$\emph{Missejt il-Qieg$\hbar$}$ : Using an AV performance to uncover layers of meaning in paintings undergoing conservation treatment
Ву
Emanuel Ciantar
A dissertation submitted in partial fulfilment of the requirements for the Master of Arts (by
Research) in Digital Arts at the Faculty for Media and Knowledge Sciences
(MaKS)
University of Malta
December 2024



## University of Malta Library – Electronic Thesis & Dissertations (ETD) Repository

The copyright of this thesis/dissertation belongs to the author. The author's rights in respect of this work are as defined by the Copyright Act (Chapter 415) of the Laws of Malta or as modified by any successive legislation.

Users may access this full-text thesis/dissertation and can make use of the information contained in accordance with the Copyright Act provided that the author must be properly acknowledged. Further distribution or reproduction in any format is prohibited without the prior permission of the copyright holder.

# Copyright



University of Malta Library – Electronic Thesis & Dissertations (ETD) Repository.

The copyright of this thesis/dissertation belongs to the author. The author's rights in respect of this work are as defined by the Copyright Act (Chapter 415) of the Laws of Malta or as modified by any successive legislation. Users may access this full-text thesis/dissertation and can make use of the information contained in accordance with the Copyright Act provided that the author must be properly acknowledged. Further distribution or reproduction in any format is prohibited without the prior permission of the copyright holder.

## Authenticity and Research Ethics Form



# FACULTY/INSTITUTE/CENTRE/SCHOOL\_Faculty of Media & Knowledge Sciences

### **DECLARATIONS BY POSTGRADUATE STUDENTS**

#### (a) Authenticity of Dissertation

I hereby declare that I am the legitimate author of this Dissertation and that it is my original work.

No portion of this work has been submitted in support of an application for another degree or qualification of this or any other university or institution of higher education.

I hold the University of Malta harmless against any third party claims with regard to copyright violation, breach of confidentiality, defamation and any other third party right infringement.

#### (b) Research Code of Practice and Ethics Review Procedures

As a Master's student, as per Regulation 77 of the General Regulations for University Postgraduate Awards 2021, I accept that should my dissertation be awarded a Grade A, it will be made publicly available on the University of Malta Institutional Repository.

### Abstract

This MFA in Digital Arts by Research explores the question: Can digital technical photography, technology, storytelling, and audience engagement techniques foster a genuine empathetic connection between a viewer and a painting undergoing conservation? Using a Practice-as-Research approach, I was inspired by personal experiences and a deep commitment to cultivating empathy through the integration of thematic elements and cutting-edge technology. This led to the creation of Missejt il-Qiegħ, an audio-visual performance shaped by continuous reflection and exploration, allowing for revisions as new technical and experiential insights emerged. At its core, Missejt il-Qiegħ offers a unique approach to art appreciation by focusing on the painting as the material object and puts aside the subject and the artist. Through a curated series of photographs, the project captures in these material objects human emotions and experiences, depicting the effects of time, such as ageing, alongside the impact of injury, confinement, and abuse. This narrative invites viewers to empathize with the artwork, truly understanding its feelings and perspective. To realize this vision, I employed advanced large scale DVLED display technology and borrowed storytelling and audience engagement techniques from various disciplines, creating an immersive audio-visual experience that encourages active participation. The project aims to give room for contemplation and experimentation, provoking thoughts, sharing knowledge and fostering a renewed appreciation for the power of empathy in artistic expression.

# Dedication

To my late parents, Theresa and Joseph whose support and encouragement continues to guide my path. Thank you, ma. Thank you, pa.

## Acknowledgements

I would like to express my deepest gratitude to Dr Matthew Galea, my dissertation supervisor, for his unwavering guidance, mentorship, and dedication throughout the development of this research. His support has been invaluable. I also extend my sincere thanks to Dr Trevor Borg, Prof. Vince Briffa, Dr Clive Zammit, Mr. Fabrizio Cali, and Dr Ian Attard for their interest in my project and for generously sharing their time and insights.

I am particularly grateful to lead conservators Agatha Grima, Amy Sciberras, and Charles Vella for entrusting me with their technical photography projects, which are central to this work. My heartfelt thanks go to Sue Pisani, CEO at Studioseven, for granting me unrestricted access to the studio space and the essential equipment needed for my project. I am also grateful to the entire Studioseven team for their support during the countless setups and experiments.

A special thank you goes to my fellow photographer and friend, Alex Attard, for his invaluable assistance, especially during the critical process of selecting the final images for display. I also wish to thank David Paul Mallia for proofreading the Maltese texts, and Marvic Camilleri for designing the title graphics.

Finally, I would like to express my deepest appreciation to my family, close friends and above all my wife, Sue Ciantar Ferrito, who is not only my invaluable partner in technical photography but also in life. Your constant support, encouragement, understanding, and patience have made this dissertation possible. Thank you.

# Contents

Copyrigh	nt	ii
Authent	icity and Research Ethics Form	iii
Abstract		iv
Dedicati	on	v
Acknowl	ledgements	vi
Content	S	vii
Figures.		xi
1. Intr	roduction	1
1.1	A Journey of Empathy	1
1.2	Fusing Technical Photography and Cultural Heritage	1
1.3	Enhancing Conferences and Events Through Audio-Visual Technologies	2
1.4	Aims and Motivation	2
2. The	e Contextual Review	4
2.1	Modern Conservation and Technical Photography	4
2.1	.1 Imaging in Conservation	6
2.1	.2 The Role of the Technical Photographer	14
2.1	.3 Image Dissemination	19
2.2	Empathy	21
2.2	.1 Empathy and Visual Arts	22
2.2	.2 Clinical Empathy: From Detached to Empathic Concern	25
2.3	Technology and Art – A Collaborative Journey	28

	2.3.1	David Hockney	32
	2.3.2	Janet Echelman	33
	2.3.3	Refik Anadol	35
	2.3.4	Technology and Meaningful Relationships	37
2	2.4	Storytelling – Designing for Viewer Engagement	38
3.	Meth	odology	43
3	3.1	Research Project Design	43
	3.1.1	Introduction	43
	3.1.2	My Question	43
	3.1.3	Reflective Practice	43
4.	Proje	ct	45
4	1.1	Designing the AV performance	45
	4.1.1	Define the Goals	45
	4.1.2	Target Audience	45
	4.1.3	Missejt il-Qiegħ: In the Depths of Despair – A Deliberate Choice	46
	4.1.4	Selecting the Emotional Conditions or States of the Paintings	46
	4.1.5	Determine the Space and Layout	47
	4.1.6	Idea Development - The Space, the Layout and the Method of Delivery	49
	4.1.7	Choosing the Final Images for Display	61
	4.1.8	Enhancing the Journey	65
	4.1.9	A Peer Review	66
5.	Key Ir	nsights Attained Through the Research	68

5.1	The Empathic Approach – An Authentic Curiosity	68
5.2	Roping in Other Disciplines and Experiences to Enhance the Storytelling Capacity	69
5.3	Personification	70
5.4	Role of Technology - Preparation, Creation, Delivery	72
5.5	Creation of an Atmosphere of Awe to Support Delivery - A Baroque Approach	74
5.6	Focus on Conveying the Message	75
5.7	My Openness to Differing Interpretations	76
6. Con	nclusion	81
Referenc	ces	82
Appendi	x A: Content	90
Conte	nt - Title	90
Conte	nt – Images	90
Conte	nt - The Letter (Maltese)	91
Conte	nt - The Letter (English)	92
Conte	nt – Voice Over Scripts	93
Appendi	x B: The Project Handbook	95
Projec	rt Scope	95
Journe	ey Overview	95
Projec	t Details	95
The La	anguage	96
Target	: Audience	96
Invitat	tion Process	96

The Journey	96
The Greenroom and the Letter	97
The Performance Space	98
Seating Arrangement	98
Lighting	99
AV Components	100
Setting up the DVLED Display	101
Power	103
Content Preparation	104
Playout	105
The Structure of the AV Performance	105
Schedule	106
Crew	106

### **Figures**

Figure 1. Jan Gossart, The Holy Family, Museum of Fine Arts, Houston. To enhance its aesthetic appeal, the artwork was altered more than once over the course of the twentieth century. The Frick Photo Archive contains photographs of the piece from various points over the last century, offering a glimpse into its previous states. The photos were taken in the 1920s, 1930s, 1980s, and 2000s, respectively. (Source: Frick and MFA Huston)......5 Figure 2. Apollo infrared reflectography InGaAs camera by Opus Instruments. (Source: Opus Figure 3. 3D Imaging technicians record Fra Angelico's Annunciation at Museo del Prado using a Figure 4. Antoine Camilleri, Birgu Street Scene, private collection. DSLR, Photogrammetry Techniques & 3DF ZEPHYR used to reconstruct a 3D model of the painting from 33 photos. (Source: Own stills for Amy Sciberras Restoration and Conservation of Fine Arts) ......8 Figure 5. Modified DSLR Capturing Infrared Photos. (Source: Own photo)......9 Figure 6. Saint Anthony of Padova, private collection. A set of five images using Visible light (VIS), Ultraviolet fluorescence (UVF), Raking light (RAK), False Colour Infrared (FCIR) and Infrared radiation (IR), documenting and investigating the condition of the panel before conservation process. (Source: Own photos for Amy Sciberras Restoration and Conservation of Fine Arts) .......10 Figure 7. Mona Lisa, Leonardo da Vinci, Louvre Museum. A set of four images using Visible light (VIS), Ultraviolet fluorescence (UVF), False Colour Infrared (FCIR) and Infrared Reflectography (IRR), documenting and investigating the condition of the panel in 2019. (Source: Centre de Recherche et de Restauration des Musées de France (C2RMF)) .......11 Figure 8. Giuseppe Cali, Saint Dominic, Church of Our Lady of Porto Salvo, Valletta, detail. A set of two images using Visible light (top) and Infrared radiation (bottom), revealing a pentimento from hooded friar to a layman. (Source: Own photos for Agatha Grima Conservators)......12 Figure 9. The Crucifixion of Christ on the Golgotha, Our Lady of Mercy church in Qrendi, detail. A set of two images using Visible light (left) and Raking light (right) revealing the surface condition of the painting before conservation process. (Source: Own photos for Amy Sciberras Restoration and Figure 10. Liber Eternae Sapientiae, private collection. A set of two images using Visible light (left) and Ultraviolet Fluorescence (right) revealing multiple layers of discoloured and oxidised varnish above the paint layer with additional overpainted areas above the varnish layers. (Source: Own photos for Amy Sciberras Restoration and Conservation of Fine Arts).......14 Figure 11. (left) During pre-production, the camera positions are determined and documented to achieve imaging consistency throughout the project. (right) Ultraviolet fluorescence image capture from predetermined Camera Position D. (Source: Own CAD design and photo) ......15 Figure 12. Projects pose different image acquisition challenges. Own design and build of custom vertical rig to capture three multi-nodal image mosaics from 36 predetermined camera positions Figure 13. Resulting three image mosaics shot in Visible light, Ultraviolet fluorescence and Infrared Figure 14. Francesco Zahra, The transition of the corpse of Saint Catherine to Mount Sinai, Zurrieq Parish Church. A set of two Ultraviolet Fluorescence images shot prior to the start of the cleaning process (left) and during the cleaning process (right) revealing the extent of oxidised and discoloured varnish removed from the surface of the painting. (Source: Own photos for Amy Sciberras Figure 15. Giuseppe Cali, Saint Dominic, Church of Our Lady of Porto Salvo, Valletta, detail. Macro detail using high magnification showing dirt trapped under the varnish in areas of impasto. (Source: Figure 16. Antoine Camilleri, Birgu Street Scene, private collection. A single image from a 48-image RTI set that, when combined, form a hyper-realistic digital surrogate that the viewer can interactively

control (Smithsonian, 2024). (Source: Own photo for Amy Sciberras Restoration and Conservation of
Fine Arts)
Figure 17. Francesco Zahra, Sacred Heart of Jesus on a Tabernacle Door, The archives and study room
of the Basilica and Collegiate Parish Church of Senglea. A set of two Visible light images shot prior
(left) and post (right) conservation process. (Source: Own photos for Amy Sciberras Restoration and
Conservation of Fine Arts)19
Figure 18. Public Lecture by lead conservator Amy Sciberras, celebrating the return of The Holy
Trinity painting to the Gudja Parish Church following conservation (May 2024). The lecture,
complemented with projected documentative/investigative imagery, presented an overview of the
painting's conservation journey. (Source: Own photos)20
Figure 19. Screen grab of online newspaper article by lead conservator Agatha Grima. Times of
Malta, July 201720
Figure 20. Francisco de Goya, Ni por esas, Princeton University Art Museum. French solders physically
abusing Spanish woman. The little baby girl in the foreground is left abandoned on the ground as her
mother is dragged into darkness. (Source: Princeton University Art Museum)23
Figure 21. Darren Zammit Lupi, A child on board an AFM boat as it berths at its base. "Our skin was
peeling away with the fuel and sea water" Hema, 23, from Somalia. (Zammit Lupi, 2014)24
Figure 22. Diana Shpungin, Drawing Of A House (Triptych) 2015, The vacant house has been
transformed into a large-scale sculpture and three-dimensional drawing, meticulously encased
entirely by hand using graphite pencil. (Shpungin, 2022)25
Figure 23. Bill Viola, Martyrs, St Paul's Cathedral, London. Still images from video. Filmed using
highspeed camera and displayed on vertical plasma screens, it is the first moving-image artwork to
be installed in a British cathedral. (Westall, 2014)29
Figure 24. In January 2019, researchers from the University of Antwerp conducted a non-invasive
scan of Rembrandt's The Night Watch at the Rijksmuseum in Amsterdam. Using the Macroscopic X-
ray Power Diffraction Scanner (MA-XRPD), they mapped the distribution of materials on the

painting's surface. Their aim was to gather detailed information about spontaneous chemical	
transformations that have occurred over the past 370 years, affecting the properties of the materials	>
in the painting. (AXES Operation Nightwatch   University of Antwerp, 2019)3	0
Figure 25. The online portal for The Virtual Museum - Underwater Malta, a project organised by The	
University of Malta and Heritage Malta providing virtual access to underwater sites around the	
Maltese Islands (Underwater Malta, 2024)3	1
Figure 26. David Hockney, No. 147, 5th April 2020 iPad painting. (Royal Academy of Arts, 2020)3	3
Figure 27. Janet Echelman, Earthtime 1.78 Helsinki was installed in Helsinki's Senate Square for the	
month of August for the 2021 Helsinki Biennial. (Echelman, 2021)	4
Figure 28. Refik Anadol, WDCH Dreams. Projected onto the exterior of the Walt Disney Concert Hall	
in LA. (Anadol Studio, 2023b)3	5
Figure 29. Refik Anadol, Machine Hallucinations – Coral Dreams. (Anadol Studio, 2021)3	6
Figure 30. Refik Anadol, Melting Memories. (Anadol Studio, 2018)3	7
Figure 31. Nalini Malani, Remember Mad Meg, 2007-2017, The "video/shadow play" from the Centr	e
Pompidou collections. (Nair, 2017)3	8
Figure 32. Apocalypse Now, Francis Ford Coppola (dir), Vittorio Storaro (dop), 1979. (top) Strong	
contrast of light and shadow, (bottom) Subtle balance of penumbra. (Source: film-grab.com)4	0
Figure 33. Emma and Edvard: Love in the Time of Loneliness, Munch Museum, Oslo, Norway.	
Paintings lowered to eye viewing level for a seated person. (Source: Goldsmiths, University of	
London)4	1
Figure 34. My structured Cycle4	4
Figure 35. Extract from my journal listing states and conditions of the paintings4	7
Figure 36. Sebastião Salgado, Amazônia, Photo exhibition at MAXXI in Rome. The outer wall of an	
enclosure dedicated to the Zoe tribe. In the background large format prints of the mountains.	
(MAXXI, 2022)4	8
Figure 37. 3D visual of the setup for Idea 1. (Source: Own CAD design)5	0

Figure 38. Mood board with images intended to enhance readability of my message51
Figure 39. 3D visual of the setup for Idea 2. (Source: Own CAD design)52
Figure 40. 3D visual of the setup for Idea 3. (Source: Own CAD design)54
Figure 41. 3D visual of the setup for Idea 4. (Source: Own CAD design)55
Figure 42. 3D visual of the setup for Idea 5. (Source: Own CAD design)56
Figure 43. My very first test image put up on the DVLED display. (Source: Own photo)57
Figure 44. Floor markings to determine optimum viewing distance. (Source: Own photo)58
Figure 45. Aspect ratio tests. 5:3 top and 5:3.5 bottom. (Source: Own photos)59
Figure 46. Spot, cool-lit seating vs diffused, warm-lit seating. (Source: Own photos)60
Figure 47. Sample Contact sheet (Sheet no 2 from 3) of images from the first selection. (Source: Own
photos)62
Figure 48. Sample images from the first selection which were not included in my final selection.
(Source: Own photos)63
Figure 49. Sample images from the final selection. (Source: Own photos)64
Figure 50. Sample of a side-by-side set of two images (before and after conservation). (Source: Own
photos)65
Figure 51. Caravaggio, The Supper at Emmaus, The National Gallery, London. (The National Gallery,
2016)
Figure 52. Caravaggio, Death of the Virgin, Musée du Louvre in Paris, detail. (Source: Musée du
Louvre)77
Figure 53. Alberto Burri, Grande Sacco, 1952, Galleria Nazionale d'Arte Moderna e Contemporanea,
Rome. Photo: Antonio Idini. (Guggenheim, 2015)78
Figure 54. Matthew Attard, I WILL FOLLOW THE SHIP, La Biennale di Venezia 2024. The stone wall in
the foreground in contrast with the DVLED wall in the background. Photo by Eoin Grealley). (Borg,
2024)

Figure 56. Refik Anadol, Machine Hallucinations — Sphere, The Sphere in Las Vegas. An on-going	
public art installation. (Anadol Studio, 2023a)	80
Figure 57. Sixteen Images representing ageing, injury, confinement, and abuse. (Source: Own photo	s)
	90
Figure 58. Mock-up of the letter, personalised and presented in an envelope	97
Figure 59. Plan of setup in Studio 1. (Source: Own CAD design)	98
Figure 60. Two lighting scenes: walk in/discussion/walk out and viewing. (Source: Own photos)	99
Figure 61. Wiring diagram for audio and video. (Source: Own CAD design)1	01
Figure 62. The DVLED display - ground stacked. (Source: Own CAD design)1	02
Figure 63. Highlighted ballast loading for DVLED display. (Source: Gloshine)1	03

## 1. Introduction

As an audio-visual storyteller, I have developed a profound interest in two distinct areas: technical photography for the cultural heritage sphere and creating memorable experiences in the world of conferences and events. These two passions have shaped my approach to storytelling, where I constantly strive to merge new and old audio-visual technologies to enhance the experiences of those who engage with my work. Additionally, my early exposure to archaeological antiques and artefacts during my youth sparked a deep fascination and empathy for objects with historical significance. This empathy forms the foundation of my MFA art project, *Missejt il-Qiegħ* (that translates to *In the Depths of Despair*), in which I aim to create a thought-provoking and immersive experience for viewers, encouraging them to empathize with paintings undergoing conservation treatment.

### 1.1 A Journey of Empathy

From a young age, I had the privilege of being exposed to local archaeological treasures, including artefacts dating back to ancient civilizations such as the Phoenicians, Carthaginians, and Romans. This exposure ignited a profound fascination within me, extending beyond the mere historical and aesthetic value of these objects. I found myself personifying them, attributing human traits to these artefacts, and creating a deeper sense of connection with them. My perspective transcended their purpose, creators, monetary value, and even their aesthetic appeal. This empathetic view enabled me to see these artefacts as more than mere objects; they became vessels of human stories and experiences.

### 1.2 Fusing Technical Photography and Cultural Heritage

Building upon my love for cultural heritage, I delved into the field of technical photography with a particular focus on documenting and investigating works of art, primarily paintings. Technical photography allows me to capture intricate details, textures, and colours that may go unnoticed by the naked eye. By employing advanced photographic techniques, I aim to both document the condition of the works and to unravel the stories hidden within these artworks and present them in a way that

sparks curiosity and emotional engagement. This method enables me to bridge the gap between the past and the present, enabling viewers to connect with historical artefacts on a personal level.

### 1.3 Enhancing Conferences and Events Through Audio-Visual Technologies

Simultaneously, I explored the world of conferences and events, seeking to create extraordinary experiences for attendees. Drawing upon my expertise in audio-visual storytelling, I constantly push the boundaries by integrating cutting-edge technologies with traditional methods. By blending the old and the new, I strive to craft immersive environments that transport participants to new realms of understanding and engagement. The goal is to transcend the boundaries of conventional presentations and leave a lasting impact on the audience.

### 1.4 Aims and Motivation

Inspired by my personal experiences and fuelled by a profound aspiration to foster empathy and blend thematic elements with technology, I undertook the creation of an audio-visual performance called *Missejt il-Qiegħ* for my Master of Fine Arts in Digital Arts (MFA) project. This project has been shaped by an ongoing process of reflection and exploration.

At its essence, *Missejt il-Qiegħ* presents an alternative approach to appreciating a painting by personifying the art object itself. In these objects, through a carefully curated collection of photographs, I strive to capture human emotions and experiences, ranging from the inevitable effects of time like ageing to the profound impact of injury, confinement, and abuse. These emotions are reflected in the art object, creating a powerful audio-visual narrative.

By juxtaposing these evocative human experiences with the photographs of the distressed painting, I extend an invitation to viewers to step into the shoes of the artwork and understand its feelings and perspective. This immersive experience encourages viewers to draw upon their own lived experiences, forming a deep and personal connection with the art. The photographs act as a conduit, bridging the gap between the viewer and the artwork, evoking profound emotional responses that

transcend the boundaries of traditional observation. Through this audio-visual performance, I aim to evoke a sense of shared human experience, fostering empathy within the viewer and instilling a heightened appreciation for the art object.

To achieve this vision, I have harnessed cutting-edge display technology, seamlessly integrating it with the emotive theme of the performance. By utilizing new digital technologies, I present captivating digital photos that invite the audience to engage with the subject matter in innovative and meaningful ways. By harmonizing advanced technology and the emotive theme, the audio-visual performance aspires to deliver an unparalleled viewing experience that stimulates contemplation and ignites active engagement among the audience.

In conclusion, *Missejt il-Qiegħ* represents a motivated art project that intertwines personal reflection, the cultivation of empathy, and the fusion of thematic elements with cutting-edge technology. By creating a captivating and immersive viewing experience, the performance seeks to spark introspection and inspire viewers to actively engage with the profound narratives conveyed by the art object. Through this synergy of art and technology, I hope to leave a lasting impact on the audience, provoking deep contemplation and fostering a renewed appreciation for the power of empathy in artistic expression.

### 2. The Contextual Review

In approaching my project, I identified four main areas where I needed to focus my contextual review:

- Technical photography in the context of art conservation where I wanted to define particularly the role of Technical Photography (TP) and conservation documentation today vis a vie their role in the second half of the 20<sup>th</sup> century;
- Empathy where I wanted to have a better understanding of both the development of
   Empathy over the past 100 years and its role in contemporary contexts with a special focus on
   empathy in the medical field;
- Technology and Art A collaborative journey where I wanted to explore how contemporary
  artists from various disciplines incorporate technology in their work;
- Storytelling designing for viewer engagement where I wanted to explore meaningful ways to engage the audience in the piece.

### 2.1 Modern Conservation and Technical Photography

During the 20th century, a significant transformation occurred within the field of Cultural Heritage conservation. This shift saw a transition from the role of mere "restorers", often artists themselves, primarily concerned with restoring an artwork's aesthetic appeal (Gigante, 2016), to that of "conservators and restorers". The fundamental difference lies in the broader focus of "conservators and restorers", who prioritized preserving the entirety of the artwork. Within this framework, and in agreement with several heritage conservation charters such as (ICOMOS, 2003), all the current interventions are primarily:

- driven by a study and careful documentation a fact already referred to in Article 16 of the
   Venice Charter (ICOMOS, 1965);
- reversible;

 any additionally applied aesthetic integration is kept to a minimum and is aimed to ensure the artwork's continued readability and its enduring connection with viewers.



Figure 1. Jan Gossart, *The Holy Family*, Museum of Fine Arts, Houston. To enhance its aesthetic appeal, the artwork was altered more than once over the course of the twentieth century. The Frick Photo Archive contains photographs of the piece from various points over the last century, offering a glimpse into its previous states. The photos were taken in the 1920s, 1930s, 1980s, and 2000s, respectively. (Source: Frick and MFA Huston)

This pivotal shift ushered in the integration of conservation science, a development that stirred considerable debate and tension within the art world. In a thought-provoking 1978 article published in the Journal of the American Institute of Conservation, Caroline Keck shed light on these tensions. She passionately called upon skilled researchers and practitioners to collaborate, recognizing the need for a harmonious approach to the conservation of historic and artistic works (Keck, 1978). Since then,

the practice of conserving cultural heritage has come a long way and (like the medical field as discussed later in the section entitled *Clinical Empathy: From Detached to Empathic Concern*) is now driven by thorough understanding and informed decisions.

Today, the field of conservation often sees the convergence of multidisciplinary teams dedicated to safeguarding our cultural heritage. These teams typically consist of art historians, conservators, restorers, conservation scientists, imaging specialists, experts in manufacturing techniques, and skilled artisans. Supported by such diverse expertise, conservation professionals embark on conservation journeys that can span from weeks to years, depending on the complexity of the intervention. During these undertakings, they diligently study, define, and implement appropriate conservation treatments, restore aesthetics when necessary, and meticulously document, report, and present their work for posterity. This process is guided by an international code of ethics established in 2003 by the European Confederation of Conservator-Restorers' Organizations (E.C.C.O., 2003).

### 2.1.1 Imaging in Conservation

Imaging constitutes a crucial component of the conservation process, serving various essential functions. Firstly, it plays a pivotal role in documentation, which lies at the core of ethical conservation practice. Moreover, imaging serves as a powerful investigative tool, aiding in the comprehension of both the present condition of an artwork and the cumulative effects of its past. Additionally, imaging acts as a medium to disseminate knowledge, enabling audiences to forge a closer connection with the artwork. It is also important to note that imaging techniques are non-invasive and non-destructive, distinguishing them from certain other methods employed in the field, such as chemical material analysis through sampling, which irreversibly removes minute samples from the art object (Triolo, 2021).

Specialized imaging equipment, such as 3D scanners for capturing the surfaces of low-relief objects or Infrared-sensitive InGaAs cameras used in Infrared Reflectography (IRR), is still mostly available in large conservation institutions and less so for small teams or individual conservation

professionals. However, advancements in imaging technology have made image documentation and initial multispectral investigations more accessible to all conservation practices. This shift is largely due to the availability of off-the-shelf components like DSLR or mirrorless cameras, lenses, lighting, radiation sources, software, and computers, all at an affordable price.



Figure 2. Apollo infrared reflectography InGaAs camera by Opus Instruments. (Source: Opus Instruments)



Figure 3. 3D Imaging technicians record Fra Angelico's *Annunciation* at Museo del Prado using a Lucida 3D Scanner by Factum Arte. (Source: Factum Arte)

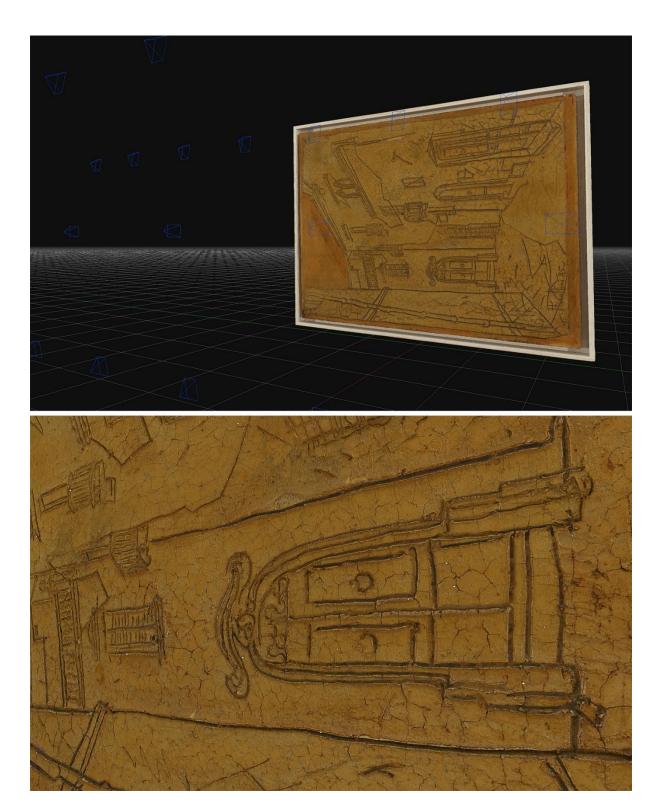


Figure 4. Antoine Camilleri, *Birgu Street Scene*, private collection. DSLR, Photogrammetry Techniques & 3DF ZEPHYR used to reconstruct a 3D model of the painting from 33 photos. (Source: Own stills for Amy Sciberras Restoration and Conservation of Fine Arts)



Figure 5. Modified DSLR Capturing Infrared Photos. (Source: Own photo)

DSLR and mirrorless cameras employed in multispectral imaging, need to undergo a modification which enables their sensors to utilize their full sensitivity, extending beyond the factory-imposed limits of the visible portion of the electromagnetic spectrum (typically around 400nm to 700nm). Once modified to remove these restrictions, these sensors can capture frequencies spanning the ultraviolet (UV), visible light (VIS), and near-infrared (IR) bands, ranging from approximately 360nm to about 1000nm. By employing suitable filters mounted on the lens, the camera can selectively capture specific frequency bands, either narrow or wide, within this extended range. This capability primarily facilitates material viewing, identification and differentiation, forming the basis of multispectral imaging (Warda et al., 2017).

Multispectral imaging sets, as an integral aspect of Technical Photography, offer a comprehensive methodology for the study of art and archaeology. According to Antonino Cosentino, "Technical Photography encompasses the creation of scientific images using a modified digital camera sensitive to the spectral range of about 360-1000 nm. Each individual image may provide limited

information, but collectively, they represent a highly effective means of investigating art and archaeology" (Cosentino, 2021, para. 1).



Figure 6. Saint Anthony of Padova, private collection. A set of five images using Visible light (VIS), Ultraviolet fluorescence (UVF), Raking light (RAK), False Colour Infrared (FCIR) and Infrared radiation (IR), documenting and investigating the condition of the panel before conservation process. (Source: Own photos for Amy Sciberras Restoration and Conservation of Fine Arts)



Figure 7. *Mona Lisa*, Leonardo da Vinci, Louvre Museum. A set of four images using Visible light (VIS), Ultraviolet fluorescence (UVF), False Colour Infrared (FCIR) and Infrared Reflectography (IRR), documenting and investigating the condition of the panel in 2019. (Source: Centre de Recherche et de Restauration des Musées de France (C2RMF))

Cosentino's definition underscores that multispectral imaging can be approached in isolation, such as capturing an image of a painting using only the infrared (IR) portion of the spectrum. Alternatively, the same image can be captured multiple times, each instance using a different frequency band. The latter approach facilitates more comprehensive comparative analysis.



Figure 8. Giuseppe Cali, *Saint Dominic*, Church of Our Lady of Porto Salvo, Valletta, detail. A set of two images using Visible light (top) and Infrared radiation (bottom), revealing a pentimento from hooded friar to a layman. (Source: Own photos for Agatha Grima Conservators)

Multi-spectral imaging, due to its material differentiation abilities, can reveal features like retouching or overpainting added to the object later in its life. Furthermore, multi-spectral techniques enable the visualization of hidden details, like 'pentimenti' or underdrawings, by peering through layers. Additional techniques like raking light and Reflectance Transformation Imaging (RTI) come in handy to highlight surface unevenness. High magnification, on the other hand, renders visible details that are otherwise imperceptible to the naked eye (Warda et al., 2017).



Figure 9. *The Crucifixion of Christ on the Golgotha*, Our Lady of Mercy church in Qrendi, detail. A set of two images using Visible light (left) and Raking light (right) revealing the surface condition of the painting before conservation process. (Source: Own photos for Amy Sciberras Restoration and Conservation of Fine Arts)



Figure 10. Liber Eternae Sapientiae, private collection. A set of two images using Visible light (left) and Ultraviolet Fluorescence (right) revealing multiple layers of discoloured and oxidised varnish above the paint layer with additional overpainted areas above the varnish layers. (Source: Own photos for Amy Sciberras Restoration and Conservation of Fine Arts)

### 2.1.2 The Role of the Technical Photographer

The role of a technical photographer in conservation projects is a multifaceted and integral one. Through my experience, technical photographers do not work on the project full-time but participate at predetermined stages of the process. Despite their alternating involvement, these photographers invest substantial hours with the object, which linked to their meticulous approach and genuine interest, help them develop a profound understanding of the object and forge emotional engagement with it. This understanding and engagement mirrors the connection between conservators and the object, which in turn, can be likened to the connection between healthcare professionals and their patients.

In the conservation project's initial phases, technical photographers collaborate closely with the lead conservator to organize and meticulously plan the imaging sessions both for documentation and for investigation.

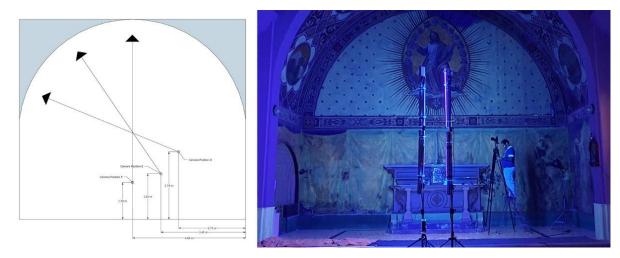


Figure 11. (left) During pre-production, the camera positions are determined and documented to achieve imaging consistency throughout the project. (right) Ultraviolet fluorescence image capture from predetermined Camera Position D. (Source: Own CAD design and photo)



Figure 12. Projects pose different image acquisition challenges. Own design and build of custom vertical rig to capture three multi-nodal image mosaics from 36 predetermined camera positions (arranged as 4 columns with 9 rows). (Source: Own photos)



Figure 13. Resulting three image mosaics shot in Visible light, Ultraviolet fluorescence and Infrared radiation. (Source: Own photos)

The responsibility for capturing documentation images is shared between photographers and conservators. Photographers focus on specific moments, notably the initial and final conditions, as well as key intermediary stages, such as during or post-cleaning or pre-retouching assessments. To guarantee the needed legibility, these images are captured in high resolution (as single images using high resolution sensors or as image mosaics), aligning with the proposed guidelines (Triolo, 2021), and adopting a replicable approach. On the other hand, conservators handle the documentation imaging for the remainder of the project, adhering to predefined methods to ensure consistency. This arrangement safeguards efficiency and practicality.



Figure 14. Francesco Zahra, *The transition of the corpse of Saint Catherine to Mount Sinai*, Żurrieq Parish Church. A set of two Ultraviolet Fluorescence images shot prior to the start of the cleaning process (left) and during the cleaning process (right) revealing the extent of oxidised and discoloured varnish removed from the surface of the painting. (Source: Own photos for Amy Sciberras Restoration and Conservation of Fine Arts)

The responsibility to shoot the investigative images, rests with the photographer. Investigative image capture sessions are determined based on the project's specific requirements. These imaging sessions often involve reflected multi-spectral imaging, high-magnification imaging, and techniques such as raking light, transmitted radiation and Reflectance Transformation Imaging (RTI) that adopt special camera and lighting placements (Warda et al., 2017).



Figure 15. Giuseppe Cali, *Saint Dominic*, Church of Our Lady of Porto Salvo, Valletta, detail. Macro detail using high magnification showing dirt trapped under the varnish in areas of impasto. (Source: Own photo for Agatha Grima Conservators)



Figure 16. Antoine Camilleri, *Birgu Street Scene*, private collection. A single image from a 48-image RTI set that, when combined, form a hyper-realistic digital surrogate that the viewer can interactively control (Smithsonian, 2024). (Source: Own photo for Amy Sciberras Restoration and Conservation of Fine Arts)

Following image capture, the technical photographer processes the images meticulously ensuring a truthful (Triolo, 2021) representation of the object, preparing the images for dissemination, storage, and archiving. The post-production process is conducted in a manner that allows for repeatability.



Figure 17. Francesco Zahra, *Sacred Heart of Jesus* on a Tabernacle Door, The archives and study room of the Basilica and Collegiate Parish Church of Senglea. A set of two Visible light images shot prior (left) and post (right) conservation process. (Source: Own photos for Amy Sciberras Restoration and Conservation of Fine Arts)

### 2.1.3 Image Dissemination

The dissemination of these images and findings primarily occurs through various avenues, including:

- Online posts, shared with object owners/guardians and/or the community;
- Inclusion within the final written report upon project completion;
- Publication in a range of formats, spanning websites, news portals, academic journals, and books;

Public lectures or presentations.

These meticulously captured and disseminated images serve as valuable tools in the preservation, understanding and appreciation of cultural heritage.



Figure 18. Public Lecture by lead conservator Amy Sciberras, celebrating the return of *The Holy Trinity* painting to the Gudja Parish Church following conservation (May 2024). The lecture, complemented with projected documentative/investigative imagery, presented an overview of the painting's conservation journey. (Source: Own photos)

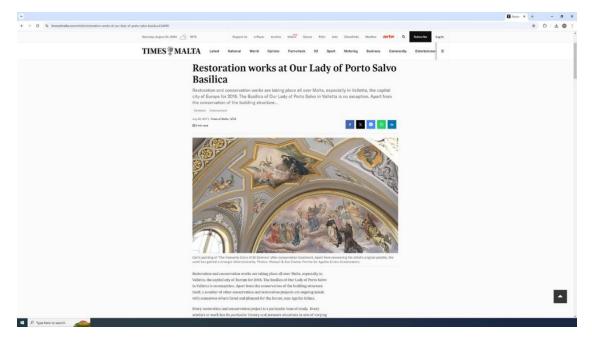


Figure 19. Screen grab of online newspaper article by lead conservator Agatha Grima. Times of Malta, July 2017.

# 2.2 Empathy

Empathy encompasses a remarkably varied, rich and intricate domain, leading to diverse definitions and understanding as evidenced by the social psychologist Daniel Batson, who articulates as many as eight distinct meanings for it (Batson, 2009).

Perhaps a statement that effectively underscores the essence of empathy's purpose was articulated by Brené Brown during an online video presentation/interview with Tim Lott, where she passionately affirms, "Empathy fuels connection" (RSA, 2013, 06:32).

In her book *Empathy: A History* (2018), Susan Lanzoni presents an extensive historical overview of empathy, tracing its origins back to the late 19th century. Lanzoni's exposition reveals that empathy finds its roots in the German Art History and Aesthetic theories' concept of "Einfühlung" or "in-feeling," a notion involving the projection of one's inner experiences, movements, and emotions onto artworks and objects enabling better aesthetic appreciation. She adds that some early theorists also interpreted "in-feeling" as a process of imbuing objects with animation and human-like qualities, achieved by attributing human emotions to objects that inherently lack intrinsic sensations (Lanzoni, 2018).

Lanzoni cites instances of this early empathic perspective, such as Vernon Lee's description in "The Beautiful" (1913), where she connects the perception of a rising mountain with the projection of one's kinaesthetic feeling of rising — lifting our glance from the foot of the mountain to its peak. Moreover, Lanzoni discusses a 1920s experiment (Poffenberger & Barrows, 1924) conducted at Columbia University, wherein participants associated emotions with lines; for instance, descending lines were linked to sadness, weakness, and lethargy. This conceptualization of empathy contributed significantly to the aesthetic experience. Theodor Lipps extended the application of empathic projection to human interactions like in the instance of projecting personal memories of sadness onto a sad face (Lanzoni, 2018), (Montag et al., 2008).

Lanzoni adds that to some extent, this concept of "in-feeling" endures, albeit with alterations in its scope, target, and nature. Contemporary empathy is predominantly linked to interpersonal relationships rather than inanimate objects or artworks. This transition was catalysed by a shift in the 1950s, prompted by psychological studies differentiating between accurate and projected empathy. Scholars like clinical psychologist Carl Rogers, who developed a counselling approach emphasizing objective empathy, advocated the suppression of personal emotions to accurately listen, understand and connect with others' feelings (Lanzoni, 2018).

Lanzoni describes how beginning in 1965, Kenneth Clark incessantly emphasised the significance of empathy as the foundation for our most fundamental understanding of other people as human beings. This belief paves the way for contemporary perspectives like Roman Krznaric's definition, characterizing empathy as "the art of stepping imaginatively into the shoes of another person, understanding their feelings and perspectives, and using that understanding to guide your actions" (Krznaric, 2014, p. X). Reflecting on Clark's works, Lanzoni also observes that empathy could often be extended to individuals within familiar circles or those who share similarities, a tendency that could turn dangerous if it evolves into what Clark referred to as chauvinistic empathy (nowadays termed parochial empathy (Bruneau et al., 2017)), excluding those beyond these bounds. Consequently, the concept of extensive empathy arises, challenging individuals to transcend social divisions. This challenge highlights the importance of nurturing, fostering, and encouraging empathy a principle supported by Clark and Gordon Allport (Lanzoni, 2018), who played pivotal roles in the 1954 Brown v. Board of Education landmark ruling against school segregation. Clark's social science research, endorsed by Allport, was instrumental in the court's decision (Benjamin & Crouse, 2002).

### 2.2.1 Empathy and Visual Arts

Turning to the intersection of visual arts and empathy, George Eliot, predating the common use of the term "empathy," conveyed that art serves as a means of amplifying experience and expanding our connection with others beyond our immediate sphere (Eliot, 1856). Artists acknowledge the potential

of various art forms to deepen the understanding of others. As discussed in my research proposal for this MFA, figures like Francisco de Goya in "Disasters of War" (1810-1820) and local Darren Zammit Lupi in "Isle Landers" (2014), despite being separated by two centuries, were both propelled by empathic sentiments, aiming to elicit shared emotions between their human subjects and their viewers. Their works aimed to evoke disturbance and provoke reactions to ongoing human tragedies featured in their works.



Figure 20. Francisco de Goya, *Ni por esas*, Princeton University Art Museum. French solders physically abusing Spanish woman. The little baby girl in the foreground is left abandoned on the ground as her mother is dragged into darkness. (Source: Princeton University Art Museum)



Figure 21. Darren Zammit Lupi, *A child on board an AFM boat as it berths at its base*. "Our skin was peeling away with the fuel and sea water" Hema, 23, from Somalia. (Zammit Lupi, 2014)

In a contrasting approach, Brooklyn-based artist Diana Shpungin, through her piece "Drawing Of A House (Triptych)" (2015), prompts viewers to direct empathy towards an object, a boarded-up house that negates the positive memories associated with a home. Shpungin reanimates this space through her artwork, bonding the object and the observer by incorporating the actual house, covered in graphite in her work (Amenta & Coleman, 2016).



Figure 22. Diana Shpungin, *Drawing Of A House (Triptych) 2015*, The vacant house has been transformed into a large-scale sculpture and three-dimensional drawing, meticulously encased entirely by hand using graphite pencil. (Shpungin, 2022)

Empathy finds expression on both individual and cultural levels in the realm of visual arts. Initiatives like "The Center for Empathy and the Visual Arts" (CEVA), established by the Minneapolis Institute of Art (MIA), explore methods to cultivate empathy and understanding through art engagement (*CEVA Whitepaper*, 2018). Similarly, the "Empathy Museum," founded by Roman Krznaric in 2015, employs travelling exhibits to demonstrate how empathy can transform personal relationships and address global challenges such as prejudice, conflict, and inequality (*Empathy Museum*, 2021, para. 2).

# 2.2.2 Clinical Empathy: From Detached to Empathic Concern

Within the realm of healthcare, doctors historically strived to maintain emotional detachment and objectivity to ensure precise diagnosis and effective medical interventions. The prevailing belief was that the suppression of personal emotions held paramount importance. The concept of "detached

concern" emerged during the 1950s and 1960s as an idealized model of empathy, wherein physicians would uphold altruistic motives while simultaneously maintaining a certain emotional detachment (Halpern, 2014).

Physicians held the conviction that emotional detachment, similar to the kind employed in the dissection of cadavers, would equip them to engage in empathic listening to patients without becoming emotionally involved (Lief & Fox, 1963) cited in (Halpern, 2014).

Expanding upon the sentiments of Michel Foucault, who stated that "Medical institutions and the scientific disciplines of modernity are characterized by an objectification of bodies aimed at turning humans into subjects and objects of knowledge" (Foucault 1973, 1978) cited in (Timmermans & Almeling, 2009, p.22). Chiara Traversa and Clarissa Guidi (2021), add that within this context, "medicine has become a science for science's sake, leaving behind its original human-centred purpose" (p. 576).

Inquiries concerning the true nature of empathy were sparked by this increased level of detachment. Patients and other vested parties commenced a process of questioning the outlook of doctors. This movement gained momentum from broader societal shifts that questioned authority and amplified consciousness regarding ethical matters within medicine. In reaction to perceived medical paternalism and a deficiency of compassion in healthcare, these individuals rose in opposition, advocating for heightened and more evident displays of empathy from medical practitioners (Halpern, 2014).

Although there was a demand for empathy, its significance in medical care remained underresearched until the 1990s. Mainstream medical culture, which emphasized detachment, objectivity, and standardization, continued to prevail. This trend was further reinforced by medical education (Guidi & Traversa, 2021). However, during this time, clinical empathy started acquiring academic interest. The concept of clinical empathy has sparked extensive discussion, with differing viewpoints. While some scholars held that clinical empathy is limited to a mere cognitive understanding of others' emotional states, others deemed that clinical empathy should reflect the human purpose of medicine (Guidi & Traversa, 2021).

Researchers have seen a prevailing tendency to classify empathy into two primary types: cognitive empathy and affective empathy.

The term 'cognitive empathy' is defined as the skill to detect emotions in others and the capacity to attribute mental states to them (Guidi & Traversa, 2021).

The emphasis placed on the cognitive aspect of empathy aligns this concept with mainstream medical culture. This perspective believes that it permits medical professionals to uphold a sense of professional detachment from patients, facilitating objective clinical decision-making and equitable care provision to all patients (Coulehan, 1995; Halpern, 2011; Roter et al., 1997) cited in (Guidi & Traversa, 2021).

Nevertheless, this type of empathy faced criticism. Among other critics, Garden (2009), contends that this approach to empathy carries the risk of shrouding rather than shedding light on patients' experiences of illness. This risk stems from the mentioned act of attributing mental states; essentially, when physicians attempt to simulate the patient's perspective, their understanding remains confined to their own imaginative constructs of the patient's experiences (Hardy, 2017) cited in (Guidi & Traversa, 2021).

On the flip side, 'affective empathy' is delineated as the emotional engagement that arises when confronted with another individual's suffering. (Guidi & Traversa, 2021) Consequently, this form of empathy stands at odds with the mainstream medical culture's tenets.

Owing to a longstanding apprehension of becoming overly aligned with patients, emotional engagement itself has been pinpointed as one of the key factors that could jeopardize objectivity and trigger the emergence of emotional distress (Halpern, 2001) cited in (Guidi & Traversa, 2021).

Adding to these concerns, affective empathy is also recognized as a contributor to emotional burnout. This apprehension has strongly influenced the adoption of "detached concern," influencing the trajectory of medical education and training for decades. Remarkably, this approach continues to disregard the personal ordeal of the individual facing illness (Guidi & Traversa, 2021).

In conclusion, the ongoing intense debate surrounding the contrasting interpretations of empathy has led to a rather rigid classification between its cognitive and emotional dimensions. To address this challenge, scholars have put forth a more encompassing and comprehensive concept of empathy in the clinical context, termed "Empathic Concern."

This proposition, as outlined by Guidi and Traversa (2021), introduces clinical empathy as an authentic curiosity, termed "engaged curiosity," toward the other person's experience, stemming from both cognitive understanding and emotional engagement. This new perspective aligns the clinician's aim of comprehending the patient's own viewpoint with effective and emotionally attuned communication (Halpern, 2014). It also reflects a growing awareness that genuine empathy necessitates a dynamic interplay between emotions, comprehension, and compassion within the healthcare milieu (Halpern, 2014).

# 2.3 Technology and Art – A Collaborative Journey

As described by Kate Billingsley (2020) "Technology is the application of scientific knowledge for practical purposes" (para. 1). Technology has been an essential component of our survival toolkit since ancient times, supporting our progress and evolution as it facilitates the completion of certain tasks. This section will centre on contemporary digital innovations in technology and their impact on the contemporary art scene.

Digital tools and technologies have become an integral part of our lives, serving as powerful tools for change, convenience, and advancement across various domains. In essence, technology plays a fundamental role in empowering individuals and societies to navigate and harness the evolving challenges and opportunities of the contemporary world.

Christine Paul suggests that these technological advancements give rise "to speculations that all forms of artistic media will eventually be absorbed into the digital medium, either through digitisation or through the use of computers in a specific aspect of processing or production" (Paul, 2023, p.14)

Indeed, in the realm of artistic expression, technology expands the horizons for artists by providing them with new tools, mediums, and methods for creating and/or sharing their work. Simultaneously, it has revolutionised how art is experienced, preserved, and distributed in the digital and post-digital age.



Figure 23. Bill Viola, *Martyrs*, St Paul's Cathedral, London. Still images from video. Filmed using highspeed camera and displayed on vertical plasma screens, it is the first moving-image artwork to be installed in a British cathedral. (Westall, 2014)

Conversely, art influences technology by inspiring the development of fresh methodologies and approaches. In the paper: The Studio as Laboratory: Combining creative practice and digital

technology research, Edmonds et al (2005) state: "The cutting edge in the digital arts is a highly fertile ground for the investigation of creativity and the role of new technologies. The demands of such work often reveal the limitations of existing technologies and open the door to developing new approaches and techniques" (p. 453).

Technology has undeniably become an indispensable ally in the world of art conservation. Its pivotal role has revolutionized our contemporary approach to preserving art. Through cutting-edge tools and techniques, conservators can conduct in-depth studies, investigations, and analysis of artworks, gaining invaluable insights into their composition, history, and condition which lead them to informed decisions.



Figure 24. In January 2019, researchers from the University of Antwerp conducted a non-invasive scan of Rembrandt's *The Night Watch* at the Rijksmuseum in Amsterdam. Using the Macroscopic X-ray Power Diffraction Scanner (MA-XRPD), they mapped the distribution of materials on the painting's surface. Their aim was to gather detailed information about spontaneous chemical transformations that have occurred over the past 370 years, affecting the properties of the materials in the painting. (AXES Operation Nightwatch | University of Antwerp, 2019)

Documentation, a critical aspect of conservation, is now streamlined with digital advancements centred primarily around digital image capturing. Furthermore, the development of engineered materials has enabled conservators to create innovative solutions for preserving art's longevity.

Technology has not only transformed the conservation aspect but has also played a pivotal role in the interpretation and presentation of art. For example, the creation of replicas and facsimiles from high-resolution scans to print offers a tangible, tactile experience, allowing the audience to engage with art in new ways. Simultaneously, scans are employed to transport viewers into immersive virtual environments, where they can explore art with unparalleled depth and interactivity such as the Official Meet Vincent van Gogh Experience, an interactive experience created by the Van Gogh Museum in Amsterdam (Van Gogh Museum, 2016) or the DA VINCI: GENIUS which premiered in Berlin in 2022 (Phoenix Immersive, 2024).



Figure 25. The online portal for *The Virtual Museum - Underwater Malta*, a project organised by The University of Malta and Heritage Malta providing virtual access to underwater sites around the Maltese Islands (*Underwater Malta*, 2024)

In the realm of art creation, modern technology assumes either a subtle, behind-the-scenes role or a prominent, front-and-centre presence. As Christine Paul (Paul, 2023) notes, in some instances "the work displays distinctive characteristics of the digital medium and reflects on its language and aesthetics. In other cases, the technology has merely been used as a tool and manifests in such a subtle way that it is hard to determine if the art was created using digital or analogue processes" (p. 14).

The utilization of digital technologies can manifest in various forms (Paul, 2023). Artists such as David Hockney and Refik Anadol fully embrace digital tools throughout their creative journey, exploring the inherent possibilities of this platform from conceptualization to exhibition and beyond. On the contrary, artists like Janet Echelman strike a harmonious balance between the traditional and the modern, incorporating digital technologies into specific phases of their creative process.

A close examination of their work reveals several clear advantages resulting from the incorporation of technology. Notably, technology significantly enhances the creative process by infusing it with speed and efficiency. It excels in high-resolution printing, provides versatility in output formats and sizes, and allows for easy reproduction. Technology thrives in hybrid collaborations, adapting and scaling effectively. It empowers design and simulation creation, rendering the invisible visible. It extends into the metaverse; it offers alternative perspectives, redefining functions, and fostering immersive experiences.

# 2.3.1 David Hockney

David Hockney's exhibition, "The Arrival of Spring, Normandy, 2020," took place at the Royal Academy of Arts from May to September 2021. This remarkable collection comprises 116 pieces, all painted en plein air using an iPad from February to June 2020 and printed on paper utilizing 12-color large-format photo printers. His initial dive into this technology was in 2011 when he produced 52 works for the exhibition "A Bigger Picture" at the Royal Academy in 2012. This time, he employed more powerful and faster iPad technology, along with printing technology that supports a wider colour gamut. Hockney also utilized a new app tailored to his specific needs. In an online interview with curator Edith

Devaney (Royal Academy of Arts, 2021), he acknowledged that the iPad's speed allowed him to work rapidly, sometimes completing up to three paintings in a single day, a feature he considers vital in painting, drawing parallels with Van Gogh's ability to create one to three paintings daily: "Working with an iPad is the quickest medium I've ever found for capturing light. I can capture the light on any morning rather quickly, then put in the detail a bit later." (01:05).



Figure 26. David Hockney, No. 147, 5th April 2020 iPad painting. (Royal Academy of Arts, 2020)

### 2.3.2 Janet Echelman

Janet Echelman is renowned for her colossal sculptures created from fibre nets, achieving volumetric forms without the need for heavy, solid materials. One of her notable works, "Earthtime 1.78," has been exhibited in various global locations, including Madrid, Spain (2018), Dubai, UAE (2018), Beverly Hills, CA (2019), Boras, Sweden (2021), Helsinki, Finland (2021), and Vienna, Austria (2021). This impressive sculpture measures 100 feet in length, 45 feet in width, and 20 feet in depth, crafted using braided fibres comprising nylon and UHMWPE (Ultra High Molecular Weight Polyethylene). It beautifully combines elements of architecture, the sky, and coloured lighting to create a captivating visual experience (Echelman, 2021).

For this project, Echelman draws inspiration from data representations by the National Oceanic and Atmospheric Administration (NOAA) of the Japan tsunami on March 11, 2011. Her

creative process involves sketching on paper, transitioning to three-dimensional modelling on a computer, utilizing CAD simulation software to ensure structural integrity, and crafting physical models. During fabrication, the fibres are mechanically braided, dyed, and woven. These fibres are then meticulously mounted onto hand-spliced rope using time-honoured techniques. Once installed, the sculpture comes to life with software-controlled LED lighting, seamlessly merging traditional craftsmanship with cutting-edge technology (Echelman, 2021).

Her multidisciplinary design team comprises professionals from around the world, including architects, aeronautical and mechanical engineers, lighting designers, computer scientists, CAD experts, landscape architects, artisans, and fabricators (Echelman, 2021).

In the Form Finding Lab Blog - Prof. Sigrid Adriaenssens writes that Echelman's work bridges the realms of the past, present, and future, combining both age-old techniques and modern digital tools to create monumental sculptures on an urban scale (Adriaenssens, 2017).



Figure 27. Janet Echelman, *Earthtime 1.78 Helsinki* was installed in Helsinki's Senate Square for the month of August for the 2021 Helsinki Biennial. (Echelman, 2021)

# 2.3.3 Refik Anadol

Refik Anadol's artistry diverges from conventional pen and ink, as he leverages cutting-edge technology to craft mesmerizing and dynamic data sculptures. Through vast collections of data and machine learning algorithms, he transforms invisible data into a visible pigment, brought to life within a physical and virtual realm (Anadol Studio, 2024).

Examples of Anadol's innovative use of contemporary technology abound. In 2019, as part of LA Philharmonic's centennial celebrations, he collaborated on "WDCH Dreams," a week-long public art installation adorning the Walt Disney Concert Hall, a venue designed by Frank Gehry. Anadol ingeniously transformed the building into an interface, conveying dreams to the audience by feeding the entire LA Philharmonic archive, comprising a myriad of images, audio recordings, and videos, into machine algorithms. These algorithms delivered extraordinary images, which were projected onto the building's surface using 42 high-powered projectors (Anadol Studio, 2023b).

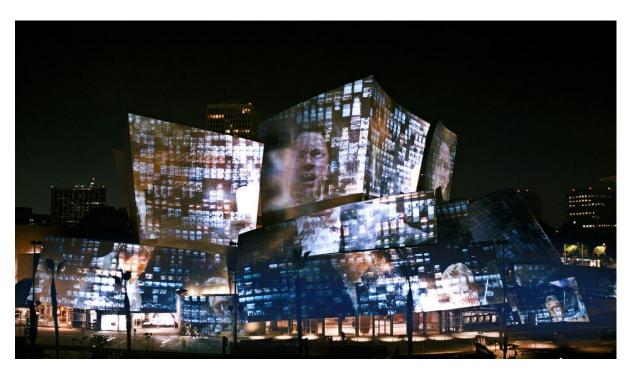


Figure 28. Refik Anadol, WDCH Dreams. Projected onto the exterior of the Walt Disney Concert Hall in LA. (Anadol Studio, 2023b)

In contrast, his project "Machine Hallucinations – Coral Dreams" for Art Basel Miami 2021 was displayed on the sand, close to the water edge on Miami Beach through a large 10m x 10m LED Wall.



Figure 29. Refik Anadol, Machine Hallucinations – Coral Dreams. (Anadol Studio, 2021)

Using this bright display technology ensures that the data sculpture remains visible even in direct sunlight, making it enjoyable all day long. This is unlike projected images, which are usually only visible at night. This work is also integrated into an NFT collection, bridging contemporary art with the metaverse (Anadol Studio, 2021).

For his project "Melting Memories" (2018), Anadol harnessed advanced technology tools from the Neuroscape Laboratory at the University of California, San Francisco. These tools recorded brain stimuli evoked by the recollection of childhood memories in various subjects. Following the collection of the data, Anadol and his team then used custom-made software to convert this data into an artistic interpretation, exemplifying the role of technology in fostering multidisciplinary collaborations (Anadol Studio, 2018).



Figure 30. Refik Anadol, Melting Memories. (Anadol Studio, 2018)

# 2.3.4 Technology and Meaningful Relationships

Creatives occasionally find themselves entangled in the allure of technology, inadvertently prioritizing it over cultivating profound connections with their audience. However, it's crucial to remember that technology should serve as the means to surpass limitations and establish meaningful relationships. This concept is encapsulated in the differentiation between "Data Dramatization" and "Data Visualization," as delineated by theorist Liam Young in an online video (The New Normal, 2018). While "Data Visualization" offers a portrayal of complexity, "Data Dramatization" infuses data sets with emotional depth as opposed to just complex visualisation, transcending the mere presentation of intricate information. In essence, technology's true power lies in its capacity to enrich and deepen the bonds we create with our audience, rather than overshadowing the essence of our creative endeavours.

# 2.4 Storytelling – Designing for Viewer Engagement

In a video interview with Sarah Lookofsky, for MoMA (post@MoMA, 2018) Mieke Bal brings up Nalini Malani's Shadow Plays displayed at Centre Pompidou in Paris (2011) as a great example that: "Art is only art when the viewer is implicated" (01:16).



Figure 31. Nalini Malani, *Remember Mad Meg*, 2007-2017, The "video/shadow play" from the Centre Pompidou collections. (Nair, 2017)

This concept that "art is only art when the viewer is implicated" resonates strongly with the essence of storytelling. In both art and storytelling, the audience's involvement is paramount. Just as art gains its richness and depth when viewers actively engage with it, storytelling becomes truly compelling when the audience is emotionally and intellectually invested in the narrative.

In her essay Exhibition as Film, Mieke Bal (2008) writes "In the case of exhibitions, it is important to realise that the role of the actor is not limited to the objects on display; both the visitors

and the objects are the actors, and it is the interaction between them that constitutes the play" (p. 19).

In his article entitled "The Elements of Visitor Experience in Post-Digital Museum Design," Marco Mason (2020) reminds us that a post-materialistic orientation, as noted by Hassenzahl (2011), emphasizes the importance of delivering meaningful experiences beyond the quality of the product. In a museum/exhibition context, designing at the experiential level entails considering various design elements, from understanding visitors' needs, values, and meaning-making processes to defining visitor interactions within museum spaces. This holistic approach also involves crafting narratives that provide context and content, as well as shaping the visual components, sounds, and physical/digital interfaces (Mason, 2020).

To address such considerations effectively, one can draw insights and methods from other disciplines, as suggested by Bal (2008). She highlights the value of borrowing conceptual tools from art and cultural studies to frame exhibitions as coherent and artistic endeavours, ultimately enhancing their meaningfulness to visitors.

Examples of borrowed insights and methods:

- The singular perspective: One such example, derived from a historical depiction of children living during the Second World War at Museon in The Hague, is the use of viewpoints and perspectives derived from narrative theory. "Narrating history through a singular perspective, such as that of an individual person, stimulates emotional engagement, allowing people to identify with the thoughts and feelings of historical actors." (Savenije & de Bruijn, 2017, p. 834).
- Personification: Using personification improves communication above and beyond plain language by producing clear mental imagery. This figure of speech is widely used in literature, everyday speech, and media, including classical and modern works. Personification brings

depth and vitality to expressions and abstract ideas, as it imbues them with human attributes, allowing readers to connect with them on a human level. This imaginative technique fosters creative perspectives among poets, enriching their writing with depth and creativity (Sayakhan, 2018).

- The Close-up: According to Bal (2008), the adoption of "the closeup" which, due to it being larger in scale, is "more precise and more readable" (p. 27), often allows us to suspend time physically and psychologically and look into unimaginable depths.
- Lighting: The use of Cinematic lighting that fulfils both practical and emotional roles. It can hide or reveal an image while creating a deep emotional impact, as it travels through the stark contrast of shadow and light to the subtle balance of the penumbra (Storaro, 2001).



Figure 32. *Apocalypse Now*, Francis Ford Coppola (dir), Vittorio Storaro (dop), 1979. (top) Strong contrast of light and shadow, (bottom) Subtle balance of penumbra. (Source: film-grab.com)

- Sound: It is common knowledge that sound plays a multifaceted role in a film project. Sound includes elements like voice, effects and music. These elements serve various purposes: delivering information, evoking emotions, setting the atmosphere, developing characters, controlling pacing, immersing the audience, and conveying symbolism. On the other hand, silence, though often overlooked, is also a significant acoustic effect (Balazs, 1952) and deserves thoughtful consideration.
- Presentation: Making use of cinematic presentation methods including screen size and material, viewing/listening angles or distances, and seating configurations. On the latter, during her podcast with Mario Veen in 2021, Bal describes how during the 2017 "Emma & Edvard: Love In The Time Of Loneliness" exhibition, which she curated, she placed a bench in front of individual Edward Munch paintings and lowered them down to eye viewing level. This thoughtful arrangement facilitated a deeper engagement with the artworks, encouraging viewers to spend time with the paintings, moving beyond mere observation to what Bal terms a state of "recognition and discovery" (Veen, 2021).





Figure 33. Emma and Edvard: Love in the Time of Loneliness, Munch Museum, Oslo, Norway. Paintings lowered to eye viewing level for a seated person. (Source: Goldsmiths, University of London)

 Slow-looking: Moreover, "slow-looking" methods influenced by methods in art conservation and connoisseurship can be very beneficial to exhibitions. These methods work well at giving guests enough time and opportunity to gaze, using a variety of approaches, frameworks, and resources to encourage prolonged gazing and fostering the dispositional features of slow-looking (Tishman, 2017).

Both in art and storytelling, the implication of the audience elevates the experience from passive observation or reading to active participation and emotional involvement. It underlines the idea that the true magic of art and storytelling is not in the creation itself but in the profound impact it has on those who engage with it, leaving a lasting imprint on their thoughts, emotions, and perspectives. This underscores the importance of adopting strategies that foster such engagement through an interdisciplinary exchange of ideas and methods.

# 3. Methodology

# 3.1 Research Project Design

### 3.1.1 Introduction

For my *MFA* in *Digital Arts* by *Research*, I have chosen to employ a Practice-as-Research approach wherein as outlined by Nelson (2013), practice serves as the primary method of inquiry. I informed this decision by returning to the scope of this degree as described on The University of Malta website (2024), by looking at the works of Skains (2018) Creative Practice as Research: Discourse on Methodology, Borgdorff (2012) The Conflict of the Faculties, and Camilleri (2013) Between Laboratory and Institution.

For my MFA, my practice is developing an audiovisual performance aimed at creating an opportunity where new connections between a distressed painting and a viewer can be born. Throughout this journey of inquiry, I additionally aspire to acquire personal knowledge, contribute to the existing body of knowledge and share this knowledge to enthuse others to build on it.

# 3.1.2 My Question

Can digital technical photography, technology, storytelling, and audience engagement techniques foster a genuine empathetic connection between a viewer and a painting undergoing conservation?

# 3.1.3 Reflective Practice

An integral aspect of my research methodology is the continual embrace of reflective practice. With over three decades of experience in the AV industry, I have come to understand the paramount importance of self-examination in fostering continuous growth and learning. A prime example of this approach is evident in our debriefing sessions following the conclusion of events, tasks, or projects. These sessions serve as forums to review outcomes, successes, challenges, and areas for improvement and for gathering actionable insights to refine our approaches for future projects.

Furthermore, upon delving into the work of Skains (2018), I recognized the critical significance of promptly documenting observations to prevent them from becoming obscured or forgotten over time.

As such, in shaping my research methodology, I integrated a framework of reflective practice. This framework revolves around a structured cycle that encompasses planning and action, deliberate reflection on outcomes, assessment of effectiveness, and adaptive adjustments - recalibration - in response to new insights or external changes.



Figure 34. My structured Cycle.

Within the context of my project, reflective practices manifest both individually and within peer groups, with insights recorded in my journal. This ongoing process of reflection occurs separate from the planning and action phase, affording a more detached perspective that enhances the quality of insights gained.

I use a shared presentation file within Microsoft PowerPoint as my journal. I find this medium very efficient as it allows me to quickly insert text items, create diagrams, link audio or video files, import images, grab and store screenshots, and organise slides using the slide sorter.

# 4. Project

# 4.1 Designing the AV performance

### 4.1.1 Define the Goals

I revisited my thesis proposal and redefined my scope:

To create an opportunity for a connection fuelled by genuine empathy between a viewer and a distressed painting using digital technical photography, technology, storytelling and audience engagement techniques.

### 4.1.2 Target Audience

I have defined three audience segments:

- Academics Faculty members who will accompany me along the project and my examiners.
- Visitors experiencing the AV performance A limited group of people coming from my circles who have an appreciation of the "arts" in general or have a relationship with the artwork. They are purposely chosen as individuals who could, in their separate ways, build on the experience shared during the performance. Members include sacristans, parish priests, conservators, photographers, art historians, professionals in heritage interpretation, academics, educators, and artists.
- People who come from technology/technical interest who will build on the knowledge shared through this research initiative.

### 4.1.3 Missejt il-Qiegħ: In the Depths of Despair – A Deliberate Choice

Upon reflection regarding whether to portray the painting in its restored splendour or a state of distress, I have deliberately opted to centre my project around the moment when the painting is engulfed in despair, removed from the grandeur of museums or altars and shunned by many.

The rationale behind my decision is as follows: As a technical photographer engaged in documenting in detail paintings undergoing conservation or restoration, I have spent long hours examining these artworks in their distressed state. Through this process, I have come to appreciate the inherent value of the painting during this phase—an appreciation seldom acknowledged beyond conservation circles. Therefore, as a focal aspect of my audiovisual performance, I aim to share images captured during this touching moment, in the hopes of fostering a broader understanding and appreciation of these paintings.

Additionally, in further alignment with my intentions, I intend to invert the conventional "before and after" comparison photo paradigm. Instead of putting emphasis on the painting post-restoration (referred to as the "after"), where the subject matter and the artist's intentions become more readable, I aspire to emphasize the pre-restoration condition (referred to as the "before"). Through this approach, I seek to momentarily redirect the focus from the painted subject and the artist towards the painting in its moment of distress, shedding light on its inherent narrative and emotive power.

# 4.1.4 Selecting the Emotional Conditions or States of the Paintings

Over the course of three days, I compiled a list of emotions and conditions which I observed during my technical imaging sessions of the distressed painting. I documented every idea that came to mind, even if some themes were repeated.

Exposed, Distressed, Injured, Helpless, Abandoned, Aged, Nervousness, Shamed, Illness, Caged, Agony, Rejected, Hurt, Inadequate, Scarred, At The Mercy Of, Be Scared, Fragile, Lowered, Confined, Suffering, Vulnerable, Trapped, Be Terrified, Wounded, Insignificant, Emotional Acceptance, Detained, Weak, Scraped, Destroyed, Abused, Let Go, Unprotected, Inflicted Pain, Edginess, Worthless, At Risk, Humiliated, Ill-Treated, Assaulted, Sagging, Beaten, Old, Harmed, Restricted, Be Afraid, Naked, Neglected, Imprisoned, Shamed, Battered, Offended, Grief, Stripped, In a bad condition, Defenseless, Restrained, Humbled, Anxiety, Fear, Sorrow, Used, Maltreated

Extract from my research journal - Slide 66

Figure 35. Extract from my journal listing states and conditions of the paintings.

Upon compiling the extensive list of states or conditions, I organized the phrases into six categories for ease of selection.

At the end of the exercise, I selected four feelings/emotions - Aged, Wounded, Confined, and Abused - that, in my assessment, encapsulate common realities. These became the themes developed in my AV performance.

# 4.1.5 Determine the Space and Layout

Aware that I could avail of any of the two main studios within the Studioseven Complex in Birkirkara, each averaging an area of 250 square meters and complete with their respective lighting grids, I started designing the layout of my AV performance based on the space available.

The timing of this process coincided with the timing of Amazônia: An exhibition of photos by Sebastião Salgado at the MAXXI in Rome. This exhibition ran between Oct 2021 to Feb 2022 and was designed and curated by Lélia Wanick Salgado. I took the opportunity to visit this exhibition not only to experience first-hand the work of the great master but also to analyse its design from the viewers' perspective. The notions gained, eventually translated into ideas and experiments for my project.

At the heart of the space, Salgado designed three enclosed spaces resembling the indigenous housing known as ocas. These enclosures contained the images of ten indigenous tribes. Surrounding the ocas, all along the perimeter she put up images of the forest, mountains, tropical storms, flying rivers and aerial views (MAXXI, 2022).

The over 200 printed images were accompanied by a soundtrack composed purposely by Jean-Michel Jarre and inspired by authentic sounds of the forest (MAXXI, 2022).

At the furthest end of the space, two small spaces screened different sequences. One showed scenes of the forest to the sound of the symphonic poem by Heitor Villa-Lobos (1887-1959). The other displayed portraits of indigenous inhabitants, accompanied by music composed by Rodolfo Stroeter (MAXXI, 2022).



Figure 36. Sebastião Salgado, *Amazônia*, Photo exhibition at MAXXI in Rome. The outer wall of an enclosure dedicated to the Zoe tribe. In the background large format prints of the mountains. (MAXXI, 2022)

My biggest take-home message gained from the Salgado exhibition was the role of time, an element I had never reflected on in the context of a photographic exhibition. What got me thinking was the fact that on the day we visited, it seemed that huge crowds were expected, hence we were allocated a restricted amount of time for our visit. This reality struck me and became a theme for reflection during the design and execution of my project.

Other themes inspired by the Salgado exhibition that I reflected on include:

- The role of written texts;
- The role of accompanying sound;
- The role of light;
- The role of size and available viewing distances;
- The role of the perimeter walls;
- The psychological implication derived from the distant physical placement of the video display rooms vis-a-vis the rest of the spaces;
- The venue and its ability to limit or enhance the visitors' experience;
- The role of the exhibition attendants;
- The role of the journey hopping from one space to another.

### 4.1.6 Idea Development- The Space, the Layout and the Method of Delivery

#### 4.1.6.1 Idea 1

Inspired by the idea of the journey between the ocas to visit the various indigenous communities as in Salgado's exhibition, I designed my space as a long rectangular hall split into four spaces each leading to the next. The walls are constructed from dark grey soft-covered flats, with each area dedicated to a specific theme or emotion, intended to showcase four printed photographs corresponding to that theme. The access to every space is along the south wall, with the four prints hung along the west wall. The exit from the space is along the north wall. The theme of the space is printed above the first

image of each sequence. One profile light fixture (with beam-shaping metal shutters) perfectly masks the light onto every print avoiding light spills. Each light is angled at 20 degrees to the print surface and positioned 3 meters from the top of the print to ensure uniform illumination across the entire surface. The print size is approximately 60cm on the longest side with an expected viewing distance of 60cm to complement the level of detail expected in the prints. Motion sensors trigger sets of four lights in each area, transitioning from approximately 20% brightness to full luminosity as the viewer moves between spaces.

The venue of choice is Studio 1 for its access located at the basement level of the complex.

This walking down to the basement experience complements the thought of meeting the painting inside the depths of despair.

The sound inside the studio is silence – mere room tone.

Viewers are allowed to visit in pairs with no time constraints.

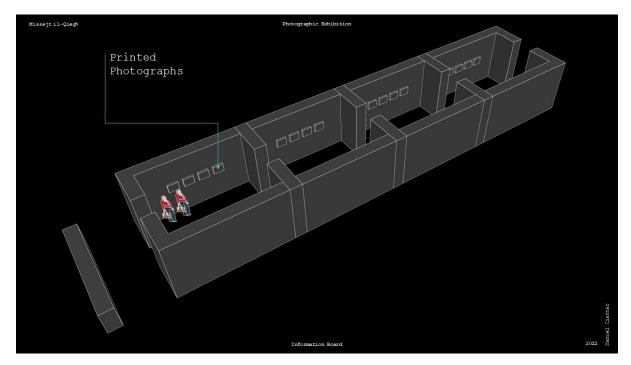


Figure 37. 3D visual of the setup for Idea 1. (Source: Own CAD design)

Whilst exploring this idea, aware that my subject is rather unusual, I started toying with the idea of enhancing the readability of my message by adding images of people from contemporary parallel stories that are directly related to my themes. In doing so, I thought of inviting fellow photographers to contribute with their works. However, after further reflection, I decided to let go of this idea so as not to involve other actors in the dialogue other than the painting and the visitor.



Figure 38. Mood board with images intended to enhance readability of my message.

### 4.1.6.2 Idea 2

The uneasiness posed on me when visiting Salgado's exhibition as I was allotted a restricted time frame for the visit, gets me thinking about revising the entire concept of a static photo exhibition into 4 image sequences screened on four separate 65-inch displays. These sequences feature subtle image movements and background sounds designed to complement the sombre moods of the emotions. Although not yet defined, the duration of each shot is expected to be approximately 30 seconds per image with a one-second transition. In designing this option, I aim to shift the roles from the viewer giving time to the print, to the image dictating the time on the viewer. The addition of subtle image

movement and surround sounds seeks to add atmosphere and ambience, emotional resonance and a dose of immersion. Every image sequence starts and finishes with a black frame.

Each room is fitted with a motion sensor-triggered video display system. Ambient lighting guides visitors from one room to the next, illuminating the entrance to each room at full brightness as visitors approach. Once inside, the lights dim, and the corresponding video begins playing. Once the video ends, the lights brighten again, indicating the next room for visitors to proceed to. This sequence repeats as visitors move through the exhibition.

The previous rectangular layout designed for idea 1, now changes to a square configuration with four spaces along the four corners, with each space accessed through one central corridor.

The venue remains Studio 1, situated in the basement of the complex, aligning with the concept of encountering the painting in her deep dark place.

Viewers are allowed to visit in pairs.

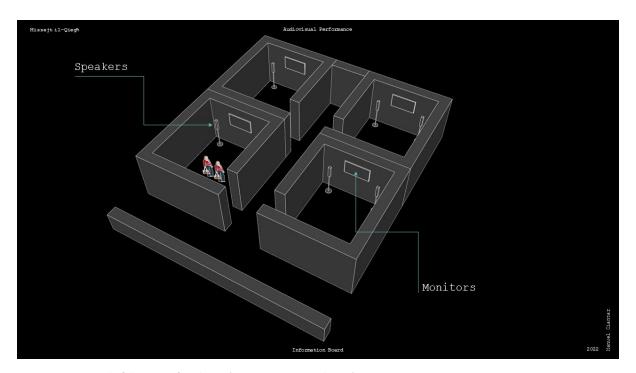


Figure 39. 3D visual of the setup for Idea 2. (Source: Own CAD design)

### 4.1.6.3 Idea 3

In this idea I aim to create a scenario where the viewers could become fully absorbed in the content of the image sequences, temporarily losing awareness of their surroundings and focusing solely on the emotions and narrative conveyed by the visuals and audio.

Building on idea number 2 this idea proposes the same 4 video and audio sequences displayed on 3x2 meter screens using 5000-lumen laser projectors. Aware that the viewer could be deeply immersed and emotionally engaged, I needed to ease the movement from one space to the next. Hence, I reverted to a long rectangular layout facing north, with the four spaces placed in a row along the west wall. Each space opens on a long leading corridor along the east wall.

One other key difference is the extension of the image duration to approximately 45 seconds each, favouring a slow-looking experience which contrasts with the fast pace of our daily lives. The extended duration is complemented by a further slowdown of the image movements, rendering the movement very slow and subtle. This idea also proposes a seat inside every room where the viewer can sit and immerse into the experience without the physical fatigue of standing.

The venue remains Studio 1, situated in the basement of the complex.

Viewers are no longer allowed to visit in pairs, but the experience becomes an immersive solo viewing experience.

Like the previous idea, lighting continues to direct viewers from one space to the next. However, rather than serving as soft ambient illumination for the spaces, the lighting transforms into spotlights, highlighting the seating within each room.

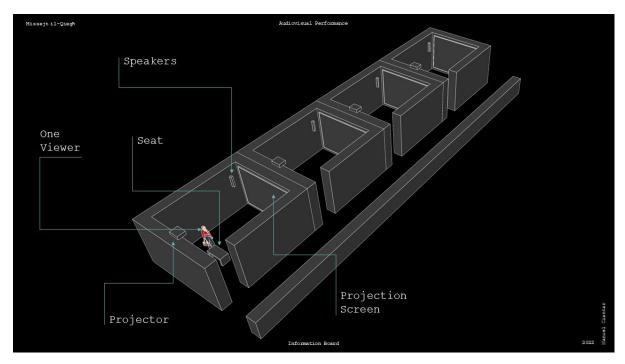


Figure 40. 3D visual of the setup for Idea 3. (Source: Own CAD design)

### 4.1.6.4 Idea 4

Idea 4 builds upon the concept of achieving deep immersion and heightened emotional engagement from the previous idea and takes it a step further. This concept involves combining the multiple spaces into a single room, eliminating the need for movement between spaces and reducing the risk of disrupting the viewer's immersion. Additionally, to enhance the sense of immersion, the display transitions to a single large 5x3 meter projection screen, utilizing a powerful 10,000 lumens laser projector.

At this stage, I started conducting some physical tests using a consistent projection and playout setup. I projected some sample images and determined that a one-minute viewing duration was optimal. It's slow enough to immerse the viewer without risking loss of concentration for those not accustomed to slow-looking techniques. Experimenting with transitions between images, I initially tried simple cuts, which felt too abrupt. Cross dissolves of various durations also lacked seamlessness due to the diverse visual content. I then experimented with a dip-to-black transition, fading the content

of one image to black before fading in the next. After testing durations, I settled on a duration of 100 frames per dip.

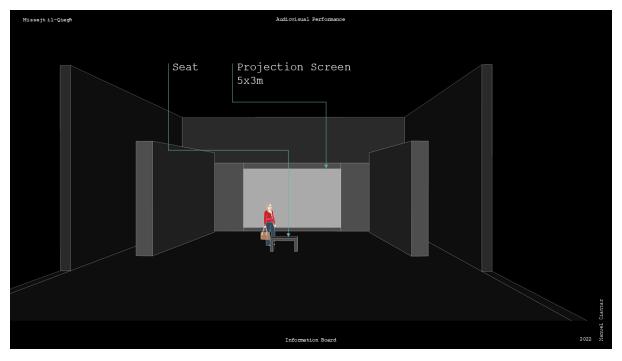


Figure 41. 3D visual of the setup for Idea 4. (Source: Own CAD design)

### 4.1.6.5 Idea 5

Although I was pleased with the projected images, I decided to push the boundaries and test a finepitch Direct View LED (DVLED) display instead of the projector.

A DVLED display is made up of multiple cabinets joined together to form a seamless display of practically any size or shape. Each cabinet holds several pixels arranged in rows and columns. Each pixel is made up of a red, green, and blue Light-Emitting Diode (LED). The resolution of the cabinet is determined by the pixel pitch which is the distance between the centres of two neighbouring pixels (Reynolds, 2024). In my case the pixels are 2.97 mm apart, hence every cabinet which is 50x50cm, holds 168x168 pixels. The overall display size remained 5x3m equivalent to 10x6 cabinets.

LED technology presented a wealth of learning opportunities for me, as it was a new realm compared to the familiar territory of video projection. Through a lot of research and experimentation,

I learned how to assemble and configure a DVLED display and on August 29<sup>th</sup>, 2022, I displayed my first sample images. This was truly a memorable moment. The images took a completely different life. The mellow and somewhat emotionally distant projected images became charged with energy on the DVLED display and seemed to reach out to me, blurring the barrier between me and the displayed image. This was truly a moment of revelation which transported my project to a whole new level.

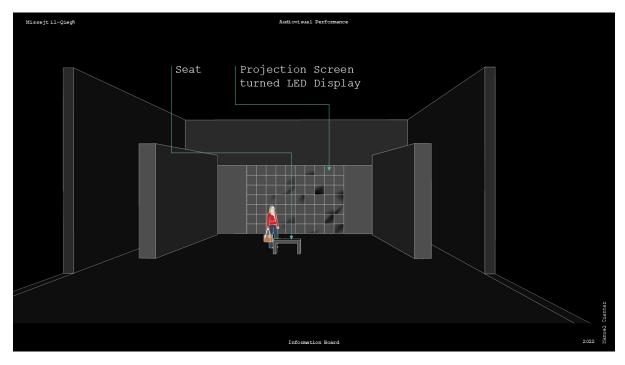


Figure 42. 3D visual of the setup for Idea 5. (Source: Own CAD design)

Following this turning point, I started re-testing the sample content on the DVLED display which opened a new can of worms. First, I realised that the images appeared excessively bright, giving them an unreal and almost artificial quality. With the assistance of Alex Attard and Sue Ciantar Ferrito, we conducted several display brightness tests, ranging from 80% down to 10%. Ultimately, we settled on a screen brightness level of 25%.



Figure 43. My very first test image put up on the DVLED display. (Source: Own photo)

Next, we needed to define the optimal viewing distance, a factor determined by the pixel pitch.

As commonly accepted in the industry, with a pitch of 1 mm requiring a viewing distance of 1 meter,
we estimated the distance for my display at 2.9 meters. However, we found this to be too close and
after testing various distances, we settled on a viewing distance of 6 meters.

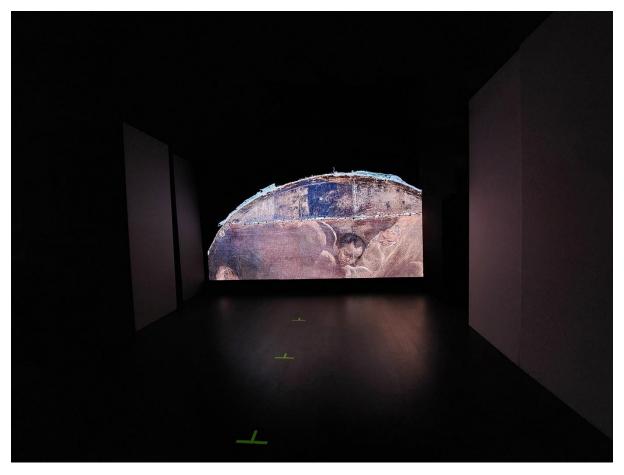


Figure 44. Floor markings to determine optimum viewing distance. (Source: Own photo)

Following this, I proceeded to test the sample video, which behaved differently compared to the projection setup. The fade transitions to and from black resulted in a green haze overlaying the image as the image turned almost completely black, disrupting the transition smoothness. After numerous tests, I opted to remove the fade transition and introduce instead a wipe to black on the tail of the clip, and a cut from black on the head of the following clip. This adjustment removed the adverse effect of the green haze on the viewer's immersion experience.

Screen size was a crucial factor in my experimentation. Initially, I conducted tests on a 5x3 meter display, but later I adjusted it to 5x3.5 meters. I discovered that this size (5x3.5m) and aspect ratio (5:3.5 equivalent to 16:11.2) were less conventional, which, when combined with viewing distance and slow-looking techniques, increased the impact of the viewing experience.





Figure 45. Aspect ratio tests. 5:3 top and 5:3.5 bottom. (Source: Own photos)

For lighting, I have initially used one cool white spotlight to harshly light the viewer's seat while keeping the remaining space in relative darkness. However, during test viewings, this setup made viewers, Alex and Sue, feel intimidated. This feeling conflicted with my goal of creating optimal conditions for fostering dialogue. Therefore, I replaced the spotlight with several warm white lights positioned along the perimeter of the space, gently illuminating the entire area rather than just the seat. These lights are bright during the walk-in sequence, dimmed almost completely during the screening, and then returned to the original brightness during the walk-out sequence.



Figure 46. Spot, cool-lit seating vs diffused, warm-lit seating. (Source: Own photos)

#### 4.1.7 Choosing the Final Images for Display

I sifted through my extensive library of technical photography to curate a selection of images. With over 15,000 images amassed over a decade, I opted to focus on those captured within the past two years. After narrowing down the pool to images with the potential to evoke strong emotions and narratives, I found myself with 165 contenders. From this assortment, I made the final cut, selecting 16 images - four for each thematic category. Choosing proved challenging, as my personal biases and deep understanding of conservation often influenced my interpretation of the images. Seeking an objective perspective, I enlisted the expertise of fellow photographer Alex Attard, whose discerning eye and fresh perspective helped ensure that the chosen images resonated primarily for their emotional impact and narrative strength within the context of the four themes.

Additionally, as part of the presented images, I selected 3 of the 16 images and paired them with an after-photo. I displayed them side by side to highlight their state before conservation.

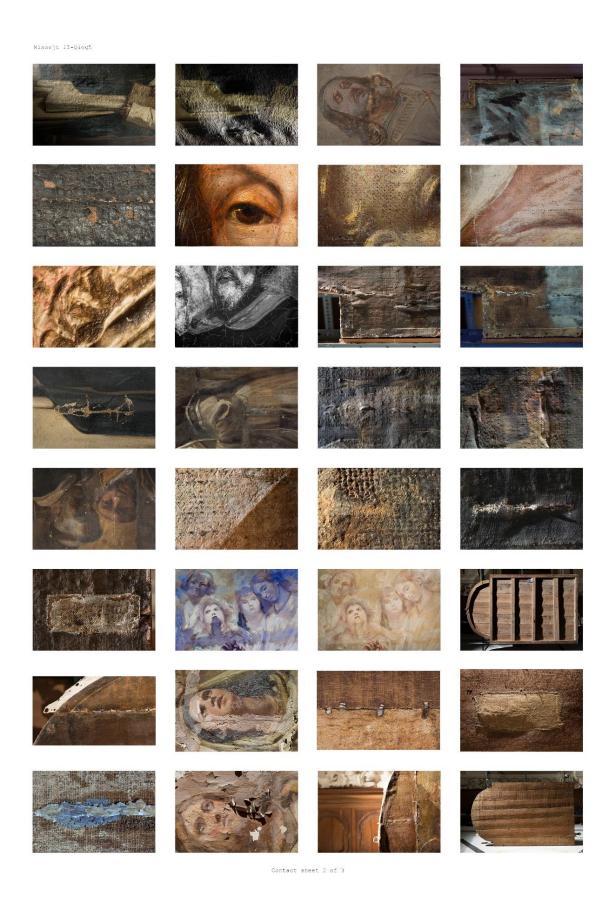


Figure 47. Sample Contact sheet (Sheet no 2 from 3) of images from the first selection. (Source: Own photos)





Figure 48. Sample images from the first selection which were not included in my final selection. (Source: Own photos)





Figure 49. Sample images from the final selection. (Source: Own photos)

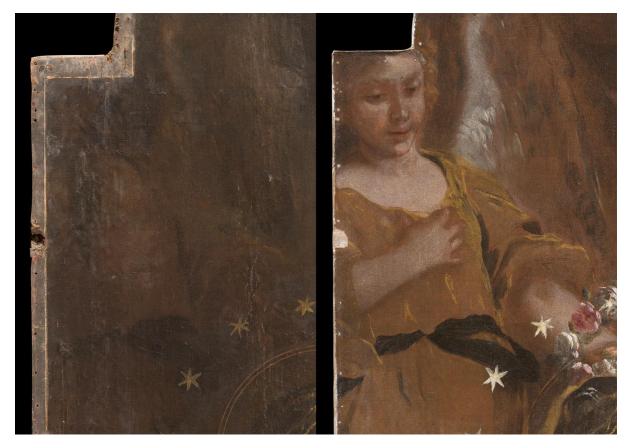


Figure 50. Sample of a side-by-side set of two images (before and after conservation). (Source: Own photos)

### 4.1.8 Enhancing the Journey

To enhance the journey, I have added new elements and omitted others.

To facilitate the dialogue between the viewers and the painting, I personified the artwork and created a voice-over script that introduced each theme - the voice of the painting introduced her state to the viewer, using the first-person point of view. I opted to have the voice-over in Maltese and included some less frequently used words in the script, such as "bloqt" which means "to grow old" according to Gabra (2024).

I decided to remove the designed sounds during the screening of the images and instead opted for complete silence – just studio room tone. This, coupled with the slow-looking experience, would enhance the contrast to the outside world which is often loud and busy.

I created a wind-down room, near the main entrance to the complex, to act as a buffer zone between the outside world and the studio experience.

To enhance the wind-down moment and introduce the project, I wanted to present to the viewer a personalised written note, from me to them, describing briefly the project. This note was tailored for each viewer based on their background and experience. However, this idea was revised to me presenting a short verbal description of the project, still tailored for each viewer, followed by handing them a personalised letter (this time from the painting to them) closed in an envelope. I wanted to create a tangible anticipation and a sense of connection with the sender even before they tear open the letter. The letter, written in the first person, creates a sense of intimacy as the viewer reads the words and traces the thoughts and emotions of the sender (the painting).

#### 4.1.9 A Peer Review

In March 2023, I finalised and put together the AV performance and called in some peers including artists, academics, conservators and professionals from the a/v industry for a review. Following this review, I have:

- Revisited the only remaining moving image and changed it to a still image, making all the images presented on the DVLED display perfectly still.
- Transformed my verbal introduction to a short description narrating the What rather than the Why. This was for me the boldest move as it became the moment of letting go of my work. It became the moment where I pointed out facts and then stopped interfering and gave room to the dialogue between the painting and the viewer. My description: [This is an encounter between you (the viewer) and the painting in distress before she is conserved or restored. The encounter is complemented by a series of images that I shot of the painting before conservation].

- Shifted the wind-down space to the green room closer to the studio entrance on level -1. I did
  this to avoid the information pollution created by our AV museum situated en-route from the
  initial winddown space to the studio.
- Added a title and ending slide to anchor the screening and avoid the viewer feeling lost.
- Created a translation of the letter and the title slides to English to facilitate the understanding for non-Maltese speaking viewers.
- Added some time for a brief discussion between myself and the viewer following the screening.
- Added a request for the viewer to later send their reactions in a private message, encouraging further reflection after the experience.
- Created a project handbook available as Appendix B.

# 5. Key Insights Attained Through the Research

The "Misssejt il-Qiegħ" project has its roots in my profound desire to articulate a deeply felt emotion
- an engagement with art through empathising with a painting in distress whilst approaching or
undergoing conservation treatment. While the project strives to convey its intended message, it
remains open to the potential for varied interpretations by the viewer.

Upon reflecting on the creative journey, I identify the main pillars that underpin the project:

- Empathic Approach towards a Painting in Distress;
- Integration of Other Disciplines and Experiences;
- Personification of the Subject Matter The Material of the Painting;
- Role of Technology Preparation, Creation, Delivery;
- Creation of an Atmosphere of Awe to support Delivery;
- Focus on Conveying the Message;
- My openness to Differing Interpretations.

Built upon these pillars, I feel that the project serves as a valuable tool for engaging with paintings and other art objects.

#### 5.1 The Empathic Approach – An Authentic Curiosity

Embracing empathy as a fundamental principle in my life, I wholeheartedly endorse Brene Brown's (RSA, 2013) perspective that empathy serves as a catalyst for human connections. Consequently, empathy guides many of my daily actions. My extensive experience as a technical photographer specialising in cultural heritage, particularly in capturing images of paintings in distress, has deepened my empathic connection with these artworks. This connection extends beyond their visual representation, encompassing their stories, suffering, condition, the way they were treated over the years, and, at times, abuse. As a result of this profound understanding, my relationship with paintings diverges from the conventional engagement often shared during art history classes.

Upon completing the project, I now acknowledge that the empathic approach I employ towards paintings is unconventional and, consequently, may pose challenges in its reception. Unlike conventional artistic presentations that prompt viewers to empathise with human subjects, such as martyrs in religious art or war-affected refugees in photojournalism, my focus centres on the painting material itself. I invite viewers to empathise with the material elements of the artwork. The uniqueness of this approach is exemplified in an isolated experience during my research, where Diana Shpungin, in her "Drawing Of A House (Triptych)" (Amenta & Coleman, 2016), expressed empathy for the subject of her work - a boarded-up house symbolising the loss of familial warmth.

From my perspective, the process of a painting approaching conservation is analogous to a patient in a consultation room, metaphorically taking off their clothes to unveil concealed vulnerabilities to us, the "medics." This analogy prompted an exploration of empathy in the medical profession and its contemporary relevance. Within this exploration, I encountered the ongoing debate between detached empathy and empathic concern, a topic illuminated by Guidi and Traversa (2021). This debate has evolved into an authentic curiosity toward the patient's experience, rooted in both cognitive understanding and emotional engagement. Importantly, this authentic curiosity aligns seamlessly with the overarching scope of my project.

#### 5.2 Roping in Other Disciplines and Experiences to Enhance the Storytelling Capacity

In my capacity at Studioseven, as an organiser of engaging international meetings and events, our standard practice involves adopting a multi-disciplinary approach to project execution. Consequently, it became evident to me that, for this project, a comprehensive exploration of other art expressions and cultural studies was imperative. This exploration aimed to borrow from diverse disciplines, incorporating tools and ideas to complement and enhance the overall narrative delivery.

Among the integrated tools were the strategic use of first-person language in both the letter and the voice-over script, the integration of sound to complement visual elements, considerations of

scale and distance, deliberate implementation of slow-looking techniques, and the crafted utilisation of lighting.

Employing first-person language facilitated the creation of emotional engagement, enabling individuals to connect with the thoughts and feelings conveyed by the painting.

The bilingual presentation of the letter - in English for non-Maltese viewers and in Maltese for the local audience, facilitated inclusivity. The voice-over, delivered in Maltese, added a heightened dramatic element that complemented the message, even for those unfamiliar with the Maltese vocabulary. The distinctive narrative structure, alternating thoughtfully between voice and visuals, contributed to a dynamic and engaging viewing experience. The strategic use of silence during visuals allowed viewers to immerse themselves visually without an accompanying narration, fostering a personal connection with the images. When needed, the voice emerged as a guiding narrative, providing context and setting the tone for subsequent image sequences.

The interplay between the two major project phases—image capture and studio display—revealed the transformative role of lighting. During image capture, lighting was instrumental in revealing the painting's condition and hidden details. In the studio experience, it created a welcoming ambience for viewers entering the space and commanded attention during the forceful viewing via the Direct View LED display. The nuanced interplay between reflected light during image capture and the harsher transmissive properties of DVLED display illumination elevated lighting beyond its utilitarian function, making it an integral component of the storytelling process. This elevation substantially heightened the visual and emotional impact of the entire journey.

#### 5.3 Personification

This project has led me to a profound rediscovery of the significance of personification. In the project's initial stages, I somewhat took personification for granted, perceiving it as the sole and inherent approach, given my natural inclination to perceive human emotions in distressed paintings. However,

through the process of contextual review, I began to recognise the pivotal role of personification, establishing it as the foundational element of my project.

Upon reflection, it became evident that personification is not merely a natural inclination but a deliberate and crucial aspect of the project's framework. In an online presentation, Associate Professor Megan Ward from Oregon State University pointed out that "Personification helps us see our humanity in the world all around us" (Oregon State University, 2019, 03:41). Drawing parallels to English literature, Ward discusses how Dickens, in his work *A Christmas Carol* from 1843, employed personification to characterise the gloomy suite of rooms owned by Scrooge, thereby imparting valuable insights into the main character himself. In my case, personification has played a crucial role in shaping directly my main character – the painting, aligning more with the techniques used by animation studios in creating characters like Disney's Mushu from Mulan (1998) or Olaf from Frozen (2013).

Through personification, I extend an invitation to my audience to connect with the distressed painting. As Ward notes, "Once we (the audience) see human-like emotions being portrayed, we react with our human emotions, creating a connection" (Oregon State University, 2019, 00:57).

Personification has also prompted me to consider the individuals for whom I am developing this work—my viewers and audience—and construct the entire journey around their experiences. Acknowledging the fast-paced nature of contemporary lives, I deliberately slowed down the viewing time, allocating a substantial 60 seconds for each image. In deliberate contrast to our noisy daily lives, I introduced moments of silence during the image presentations. To afford my viewers a moment of winding down from their busy schedules, I created a green room, where they could unwind while reading a letter addressed to them by the painting before entering the studio – the primary performance space. Recognising that prolonged standing might induce restlessness in my viewers, I placed a seat within the performance area to facilitate comfort and concentration on the content

without causing fatigue. Moreover, the decision to encourage solo viewing was intentional, enhancing the immersive quality of the overall viewing experience through isolation.

In terms of scale and distance, a macro perspective—larger than life—was employed. Viewers were strategically positioned at a distance sufficient for LED pixels to merge indistinguishably, yet close enough to perceive the images in an enlarged format. This deliberate manipulation of scale contributed to a unique visual experience.

## 5.4 Role of Technology- Preparation, Creation, Delivery

Within the AV industry, a prevailing perception, as articulated by Dan Orchard from the leading AV service company Anna Valley (2019), emphasizes that while audiences may not retain specific content, they vividly recall the emotional impact of the event. This concept, widely embraced in the industry, often leads professionals to prioritize entertainment over meaningful engagement and the effective communication of core messages during events or presentations. In navigating the planning and execution of my project, I have made the effort to adhere to the reflection encountered during my contextual review by Liam Young (The New Normal, 2018), favouring data dramatization over data visualisation as the former particularly emphasises that technology's true power lies in its capacity to enrich and deepen the bonds we create with our audience, rather than overshadowing the essence of our creative endeavours. Thus, I have maintained a steadfast commitment to ensuring that technology serves as a complementary tool rather than the focal point of the project.

Inspired by numerous contemporary artists across diverse disciplines who adeptly integrate technology into their creative processes, including David Hockney, Janet Echelman, and Refik Anadol, I have employed technology as a versatile instrument throughout various stages of my project. From planning and design to content acquisition, processing, playback, display and ambience creation, technology has been instrumental in facilitating the realization of my vision.

In the context of choosing between DVLED display and projection methods, insights from AV display professionals like Sander Buys of Barco (barcoTV, 2020) underscore the advantages of DVLED display technology, particularly its ability to maintain optimal contrast and brightness levels in high ambient light environments, as well as its inherent modularity in size, shape, and resolution. However, my research revealed that the decision to utilize a DVLED display extended beyond these factors, as I intentionally selected it for its boldness and ability to generate and emit light, which significantly enhanced the delivery of my message compared to the toned-down, reflected off a screen, projection counterpart. Moreover, experimentation with DVLED display technology afforded me invaluable insights into various technical nuances, including viewing distance dynamics, image brightness, response to dark tones, colour rendition, and physical uniformity issues.

The integration of the DVLED display into the project's overarching strategy aims to captivate viewers by presenting alternate realities that diverge from their familiar experiences. The deliberate orchestration of a slowed-down viewing pace, alongside the expansive scale of the displayed images and a macro-level perspective, underscores a meticulous strategic approach. Additionally, contrary to the commonplace association of DVLED displays with bustling advertising environments in urban centres and high-traffic areas, or as passive backdrops in televised broadcasts, concerts, or events where they contend for attention amidst chaotic surroundings, this project elevates the role of the DVLED display to that of the primary actor within an orchestrated and controlled setting.

Augmented by complementary elements such as sound, the DVLED display assumes a central role as the protagonist, facilitating a direct and immersive engagement between the solitary viewer and the displayed subjects – the painting materials. This deliberate one-to-one interaction within a purposefully curated environment amplifies the impact of the DVLED display as the primary medium, transcending its conventional roles and fostering a deeper connection between the audience and the visual narrative.

#### 5.5 Creation of an Atmosphere of Awe to Support Delivery- A Baroque Approach

Upon receiving feedback during a research seminar at the University of Malta in November 2023, where I presented my research, I became acutely aware of the surprisingly Baroque nature of my approach. It became evident to me that I had crafted a piece that transcended mere existence, exhibiting boldness, dynamism, and power - capable of deeply engaging and leaving a lasting impact on the viewer.

As discussed by art critic Waldemar Januszczak in his three-part series entitled "The Baroque Tradition | From St. Peters To St. Pauls" (Perspective, 2022), the Baroque movement diverged from preceding art movements, such as the Renaissance, by giving up distance and pedestals in favour of direct engagement with the viewer. Rooted in the ethos of the counter-reformation, Baroque art sought to immerse viewers in its narrative, employing strategies like bigness, grandeur, theatre, drama, and lighting. Furthermore, it blurred the boundary between art and reality, presenting relatable subjects, figures, situations, and scenes - a paradigm I recognize in my own work upon reflection.

Additionally, Januszczak notes that the Baroque era embraced interdisciplinary collaboration to evoke profound emotional responses from viewers - a tactic I inadvertently employed in my project. During a Faculty Research seminar, one of my tutors aptly likened the intensity of my work to standing in the front row of a heavy metal concert - an analogy that underscored its boldness, intensity, and rich emotional engagement.

While I had never consciously sought inspiration from the Baroque period, upon reflection, I recognized a subconscious attraction to its allure on multiple occasions. For instance, during a visit to The National Gallery in London, I found myself experiencing similar emotions to those described by Januszczak when encountering Caravaggio's "Supper at Emmaus" (1601). At that moment, I felt a compelling urge to engage with the scene - whether by slapping a high five to the right disciple, stabilizing the fruit basket falling from the table, or aiding the other disciple as he swiftly rose from his

seat to convey the news to Jerusalem. This underscores the immersive and indelible impact of Baroque art experiences, which undoubtedly influenced the development of my own work.



Figure 51. Caravaggio, The Supper at Emmaus, The National Gallery, London. (The National Gallery, 2016)

### 5.6 Focus on Conveying the Message

The sixth pillar of my project centres on the deliberate emphasis placed on effectively conveying the intended message and fostering conducive conditions for communication to ensue.

From the project's inception, my objective has been unequivocal: to share the emotions and experiences encountered during my technical photography sessions with the audience. In doing so, I aim to offer a fresh perspective on the paintings - personifying them and unveiling their hidden layers, thereby fostering empathy, connection, and engagement between the audience and the artwork.

This imperative is also informed by my professional background at Studioseven, where our ethos revolves around being "message-centred" and "message-driven." In our line of work, we consistently assist clients in delivering their messages to their target audience - whether it be through conferences, events, presentations, speeches, online media, or traditional broadcasting.

My project seeks to facilitate engagement by meticulously cultivating favourable conditions for connections to occur. This is accomplished through meticulous attention to minor details, such as, besides establishing a comfortable seating arrangement to prevent viewer fatigue, the project ensured that the lighting surrounding the seating provides a gentle guiding illumination, rather than a harsh spotlight that might divert attention away from the screen and towards the seating or the viewer.

Narration serves as a pivotal component, aiding in verbal communication through the articulation of words and non-verbal communication through the expression of emotions leading to emotional resonance throughout the experience.

To encourage engagement, I also provided each viewer with a verbal introduction to the piece, focusing more on the "What" rather than the "Why."

#### 5.7 My Openness to Differing Interpretations

Upon reflection, I acknowledge that this aspect of the journey proved to be the most challenging, yet ultimately the most enriching. Given my inherent desire to effectively convey my emotions and articulate my thoughts using the appropriate tools, environment, and experiences to ensure clarity and avoid misinterpretation, it was initially difficult for me to embrace the idea of openness and allow the artwork to take its own course, presenting it to the public and permitting visitors to interpret it based on their own perspectives.

The turning point for me came while listening to Januszczak discuss how many contemporaries of Caravaggio perceived his "Death of the Virgin" (1606), now housed in the Musée du Louvre in Paris,

as the body of a drowned woman of ill repute. This realization underscored the importance of relinquishing control over one's work - a bold and risky yet essential step in the artistic process.



Figure 52. Caravaggio, Death of the Virgin, Musée du Louvre in Paris, detail. (Source: Musée du Louvre)

Today, I view the diverse reactions from my audience to my work with great appreciation. Some were able to empathize with the material of the painting, connecting with its narrative and understanding its emotional depth, while others interpreted my work as a form of social commentary, contextualizing the painting's condition within our societal framework. Some questioned the role of conservation and restoration in altering an artefact's history, while others found beauty in its imperfections and advocated for their preservation. Additionally, some perceived my multispectral imaging as a modern reinterpretation of the painting, while others found movement and dimensionality in my static images. Some likened the works to sculpture; others saw parallels to Alberto Burri's (1915-1995) works with their ability to draw the viewer in through their gashes and tears.



Figure 53. Alberto Burri, *Grande Sacco*, 1952, Galleria Nazionale d'Arte Moderna e Contemporanea, Rome. Photo: Antonio Idini. (Guggenheim, 2015)

Ultimately, I am pleased to have provided my audience with a platform for engagement on various levels, allowing them to relate to the painting and the experience in their own unique ways.

This collective exploration unanimously underscored the value of utilizing large-scale DVLED display technology, unanimously recognized for its impact and effectiveness. Since the date when I commenced this research project, a growing number of artists have endorsed this technology including Matthew Attard for his I WILL FOLLOW THE SHIP at La Biennale di Venezia 2024 (La Biennale, 2024). During this installation Matthew presents several eye tracked illustrations inspired by ex-voto ship graffiti incised on the walls of local wayside chapels (Magri, 2023). In a personal correspondence Matthew shared with me that he opted to include a digital wall to contrast the stone walls which also formed part of his installation. Additionally, Matthew felt that the digital wall evoked a strong sense of technological materiality in the way it projects the image which suited his aims and objectives.



Figure 54. Matthew Attard, *I WILL FOLLOW THE SHIP*, La Biennale di Venezia 2024. The stone wall in the foreground in contrast with the DVLED wall in the background. Photo by Eoin Grealley). (Borg, 2024)

The current endorsement of this technology is also fuelled by its current rental pricing structure with rental fees that, despite still being on the high side, are becoming more affordable. Additionally, following the inauguration of *The Sphere* in Las Vegas in September 2023, the medium gained worldwide popularity (Florian, 2024). *The Sphere* has two massive DVLED displays, an outdoor display which wraps around the outer 150-meter diameter of the spherical venue and the indoor 15,000 square-meter display which curves around and above the 18,000 audience seats (MegaBuilds, 2024).



Figure 55. Cad drawing in cross-section of The Sphere in Las Vegas. (Source: Sphere Entertainment)



Figure 56. Refik Anadol, *Machine Hallucinations — Sphere*, The Sphere in Las Vegas. An on-going public art installation. (Anadol Studio, 2023a)

# 6. Conclusion

In conclusion, my research project explores the innovative approach of inviting viewers to personify paintings undergoing conservation treatment, fostering empathy, particularly with their suffering. Through a highly orchestrated journey complemented by the bold utilization of large DVLED display technology within an AV performance, I present a series of engaging images showing larger-than-life details of these paintings intended to fuel an alternative connection with the viewer.

The dissemination of technical knowledge gleaned from this research has already begun, with insights into DVLED display technology being shared among technical colleagues responsible for display setups. Furthermore, this knowledge is being incorporated into foundational courses on AV technology at the newly established Studioseven Audiovisual Academy. It will also contribute to the curriculum development of The Cutting Edges program, a collaborative research and educational initiative among five European universities, including the University of Malta, focusing on Virtual Production where DVLED display technology assumes a central role.

Moving forward, I envision expanding *Missejt il-Qiegħ* beyond my master's research project with two main areas of focus. First by delving deeper into understanding audience engagement using emotion-sensing technology and second by investigating why some viewers perceived my static images displayed on the DVLED wall as moving. Additionally, I intend to publicly share the performance to reach a broader audience, aspiring to ignite a deeper connection with the material - the subject of my art - and with the methodologies employed. I aim to inspire others to adopt and adapt these methods, either in part or in whole, to challenge assumptions, encourage dialogue, enhance audience engagement, and foster authentic curiosity across various contexts in arts, art history, art conservation, cultural heritage interpretation and education.

# References

Adriaenssens, S. (2017). Form Finding Lab blog.

https://formfindinglab.wordpress.com/2017/09/20/what-i-am-thinking-fiber-sculptor-and-urban-artist-janet-echelman/

Amenta, P., & Coleman, C. (2016). Diana Shpungin | Drawing Of A House (Triptych). SiTE:LAB.

Anadol Studio, R. (2018). Melting Memories. https://refikanadol.com/works/melting-memories/

Anadol Studio, R. (2021). Machine Hallucinations – Coral Dreams.

https://refikanadol.com/works/coraldreams/

Anadol Studio, R. (2023a). *Machine Hallucinations - Sphere*. https://refikanadol.com/works/machine-hallucinations-sphere/

Anadol Studio, R. (2023b). WDCH Dreams. https://refikanadol.com/works/wdch-dreams/

Anadol Studio, R. (2024). Refik Anadol. https://refikanadol.com/

AnnaValley. (2019). Creating immersive experiences with LED. YouTube.

https://www.youtube.com/watch?v=0P5u2wma-KE

AXES Operation Nightwatch | University of Antwerp. (2019).

https://www.uantwerpen.be/en/projects/axes-operation-nightwatch/

Bal, M. (2008). Exhibition as Film. In R. Ostow (Ed.), (Re)Visualizing National History: Museums and National Identities in Europe in the New MillenniumMuseums and National Identities in Europe in the New Millennium (pp. 15–44). University of Toronto Press.

https://doi.org/doi:10.3138/9781442687257-003

Balazs, B. (1952). Theory of the film: Character and growth of a new art. Dennis Dobson Ltd. https://archive.org/details/theoryoffilmchar00balz/page/n143/mode/2up

- barcoTV. (2020). *LEDtalks video 1 Intro and pixel pitch*. YouTube. https://www.youtube.com/watch?v=KiJU1WujOCw
- Batson, C. D. (2009). These Things Called Empathy: Eight Related but Distinct Phenomena. In J. Decety & W. Ickes (Eds.), *The Social Neuroscience of Empathy* (p. 0). The MIT Press. https://doi.org/10.7551/mitpress/9780262012973.003.0002
- Benjamin, L., & Crouse, E. (2002). The American Psychological Association's response to Brown v.

  Board of Education: The case of Kenneth B. Clark. *American Psychologist*, *57*(1), 38–50.

  https://doi.org/10.1037/0003-066X.57.1.38
- Billingsley, K. (2020). *Science, Technology, & Society: A Student-Led Exploration*. https://pressbooks.pub/anne1/chapter/conclusion/
- Borg, E. (2024). *Inside the Malta Pavilion at the Venice Biennale*.

  https://timesofmalta.com/article/inside-malta-pavilion-venice-biennale.1091275
- Borgdorff, H. (2012). The Conflict of the Faculties. Leiden University Press.
- Bruneau, E. G., Cikara, M., & Saxe, R. (2017). Parochial Empathy Predicts Reduced Altruism and the Endorsement of Passive Harm. *Social Psychological and Personality Science*, 8(8), 934–942. https://doi.org/10.1177/1948550617693064
- Camilleri, F. (2013). Between Laboratory and Institution: Practice as Research in No Man's Land.

  \*\*TDR/The Drama Review, 57(1 (217)), 152–166. https://doi.org/10.1162/DRAM\_a\_00240

  \*\*CEVA Whitepaper. (2018).\*\*
- Cosentino, A. (2021). *Technical Photography* (Vol. 2021, Issue 13/12/). https://chsopensource.org/1-technical-photography-tp/
- Coulehan, J. L. (1995). Tenderness and steadiness: emotions in medical practice. *Literature and Medicine*, *14*(2), 222–236.

- E.C.C.O. (2003). *Professional Guidelines II Code of Ethics* (Vol. 2021, Issue 13/12/). https://www.ecco-eu.org/wp-content/uploads/2021/03/ECCO\_professional\_guidelines\_II.pdf
- Echelman, J. (2021). Janet Echelman. https://www.echelman.com/#/178-helsinki/
- Edmonds, E. A., Weakley, A., Candy, L., Fell, M., Knott, R., & Pauletto, S. (2005). The studio as laboratory: Combining creative practice and digital technology research. *International Journal of Human-Computer Studies*, *63*(4–5), 452–481. https://doi.org/10.1016/J.IJHCS.2005.04.012
- Eliot, G. (1856). The Natural History of German Life. *The Westminster Review, 66*(July-October), 28–44.
- Empathy Museum. (2021). https://www.empathymuseum.com/
- Florian, M.-C. (2024). The sphere at the Venetian resort opens to the public in Las Vegas.

  https://www.archdaily.com/1007658/the-sphere-at-the-venetian-resort-opens-to-the-public-in-las-vegas
- Ġabra. (2024). https://mlrs.research.um.edu.mt/resources/gabra/
- Garden, R. (2009). Expanding clinical empathy: an activist perspective. *Journal of General Internal Medicine*, *24*, 122–125.
- Gigante, G. (2016). Scientific approach in the conservation of cultural heritage. *Uniroma1*. https://www.academia.edu/26400453/Scientific\_approach\_in\_the\_conservation\_of\_cultural\_heritage
- Guggenheim. (2015). *Alberto Burri Grande sacco*. https://www.guggenheim.org/wp-content/uploads/2018/03/art-alberto-burri-sacchi-grande-sacco-large-sack-X.2012.809-1024x619.jpg
- Guidi, C., & Traversa, C. (2021). Empathy in patient care: from "Clinical Empathy" to "Empathic Concern." *Medicine, Health Care and Philosophy, 24*(4), 573–585.

- https://doi.org/10.1007/s11019-021-10033-4
- Halpern, J. (2001). From Detached Concern to Empathy: Humanizing Medical Practice. Oxford University Press.
- Halpern, J. (2011). 13 Clinical empathy in medical care. Empathy: From Bench to Bedside, 9, 229.
- Halpern, J. (2014). From idealized clinical empathy to empathic communication in medical care. *Medicine, Health Care and Philosophy, 17*(2), 301–311. https://doi.org/10.1007/s11019-013-9510-4
- Hardy, C. (2017). A Phenomenological approach to clinical empathy: Rethinking empathy within its intersubjective and affective contexts.
- Hassenzahl, M. (2011). User Experience and Experience Design. In M. Soegaard, R. F. Dam, & A.

  Holstein-Rathlou (Eds.), *Encyclopedia of Human-Computer Interaction* (2nd ed.). The

  Interaction Design Foundation. https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/user-experience-and-experience-design
- ICOMOS. (1965). International Charter For The Conservation And Restoration Of Monuments And

  Sites (The Venice Charter 1964).

  https://www.icomos.org/images/DOCUMENTS/Charters/venice\_e.pdf
- ICOMOS. (2003). ICOMOS Principles for the Preservation and Conservation/Restoration of Wall

  Paintings International Council on Monuments and Sites. https://www.icomos.org/en/what-we-do/focus/179-articles-en-francais/ressources/charters-and-standards/166-icomosprinciples-for-the-preservation-and-conservationrestoration-of-wall-paintings
- Keck, C. (1978). The Position Of The Conservator In The Last Quarter Of The Twentieth Century.

  \*\*Journal of the American Institute of Conservation, 18(1), 3–7.

  https://cool.culturalheritage.org/jaic/articles/jaic18-01-001 indx.html

Krznaric, R. (2014). Empathy: Why it matters, and how to get it. Perigee.

La Biennale. (2024). Malta. https://www.labiennale.org/it/arte/2024/malta

Lanzoni, S. (2018). *Empathy: A History*. Yale University Press.

- Lee, V. (1913). *The Beautiful: An Introduction to Psychological Aesthetics.* Cambridge University

  Press. https://doi.org/10.1037/10915-000
- Lief, H., & Fox, R. (1963). Training for "detached concern" in medical students. In H. Lief, V. Lief, & N. Lief (Eds.), *The Psychological Basis of Medical Practice* (pp. 12–35). Harper & Row.
- Magri, G. (2023). Artist Matthew Attard to represent Malta at Venice Biennale 2024.

  https://timesofmalta.com/article/artist-matthew-attard-represent-malta-venice-biennale2024.1046959
- Mason, M. (2020). The Elements of Visitor Experience in Post-Digital Museum Design. *Design Principles and Practices: An International Journal—Annual Review, 14*(1), 14. https://doi.org/https://doi.org/10.18848/1833-1874/CGP/v14i01/1-14
- MAXXI. (2022). Sebastião Salgado. Amazônia | MAXXI. https://www.maxxi.art/en/events/sebastiao-salgado/
- MegaBuilds. (2024). *How Las Vegas' sphere actually works*. https://www.youtube.com/watch?v=VSuSN\_qfB0I
- Montag, C., Gallinat, J., & Heinz, A. (2008). Theodor Lipps and the Concept of Empathy: 1851–1914.

  The American Journal of Psychiatry, 165(10), 1261.

  https://doi.org/10.1176/appi.ajp.2008.07081283
- Nair, U. (2017). A Vision in Light: Nalini Malani's retrospective at Centre Pompidou.

  https://www.architecturaldigest.in/content/nalini-malanis-retrospective-centre-pompidou/

- Nelson, R. (2013). *Practice as Research in the Arts Principles, Protocols, Pedagogies, Resistances*.

  Palgrave Macmillan. https://doi.org/10.1057/9781137282910
- Oregon State University. (2019). "What is Personification?": A Literary Guide for English Students and Teachers. YouTube. https://www.youtube.com/watch?v=5GOfjV6u0Co
- Paul, C. (2023). *Digital Art*. Thames and Hudson Limited. https://books.google.com.mt/books?id=46K7EAAAQBAJ
- Perspective. (2022). Waldemar Januszczak uncovers the baroque tradition | From St. Peters to St.

  Pauls: Full series | Perspective. YouTube. https://www.youtube.com/watch?v=ViJtn2tlVl8
- Phoenix Immersive. (2024). *DA VINCI: GENIUS. a new art experience. Da Vinci Genius*. https://davinciamsterdam.com/
- Poffenberger, A. T., & Barrows, B. E. (1924). The Feeling Value of Lines. *Journal of Applied Psychology*, 8, 187–205. https://api.semanticscholar.org/CorpusID:144813846
- post@MoMA. (2018). *Mieke Bal in Conversation with Sarah Lookofsky*. YouTube. https://www.youtube.com/watch?v=5\_QxUFgpVCc
- Reynolds, D. (2024). *Buying an LED display & screen complete guide*. https://dynamo-led-displays.co.uk/buying-guide/
- Roter, D. L., Stewart, M., Putnam, S. M., Lipkin, M., Stiles, W., & Inui, T. S. (1997). Communication patterns of primary care physicians. *Jama*, *277*(4), 350–356.
- Royal Academy of Arts. (2020). *David Hockney: The Arrival of Spring, Normandy, 2020 | Exhibition*. https://www.royalacademy.org.uk/exhibition/david-hockney
- Royal Academy of Arts. (2021). *David Hockney On the Arrival of Spring, Normandy, 2020*. YouTube. https://www.youtube.com/watch?v=c5J21B-yeTo

- RSA. (2013). *The Power of Vulnerability Brené Brown*. YouTube. https://www.youtube.com/watch?v=sXSjc-pbXk4&t=0s
- Savenije, G. M., & de Bruijn, P. (2017). Historical empathy in a museum: uniting contextualisation and emotional engagement. *International Journal of Heritage Studies*, *23*(9), 832–845. https://doi.org/10.1080/13527258.2017.1339108
- Sayakhan, N. I. (2018). The Use of Personification and Apostrophe as Facilitators in Teaching Poetry. *Journal of Language Studies*, 1(4), 98–106.
- Shpungin, D. (2022). *Drawing Of A House*. https://dianashpungin.com/2019/12/05/drawing-of-a-house-triptych-day/
- Skains, R. L. (2018). Creative Practice as Research: Discourse on Methodology. *Media Practice and Education*, 19(1), 82–97. https://doi.org/10.1080/14682753.2017.1362175
- Smithsonian. (2024). *Reflectance Transformation Imaging*. https://mci.si.edu/reflectance-transformation-imaging
- Storaro, V. (2001). Storaro: Scrivere con la Luce. La Luce (Vol.1). Mondadori Electa Spa.
- The National Gallery. (2016). *Michelangelo Merisi da Caravaggio | The Supper at Emmaus | NG172 | National Gallery, London*. https://www.nationalgallery.org.uk/paintings/michelangelo-merisida-caravaggio-the-supper-at-emmaus
- The New Normal. (2018). *Liam Young on data dramatization*. facebook. https://www.facebook.com/thenewnormal2019/videos/2184550761760741/
- Timmermans, S., & Almeling, R. (2009). Objectification, standardization, and commodification in health care: A conceptual readjustment. *Social Science & Medicine*, *69*(1), 21–27. https://doi.org/10.1016/J.SOCSCIMED.2009.04.020
- Tishman, S. (2017). Slow Looking The Art and Practice of Learning Through Observation (1st Ed).

Routledge. https://doi.org/https://doi.org/10.4324/9781315283814

Triolo, P. A. M. (2021). *Manuale Pratico di Documentazione e Diagnostica per Immagine per i BB. CC.*Il Prato.

Underwater Malta. (2024). https://underwatermalta.org/

University of Malta. (2024). *Master of Fine Arts in Digital Arts - course content*. https://www.um.edu.mt/courses/overview/pmfadgaftr0-2024-5-o/

Van Gogh Museum. (2016). The Official Meet Vincent van Gogh Experience.

https://www.vangoghmuseum.nl/en/about/collaborate/meet-vincent-van-gogh-experience

Veen, M. (2021). *Art, Urgency and Inter-ship with Mieke Bal*. YouTube. https://www.youtube.com/watch?v=-VcnDwCnYRw

- Warda, J., Frey, F., Heller, D., Kushel, D., Vitale, T., & Weaver, G. (2017). *The AIC Guide to Digital Photography and Conservation Documentation* (J. Warda (Ed.); Third Edit). American Institute for Conservation of Historic and Artistic Works.
- Westall, M. (2014). ART NEWS: Bill Viola to unveil major new video art installation for St Paul's Cathedral. https://fadmagazine.com/2014/04/27/art-news-bill-viola-to-unveil-major-new-video-art-installation-for-st-pauls-cathedral/

Zammit Lupi, D. (2014). Isle Landers - Boat Migration and Malta.

# Appendix A: Content

# Content-Title

## Missejt il-Qiegħ

In the Depths of Despair: exploring the vulnerability of ageing, injury, confinement, and abuse.

## Content – Images

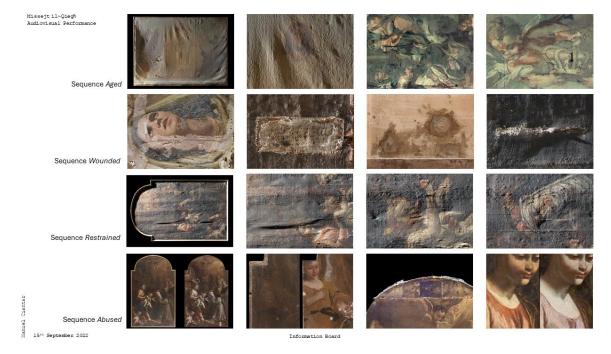


Figure 57. Sixteen Images representing ageing, injury, confinement, and abuse. (Source: Own photos)

Missejt il-Qiegħ: Using an AV performance to uncover layers of meaning in paintings undergoing conservation treatment.



Għażiż ...... Għażiża ......

Grazzi talli ģejt iżżurni.

Jiena l-Pittura, xiħa u mġarrba; għaddejja minn programm ta' restawr.

Jekk forsi ma tafnix biżżejjed, jiena magħmula minn bosta passati ta' żebgħa fuq tila jew ħajt. Taħt iż-żebgħa għandi saff ta' preparazzjoni u fuq iż-żebgħa nġorr xi passati ta' verniċ protettiv. Biż-żmien spiss jiġri li l-preparazzjoni ċċedi, u l-verniċ tal-wiċċ jisfar u jitħammeġ tant li jifgani.

Illum nixtieq naqsam mieghek uhud minn dawn l-esperjenzi iebsa li forsi bla ma taf jirriflettu dawk li ghaddejt minnhom int jew xi hadd qribek. Dawn l-esperjenzi ramewni go hofra fonda u mudlama.

Ghalhekk, illum qed nistiednek tinżel ftit hdejja halli tifimni ahjar.

Grazzi bil-quddiem, u ghoddni dejjem tieghek,

Il-Pittura

Missejt il-Qiegħ: Using an AV performance to uncover layers of meaning in paintings undergoing conservation treatment.

Content- The Letter (English)

Dear [Visitor],

Thank you for taking the time to visit me.

I am a painting, old and worn, currently undergoing a conservation process. In case you're unfamiliar with my makeup, I consist of multiple layers of paint applied on canvas or wall. Beneath the paint, there is a preparation layer, and on top, I am shielded by a protective varnish. Over time, the preparation layer loses its adhesion, while the varnish yellows and becomes dirty, suffocating me.

Today, I want to share some of my difficult life experiences with you - experiences that might resonate with your own or those of your loved ones. These hardships have left me in a deep, dark place. I invite you to join me, to step into my world, and genuinely understand what I have endured.

Thank you.

Sincerely,

The Painting

Content – Voice Over Scripts

Sequence Aged

Xjaħt!

lż-żmien għamel bija u mmarkani bi ħżuż, b'sinjali li diffiċli jitħassru. Xjaħt, bloqt; il-ġilda ntelqet,

tkemmxet, xriefet u tbasktet; saret fraġli u spiss nitbenġel mix-xejn; xagħri ħfief, u l-vini telgħu fil-wiċċ

u kriehu. Il-vista qieghda tbatti u ticcajpar, u aktar ma jmur aktar inhossni mghaffga, mahmuga,

imwarrba u skartata...

Tifhimni x'jien ngħid?!

**Sequence** *Wounded* 

Ejja eqreb ħa nurik xi ħaġa. Nixtieq nurik xi ġrieħi li għandi. Kultant nispiċċa niftakar fihom u fl-uġigħ li

kkawżawli, u tagbadni ħlewwa ta' galb. Ovvjament, int ukoll għandek il-feriti tiegħek, u ma nafx jekk

jiġrilekx bħali int u tħares lejhom jew meta taħseb fihom.

Uħud minnhom ħfief, uħud minnhom fondi. Uħud taparsi mdewwija u wħud għadhom miftuħa beraħ.

Sequence Confined

Inhossni maqbuda f'morsa, mghallqa, fgata; temmen li nkullawni u sammruni ma' qatta twavel tal-

injam?

Kemm nifmhek meta tgħid li għaddej minn żmien iebes. Kemm nifmhek lilek li tinstab maqbud

f'relazzjoni bażwija, jew lilek li tixtieq taħrab mill-pajjiż li qed joħonqok, jew lilek li tixtieq tqum minn

qiegħ is-sodda li spiċċajt fiha.

93

Missejt il-Qiegħ: Using an AV performance to uncover layers of meaning in paintings undergoing conservation treatment.

# Sequence Abused

Ha ngħidlek, illum qed tarani differenti milli kieku ġejt ftit ġimgħat ilu. Illum qed tara partijiet minni li sa ftit jiem ilu kienu mistura taħt żebgħa ħoxna li ġiet miżjuda b'kapriċċ maż-żmien.

Li ġara kien li żmien ilu jiena sofrejt abbuż li tiegħu ġismi għadu jġorr il-marki. Temmen li lili ddeċidew li jdeffsuni ġo gwarniċ iżgħar, u spiċċaw qattgħuni u qatgħuli barra diversi biċċiet minni sakemm noqgħod? Imbagħad, biex mingħalihom jgħattu xturhom u jżommuni siekta, żebgħuni mill-ġdid u tawni dehra oħra.

Dan abbuż! Biċċruli ġismi u biċċruli ruħi għall-finijiet tagħhom. Dan abbuż! Daqs kemm hu abbuż tiegħek minn żewġek jew martek, jew tiegħek minn sħabek tal-iskola, jew tiegħek mill-imgħallmin. Dan abbuż!

U ģismi għadu mifni... Il-biċċiet li ċarrtuli, għosfru, intilfu għal dejjem. Imma tal-inqas illum ħadt nifs, irnexxieli ninħeles miż-żebgħa li għattewni biha u qed nerġa' nuri fil-beraħ il-vera jien.

Ara ftit. Dan kif kont ftit gimghat ilu... u kif jien illum!

Appendix B: The Project Handbook

**Project Scope** 

Develop a multi-sensory journey designed for individual viewers, lasting approximately 45 minutes,

aimed at facilitating an immersive encounter between the viewer and a distressed painting. The

objective is to establish new meaningful connections between the viewer and the artwork. The

experience revolves around the intense sharing of a series of larger-than-life static images displayed

on a large DVLED Screen as part of a multisensory audiovisual performance.

The series comprises four sets of four images each, that share deep emotions felt by the

painting, including ageing, injury, confinement, and abuse, respectively. Each set is complemented by

a short introductory voiceover.

Journey Overview

After accepting a private invitation and arriving at the venue, the visitor's journey continues with a

wind-down moment, followed by the multisensory AV performance featuring images, sound, lighting,

and a brief discussion. In conclusion, the viewer is invited to privately share with the artist a few concise

phrases or single words that encapsulate their experience.

Project Details

Title: Missejt il-Qiegħ

English adaptation: In the Depths of Despair: exploring the vulnerability of ageing, injury, confinement,

and abuse.

Genre: A/V Performance, multi-sensory performance.

Duration: Approximately 45 minutes.

Objective: Establish a multi-sensory encounter between the distressed painting and the viewer, aiming

to foster new connections.

95

## The Language

The primary language for delivery is Maltese, however, communication between the artist and the viewers, including the letter and title slides, is conducted, or presented in English for non-Maltese speaking viewers.

## **Target Audience**

Invited to experience the audiovisual performance are members of the artist's network coming from diverse backgrounds in arts, art history, art conservation, heritage management, heritage interpretation, education, ecclesiastical and audiovisual sectors. This group represents a broad spectrum of perspectives and expertise. Consequently, their engagement with the project is influenced by their unique roles, environments, methodologies, and objectives.

#### **Invitation Process**

Individual viewers receive private invitations through phone calls, emails, or text messages, with an agreed-upon 60-minute time slot allocated to each individual viewer.

# The Journey

Upon receiving a private invitation, viewers arrive at the studio complex. Their journey continues with a wind-down moment in the green room before entering the studio. During this interlude, the artist provides a brief description of the project, followed by the viewer reading a personalized letter from the painting addressed to them. After the wind-down, viewers proceed to the main A/V Performance area in the studio. The performance, lasting 20 minutes, is followed by a brief discussion between the artist and the viewer. Before leaving, viewers are casually encouraged to engage in further reflection by sharing with the artist, via a private message later in the day, a few concise phrases or single words inspired by their experience.

## The Greenroom and the Letter

Positioned adjacent to the main soundstage, the green room serves as a transitional space, offering respite from the outside hustle and bustle before entering the AV performance area. Here, the artist welcomes the viewer, providing context for the forthcoming experience. Following this introduction, the artist presents the viewer with an envelope containing a typewritten letter from the painting. Addressed to the viewer by their first name, the letter serves as a personal greeting from the painting, sharing insights into her condition and experiences. Concluding the letter, the painting extends an invitation to the viewer to join her within the performance space.

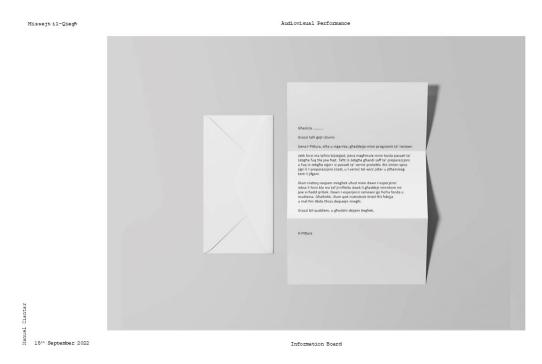


Figure 58. Mock-up of the letter, personalised and presented in an envelope.

# The Performance Space

Located within the main soundstage of the Studioseven studio complex, the performance space spans 12 meters by 12 meters. Situated in the western half of the studio, it is primarily defined by the large DVLED display placed along the western wall. Additionally, two rows of soft-cover flats (dark coloured), each spanning 6 meters, are positioned perpendicular to the DVLED display along the north and south walls. These flats are supported by stage braces and weights to ensure stability. The primary access point to the studio is centrally located along the south wall.

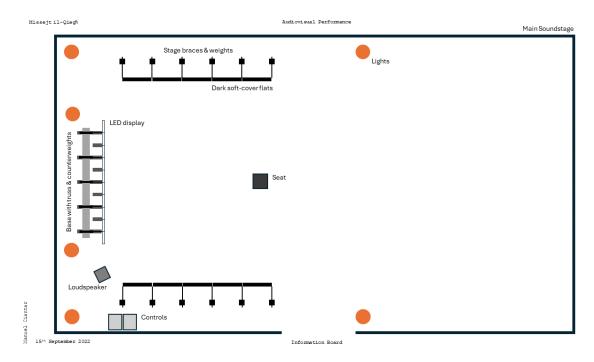


Figure 59. Plan of setup in Studio 1. (Source: Own CAD design)

# Seating Arrangement

A chair is precisely positioned at the focal point of the DVLED display, exactly 6 meters from the screen.

This arrangement is designed to optimize the viewer's visual experience.

## Lighting

6 Tungsten 1K Fresnel fixtures are suspended, using double safety locking clamps, to the studio lighting grid at a height of 6 meters along the perimeter of the performance space. The lights are connected to a Zero 88 dimmer rack and controlled via DMX from an Avolites Titan Mobile – a USB wing plugged into a Windows PC running the Titan Go software. This lighting desk is physically placed next to the playout server for ease of one-man operation.

Three scenes (presets) are created on Titan Go. Preset L1 dims all the fixtures to 10% of their power for Sequence No 1 *Walk-In*, Preset L2 dims all the fixtures completely for sequences No 2 to No 7 *Viewing*, and Preset L3 dims the fixtures to 25% of their power for Sequence No 8 *Discussion and Walk-out*.

To streamline operation, these presets are stored within the project file and can be easily recalled and activated via the touch screen interface.

The warmth and intensity of the tungsten lights complement the experience.



Figure 60. Two lighting scenes: walk in/discussion/walk out and viewing. (Source: Own photos)

#### **AV Components**

The primary audiovisual (AV) components of the system consist of an DVLED display, an LED controller, a playout server and a loudspeaker. The DVLED display, specifically an MV 2.97 model by Gloshine, measures 5 meters in width and 3.5 meters in height and is ground-stacked. With a pixel width of 1680 pixels and a pixel height of 1176, displaying a total of 1,975,680 pixels at an aspect ratio of 1.43:1. Weighing 581 Kg, the display is securely counterweighted from the rear. The display comprises a total of 70 (50cm x 50cm) cabinets which consume an average total of 24.73 Amps, with a peak consumption of 49.46 Amps. The DVLED display is configured and calibrated using Nova LCT software via a control PC connected to the MCTRL4K controller via USB (marked in light blue in Figure 61). The brightness of the display is set to 25%.

The DVLED display is controlled by a Novastar MCTRL4K LED controller which has a loading capacity of up to 4096×2160 @ 60Hz. For this project, the signal is distributed via 14 ethernet ports – 7 main and 7 for redundancy (marked in green in Figure 61).

The playout server operates Resolume Arena 7.13 software and interfaces with the Novastar MCTRL4K controller via Display Port 1.2 (DP) (marked in dark blue in Figure 61). Additionally, it connects to the loudspeaker using a mini-jack 3.5 mm to jack 6.3 mm Audio Cable (marked in pink in Figure 61). The loudspeaker, a JBL EON715 15-inch powered PA loudspeaker, is positioned on the ground at the southwest corner of the studio (Figure 59).

The control area, housing the playout server, LED controller, control PC and lighting control desk, is situated at the southwest corner of the studio (Figure 59) for ease of management and operation.

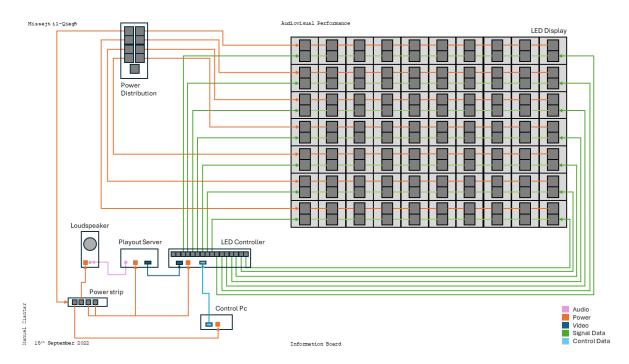


Figure 61. Wiring diagram for audio and video. (Source: Own CAD design)

## Setting up the DVLED Display

To set up the DVLED display system, the following components are required: 70 DVLED cabinets, a modular base unit with adjustable feet, 36 connecting rods and clamps, 6 ladder trusses, counterweights, an LED controller, cabling and a control PC.

The assembly process commences by laying a level base unit to provide support and stability, with the base extending 84 centimetres backwards to accommodate the supporting vertical ladder truss structure and counterweights. Once the base is positioned, the assembly of the DVLED wall begins by arranging the first row of DVLED cabinets side by side along the base unit and securing them with mechanical latches.

Each cabinet is carefully placed to ensure alignment and levelness with its neighbouring cabinets.

Subsequent rows are built on top of the previous one, following the same pattern of side-by-side placement and fastening with latches. The cabinets are then secured to the vertical ladder truss structure at the back using adjustable rods and clamps.

Throughout the assembly process, careful attention is paid to the alignment, levelness, and plumbness of the cabinets to maintain the straightness of the wall. Any deviations are promptly corrected to maintain the integrity of the structure and to avoid white or black seams in the displayed images.

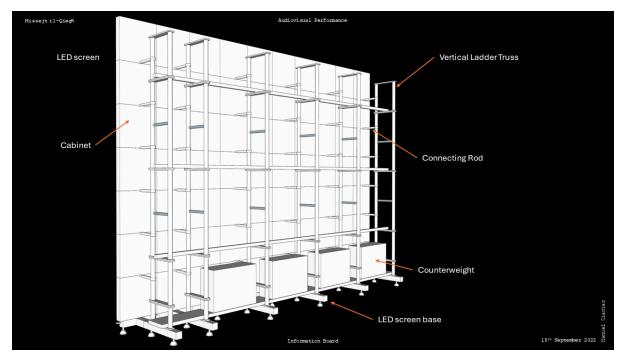


Figure 62. The DVLED display - ground stacked. (Source: Own CAD design)

The base is counterweighted according to the specifications provided by the DVLED system manufacturer at a rate of 260kg/m, ensuring stability and support for the structure. As the DVLED wall is erected, cabinets are continually secured to the ladder truss structure.

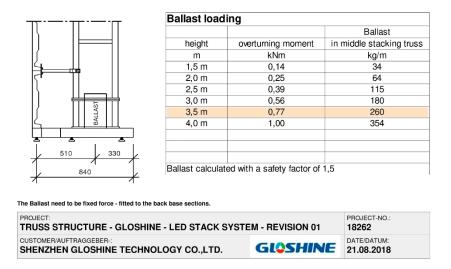


Figure 63. Highlighted ballast loading for DVLED display. (Source: Gloshine)

Once the wall is fully assembled, power and ethernet data cables are connected to the first cabinet of each row. Each subsequent cabinet within the row is linked to the previous one for both power and data, forming a daisy chain configuration. Furthermore, redundant data loops are established at the termination of each cabinet row, extending back to the LED controller for added reliability (Figure 61).

#### Power

The entire AV kit is fed through a dedicated 63A 3P power distribution box. The lights are fed through a separate 125A 3P power distribution box.

Both power distribution boxes are connected to the essential power system, which is backed up by an onsite power generator to ensure continuous operation in the event of a grid power failure.

#### **Content Preparation**

Images: After sorting the sixteen images based on their visual contribution to the narrative, they are processed from raw to tiff in Adobe Photoshop using Camera Raw and cropped to the desired format of 10:7 with a resolution of 1680x1176 pixels. The raw processing comprises defining the Colour Space – Adobe RGB (1998), at a depth of 8Bits/Channel, assigning the Adobe Standard Profile, custom white balancing on the x-rite ColorChecker Passport 18% Grey patch present in the image, applying a sharpening amount of 91 whilst retaining the radius of 1.0, detail at 25 and masking at 0, apply a lens correction profile preset. The processed Raw file is opened in Adobe Photoshop – RGB colour Mode, 8Bits/Channel, cropped, resized and saved as tiff.

Every set of four processed images is imported in sequence within an Adobe Premier Pro custom sequence set at 50fps, 1680x1176, Square Pixels (1.0). Each of the four images is held on the timeline for 1 minute. On entrance, each image appears as a cut, whilst on exit a 1-second black video is wiped on top of the still image from right to left. Following the wipe, a 5-second black video is held before the start of the next image. A 5-second black video is inserted following the fourth image. Once the sequence is completed, to ensure compatibility with the playout software, the video is encoded using DXV Video Codec (DXV3) rendered at Normal Quality without alpha, without audio, @ 1680x1176p @ 50 fps, with a 1:1 pixel aspect ratio, and wrapped as .mov file.

This process is repeated four times for the four different image sets.

**Titles:** The title stills are prepared in Adobe Photoshop and exported as PNG images, 1680x1176 pixels, 8Bits/Channel, RGB.

**Voiceover clips:** Following the preparation of the 4 scripts and the selection of the female voice talent, the voice-over is recorded inside a voice booth using a Neumann U 87 Ai Studio Microphone onto a Zoom H6 recorder as WAV, 96kHz, 16-Bit, Mono. The session is directed by the artist primarily for pacing, tone and inflection.

The recorded files are ingested into Adobe Audition in a sequence that matches the source files, sorted for the good takes, equalised to enhance clarity, edited, normalised and exported as separate clips.

The audio files are exported as Waveform Audio, 48000 Hz, 16-bit, mono.

#### Playout

Video clips, audio files and title images are prepared and imported separately into Resolume Arena, where they are arranged in sequence on a single layer. The layer is set to forward autopilot mode, enabling the files to play in succession. The resolution of the Resolume sequence matches that of the DVLED display.

Separating the clips allows for flexibility in adjusting or re-exporting individual elements during the pre-show display tuning process. It is more efficient to render, export, transport, and reload a short clip than the entire 20-minute sequence.

For ease of operation, three keyboard shortcuts are created and assigned on Resolume Arena.

- Key F1 triggers and holds No 1 Sequence Walk-In.
- Key F2 triggers and runs sequences No 2 to No 7 consecutively.
- Key F3 triggers and holds No 8 Sequence Discussion and Walk-out.

#### The Structure of the AV Performance

- 1. Sequence *Walk-in* Dimmed ambience lighting (Preset L1), silence, holding title on screen (Key F1).
- 2. Transition In. Lights and title fade out (Preset L2 and Key F2).
- 3. Sequence *Aged* Black screen, voice-over, a sequence of four images displayed for one minute per image.
- 4. Sequence *Wounded* Black screen, voice-over, a sequence of four images displayed for one minute per image.
- 5. Sequence *Restrained* Black screen, voice-over, a sequence of four images displayed for one minute per image.
- 6. Sequence *Abused* Black screen, voice-over, a sequence of four images displayed for one minute per image.
- 7. Transition Out Lights and title fade in (Preset L3 and Key F3).

8. Sequence *Discussion and Walk-out* - Dimmed ambience lighting, silence, holding title on screen.

# Schedule

- Day 1 Load in, setup and test.
- Day 2 Calibrate the system, fine-tune, content check, re-export and re-load the content as necessary.
- Day 3 and 4 Viewing.
- Day 5 Derig and load out.

#### Crew

- Rig, setup and test Artist and two AV Technicians
- Calibrate, fine-tune and re-export and re-load Artist
- Operation Artist
- Derig Artist and two AV Technicians