosted three separate focus groups for the different programming options. Unfortunately, no one who attended only an in-person program in the past year was available at the time of this focus group. Two Members who had attended online programming within the last year participated in our second focus group on April 9th, 2024. These were two psychotherapists who started their Membership with the museum prior to the pandemic. In our third session on April 10th, 2024, two Members attended to evaluate their experiences at both online and in-person programming at the Freud Museum within the past year. One Member was a teacher of philosophy and psychology and had been a member for about two years, while the

other Member was a psychoanalyst and had been involved with the Freud Museum dating back to the 1980s, where she trained at the Anna Freud Center.

The focus group participants held the museum in high regard for its historical and cultural importance to the psychoanalytic community. The participants also valued the social aspect that the museum offers as they view the museum as a place where members of their community can gather for programs, discuss new ideas and concepts in the field, and meet new people. For these reasons, they value the physical space that the museum offers and enjoy visiting the museum in-person. Despite the attraction, the interviewees acknowledged that since restrictions related to the pandemic were lifted, they have not yet been able to visit the museum in-person again although they remain involved in online programming with the museum.

The participants who only attended online events in the past year have found that they enjoy how accessible museum programming has become since the museum's online presence increased during the pandemic. They have been regular attendees of online courses and talks over the past year. They find that despite being relatively local to the museum travel within and around London can be quite costly and time-consuming. With busy schedules and accessibility issues, they have been grateful for the online options offered by the museum. Participants found that the video and audio quality of the online events were as expected. Another reason they have really enjoyed online programming is the recordings being made available following the course or event. They find that it allows them to focus better during the program and not worry about missing anything to put in their notes. Similarly, they find that when they join courses and talks from their homes, it is much easier for them to pay close attention as opposed to being in a room with a lot of people and many distractions.

The Members who attended both in-person and online programs stated that they like the feeling of being connected with other members of the community when attending in-person. One member specifically mentioned her positive view of the bookstore, and how it and the museum promote an 'apolitical' environment where people can come together over the topic of psychology without letting conflicting theories get in the way. They disliked the absence of that feeling-when attending online/in-person events. However, they also mentioned some improvements they would like to see regarding the Video and Exhibition rooms. Both attendees mentioned that they felt the room was small and the chairs were uncomfortable after a short period of time. One participant also mentioned how the sound quality could have been better

during some in-person events. The two attendees also had multiple suggestions about ways to improve the experience. One participant suggested offering more refreshments other than wine, such as bottled water and some snacks like biscuits, and that they would be willing to pay for such refreshments to further support the museum. The other participant liked the idea of alternating between in-person and online when doing Q&A sessions to avoid making one of the audiences feeling left out of the discussion. Both participants also suggested including a set of etiquette guidelines to help avoid disruptive behavior during online and hybrid events.

Some common concerns brought up about online and hybrid events were related to the social aspect of learning. Members fear that online formats limit the networking and ideas sharing that occurred in the past at the museum during in-person programs. They also expressed that despite many people accepting the transition to online meetings and programming there will always be a group who will want to attend in-person, emphasizing the importance of having both an online and in-person option for different program types to be as inclusive as possible.

4.6 Freud Museum Current Equipment and Practices

Before providing the museum with equipment recommendations, we conducted an inventory of the current video conferencing equipment and software used by FML. The physical hardware and equipment are outlined in Table 3 and includes brands, model names, descriptions, and quantities. This table includes the museum’s speakers, monitors, microphones and receivers, speakers, and cameras which are all used for the museum’s programming.

Table 3. Freud Museum London Main Programming Equipment

Brand	Model	Description	Qty.
APart	Mask6C	(1) Speaker	4
Panasonic	TH-42PW5	(2) Monitor	1
Sony	VPL-CS255	(3) Projector	1
LD Systems	WS1616-BP	(4) Wireless lapel microphone	3
TOA	A-1724	(5) Power amplifier	1
Sennheiser	EW-100 G3	(6) Receiver for audio	1
LD Systems	WS1616-r	(7) Receiver for microphones	3
Denon	DN-F450R	(8) Solid state recorder/playback	1
Sennheiser	SKM 100 G3	(9) Handheld microphone	1
Sony	FDR-AX53	4K Camera	1
Bowens	GM250	Monolight	1

The equipment within the Video and Exhibition Rooms is mostly used for in-person programming. The two rooms are equipped with a monitor, a projector and drop-down screen, three wireless lapel microphones, one handheld microphone, and four speakers for panelists and lecturers to use. Figure 14 shows the position of equipment in the Video Room and Figure 15 shows the connecting audio equipment. The projector is overhead in the center of the Video Room. During larger in-person events, an elevated platform is placed at the front of the room along with chairs for speakers to sit on. Speakers use the wireless lapel microphones onstage, and the handheld microphone is used more freely, for audience participation and other speakers. For smaller in-person events, such as learning visits, the microphones are typically unnecessary.

In both the Video Room and the Exhibition room, the APart speakers are wall-mounted in the top corners of the fronts of both rooms, as can be seen in Figure 14. This way, audience members in both rooms can hear audio clearly. The drop-down screen and projector are always used for in-person events to display slides and other visuals during events.



Figure 14. The Video Room, annotations referenced in Table 3



Figure 15. Audio equipment in the Video Room, referenced in Table 3.

FML uses Zoom for all its online programs. The museum primarily uses Zoom Webinar for events and conferences but also uses Zoom Meetings for smaller groups including courses and virtual school group visits that require more seamless audience participation. Depending on the speaker's preference, online events can be hosted at the museum or from the speaker's home. For instance, if a speaker is overseas, the museum will host the event at the speaker's home. For prerecorded content, museum staff utilize a 4K camera and a lighting rig, as seen in Figure 16 (also referenced in Table 3). The content is recorded in the museum's 2nd floor main offices.



Figure 16. Recording equipment used for pre-recorded online events.

4.7 Equipment and Software Requirements

In this section, we will discuss the technologies we believe the Freud Museum London will need for a successful hybrid program. We examine specific features of audio and video technologies that could be used in the Video and Exhibition rooms to make the space more effective for hybrid events. After identifying the technological features we found important in hybrid technologies, we identified a UK-based supplier that we believe the Freud Museum should pursue to supply, install, and maintain their hybrid space.

4.7.1 Hybrid Equipment Requirements

We discuss three categories of technology requirements: audio requirements, visual requirements, and software and wiring requirements.

The first aspect that our team considered was the audio requirements needed to transition to hybrid programming. As we learned, content is most important to those attending programming at the Freud Museum, emphasizing the need to have quality audio technologies in the Video and Exhibition rooms. Our team decided that having ceiling mounted multi-directional microphones would be best for producing high quality audio throughout the event, as seen in Figure 17.



Figure 17. A ceiling mounted microphone. (New Version of Shure..., 2019)

These types of microphones can be programmed to pick up audio from different zones, making them ideal for the Q&A portion of an event as the zone can switch from focusing only on the audio coming from the speaker to audio in the entire room. This allows online audiences to block out crowd noise during the event but include them in the questions being asked by the in-person audience. While focusing on the audio experience of the online audience is achieved by installing quality microphones, maintaining quality audio in the Video and Exhibition rooms can be achieved through new ceiling mounted speakers. Having new ceiling mounted speakers will ensure those who attend in-person will be able to clearly hear the speaker no matter where they are seated.

The second technological aspect of hybrid programming that our team examined was the visual requirement. Cameras are a major aspect of providing quality visuals to engage online audiences in a hybrid program. We identified a need for a camera to be mounted in the corner of the Video room directed toward where the speaker's stage is during events, as seen in Figure 18. This camera should have sound tracking capabilities to follow the speaker if they choose to move around while speaking.



Figure 18. A ceiling mounted camera. (QuickCAT, n.d.)

In addition, it is recommended that the camera selected have an optical zoom feature to ensure image quality is not distorted. Along with the speaker view camera, our team believes that a wide-angle webcam should be mounted on the front wall of the Video Room. The purpose of this camera is to give the online audience a sense of the in-person audience in the room. To accommodate any slides or PowerPoints that speakers may have, we find that using a large television in the front of the Video room will provide the museum with very good image quality. Figure 19 provides an idea of the type of television that would work well for the main screen.



Figure 19. 80-inch Television. (Size Does Matter, 2016)

In addition to this large screen, we found that having a screen mounted in the upper corner of the Exhibition room, like the one in Figure 20, would be necessary, during an event this screen would ideally display the feed from the wall-mounted camera focused on the speakers as it can be difficult to see the speakers when seated in the back of the exhibition room.

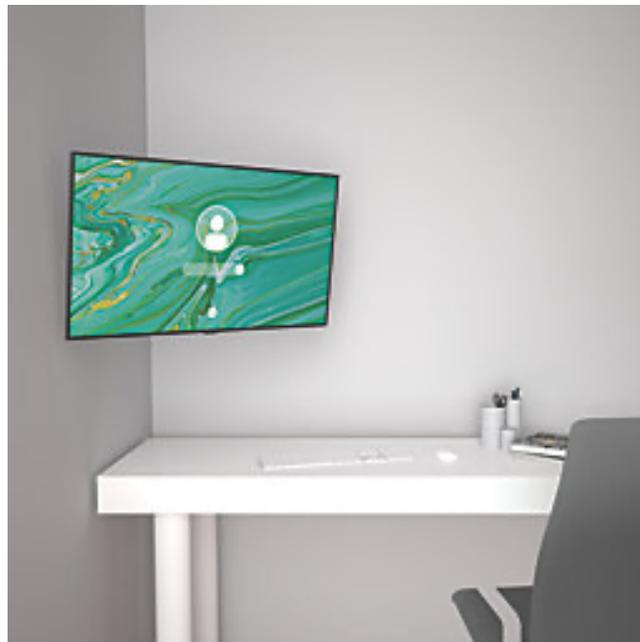


Figure 20. Small wall-mounted monitors. (AVF MRL23, n.d.)

Outside of a hybrid program, this small screen would be pushed flush against the wall and could display images or videos related to the current exhibition. To ensure that cameras and

screens will behave as expected, we found that the lighting in the Video room should be updated to match the lighting used in the Exhibition room. It is important that the lights can be adjusted based on the lighting outside or the image quality from the cameras could be negatively impacted.

Thirdly, we reviewed software and configuration setup options. With the consideration of physical audio and visual systems, we found a cohesive software and hardware setup to be essential in providing ease of use and minimizing potential areas of error when hosting programs. Our team compared Zoom and Microsoft Teams as video conferencing software candidates. When using video conferencing software, the museum uses both traditional meeting formats and webinar formats. Our research revealed that Zoom Webinar tended to be more stable and easier to use when compared to similar offerings by Microsoft. The traditional meeting format has less of a variation between the two software, but the museum staff still found Zoom to be easier to use and have had fewer negative experiences with it. We concluded that Zoom would be the best choice of software for the museum due to its ease of use and familiarity. Video conferencing software tends to use a large amount of bandwidth. Our research revealed that the Freud Museum utilizes one Wi-Fi network for both museum and guest use. They also primarily use wireless connections for hardware around the museum. These two facts contribute to the poor network connectivity the museum experiences during some of their larger programs. We have found it to be common in the industry for larger organizations with public visitors to use two separate Wi-Fi networks, one for the organization's staff and professional needs and one for its public visitors. Furthermore, they utilize wired connections over wireless to maximize signal strength as it does not dissipate due to external factors like walls or certain appliances. Both practices may benefit the Freud Museum and help alleviate their connectivity issues. Like wired connections, we also found that using PoE+ switch, as seen in Figure 21, would make the configuration far easier to maintain.



Figure 21. Netgear 16-port PoE+ Switch. (Kumar, 2022)

The PoE+ switch allows devices to receive both network connectivity and power through the same wiring solution, eliminating the need for two separate sets of wires. Having different devices that use the same connection ports, for example, HDMI or USB-C, further simplifies the set-up and makes it easier for the museum to maintain. Our research further revealed the use of a touch-screen control panel to make the presentation/controlling experience more user friendly and efficient when compared to a strictly PC-based set-up. A sample touch screen panel by Extron can be seen in Figure 22.



Figure 22. Extron touch screen control panel. (10" pro Touchpanels, n.d.)

The addition of dedicated buttons and descriptive diagrams eases part of the learning curve associated with a complicated set-up.

4.7.2 Identifying an Audio and Visual Technology Supplier

Upon research into audio and video solution suppliers in the United Kingdom, the team settled on ITSL Group as the supplier of choice for the Freud Museum London to gather quotes from for the hardware and software required for the renovations of the Video and Exhibition rooms. The ITSL Group has been in the Audio and Visual solution business for over 20 years, and they have completed over 1,500 projects to date. These projects range from small video conferencing rooms suitable to both Zoom and Teams to large auditorium PA systems. They assist their clients from each project's design phase through to the maintenance and support of the system after the project is completed. One aspect that ITSL Group offers that is of particular interest to the staff of the Freud Museum is the training phase where ITSL engineers will train staff on how to operate the new system. With their experience in the field of audio and video solutions as well as their track record of service highlighted by the case studies they provide on their website; our team believes that ITSL Group is a strong candidate to provide the Freud Museum London with the services they require. Upon identifying the ITSL Group as a potential supplier, we held a short conversation with FML staff and ITSL Group staff to discuss the technologies we identified, we used our Sketch-up model to easily demonstrate our vision for the Video and Exhibition room to the ITSL Group staff.

Chapter 5: Conclusions and Recommendations

5.1 Conclusions

It is evident that the COVID-19 pandemic had a major impact on how museums, libraries, and universities connect with their respective audiences. Educational and event programming were forced to pivot to online models in mere weeks, leaving event hosts and speakers scrambling to understand the world of remote meetings. Despite being forced into such a steep learning curve, museums, educational institutions, and other organizations adapted quite well and quickly to keep their audiences engaged even when they could not attend in-person. In the new norm, museums and other institutions reached larger audiences, especially international ones, with their online programs.

Through surveys, interviews, and focus groups we established that Freud Museum members and staff are keen to embrace hybrid programming and all it has to offer, such as alleviating accessibility issues and increasing audience reach and numbers. Hybrid programming raises concerns among staff about managing the technology and meeting the needs of online and in-person audiences. Many stakeholders emphasized content over audio quality over video quality to ensure content delivery, but a good hybrid environment should meet the audio and video expectations of online and in-person audiences. Ultimately, having a flexible hybrid space will help redefine programming at the Freud Museum and will allow other organizations to take advantage of the space through private hire events at the museum.

5.2 Recommendations

Based on our findings, we recommend how the Freud Museum can renovate the Video Room and Exhibition Room to deliver high quality hybrid events. These recommendations fall into two categories: (1) the type of programming which will be most successful in a hybrid model; and (2) the technology which will be needed to provide quality video and audio to the remote and in-house audiences while also being easy to manage by staff members.

Regarding programming, we focus more on the style of program rather than the content. While content was touted as one of the most important aspects of successful programs those decisions are made by the staff members at the Freud Museum London and are beyond the scope of this project. Instead, our team will recommend why some types of programs are more suitable

for hybrid delivery than others. In terms of technology, we suggest multiple packages of different at hardware and where microphones, cameras, and screen displays should be in the Video Room and Exhibition Rooms.

5.2.1 Programming

Based on our findings, we recommend that FML should offer the hybrid option for networking programs such as conferences and events. Increasing hybrid conferences and events at FML will likely increase the audience size and reach and will foster a greater connection between the international and local audiences. FML should invest in proper training for their staff, speakers, and moderators to create a seamless and engaging experience for online and in-person audiences.

We recommend that FML avoid delivering educational courses and learning sessions in a hybrid format. Although hybrid course can be delivered to allow participation from online and in-person audiences, participants would be learning and participating in different ways. The Education Manager at FML, stated that some learning sessions should be held either online or in-person but not both. Topics such as mental health should be delivered only in-person because all participants should feel completely comfortable and included. Hosting non-intimate learning sessions online as well as in-person could be a great way to reach broader UK and international speakers and audiences.

We recommend that FML carefully monitors their audio quality throughout their programs to maintain an informed and engaged audience. Almost all interviewees and survey respondents stated that the content is the most important part of a program, so highly focusing on audio quality will ensure that content will be transmitted effectively using a hybrid approach. Besides good audio quality, hybrid programs should be designed and delivered to encourage effective online and in-person audience participation during the Q&A sessions.

We recommend that FML does early advertising for programs to effectively promote in-person attendance. When a program is announced early, it allows potential attendees to make plans and commit to attending. Ticket pricing should reflect experiential value: tickets for online attendance should be more cost-effective than tickets for in-person attendance to compensate for the in-person hospitality experience. However, early advertising should emphasize the advantages of being in the home during the program to draw a large in-person audience.

5.2.2 Technology

To improve the quality of in-person programming and help deliver a high-quality hybrid event experience, we have compiled a set of various recommendations for technology equipment and use based on developments in our findings. Most of our recommendations involve the installation of various equipment in the Video Room and the Exhibition Room. Additionally, our team has some recommendations on software usage for hybrid event hosting.

For software usage, our team recommends that the Freud Museum continue to use Zoom for their programming and hybrid events. The museum is already familiar with how to use the Zoom platform for its programming, and we do not recommend that the museum swap platforms for Microsoft Teams, the alternative. For larger hybrid events such as conferences and large lectures, we recommend the use of Zoom Webinar over Zoom Meetings due to its helpfulness in event moderation. Zoom Meetings can still be used for smaller-scale hybrid events (less than 20 participants) as they allow for more fluid audience participation and don't require as much moderation. Furthermore, our team recommends the installation of a secondary Wi-Fi network dedicated to visitors. This allows the primary network to only support museum programs, improving the connectivity and streaming quality during those programs.

We recommend that the museum installs various equipment inside the Video Room and the Exhibition Room to improve the quality of events. To begin with, we recommend that a new monitor is placed in each room. For the Video Room, we recommend that a larger 75+ inch television replaces the current one, and for the Exhibition Room, we recommend that a smaller 50+ inch monitor is added to the top corner of the room against the wall with the partition door. The current monitor in the Video Room is out of date, and the addition of the monitor in the Exhibition Room will make it easier for audiences to see speakers if they are seated at the back of the Exhibition Room during an in-person event. Ideally, our vision is that the Exhibition Room monitor will display the Zoom feed being broadcasted. This monitor should be wall-mounted with the ability to remove and reinstall it easily. Figure 23 displays what a new television might look like, and Figure 24 shows the recommended location of the potential second monitor in the Exhibition Room.



Figure 23. Recommended Video Room front configuration.

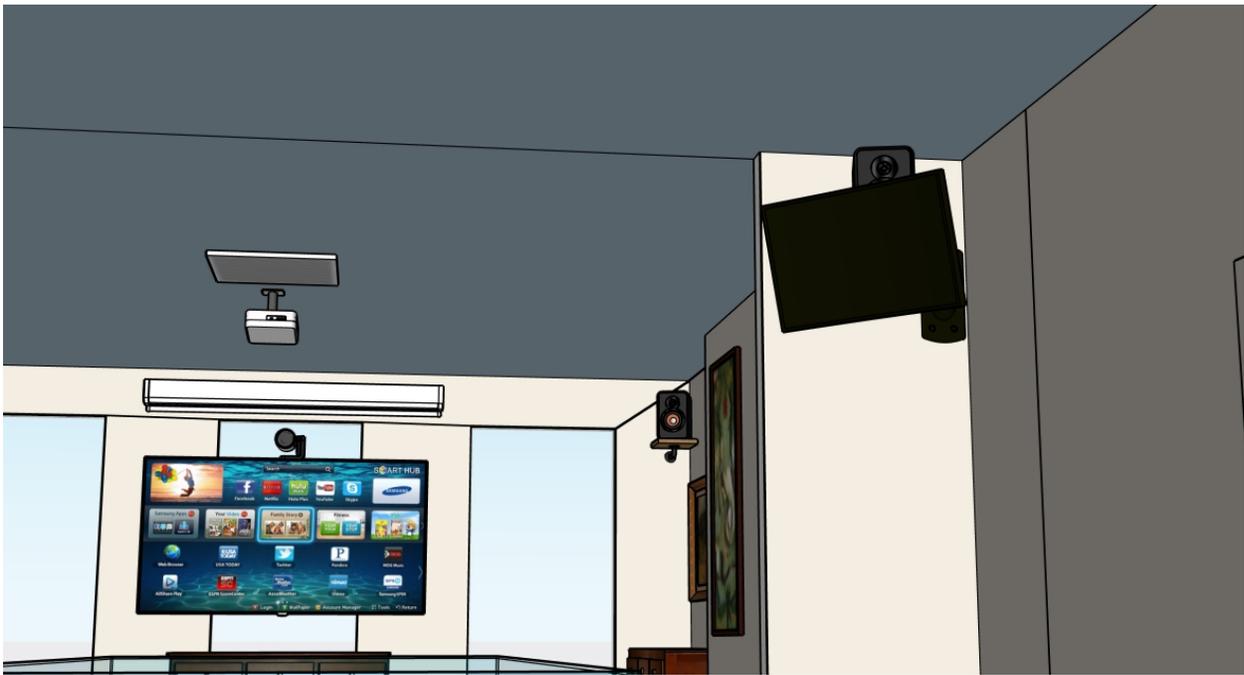


Figure 24. Recommended placement of monitor in Exhibition Room.

An important aspect of hybrid events is to provide online attendees with a clear view of the speakers and the feeling of being involved. We recommend the addition of a ceiling-mounted camera in the back of the Video Room and another located on the front wall. The first camera will be placed in the top corner of the Video Room near to the wall where the partition door is.

This camera will provide a full view of the Video Room and focus on the event speakers with good quality. The second camera will be placed facing the audience. Our recommended locations for the first and second cameras are displayed in Figures 25 and 26, respectively.



Figure 25. Recommended location of speaker-facing camera.



Figure 26. Recommended location of audience-facing camera.

We also recommend the addition of ceiling array microphones. This way, the audience members' audio can be captured more easily. We recommend that FML place one in the center

of the ceilings of the Video and Exhibition Rooms to easily capture audio from the speakers and audience participants. The recommended locations of the microphones can be viewed in Figure 27. We also recommend purchasing new wall mounted speakers to replace the older speakers. Additionally, we recommend the use of a digital control panel to control the usage of the cameras, speakers, and monitors. We recommend that this be placed near the door of the Video Room to be out of the way of the audience and speakers. Our recommended location can be seen in Figure 28.

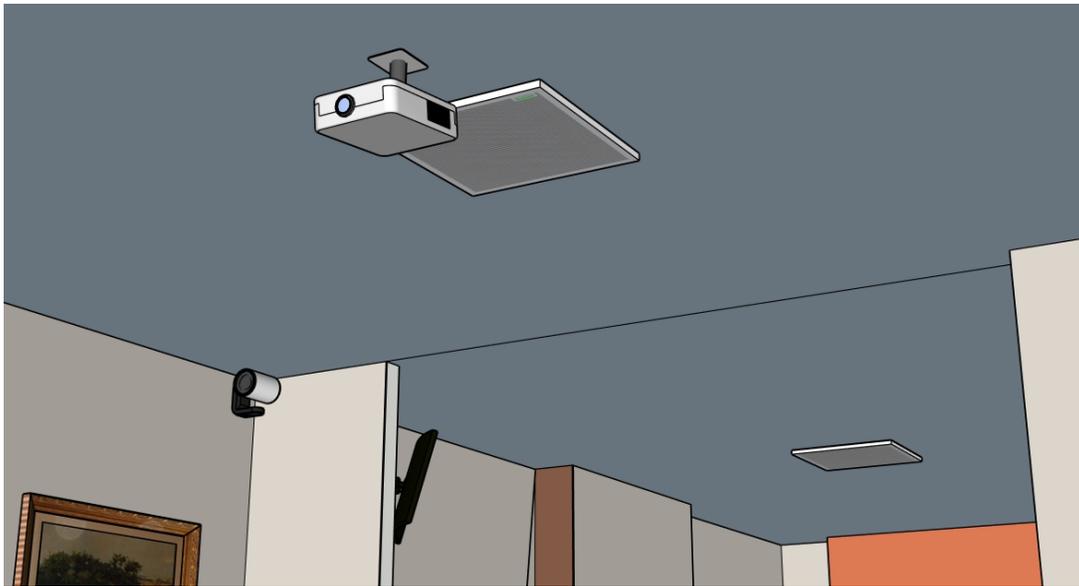


Figure 27. Ceiling view of Video Room and Exhibition Room.

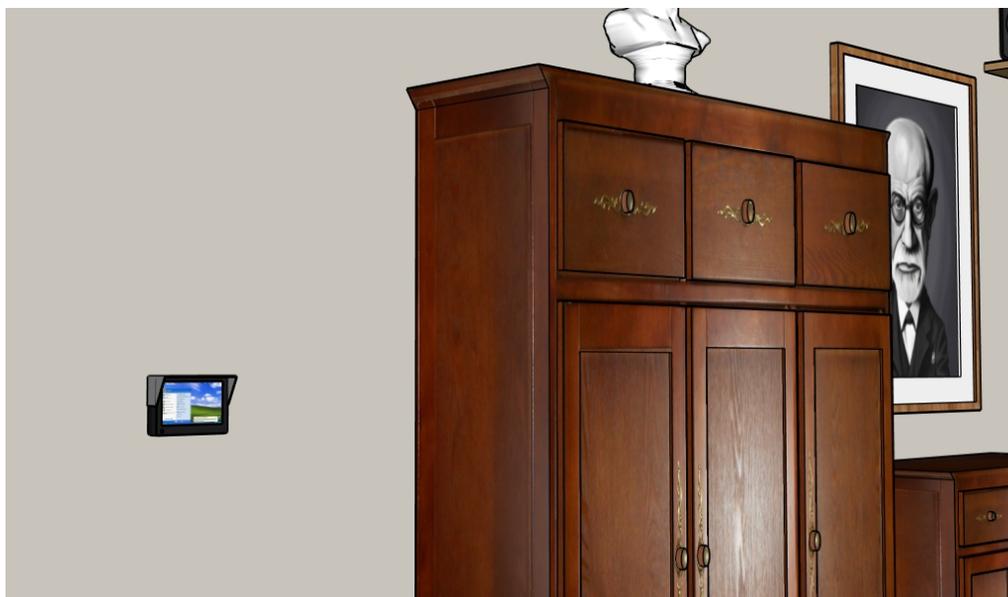


Figure 28. Recommended location of the digital control panel.

Each of these recommendations will improve the space of the Video and Exhibition Rooms for events, small and large. A view of the two rooms at normal capacity and full capacity can be viewed in Figures 29 and 30, respectively.



Figure 29. View of Video and Exhibition Rooms.



Figure 30. View of Video and Exhibition Rooms with full seating capacity.

In our meeting with the ITSL Group, a professional bid and configuration set up will be delivered by the ITSL Group to the Freud Museum London. We recommend that the Freud Museum London continues to work with the ITSL Group to complete the technological renovation of the Video and Exhibition rooms. The engineers from ITSL Group may have more suggestions to give to the Freud Museum London, which we recommend the museum follow too.

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Appendices

Appendix A: Sigmund Freud

Sigmund Freud was an Austrian neurologist who focused on his theories in psychology and was later recognized as the founder of psychoanalysis. Psychoanalysis is a set of psychological theories and therapies with the goal of treating mental conditions by eliciting past traumas and repressed fears through methods such as dream interpretation and free association as well as investigating the interaction of the conscious and unconscious mind (Tarzian et al., 2023). Freud's contributions in this field revolutionized the theory and practice behind modern psychology today.

After working and living in Vienna for over 77 years, Freud and his family fled Nazi persecution to London in 1938, settling at 20 Maresfield Gardens in the suburbs of Hampstead, found in the London Borough of Camden. Freud died of throat cancer in September 1939, but despite his short time spent in London, he enjoyed a productive year continuing his practice by treating four regular patients and finishing various writings. The Freud family also recreated many aspects of their home in Vienna. Sigmund collected as a hobby, and the family's furniture, library, and collection of over two thousand antiques arrived shortly before their move into Maresfield Gardens. The house was also renovated, most notably for the reconstruction of Freud's study. Antiques were stored in the same cabinets, rugs positioned atop the same furniture, and books arranged on the same shelves, all as it was in Vienna. Freud's iconic psychoanalytic couch also made its way to the study (Seigel, 2023). This is where patients would relax and lie down to practice free association, one of Freud's key theories in which patients openly share their thoughts and feelings. Sigmund's daughter Anna continued to live in the house until 1982, and at her request the house was converted into a museum, which opened in 1986.

Appendix B: Interview Questions for Staff Members of Victoria and Albert Museum in London

Preamble:

We are a group of students from Worcester Polytechnic Institute (WPI) conducting a research project in collaboration with the Freud Museum London to evaluate the best performing hybrid event technologies and configurations for museum events. We would be delighted if you would take 20 minutes to answer some questions about your hybrid event space. Your participation in this interview is completely voluntary and you may stop at any time. We shall be taking notes during our conversation and may wish to quote you in our final report. Do you mind if we quote you by name, or would you prefer we anonymize your responses? We will, of course, give you an opportunity to review any quotations prior to publication. We will give you a chance to review any quotations before publication. Thank you for your support in this research. Do you have any questions before we begin? If you have any concerns or questions after the interview, you can contact us at gr-lon_d24_freud@wpi.edu or our project hosts, Giuseppe Albano at giuseppe@freud.org.uk or Monica Law at monica@freud.org.uk.

Questions:

1. What is your current role at the V&A Museum?
 - a. How long have you been working here?
2. What is the overall performance of the event space at the V&A museum?
 - a. Which events have been found to be the most successful?
 - b. Which events drew a smaller audience than expected?
3. What changes, if any, have been made to the event space since it was first created?
 - a. (changes made) Why did you have to make these changes?
 - b. (no changes) Is there anything that you have/would consider changing?
4. When and why did the V&A Museum begin hosting online events?
 - a. Is there a high engagement level of those attending online events?
 - i. (yes) What strategies do you take to keep the online audience engaged?
 - ii. (no) How are you looking to increasing online engagement during events?

5. What specific software and hardware do you typically use to host events?
 - a. What is the feedback like on the video and audio quality of these events?
 - b. How have you used this technology to improve accessibility in the online space?
6. What is the space configuration you use to record and broadcast online events?
7. What are some events that have been hosted in the V&A Museum event space that you think would work well as hybrid?
 - a. What are some events that have been hosted in the V&A Museum event space that you think would NOT work well as hybrid?
8. What are some specific reasons why V&A has avoided combining online and in-person events into a single hybrid event?
9. What negative feedback, if any, have you received from attendees and/or panelists and speakers about your online and in-person events?
 - a. If feedback has only been positive, what did they say they specifically enjoyed?

Appendix C: Interview Questions for Staff of The Freud Museum London

Preamble:

We are a group of students from Worcester Polytechnic Institute (WPI) conducting a research project in collaboration with the Freud Museum London to evaluate the best performing hybrid event technologies and configurations for museum events. We would be delighted if you would take 20 minutes to answer some questions about your hybrid event space. Your participation in this interview is completely voluntary and you may stop at any time. We shall be taking notes during our conversation and may wish to quote you in our final report. Do you mind if we quote you by name, or would you prefer we anonymize your responses? We will, of course, give you an opportunity to review any quotations prior to publication. We will also be happy to provide you with a copy of our report when it is completed. Thank you for your support in this research. Do you have any questions before we begin? If you have any concerns or questions after the interview, you can contact us at gr-lon_d24_freud@wpi.edu or our project hosts, Giuseppe Albano at giuseppe@freud.org.uk or Monica Law at monica@freud.org.uk.

Questions:

1. What is your current role at The Freud Museum?
 - a. How long have you been at the Museum?
 - i. Did you start before or after the pandemic?
 - (If before) Can you describe any changes that have been made to event planning since then?
2. How has the FML adapted to online events or conferences?
 - a. What are some museum events/conferences that showcase this change?
3. What are some limitations the museum has noticed in delivering online events?
 - a. Do you have any potential solutions or workarounds to these limitations?
4. Do you think that visitors would like to see more hybrid or online events?
5. What were some of the main issues that you or other FML staff ran into when attempting to create hybrid events in the past?
6. What types of programs do you believe would be successful in a hybrid event (conferences, lecture series, etc.)?
7. What event(s) have you been a part of that would work in a hybrid setting?

- a. What about this event would suit it to the hybrid delivery mode?
8. What event(s) have you been a part of that would not work in a hybrid setting?
 - a. What about this event is not conducive to a hybrid setting?
9. What positive feedback have you received from visitors regarding the video and/or exhibition room?
10. What negative feedback have you received from visitors regarding the video and/or exhibition room?
11. Do you know of any museums or venues that have had success in putting on hybrid events? If so, could you send us their contact information?
12. What types of software and hardware do you or your fellow staff members use to put on live online events?
 - a. What hybrid platforms are you most familiar working with (Zoom, Teams,...)?
13. Do you have any other thoughts, ideas, or comments regarding the video and exhibition rooms that can help our team recommend a hybrid offering system?

Appendix D: Freud Museum London Event Evaluation Form

Preamble:

We are a group of students from Worcester Polytechnic Institute (WPI) in Massachusetts. We are conducting a survey for museum visitors to learn more about the best performing hybrid event technologies and configurations in London museums. Would you be willing to take 5 minutes to answer a few questions? Your participation in this survey is completely voluntary. You may skip any questions you prefer not to answer, and you may withdraw at any time. The survey is anonymous -- we will not be collecting your name or any personal, identifying information. This is a collaborative project between the Freud Museum London and WPI, and your participation is greatly appreciated. If you have any questions about the research or would like a copy of the published report, please contact us at gr-lon_d24_freud@wpi.edu or our project hosts, Giuseppe Albano at giuseppe@freud.org.uk or Monica Law at monica@freud.org.uk.

Demographic Questions:

1. In which of the following age groups do you belong?
2. Where do you live? If 'Other,' please specify the country.
3. If you selected "London" above, what is the first half of your post code? (e.g., NW3)
4. Please identify your relationship to the Freud Museum London. Choose all that apply. If 'Other,' please specify your relationship to the museum.
5. Do you subscribe to the Freud Museum free podcast channel?
6. Have you viewed pre-recorded programs on the Freud Museum's On Demand service in the past year?
7. In the past year, have you attended an in-person program, online program, or both?

Branch 1: Attended In-person programs only

8. Please identify the IN-PERSON program type in which you attended last. If 'Other' please specify the program type.
9. For the most recent IN-PERSON program that you attended, please rate the registration process on a scale of 1 to 5.

10. For the most recent IN-PERSON program that you attended, please rate the visibility of the speakers/screens in the Video Room on a scale of 1 to 5.

11. For the most recent IN-PERSON program that you attended, can you rate the acoustics in the Video Room on a scale of 1 to 5.

12. For the most recent IN-PERSON program that you attended, please rate the hospitality of the program on a scale of 1 to 5.

13. For the most recent IN-PERSON program that you attended, did you participate in the Q&A?

14. Would you consider attending a hybrid program at FML with both online and in-person audiences joining and interacting in one program?

15. If you answered 'Yes' above, would you be likely to attend a hybrid program in-person or online?

16. Please explain your reasoning for your answer to the previous question.

17. Please describe up to three aspects of past programs that made the experience most enjoyable for you.

Aspect 1:

Aspect 2:

Aspect 3:

18. Please suggest any ways FML could improve future programs to make your experience better.

19. Do you have any additional comments regarding online/in-person/hybrid programs at the Freud Museum London?

20. If you would you be willing to participate in a short (5-10 minute) follow up interview, please provide your email address below so we may contact you in due course. Following GDPR, we will store your email address separately from your survey responses to ensure they remain anonymous. Your contact information and anonymous responses will be stored securely and disposed of June 1, 2024.

Branch 2: Attended Online programs only within the past year

8. Please identify the ONLINE program type in which you attended last. If 'Other' please specify the program type.

9. For the most recent ONLINE program that you attended, please rate the ease of connecting to the program on a scale of 1 to 5.

10. For the most recent ONLINE program that you attended, please rate the quality of the audio on a scale of 1 to 5.

11. For the most recent ONLINE program that you attended, please rate the quality of the video on scale of 1 to 5.

12. For the most recent ONLINE program you attended, did you contribute to the Q&A?

13. Would you consider attending a hybrid program at FML with both online and in-person audiences joining and interacting in one program?

14. If you answered 'Yes' on the previous question, would you be likely to attend a hybrid program in-person or online?

14. Please explain your reasoning for your answer to the previous question.

15. Please describe up to three aspects of past program that made the experience most enjoyable for you.

Aspect 1:

Aspect 2:

Aspect 3:

16. Please suggest any ways FML could improve future program to make your experience better.

17. Do you have any additional comments regarding online/in-person/hybrid program at the Freud Museum London?

18. If you would you be willing to participate in a short (5-10 minute) follow up interview, please provide your email address below so we may contact you in due course. Following GDPR, we will store your email address separately from your survey responses to ensure they remain anonymous. Your contact information and anonymous responses will be stored securely and disposed of June 1, 2024.

Branch 3: Attended an In-person and Online within the past year

8. Please identify the IN-PERSON program type which you attended last. If 'Other' please specify the program type.²

9. For the most recent IN-PERSON program that you attended, please rate the registration process on a scale of 1 to 5.2

10. For the most recent IN-PERSON program that you attended, please rate the visibility of the speakers/screens in the Video Room on a scale of 1 to 5.3

11. For the most recent IN-PERSON program that you attended, please rate the acoustics in the Video Room on a scale of 1 to 5.

12. For the most recent IN-PERSON program that you attended; did you contribute to the Q&A?

13. Please identify the ONLINE program type which you attended last. If 'Other' please specify the program type.2

14. For the most recent ONLINE program that you attended, please rate the registration process on a scale of 1 to 5.

15. For the most recent ONLINE program that you attended, please rate the quality of the audio on a scale of 1 to 5.

16. For the most recent ONLINE program that you attended, please rate the quality of the video on a scale of 1 to 5.

17. For the most recent ONLINE program that you attended; did you contribute to the Q&A?

18. Would you consider attending a hybrid program at FML with both online and in-person audiences joining and interacting in one program?

18. If you answered 'Yes' to the previous question, would you be likely to attend a hybrid program in-person or online?

20. Please explain your reasoning for your answer to the previous question.

21. Please describe up to three aspects of past programs that made the experience most enjoyable for you.

Aspect 1:

Aspect 2:

Aspect 3:

22. Please suggest any ways FML could improve future programs to make your experience better.

23. Do you have any additional comments regarding the online/in-person/hybrid program at the Freud Museum London?

24. If you would you be willing to participate in a short (5-10 minute) follow-up interview, please provide your email address below so we may contact you in due course. Following GDPR, we will store your email address separately from your survey responses to ensure they remain anonymous. Your contact information and anonymous responses will be stored securely and disposed of June 1, 2024.

Branch 4: Did not attend programming at FML within the past year

8. Would you consider attending a hybrid program at FML with both online and in-person audiences joining and interacting in one program?

9. If so, would you attend a hybrid programs in-person or online?

10. Please explain your reasoning for your answer to the previous question

Appendix E: Focus Group Questions for the Members of The Freud Museum

Preamble:

We are a group of students from Worcester Polytechnic Institute (WPI) conducting a research project in collaboration with the Freud Museum London to evaluate the best performing hybrid event technologies and configurations for museum events. We would be delighted if you would take 20 minutes to answer some questions about your hybrid event space. Your participation in this interview is completely voluntary and you may stop at any time. We shall be taking notes during our conversation, and with your permission, we would like to audio record this interview and quote you by name in our final report. We will give you an opportunity to review any quotations prior to publication. We will also be happy to provide you with a copy of our report when it is completed. Any personal data you choose to share with us will be stored securely and disposed of June 1, 2024, in line with the UK General Data Protection Regulation 2018.

Thank you for your support in this research. Do you have any questions before we begin? If you have any concerns or questions after the interview, you can contact us at grlon_d24_freud@wpi.edu or our project hosts, Giuseppe Albano at giuseppe@freud.org.uk or Monica Law at monica@freud.org.uk.

For In-Person Only

1. What do you enjoy most about attending in-person programming at FML?
2. Would you consider participating in a Hybrid event
 - a. What would motivate you to attend one either in-person or online?
3. Have you participated in such events elsewhere?
 - a. If yes, what were your thoughts on the specific programme you attended?

For Online /Hybrid Audiences

1. Gather names, whether or not they are Members, how long they have been Members.
2. What events did you attend?
 - a. What drew you to the event?
3. Would you like to see more online/hybrid events?
4. How were the sound and video quality?
5. What problems, if any, did you encounter?

- a. What was the experience like connecting to the online program?
6. Which option would you be most likely to join once hybrid programming begins?
 - a. If online, would you join live or simply view an event recording through the on-demand option

Appendix G: Interview Questions for the Past Lecturers/Panelists of The Freud Museum

Preamble:

We are a group of students from Worcester Polytechnic Institute (WPI) conducting a research project in collaboration with the Freud Museum London to evaluate the best performing hybrid event technologies and configurations for museum events. We would be delighted if you would take 20 minutes to answer some questions about your hybrid event space. Your participation in this interview is completely voluntary and you may stop at any time. We shall be taking notes during our conversation and may wish to quote you in our final report. Do you mind if we quote you by name, or would you prefer we anonymize your responses? We will, of course, give you an opportunity to review any quotations prior to publication. We will also be happy to provide you with a copy of our report when it is completed. Thank you for your support in this research. Do you have any questions before we begin? If you have any concerns or questions after the interview, you can contact us at gr-lon_d24_freud@wpi.edu or our project hosts, Giuseppe Albano at giuseppe@freud.org.uk or Monica Law at monica@freud.org.uk .

Questions:

1. What is your current role at your University?
 - a. How long have you been at the University?
 - i. Did you start before or after the pandemic?
 - (If before) Can you describe any changes that have been made to event planning since then?
2. How has the University adapted to online events?
 - a. What are some events that showcase this change?
3. What are some limitations the University has noticed in delivering online events?
 - a. Do you have any potential solutions or workarounds to these limitations?
4. Do you think that students like online/hybrid offerings?
5. What were some of the main issues that you or other staff ran into when attempting to create hybrid programs in the past?

6. What types of programs do you believe would be successful in a hybrid event (conferences, lecture series, etc.)?
7. What event(s) have you been a part of that would work in a hybrid setting?
 - a. What about this event would suit it to the hybrid delivery mode?
8. What event(s) have you been a part of that would not work in a hybrid setting?
 - a. What about this event is not conducive to a hybrid setting?
9. Do you know of any other organizations that have had success in putting on hybrid events? If so, could you send us their contact information?
10. What types of software and hardware do you or your fellow staff members use to put on live online events?
 - a. What hybrid platforms are you most familiar with working with (Zoom, Teams....)?
11. Do you have any other thoughts, ideas, or comments that can help our team recommend a hybrid offering system?

Appendix H: Freud Museum London Interviewee Names, Roles, and Role Starting Dates

Freud Museum London Interviewee Staff Member Roles and Start Dates		
Staff Member	Role	Role Start Date
Alice Rosenbaum	Digital Manager	2019
Bryony Davies	Curator	2010 curatorial assistant, curator 2020
Daniel Bento	Operations Manager	2018
Emilia Raczkowska	Education and Outreach Manager	2012
Iveta Rozlapa	Retail Manager	10+ years with museum, worked shop 2016
Jamie Ruers	Events Manager (former), Exhibition Curator (former)	2017, left Jan. 2024
Kasia Wicha	Membership and Development Assistant	Volunteered 2017/18, Staff member in 2020
Stefan Marianski	Learning Manager, Schools and Digital	2009
Tom Derosé	Research Manager	2012

Appendix I: Other London Organizations Interviewee Names, Roles, and Role Starting Dates

Other London Organizations Staff Members, Roles, and Role Start Dates		
Staff Member (Organization)	Role	Role Start Date
Daniel Orrells (King's College)	Professor of Classics	2015
David Houston (V&A)	Team Leader for Schools and Colleges	2021
Ian Ellard (V&A)	Head of V&A Academy	2019
Raluca Soreanu (University of Essex)	Professor at Department of Psychosocial and Psychoanalytic Studies	2019
Conrad Bodman (British Library)	Head of Culture Programs	2018