Recomposing the Archive:

Remediating memories of Iraqi diaspora with personal archive photos, oral history, and Virtual Reality

Basil Munim Al-Rawi

Dedicated to the memory of my late father, Dr. Munim Al-Rawi

And to my son, River.

Abstract

This practice-based research builds on an aggregation of methods and themes from the artist's personal practice. It adopts a critical visual-arts-based participatory methodology utilising qualitative methods to collect personal photographs from Iraqi diaspora, record oral history narratives surrounding those photographs, and explore the creative remediation of this memory material within simulated environments using Virtual Reality. The focus on Iraqi diaspora is informed by the artist's dual Irish-Iraqi heritage. The research reviews and classifies the extent of photographic archives related to Iraq (both formal and informal), oral history and creative practice memory projects involving Iraqi diaspora, and the range of simulated representations of Iraq. Visual research into formal archival collections of photographs from Iraq led to an observation that historical collections are predominately filled with ethnographic images taken in a colonial context, and contemporary collections dominated by images related to war. Digital simulations of Iraq are almost exclusively associated with the country as a site of conflict, be it representations within military training simulations, backdrops for first-person shooter games and combat flight simulators, or digital heritage preservation and reconstruction of cultural heritage sites damaged or destroyed due to conflict. These observations motivated the use of a participatory methodology combined with creative practice to create sites of representation and explore the impact of this process on participants and audiences. The Iraq Photo Archive website was created as an online repository for personal archive photographs, and oral history interviews using photo elicitation method were conducted with consenting participants about their memories of the photographic moments. The memory materials generated through this process were creatively remediated into the *House of Memory* Virtual Reality experience, using aspects of the neonarrative method for interviews, and 3D design to reconstruct the photographs in virtual environments. The experience expands the photographic moment into an immersive temporal environment where the digital materiality of the space is inhabited by the voices and narratives of the Iraqi diaspora participants. This methodological approach forefronts memories and narratives about Iraq from Iraqis themselves, facilitating representation through participation, and counters dominant representations of Iraq in simulated media such as video games. Following qualitative evaluation with participants and audiences, the research demonstrates how a participatory art-based project (informed by personal practice) can impact knowledge and desire for authentic representations of Iraqi narratives within and outside of the Iraqi diaspora community; communicate situated and relational knowledge on the experiences and memories of Iraqi diaspora using photography, oral history, and VR; present counter narratives to the representation of Iraq in simulations, and more generally by the media; and develop a technological and methodological approach for remediating vernacular images and narratives into VR as a means of contributing to the preservation and dissemination of individual (and collective) community histories for diasporic communities.

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Glossary

Ambient Occlusion Map	A texture map that stores information about how much ambient light can reach a specific point on the surface, creating the appearance of shadows in the crevices of an object.
Boolean processes	A 3D modelling technique that uses mathematical operations such as union, subtraction, and intersection to combine or cut out shapes from other shapes.
Box brushes	(referred to as Geometry brushes in Unreal Engine 5) A set of pre-made 3D shapes, often in the form of boxes or rectangles, that can be used as building blocks for more complex models in level design for games and virtual environments.
Bump Mapping	A technique used to simulate the appearance of 3D texture on a flat surface. Bump mapping involves creating a texture that appears to be raised or lowered on the surface, but without altering the surface geometry.
FBX	A file format used for exchanging 3D models, animations, and other data between different software applications, developed by Autodesk,
Grey box model	A rough, simplified 3D model used to block out the basic shape and layout of a scene or level before adding more detailed models.
Hosh*	Courtyard
Iwan*	Recessed space with its front opening onto the courtyard
Kabishkhan*	Iraqi colloquial term for a small, mezzanine-level room in the upper story of a shanasheel house
Metallic Map	A texture map that determines the level of metallic reflection on an object's surface
MENA	Middle East & North Africa
Muqarna*	Stalactite-like geometric structures in Islamic architecture, especially used in iwans, pendentives and friezes
Neem	Iraqi colloquial term for semi-basements in traditional houses
Normal Map	A texture map that stores surface normal data for each pixel, used to create the appearance of bumps and grooves without modifying the geometry of the object.
Primitive modelling	The process of creating 3D models using simple geometric shapes such as cubes, spheres, and cylinders as a starting point.
Roughness Map	A texture map that defines how rough or smooth a surface is, affecting the way light interacts with the surface.
Shanasheel*	Iraqi colloquial term for an oriel window, which is a window which protrudes from a building but doesn't reach the

	ground. In this context, it is a metonymic word to describe a traditional form of Iraqi house which consists of a series of rooms oriented around a central courtyard (hosh), with 3 floors, and oriel windows.
Shithirwan*	Iraqi colloquial term for a fountain
Sirdab*	Basement
Sound attenuation	The process of modelling how sound travels and diminishes over distance and obstacles in a virtual environment, often used in video games to create more realistic sound effects. This involves setting up attenuation zones and adjusting parameters such as distance and occlusion.
Splash Screen	An introductory screen or animation that appears when a 3D application or game is launched, often used to display logo or artwork.
Static mesh	A 3D model that does not move or animate, typically used for environment objects such as buildings, rocks, or trees.
Talar*	Iraqi colloquial term for a colonnaded iwan in traditional houses.
Tarma*	Iraqi colloquial term for a colonnaded gallery usually in upper stories of traditional house.
Texture mapping	The process of applying a 2D image, known as a texture map, to a 3D object to enhance its visual appearance.
UDIM	A UV mapping workflow where multiple UV tiles can each have its own independent image map.
Ursi*	Iraqi colloquial term for a room with large sash windows onto the courtyard.
UV Mapping	The process of mapping the 2D texture coordinates onto the 3D object's surface. It involves creating a UV map, which is a 2D representation of the object's surface that maps the texture onto it.
UV Tile	A single unit of a UV texture space that is used to map a texture onto a 3D model. UV tiles are used to break up a texture into separate sections, each with its own unique UV coordinates, allowing for more detailed and higher resolution textures to be used.

*(Warren and Fethi, 1982, Glossary)

Acknowledgements

Author's Declaration

I, *Basil Al-Rawi* declare that the enclosed submission for the degree of Doctor of Philosophy consisting of this written thesis, the *Iraq Photo Archive* website*,* and the *House of Memory VR* experience, meets the regulations stated in the handbook for the mode of submission selected and has been approved by the Research Degrees Sub-Committee.

I declare that this submission is my own work and has not been submitted for any other academic award.

Signed: Date: 31st October 2022

1   Introduction

1.1   Context, Rationale, and Purpose

This practice-based research is concerned with utilising archive photographs and oral histories to explore the creative reconstruction of photographic moments and associated memories of Iraqi diaspora in Virtual Reality (VR). The concerns and approach in this study are informed by a personal art practice which explores the potential of recomposing archival material as simulations to form virtual bonds with the past, and to create expanded photographic moments. It is also contextualised by my Irish-Iraqi identity and experience of growing up in Ireland, where my connection with Iraqi culture was meditated through the contrasting lenses of family narratives and mass media representations (TV news, films, and video games). One of the legacies of four decades of conflict is the domination of media representations of Iraq which are skewed towards images of violence, destruction, and trauma. These depictions also inform portrayals of Iraq in simulated media such as commercial video games, where its landscape, built environment, cultural artifacts, and people are often represented as mere props in the backdrop of a war-themed game. One of the goals of this research is to counter these depictions by exploring ways of presenting simulations of Iraq which foreground the authentic experiences of Iraqi diaspora.

Building on methodologies from personal practice, the research uses archive photographs as a starting point. Existing photographic archives from Iraq are split between formal collections of colonial era images and informal archives which spill across various social media platforms in a nebulous manner. Personal experience of family photo archives as sites of memory resonates with Laura Millar's contention that these kinds of records are touchstones 'upon which memories may be retrieved, preserved, and articulated' (2006, p.105). Photographs can be used to elicit memories, shape them into narratives, 'and transform recollection from the individual to the collective' (ibid., p.119). The research presented in this thesis is interested in the potential of vernacular photographs within the Iraqi diaspora community as sites of memory which can be shared and remediated in order to create the conditions for counter narratives regarding the Iraqi experience to emerge. As Millar asserts, 'social memory is formed from the retrieval and articulation of individual memories' (ibid., p.122).

Recording the memories and creatively remediating them into Virtual Reality is an approach which seeks to harness the immersive potential of VR storytelling to create experiential encounters with individual memories. These encounters can create the conditions in which an emotional connection can occur, and where new perspectives on the Iraqi experience can emerge. The VR experience aims to transcend physical representation of place to harness the richness of personal memory and narrative to enhance visualisations (Jeffrey, 2015). The locus of this research takes place at the intersection between Iraqi vernacular archive photographs, Iraqi oral history narratives, and simulations of Iraq (Figure 1).

3 VR / SIMULATIONS OF IRAQ

1 IRAQI ARCHIVE PHOTOGRAPHS

2 IRAQI ORAL HISTORY PROJECTS
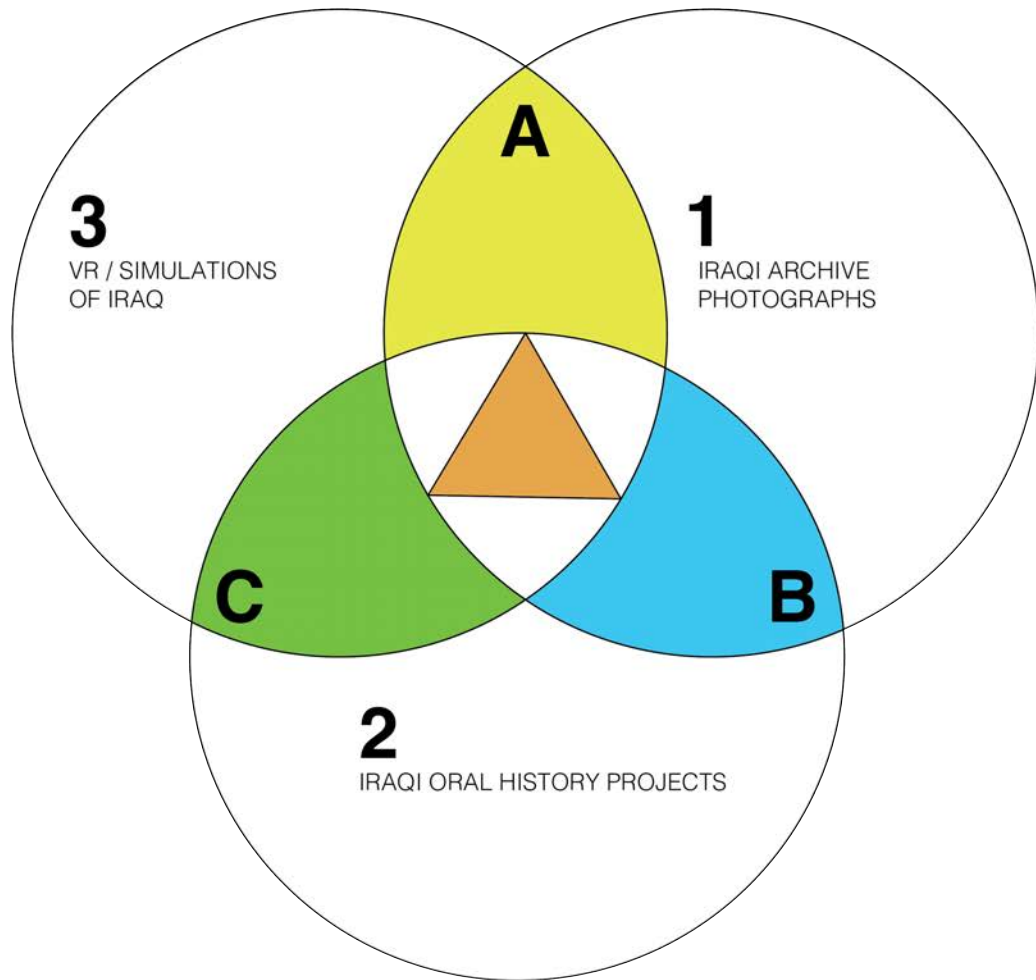
1 IRAQI ARCHIVE PHOTOGRAPHS
2 IRAQI ORAL HISTORY PROJECTS
3 VR / SIMULATIONS OF IRAQ

A VR & ARCHIVE PHOTO PROJECTS
B ARCHIVE PHOTO & ORAL HISTORY PROJECTS
C VR & ORAL HISTORY PROJECTS

THIS RESEARCH

Figure 1. Research context

1.2 Aims and Objectives

To creatively explore the impact of remediating vernacular photographs and associated memories from Iraqi diaspora in VR on Iraqi and non-Iraqi audiences. This is achieved through these objectives:

- Find out how a participatory art-based project (informed by personal practice) can impact representation of, and desires for, authentic Iraqi narratives, within and outside of the Iraqi diaspora community;

- Communicate situated, relational and experiential knowledge on experiences and memories of Iraqi diaspora using photography, oral history, and VR;

- Present counter narratives to the representation of Iraq in simulations, and more generally by the media;

- Develop a methodological approach for remediating personal images and narratives into VR as a means of contributing to the preservation and dissemination of individual (and collective) community histories for diasporic communities.

1.3 Research Questions

This research, through practice-based methodologies and evaluations, will try to assess:

1) *What impact does an online archive of vernacular photographs from Iraqi diaspora have on the interest in representations of authentic Iraqi narratives within and outside the Iraqi diaspora community?*

2) *What impact does the participatory methodology (sharing personal images and photo elicitation interviews) have on Iraqi diaspora participants?*

3) *What impact does using a visual arts-based methodology to creatively remediate archive photographs and associated memories into Virtual Reality have on the desire for authentic representations of Iraqi narratives within and outside the Iraqi diaspora community?*

1.4 Structure

Section 2 'Literature Review' provides theoretical context on archival art and the mediation of memories, and reviews significant approaches to presenting narratives from the past through archive photos, oral history and VR. The review is structured in three parts: Part 1 briefly contextualises the thinking around the use of archives within creative practice, archives and memory, and mediating memories; Part 2 outlines creative practice and research projects concerned with the remediation of archival material; Part 3 classifies archives related to Iraq, simulated representations of Iraq, and identifies the scope of previous work related to the representation of memories of Iraqi diaspora through archive photography, oral history and VR. Section 3 'Methodology' presents personal practice methodologies and how they inform the framework of participatory and qualitative methods used in the research. It details the methods used during each phase of practice and presents the outcomes. Section 4 'Evaluation' describes the design, implementation, and results of evaluations conducted. Section 5 'Discussion and Conclusion' analyses the outcomes of the evaluations, critically reflects on the methods and evaluations presented, discusses the significance of the study, and presents the contributions made.

2   Literature Review

2.1   Introduction

This chapter outlines background theoretical context on archival art and the mediation of memories. It reviews significant approaches to the presentation of narratives from the past through the mediums of archive photography, oral history interview, and virtual reality. It presents notable projects in each respective medium, and as the focus of this research is remediation of photographic and aural material in VR, particular attention is given to projects which are a convergence of two or all of the mediums. The goal is to outline and analyse the nature of these projects, and present current examples, discourse, and practice in these areas. Where possible, priority will be given to examples relevant to the Iraq and the Middle East, but not at the exclusion of examples relating to other contexts.

The review consists of three parts: Part 1 (section 2.2) gives brief context on the use of archives within creative practice, the relationship between archives and memory, the role of technology in mediating the memories of lived experiences, and the key writing in this area; Part 2 (section 2.3) outlines creative practice and research projects concerned with the remediation of visual and oral archives into VR across different fields including artistic practice and interactive film; Part 3 (section 2.4) classifies the scope of visual and aural archives related to Iraq, as well simulated representations of Iraq in gaming, heritage visualisation, and therapy. Finally, the review identifies the scope of previous work done in relation to the representation of memories of Iraqi diaspora through archive photography, oral history and virtual reality.

2.2   Background Context: Archives, Memory, and Remediation

2.2.1   Archival Art, Memory & Remediation

Archival art can be understood as a creative re-presentation of material that can be categorised or described as historical information[1]. The form of these records can be textual, visual, aural or performative. Hal Foster described 'an archival impulse at work in contemporary art' (2004, p.3) and argues that the retrieval and artistic treatment of cultural artefacts (obscure or from mass culture) are a 'gesture of alternative knowledge or counter memory' (ibid., p.4)[2]. The idea of the production of counter memories from hitherto unfamiliar sources is a key concern for this research.

Archives, as repositories of traces of the past, are commonly used as a metaphor or analogy for memory (Steedman, 1998, p.66). For Carbone, archival art making illuminates how memory is created and experienced and in turn how past, present, and future action is constructed and mediated by memory itself (Carbone, 2020, p.262)[3]. Through the lens of the metaphor of archives as memories, Laura Millar argues that rather than being memories themselves, archives and records are touchstones or triggers 'upon which memories may be retrieved, preserved, and articulated' (2006, p.105). Photographs can be regarded as these records, and she describes them as

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[1] Any discourse around the reworking of existing material immediately invokes the Duchampian concept of appropriation. For critical writing on appropriation in the context of contemporary art, see Nicholas Bourriaud's concept of *post-production* (Bourriaud *et al.*, 2002).

[2] For further reading on the idea of an archival impulse, see Derrida's notion of *mal d'archive (archive fever)* (Derrida & Prenowitz, 1995).

[3] See observations from Astrid Erll, Aleida Assman and Ernst Van Alphen respectively on possible motivations behind contemporary interest in memory across broad fields

something we refer to when wanting to resurrect or pass on memories. This process of sharing memories contributes to not only shaping our sense of individual self but also locates us in relation to our family and community (ibid., p.119). The touchstones, or photographs, are used to 'shape memories into narratives and to transform information and recollection from the individual to the collective' (ibid.).

Arnold de-Simine notes that distinctions between individual, political and cultural memory are partly based on the mode of mediation, 'whether memories are transmitted orally or in written form through diaries and letters, film or literature, memorials or museums' (2013, p.29)[4]. Landsberg's notion of 'prosthetic memory' posits that the inheritance of memory is mediated not through the family photo album, but rather through the technologies of mass culture (commercial cinema for example). She describes these memories as 'prosthetic' because (1) they are not the product of lived experience, rather derived from an interaction with a 'mediated representation (seeing a film, visiting a museum, watching a television miniseries)' (2004, p.20). Landsberg argues for the ability of prosthetic memory to generate empathy as the 'technologies of mass culture are a preeminent site for the production of empathy' (ibid., p.47). Through mass mediated images, people are exposed to cultures and histories removed from their own lived experience and as such over time they can learn to become emotionally connected to what was once at a great remove[5]. Arnold-de Simine observes that audiences can relate to simulations of the past in a manner which creates knowledge as well as a sense of belonging to the past, and this potential is harnessed in experiential sites such as museums as a means of encouraging visitors to engage with the past (2013, p.12- 27). However she outlines criticisms of Landsberg's concept, in particular, that she does not address 'the fact that these memories potentially serve the ideological interests of the group that produces and communicates them' (ibid., p.34)

Arnold-de Simine notes that we could consider all memories as mediated experiences; that it is only a question of how many layers of mediation distance us from an event (ibid., p.24). In the context of this practice research project, it is necessary to refer to key thinking around the meditation of memory associated with archival material (photographs and oral history recordings in particular), and the role played by technology in the mediation. Andreas Huyssen contends that we cannot separate the impact of new media as conveyors of memory in any discussion of personal, generational or public memory (2000, p.29). Bolter and Grusin define the representation of one medium in another as 'remediation' and identify it as a defining characteristic of new digital media (2000, p.45). They discuss the logic of transparent immediacy and hypermediacy[6] as two halves of 'the double logic of remediation' (ibid., p.31). The logic of transparent immediacy is a desire for us to have media which closely reflect our reality, whereby the medium itself is as transparent as possible. They present Virtual Reality as key example, designed to foster a sense of presence by immersing us in a simulated world which closely resembles our own, making us forget we are experiencing something without mediation. However, this immediacy is ruptured, and the mediation revealed by the nature of medium itself; the weight and presence of a physical headset, the design and programming of computer graphics and interfaces etc. (2000, p.21-245). Importantly, they describe the immersion of our point-of-view

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[4] See Aleida Assman's four 'formats of memory': (1) individual memory; (2) social memory; (3) political memory; (4) cultural memory' (Assman, 2006, p.211)

[5] See also Hirsch's concept of 'postmemory' to describe a form of memory whose connection to its source is 'mediated not through recollection but through an imaginative investment and creation', framed by discussion around photo albums from holocaust survivors (1997, p.22)

[6] Hypermediacy is born out of a fascination with media itself and a desire to make us aware of the presence of the medium (ibid., p.33-34)

within a virtual environment as creating the opportunity for occupying another's point-of-view, thereby creating the conditions for empathy (ibid., p. 232).

2.3   From Archival to Virtual

2.3.1   Oral History and Virtual Reality

Oral history is a well-established practice across numerous disciplines as a means of recording the testimonies and recollections of real people. It provides an opportunity to engage subjectively with memories and narratives of a particular era or event. Furthermore, it can contribute to the preservation of intangible heritage. Oral history interviews provide an opportunity to capture first-hand recollections from people hitherto omitted from specific historical records and 'provides a way into understanding the revealing values that have structured individual and collective experiences' (Sandino, 2013, p.7). It has the potential to provide a counter-narrative to official histories which some historians have seen as a strength, but as Sandino points out, this could also be inferred as a weakness as memory is fallible and unreliable (ibid., p. 6).

One significant project which combines oral history methodology with Virtual Reality is the Digital Oral Histories for Reconciliation project (DOHR). DOHR is a restorative justice project which deals with the effects of institutionalised racism and abuse on former residents of the Nova Scotia Home for Colored Children (NSHCC). The VR experience involves a digitally rendered representation of the home which allowed students to hear oral histories from former residents while standing in virtual renderings of the spaces where the stories took place (Benjamin, 2019). These kinds of objectives can also be found in the 360-degree VR film *Clouds Over Sidra,* set in the Za'atari Refugee Camp in Jordan, home to over 130,000 Syrian refugees fleeing war and violence. The 8-minute film tells the story of a 12-year-old Syrian girl Sidra by following her through a typical day in the camp, showing life within the temporary shelters, the school, the gym, and the football field (docubase, 2015). It utilises Sidra's story as a vehicle for conveying the broader context and impact of the conflict on civilians, and the immersive qualities of the VR experience to generate empathy within viewers through conveying the perspectives of her daily life in the camp (ibid.). Other VR works with similar themes and approaches include the films *The Displaced* (2015) and *Four Walls: Inside Syrian Lives* (2017).

Outside of predominantly human-rights focused VR films, *Chernobyl VR* from The Farm 51 combines computer game mechanics with 360-degree oral history film and archive photographs to portray the history of the Chernobyl disaster. The experience presents the viewer with a series of interactive panels which activate different scenes composed of a combination of 360-degree drone footage, static 360-degree footage, and CGI representations of the locations. Simulated environments provide the opportunity for interacting with audio icons which trigger narrations about contextual historical information. Throughout the experience, 360-degree oral history interviews with former workers, residents, and relatives of people in Pripyiat, as well as a guide, augment the experience with layers of personal and collective memories associated with the disaster. Daniel Cooke categorises these kind of VR films with the term 'empathy-driving VR', experiences which try to provide unique insight into the plight of people in adverse conditions (Cooke, 2017). Cooke observes that these kinds of immersive experiences hope to 'raise understanding and drive charitable action via heightened empathy' (ibid.).

2.4 Archives, Narratives, and Simulations of Iraq

2.4.1 Formal archives with photographs of Iraq

This research is concerned with remediating memories of Iraqi diaspora, in the first instance, through their own photographs, which will be collected through the Iraq Photo Archive, the first stage of practice research. There are several different archival repositories of photographs of Iraq that already exist both on and offline, administered by formal bodies such as universities or private individuals. To locate the nature and context of the archive that will be an output of this project, it is necessary to briefly outline the scope of some of these collections, noting that this is not an exhaustive list. To compile this classification of archives containing images of Iraq, I drew upon source lists provided by The Arab Image Foundation as well as the Library of Congress Prints and Photographic Division, which provides an online list of a 'selection of institutions and organizations with significant collections' (Library of Congress, 2018). Secondly, I utilised a process of internet search for the following terms: 'Iraq Archives', OR 'Iraqi Archives', OR 'Iraq Photo Archives', OR 'Iraqi Photo Archives', OR 'Old Photos of Iraq', OR 'Old Images of Iraq', OR 'Iraqi archival photos'. Table 5 in Appendix A-1 summarises the online collections I observed, which are outlined in further detailed below.

It's crucial to note that the significant formal archival collections of photographs from Iraq are held outside of the country. Prior to the US military occupation in 2003, the Iraq National Library and Archive (NLA) was in a state of neglect, due to years of underfunding, corruption, and the direction of materials and human resources in the service of the ideological needs of the Ba'ath party, particularly in the aftermath of the outbreak of the Iraq-Iran war in 1980 (Eskander, 2004). The NLA suffered a great deal of cultural destruction in the immediate aftermath of the US military invasion and occupation, particularly in the days following the arrival of US troops into Baghdad in April 2003. The former director-general of the NLA, Saad Eskander, describes how in the space of three days, Iraq's National Library and Archive forever lost about 60% of its archival material materials - hundreds of thousands of archival documents, historical records, and rare books – a large portion of modern Iraq's historical memory, which he described as 'a national disaster on a large scale…losses [which] cannot be compensated' (ibid.). Eskander reports that the fires destroyed almost all of the NLA's collection of historical photographs and maps (ibid.). A 2007 article by Nabil Al-Tikriti provides a general overview of damage sustained to Iraq's manuscript collections, archives, and document collections across a number of sites in the country. Significantly, there is no specific mention of holdings of photographs in any of these collections (Al-Tikriti, 2007). However, the Iraqi Jewish Archives, discovered in a flooded basement of the Iraqi intelligence headquarters in May 2003 (and subsequently brought to the US for preservation, cataloguing and digitisation by the US National Archives and Records Administration), contains a small holding of photographs (Iraqi Jewish Archive, 2022).

There are many digitised collections online of archive photographs of Iraq from the early 20th century, showing Iraq at a moment in time, pre-modernity, pre-oil industry, with many traditional ways of life depicted. Many of these images were of course taken with a colonial lens and come with their own politics, but for what they represent they are an important visual ethnographic record of this period of Iraqi history. There are several repositories of archival photos from Iraq held in university collections. One of the most notable is the Gertrude Bell Archive at Newcastle University in England. Gertrude Bell was a British writer, archaeologist and explorer who travelled extensively throughout the Middle East at the beginning of the 20th century. Along with personal diaries, books and

letters, her vast archive of archaeological and travel photographs of the region are digitised and searchable online. Included in this are 1,342 photographs of Iraq, depicting significant archaeological sites and landscapes as well as ethnographic images, taken between 1909 and 1918.

The Oriental Institute at the University of Chicago has an archive of over 100,000 negatives pertaining to the activities of the institute since 1892, a small portion of which relating to expeditions to Iraq in the early 20th Century are digitised and accessible online. The Middle East and Islamic Photography collection at the Fine Arts Library at Harvard also houses a large collection of over 150,000 photographs and slides documenting Islamic art and architecture, as well as ethnographic views, over 5000 of which are digitised and available through the Archnet Digital Library. Archnet is a partnership between the Aga Khan Trust for Culture (AKTC) and the Aga Khan Documentation Center, MIT Libraries (AKDC@MIT), and 'is an open access, intellectual resource focused on architecture, urbanism, environmental and landscape design, visual culture, and conservation issues related to the Muslim world' (Archnet, 2021). There are several collections within the library that are specifically related to Iraq, including archives from prominent architects such as the late Rifat Chadirji and Hisham Munir as well as *Camera Studies from Iraq*, a collection of 73 photographs from the 1920s attributed to photographer Abdulkarim, showing landscapes, architectural sites, and many images of ethnographic nature. Similarly, the University of Wisconsin Milwaukee Library houses a digitised collection of around 300 images from across Iraq, from early to mid-20th century, of landscape, architecture, people, and daily life, taken from the holdings of the American Geographical Society Library.

The Middle East Centre Archive at St Anthony's College, The University of Oxford, houses a collection of images of Iraq from the early 20th century from British explorers, administrators, and military officers such as Gertrude Bell, John Glubb, Artur Lionel Forster Smith, and Harry Wade. As per the Gertrude Bell archives, they are a collection of ethnographic, landscape and architectural photographs from the period of British rule in Iraq (1921-1932). The University of Oxford also houses the Archie Walls Archive at the Khalili Research Centre. The archive was donated to the Khalili Research Centre at the University of Oxford by Archie Walls in 2014 and it includes 545 items related to Iraq, predominantly architectural photography as well building plans and sketches, including a large collection of detailed photographs depicting *shanasheel* buildings in various stages of restoration from conservation projects in the Khademiah district of Baghdad, many of which provide useful visual references for the 3D model created during this research (see Section 3.3.3.3.2). The Akkash Center for Photography at New York University Abu Dhabi has approximately 150 images predominantly from RAF servicemen in Iraq in the 1940s. Outside of universities, there are approximately 1000 images in the archives of the Iraq National Symphony Orchestra; the Library of Congress in Washington D.C. has an impressive collection of over 600 images pertaining to Iraq spanning the 20th Century; the New York Public Library has a collection of less than 30 photographs; and there is a small holding of photographs of early 20th century Iraq at Royal Geographical Society. Most of these collections are presented in a catalogued manner, with metadata such as year and location to refine the online search capabilities of the archive. The images are presented in a utilitarian way, eschewing slideshow, collage, or masonry galleries for basic thumbnail presentation.

The most important photo archive in the region is arguably the Arab Image Foundation (AIF), a large physical and digitised archive which contains more than 500,000 photographic objects and documents from the Middle East, North Africa, and the Arab diaspora. It was established in Beirut in 1997 and encourages a critical and innovative approach to the archive, to: 'collect, rethink, preserve, activate and understand these

photographs through their multiple strata, and enrich the collection in the process' (Arab Image Foundation, 2021). The archive exists as an online platform but also has a physical presence in Beirut, where the AIF has an extensive reference library with an attached study area. The AIF encourages artists and researchers to engage with the collection and make valuable contributions to the study of photography, the region, and its people. The Foundation's collection is used 'an open resource for the study of photography, artistic and archival practices; a space for research, critical inquiry and experimentation' (Arab Image Foundation, 2018). This openness is critical as it underlines a shift away from the archive being a hidden space governed by the politics of the host, to a more democratic entity serving society rather than the state.

2.4.2 Informal collections

There is widespread circulation of digitised historical photographs from Iraq across numerous online platforms. There are countless Facebook groups, Instagram pages, Pinterest boards and Tumblr blogs dedicated to the proliferation and sharing of multiple genres of vintage images, including orientalist images from the 19th and 20th century, mid-20th century images of the Kingdom of Iraq (there are several pages dedicated to the Iraqi royal family alone), advertising images for Iraqi airways and other travel related brochures, architectural and heritage site images, as well as private family photographs. To attempt to identify and classify some of these informal archives that proliferate across a variety of social media channels, the same search terms were used as for formal collections: "Iraq Archives", OR "Iraqi Archives", OR "Iraq Photo Archives", OR "Iraqi Photo Archives", OR "Old Photos of Iraq", OR "Old Images of Iraq", OR "Iraqi archival photos".

Pinterest has a particularly vast collection of boards from multiple users dedicated to differing taxonomies of photos specific to certain locations e.g., Baghdad and Basra, or subject areas like old money or old advertising posters of the Iraqi Airways company. Many of the same images appear across different boards but also reappear in collections on Facebook pages and Instagram. The sheer volume of images and number of followers indicates a deep interest in old photographs from Iraq, an 'archive fever' if you will. The Instagram pages *@iraqiarchive* and *@archiveiraqi*, with over 414K and 604K followers respectively (at time of writing), are particularly active and post a very broad range of imagery, which appear to be submitted by individuals through a Telegram messaging group. The photos posted on these pages are characterised by a heavy use of Arabic type, superimposing information about the image, and watermarking with the Instagram handle of the respective page. The original images are difficult to locate within this network and as a result there are various generations of digital copy that are flowing across these sites, sometimes with different watermarks depending on which site claims the original point of sharing. These observations have striking similarities with those identified by Lucie Ryzova in relation to the circulation of vintage photos from Egypt on similar platforms. The act of sharing the images on social media decontextualizes the image, with the only significant point of origin being the 'last site in the chain of endless sharing' (Ryzova, 2015, p.48). The watermarking of images is an attempt by admins of these sites to counter copylifting of images onto competitor sites and 'assert their primacy as the first one who 'found' and posted a given item' (ibid., p.48). Ryzova describes these images as 'orphan images', ones that are 'alienated from the analogue referent, medium, provenance and social context in which they previously circulated' (ibid., p.47). This decontextualization opens the images up to resignification with new meanings, and Ryzova contends that the further the image is removed from its provenance, 'the more free they become to perform new kinds of cultural work' (ibid, p.50), an example of what she describes as 'local digital

vernacularity in the post-photographic age' (Ryzova, 2014, p.304). Conversely, the more original context retained, 'the less prone they are to being misread, resignified, and over-written with new meanings' (ibid., p.53).

Ryzova observes that the practice of posting and sharing vintage photographs from Egypt is not limited by the context of specific pages and blogs, and that in fact the practice is much more widespread than can be empirically counted (ibid., p.40). She writes specifically in relation to Egypt but notes that the phenomenon can be observed across the region, and the desire to collect, map or salvage cultural artifacts such as photographs, magazines and other printed ephemera is indicative of a sort of archive fever (ibid.). The interactive nature of social media sites creates a space where collective notions of identity and past are negotiated, described by Nikunen as 'virtual memory spaces' where 'everyday memory work, or "banal" remembering, takes place, while the actual geographical places are left behind' (Nikunen, 2013, p.2).

American photographer Susan Meiselas created the website akaKURDISTAN (Meiselas, 2002) as a platform dedicated to collecting memories of Kurdish people. The English language website builds upon her book 'Kurdistan: In the Shadow of History' first published in 1997, which aggregates archival materials Meiselas collected over a 5-year period, including letters, photographs, old postcards, maps, and personal memoirs 'that convey the fragmented and partial nature of Kurdish memory work without official national archives' (Nikunen, 2013, p.3). Meiselas states that the collection allows the reader to discover 'the voices of the Kurds that contest the Western representations of them' (Meiselas, 2002). The landing page declares the site as a 'borderless space' which 'provides the opportunity to build a collective memory with a people who have no national archive' (ibid.).

The website is divided into three sections, 'Explore', 'Identify', and 'Add'. The latter invites people to submit their own photographs and associated memories to the site. Nikunen describes this method of crowdsourcing memory work as a means of building 'an archive for the displaced and nationless' (Nikunen, p.4), while astutely observing how this process underscores the fragmentation of historical narratives and 'the degree to which the documents and interpretations that the understanding of the past relies on are contested' (ibid.). Nikunen outlines how this structure of participatory memory work

Figure 2. *akaKurdistan – 'Add a Story page'* (Meiselas, 2002)

facilitates the everyday memories of individuals and their interpretations of the past and is as such a form of 'communicative memory' (see Assmann, 2006).

Another important archival initiative which includes images from Iraq is the Middle East Archive (MEA), which 'retrieves lost memories from the Middle East and Maghreb' (MEA, 2023). MEA adopts a digital collection process and works with photographers in the region to 'rebirth their archival collections' towards presenting a photographic representation of the region which forefronts local culture in a candid way (ibid.). Distinct from these online platforms are private collectors taking a more traditional archival approach. One of the most significant archives curated by an individual is that of German-based Iraqi journalist and researcher Kifah Al-Amin. Al-Amin has been collecting original photographs from Iraq for over 30 years and been creating a physical catalogued archive in a house in Baghdad. This collection contains over 200,000 items, including prints, negatives, slides, glass negatives, family albums, photos from journals, magazines, and more. Part of the archive is digitised along with taxonomic information. Al-Amin has drawn from the archive to publish a series of books entitled 'Baghdad Diaries', a 9-volume collection comprising 100 years of Baghdad's history since 1920. (Al-Amin, 2020).

This overview of archival collections of Iraqi photographs serves to highlight the range of approaches to preserving the visual history of Iraq, but also the sheer volume of images in circulation particularly across social media platforms. Furthermore, this review reveals that a crowd-sourced and focused curation of photographs from Iraqi diaspora does not currently exist at the time of this research.

2.4.3   Iraqi Diaspora – Personal history and collective memory projects

There are several oral history projects concerned with documenting the stories and experiences of Iraqi diaspora and refugees. These projects allow for voices that may not normally be heard to be added to the historical record and gives us a broader understanding of the experiences of often marginalised groups. Hesse-Biber and Leavy note that 'while oral history focuses on the individual and her narrative, it can be used to link micro and macro phenomena and personal life experiences to broader historical circumstances' (2006, p.153).

The Iraqi Narratives Project (INP) is focused on documenting, preserving, and archiving stories of the Iraqi community in the diaspora. To date the project has documented over 60 hours of audio and video interviews. One of the notable methodologies is the practice of returning the interview to the interviewee, which according to INP, can 'contribute in a meaningful way to the Iraqi community's collective memory and collective narrative' (INP, 2022). The interviews are not available for viewing or listening online, and it is not stated whether the project intends to go beyond documentation or what form of presentation the collected histories will take, although the website (accessed 30th Oct 2022) does have a holding page for future podcasts.

The Iraqi Oral History Project is an initiative from The Academic Research Institute in Iraq (TARII). They conducted interviews with 181 individuals from the diasporic communities in Jordan, Lebanon, Yemen, the United States, Canada, and Turkey. One of the outputs of this project was the production of a guide on collecting stories in conflict settings, "Documenting and Interpreting Conflict through Oral History: A Working Guide", co-produced by TARII and the Columbia Center for Oral History Research (TARII, 2012). Another project involving Iraqi diaspora is Nicole Ludwig's research focused on the life experiences of 10 female refugees from Iraq and Iran which was conducted in San Diego county, California (Ludwig, 2016). In a UK context, Sephardi Voices UK is an oral history project concerned with recording the experiences

of displaced Sephardi/Mizrahi Jews from North Africa, Middle East, and Iran, who settled in the UK, including some Iraqi's (Sephardi Voices UK, 2021).

The Iraqi Voices Storytelling Lab is an initiative by The Iraqi and American Reconciliation Project (IARP) based in Minnesota, US, which 'pairs Iraqi-Minnesotans with professional artists to create original artwork about their home, experiences, and lives in Iraq and Minnesota' (IARP, 2021). The artworks combined photographic portraits of the subjects together with oral history reflections on the idea of homemaking and memories of home (ibid.).

Within the Iraqi diaspora community, there are several creative projects initiated by artists and writers which are concerned with personal and collective memories of Iraq. Iraqi multidisciplinary artist Rand Abdul Jabbar utilises a research-based participatory process in her project *Every Act of Recognition Alters What Survives*, which is conceived as a series of acts. The first of these, *Memories of Home,* was a participatory workshop involving a multi-generational group of women from the Iraqi and Arab diaspora community in London, UK which took place in 2020. The aim of the workshop was to 'encounter, extract and record individual narratives to produce a series of written, oral, and visual recordings that describe tensions associated with the loss of, and longing for 'home''(Abdul Jabbar, 2021). Participants were invited to choose an object with sentimental value that related to their home country, which served as 'anchors of memory and history' and engaged the group in an exploration of the 'relationship between the objects and histories and memories which embed them with meaning and value' (ibid.). The artist observes how some experiences shared were first-hand while other younger participants contributed 'inherited' or 'imagined' narratives (ibid.). The group also interrogated the true value of preserving history and memory and how pain is carried forward across generations, recalling Marianne Hirsch's theory of *postmemory* (1997). Abdul Jabbar notes that later in the process the group referred to 'pain' as 'knowledge' and highlights the significant impact this shift in perception has on ownership of narratives and cultural representation:

> *Documentation of this individual knowledge becomes essential to our ability to communicate our collective narratives and push back against contemporary misrepresentations of our culture in the media* (ibid.).

The methodology and themes of this project are also shared in Vancouver-based Iraqi visual artist Dima Yassine's ongoing participatory work, *Project Ghurbah* (Yassine, 2020A). *Ghurbah* is an Arabic word which can be translated as 'exile' or 'estrangement from one's native country'. The project is presented on Instagram where its description describes 'Ghurbah' as 'the yearning for the familiar, the estrangement from home, and the resistance against amnesia' (Yassine, n.d.). The project employs an open methodology inviting contributors to respond to an object that reminds them of home in any manner they deem appropriate, resulting in informal and experimental expressions using photography, video and performances. This diasporic memory project utilises organic word-of-mouth dissemination and has global contributors.

Iraqi photographer Tamara Abdul Hadi's project *Reimagining Return to the Marshes* is concerned with decolonizing the photographic history of the Iraqi marshes. Abdul Hadi takes Gavin Young and Nik Wheeler's 1977 book *Return To The Marshes: Life With The Marsh Arabs of Iraq* as the basis for her photographic intervention. She describes the book as foundational to her as an aspiring photographer and how histories, even imagined ones, can be colonised (Abdul Hadi, 2020). Abdul Hadi intervenes, intrudes, and interrupts the pages with her own photographic documentation of the Iraqi marshes, together with archival images sourced from Iraqis in Iraq as well as in the diaspora (ibid.). The interventions physically superimpose photographs onto images in

the book as well as including her own captions (Figure 3). It is in this physical act where the reimagining of colonial narratives and gazes takes place, as she literally brings those 'who were displaced and disempowered from their own histories and stories back into the frame' (ibid.).
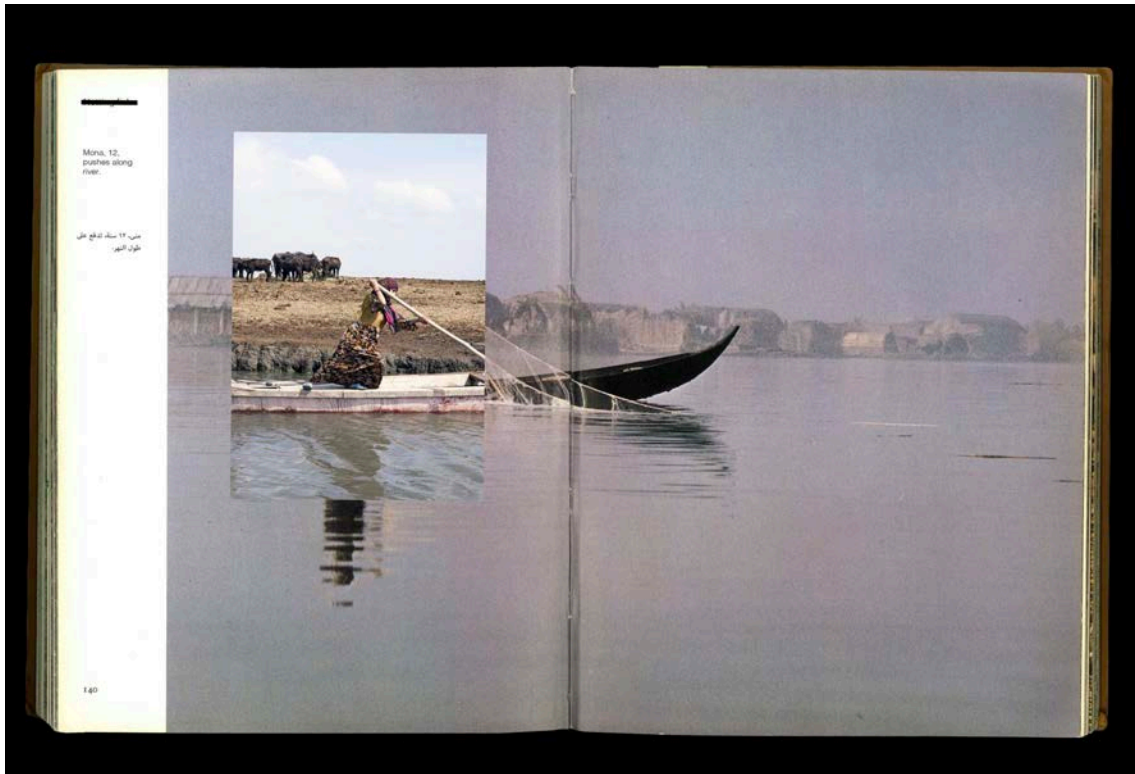
Figure 3. *Reimagining Return to the Marshes.* (Abdul Hadi, 2020)

Themes of individual memory, trauma, displacement, and loss are prevalent in Ireland-based Iraqi artist Bassam Al-Sabah's film *Fenced within the silent cold walls* (2018). Al-Sabah's CGI film takes the viewer on a journey through the artist's former home in Iraq, which his family can no longer return to. The house has been digitally reconstructed from memory in collaboration with his architect sister, and the film brings us slowly through the re-imagined space, as glitchy liquid-like forms emerge and flow out of the radio and TV. When we leave the interior space, we hear the voice of the artist's grandmother recounting the story of her family's departure from Iraq and the personal belongings left behind. She recalls the act of burning the photographs that reminded her of her past, visualised with coloured splinters emerging from a fire in a dustbin, in an act which she hoped would allow her to '…forget the past, deny all that I have been through' (Bassam Al-Sabah – The Douglas Hyde Gallery, 2021). When her narration ends, the house folds in on itself, and the scene finishes in an empty computer-generated skyline.

2.4.4 Simulations of Iraq: Gaming, VR Exposure Therapy, and 360-degree film

Geo-political events and conflicts in Iraq from the 1980s onward have resulted in depictions of its landscape and people in a variety of entertainment media, especially films and video games. There are myriad computer-generated or virtual depictions of Iraq, specifically in video games, which have drawn on conflict in the country as storylines and settings for predominantly tactical-shooter style games, such as *Desert*

Strike, *Call of Duty: Modern Warfare*, *Battlefield*, and *Conflict: Desert Storm*. Some games allow for user generated modifications or "mods" such as the *Arma* series, a windows-based tactical shooter which has at least two user generated maps of Al-Salman town and Diyala province Iraq, informed by conflicts that took place in both areas during the Gulf conflicts. These maps utilise real-world heightmap terrain data to generate the landscapes, with other elements such as urban layouts and architecture informed by user impression. A chronological list of representations of Iraq in video games can be seen in Table 6 in Appendix A-2.

More accurate 3D simulations of Iraq exist in the form of military training simulations, such as those created by MVRsimulation, an American firm which develops software to 'offer 3D real-time simulated visualisations of the real world' (MVRsimulation, n.d.A). MVRsimulation have created a *Virtual Baghdad* (Figure 4), utilising satellite and Landsat imagery to create a 'high-resolution geospecific replica of a portion of Baghdad' for 'enhanced warfighter training experiences and opportunities prior to deployment' (MVRsimulation, n.d.B). The simulation includes a neighbourhood next to the Green Zone and several city blocks of buildings, built with photo-realistic textures based on public domain photos of Baghdad.

Figure 4. Virtual Reality Scene Generator (VRSG) real-time scene of the virtual Baghdad terrain, showing an area next to the green zone (MVRsimulation, n.d.B)

Simulations of Iraq can be categorised into experiences contextualised by conflict, and heritage visualisation, with sub-categories of computer-generated simulations and 360 video.

One of the most significant simulations of Iraq is the *Virtual Iraq* VRET (Virtual Reality Exposure Therapy) system created by the Institute for Creative Technologies at the University of Southern California, initially prototyped in 2004 as a behavioural therapy to serve Gulf War combatants suffering from post-traumatic stress disorder (PTSD) (Figure 5). The project received funding from the US Office of Naval Research to develop a full VRET system (incorporating simulations of Afghanistan also) between 2005 and 2007. The VR experience situates the user in a variety of virtual environments designed to 'to resemble the general contexts that most Service Members (SMs) experience during deployment to Iraq' (Yeh et al, 2009, p. 164). This includes a Middle Eastern city and

HUMVEE desert road scenarios which are all 'adjustable for time of day or night, weather conditions, illumination, night vision and ambient sound (wind, motors, city noise, prayer call, etc.)' (ibid.). HUMVEE scenarios situate the user inside the vehicle (as either passenger or driver) as it travels in convoy or as a lone vehicle 'through an expansive desert area with sand dunes, occasional areas of vegetation, intact and broken-down structures, bridges, battle wreckage, a checkpoint, debris and virtual human figures' (ibid.). This prototype system was built using recycled assets designed for the U.S. Army-funded combat tactical simulation trainer *Full Spectrum Warrior*, also a commercially successful X-Box game. The US Army funded development of an updated system of Virtual Iraq/Afghanistan in 2011, now referred to as BRAVEMIND. Drawing on patient and clinician feedback, the system was completely rebuilt using the Unity game engine, redesigning the original environments to increase the graphic fidelity, broadening the systems VR scenario content diversity, and improving the customisation of stimulus delivery (Rizzo et al, 2014, p.34)

The success of the VRET (Yeh et al, 2009, p.167) indicates that these virtual representations of Iraq were effective in achieving immersion from users and creating a sense of their presence back within scenarios which were the catalyst for their PTSD. The target audience is limited to military veterans of the Iraq conflict, primarily US military personnel due to the provision of the treatment in the United States through Veterans Affairs (VA) clinics etc. The representation of Iraq in this context, builds upon prior computer-generated simulations of the country, which focus on the country as a site of conflict, and virtual Iraqi citizens within the virtual environments (VEs) play a secondary role in the narratives of this experience, primarily as backdrop elements to facilitate a sense of realism and increase immersion for the user.

Figure 5. Screen capture of *Virtual Iraq* (Marchant, 2020)

There are other VR experiences of Iraq which are related to conflict, but which are aimed at a wider audience and have a more journalistic approach, such as *Fight For Fallujah* (2016), a live-action 360-degree film which utilises a documentary style approach, telling the story of the battle through recorded footage and voice-over narration from the director. *Home After War* (2018) is also set in the city of Fallujah, during the aftermath

of the conflict conveyed in *Fight for Fallujah*. Distinct from previous examples, this experience has an Iraqi family at the centre of its narrative and uses an oral history approach. Ahmaied Hamad Khalaf tells the story of his family's displacement and subsequent return to their home in Fallujah due to the conflict with Daesh/ISIS. Ahmaied's home is a 3D model generated via photogrammetry and a video interview with Ahmaied is incorporated into the VE, which is combined with 360-degree video filmed outside the house.

2.4.5 Simulations of Iraq: Digital Heritage Visualisation

VR's ability to immerse the participant into an alternate reality makes it a compelling medium for simulating past events and places, and this has been one of the widespread uses of the technology across the fields of education and entertainment. In an educational and academic context, utilising VR to recreate ancient cities has been a particularly vibrant area of research. Reconstructing heritage sites using 3D models provides an opportunity for researchers, as well as the public, to revisit and study the history, architecture, and archaeology of ancient sites. These experiences not only allow for an engaging experience, but also demonstrate the ability of 3D and VR technology to facilitate the digital documentation of heritage sites. Perhaps the most significant initiative in this field is the CyArk project.

CyArk currently have three projects relating to Iraq. *The Assyrian Collection* at The British Museum consists of a display of scanned objects from the museum's collection, including wall carvings and sculptures, and a 360 virtual tour of the museum gallery containing the wall carvings, viewable online. *The Bablyon Project* is probably the most significant as it pertains to one of the world's most important archaeological heritage sites at Babylon, considered the earliest cradle of civilisation. The site at Babylon was captured using laser scanning and HDR photography in collaboration with Germany-based Cristofori und Partner, and the data collected was used to produce a complete photo-textured point cloud model, viewable through the website, annotated with four informational text panels (Cyark, 2021). Collaboration with the Iraq State Board of Antiquities is also evident in the third project, *The Digital Nineveh Archives Project*, which involves the digitisation of original excavation records from the Nineveh site.

Iraqi digital artists and game developers from the VR Lab within Qaf Media Lab in Mosul are also drawing on archive material as well as data collected from heritage sites in Nineveh to develop an immersive game 'in which players solve mysteries to discover Nineveh's heritage sites' (Reuters, 2020). The team is collecting imagery and data from numerous archeologically significant sites and artefacts, such as the Al Nuri Mosque and complex, to develop 3D models to reimagine them (Figure 6). Digital heritage visualisation is evident in these projects, and through the process of gathering data to create VE's, the sites undergo a form of digital preservation.

This kind of practice has been particularly evident in Mosul, due to the considerable number of cultural artefacts destroyed by Daesh/ISIS during their occupation of the city. Matthew Vincent and Chance Coughenour, began *Project Mosul* in 2015, to crowd-source the digital reconstruction of the destroyed artefacts. The website was based 'on the initial workflow of using crowdsourced images to virtually recreate artefacts using photogrammetry' (Rekrei, n.d.). Their goal was to create a virtual museum to house these reconstructed artefacts and offer a means of digitally preserving their memory.

This was realised in 2015 as *RecoVR: Mosul*, in collaboration with Al-Ghad Radio and the Economist Media Lab. The virtual museum is a reconstruction of the Mosul Cultural Museum and houses digital models of the destroyed artefacts as created by the network of volunteers. It has since been renamed *Rekrei* and has broadened its scope beyond

Mosul and works towards the preservation of lost cultural heritage globally through crowdsourcing of images and digital restoration.
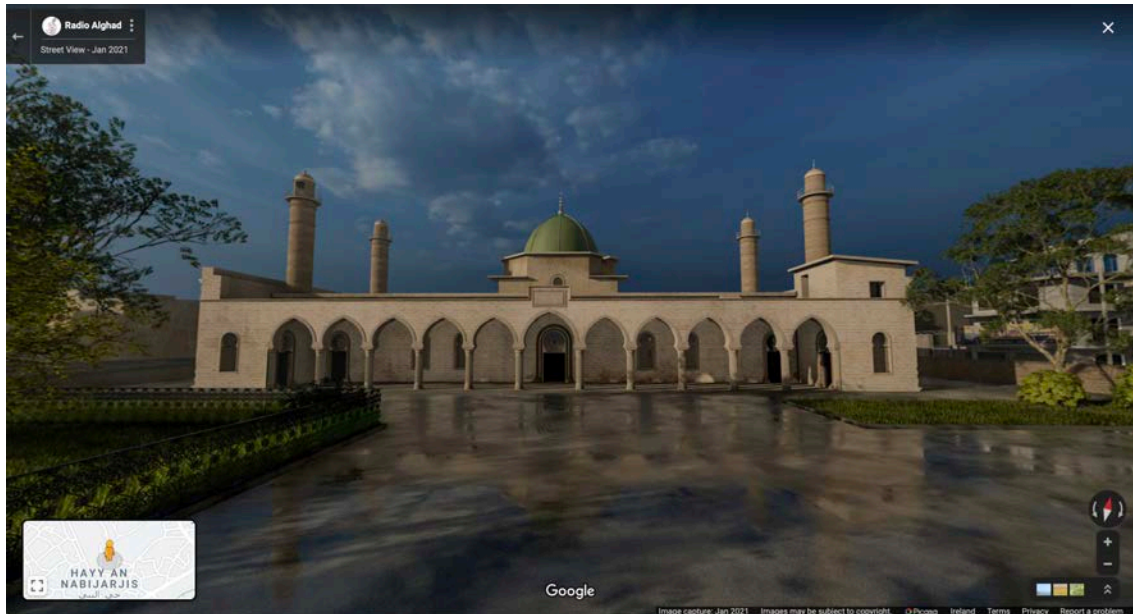
Figure 6. Radio Al Ghad & Qaf Media Lab, digital reconstruction of the Al Nuri Mosque complex. Google Street View screen grab.

2.5 Conclusion

This practice-based research is situated at the intersection between vernacular archive photographs from Iraqi diaspora, associated memories, and the remediation of this material into VR. To situate this research in context, this review has classified photographic archives related to Iraq, oral history and creative practice memory projects involving Iraqi diaspora, and the range of simulated representations of Iraq. It is evident that although there is a particularly active flow of archival images from Iraq across various social media channels, a focused curation and online presentation of photographs from Iraqi diaspora does not currently exist. Furthermore, the range of archival collections of photographs from Iraq held in formal collections are predominantly those of colonial origin; this research contributes to addressing this imbalance.

There are several oral history projects involving Iraqi diaspora which engage the registers of memory, displacement, trauma, and identity. Those conducted in a creative practice context are particularly relevant, in particular Abdul Jabbar's multifaceted diasporic memory project *Every Act of Recognition Alters What Survives,* as it uses participatory methods and archival objects as touchstones of memory.

As evidenced, digital simulations of Iraq are almost exclusively associated with the country as a site of conflict, be it representations within military training simulations, backdrops for first-person shooter games and combat flight simulators, or digital heritage preservation and reconstruction of cultural heritage damaged or destroyed due to conflict. The intersection of military simulations within video game entertainment is particularly evident in *Virtual Iraq,* which integrated game assets from *America's Army*, a first-person tactical shooter published by the US army as a platform for recruitment, and *Full Spectrum Warrior*, another first-person tactical shooter game which originated from a US military training game (Losh, 2006, p.81).

This research seeks to crowd source vernacular photographs taking by Iraqi diaspora through the creation of the online platform *Iraq Photo Archive*, record personal memory associated with these images, and construct a VR experience from this archival material which forefronts personal narrative and experience. The simulations will be designed and informed by the archival source material (photographs and oral narratives), and experiment with the creative remediation of personal photographs and individual narratives to create expanded photographic moments in VR. The research aims to understand the impact of the creative remediation of archival material on generating understanding of, and desire for, authentic representations of Iraqi narratives, as well as to provide simulated representations of Iraq counter to those described above. The following section will outline in detail the practical work taken in this endeavour.

3   Methodology

3.1   Introduction

The methodological approach in this research is informed by my personal art practice methodology, and the findings of research into collections of Iraqi archive photographs, Iraqi diaspora oral history projects, and the range of simulated representations of Iraq, as detailed in Chapter Two. Remediation, reconstruction, and intervention are central to my art practice, which explores the potential of recomposing archival material as simulations to form virtual bonds with the past and create expanded photographic moments. My work prior to this practice-based research explores themes of personal memory and identity, informed by my own frame of reference as an Irish-Iraqi, and utilises archive photographs, moving image, audio narration, and simulation in the creative process.

The three examples in Appendix B-1 contextualise the nature of, and methods used in, this practice, and how they inform the methodology used in this research. In particular, *Baba Gurgur بابا گرگر (Father Of Flames), 1927,* developed from a visual research process, which involved searching online collections of archive photographs from Iraq, as well as contemporary reference images of the Baba Gugur site. It was during this process that the dearth of images of Iraqi smaller-story narratives unconnected with colonial enterprise within searchable online collections became apparent, as well as the dominance of conflict-related representations within contemporary media photographs from Iraq. These observations provided a central motivation to begin this research project.

Informed by the aggregation of these methods from my personal practice and the findings from Chapter Two, this research project adopts a critical visual-arts-based participatory methodology utilising qualitative methods to: (1) collect pre-existing vernacular photographs from Iraqi diaspora (2) record oral history narratives surrounding those photographs, and (3) explore the creative remediation of this material within simulated environments using Virtual Reality.

This methodological approach forefronts memories and narratives about Iraq from Iraqis themselves, facilitating representation through participation. Employing this approach to simulated representations contributes to countering dominant representations of Iraq and Iraqis in simulated media such as video games (see section 2.4.4 and Appendix A-2).

This approach draws upon the 'resistive and transformational capability' of visual art, as well as its power 'to provoke, evoke, and express nonverbal or preverbal knowledge; to jar people into seeing and thinking differently; and to challenge stereotypes' (Leavy, 2017, p.207-208). The methodology adopts Tracy's model of 'excellent qualitative research', which provides eight criteria to ensure high-quality methods: (1) worthy topic, (2) rich rigor, (3) sincerity, (4) credibility, (5) resonance, (6) significant contribution, (7) ethical, and (8) meaningful coherence (Tracy, 2010, p. 849). This chapter outlines the context, design, and approach of this methodology, presents the qualitative methods employed in the collection of material[7], and details the design, development, and outcomes of creative practice.

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[7] I use the term *material* here instead or the more common terms *data* or *content* associated with qualitative methods. Leavy states that the word content is appropriate 'when artistic practice is both method of inquiry and the content' (2017, p.198). However, given the contemporary associations of the word *content* as

3.2   Arts-Based Approach

As outlined above, visual research into formal archival collections of photographs from Iraq led to an observation that these collections were predominately filled with ethnographic images taking in a colonial context. This observation jars with personal experience of viewing personal family photo albums which reflect an alternative visual impression, one of personal occasions, family portraits, holiday snaps, and so on. These images from my father's personal photo albums from his youth in Iraq during the 1960s captivated me, being as they were from a past I never knew, but also of a country I had never visited. Through these photographs he told me stories about his childhood and about Iraq, and I started to learn not only about his personal history, but also my identity and the history and culture of the people and country. This revealed to me the potential of vernacular images as sources for the presentation of counter narratives. During the late 20th century and early 21st century Iraq suffered prolonged conflict and as such photographic representations of Iraq in the media were skewed towards images of violence, destruction, and trauma. Being half-Iraqi and raised in Ireland, my impressions of my family's homeland had been affected by this media coverage (e.g. TV news, films, video games, newspapers etc.), which was at odds with the aforementioned family narratives and images. These personal experiences inform my practice as an artist, and create what Carter (2010, p.21) refers to as a 'forming situation…the impulse to make or invent something …from a growing sensation of silence, of loss, lack, incoherence or absence'. The lack and incoherence derives from the dearth of visual representations of Iraq not defined by colonialism or conflict in photographic collections and simulations, and it is this context that motivates this enquiry.

This research employs a qualitative participatory process involving a group of contributors from the Iraqi diaspora community, inviting people to voluntarily submit their personal photographs from when they lived in Iraq to an online collection, and to take part in oral history interviews to discuss their memories of the photographic moment(s). The photographs gathered through this process are presented in an online platform, and creative praxis involves the remediation of selected photos and associated narratives within an immersive VR experience.

This approach attempts to facilitate a space where representation can occur, that is led by the experiences of those underrepresented. The VR simulations aim to transcend physical representations of objects, foregrounding personal memory and narrative to extend the memory sites into immersive temporal environments where the personal narratives and can resonate within a digital materiality. Digital simulation is utilised as an interrogative tool, by appropriating a medium often used to gamify trauma and represent conflict as spectacle, especially in the context of digital representations of Iraq, which are adversely skewed towards simulations of war for entertainment, with people and place functioning merely as props. Here, the digital materiality of game environments forms a space inhabited by the voices and accounts of real people.

3.2.1 Visual-Arts-Based Approach: Situated knowledge and Transdisciplinarity

Employing an arts-based methodology is appropriate in this research context, not only due to the embodied knowledge present through my own practice and methods, but because of the capacity for art as an inquiry to be 'emotionally and/or politically

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something generated within a social media and marketing context, typically video recordings, I will use the term *material* when describing the photographic and interview contributions by participants, as this term is more strongly connoted with arts practice.

evocative for diverse audiences (Chilton & Leavy, 2014, p.403); to provoke us into 'seeing and thinking differently', (Leavy, 2017, p.207-208); to assist in illuminating untold stories (Cole & Knowles, 2001, p.211), and as Bochner and Ellis contend, art-based research produces unique forms of knowledge by providing an opportunity to :

> *examine ourselves, investigate and express the worlds of others, transgress stifling conventions and boundaries, resist oppressions, grieve and heal, produce intersubjective knowledge, review the hidden meaning of memory work, and come to terms with multiple and contradictory identities* (Bochner & Ellis, 2003, p.510)

As the motivation for this inquiry is inherently personal and subjective, this visual-arts-based research project forefronts the creation of tacit or situated knowledge and commits to creating impact on a personal, emotional, and cultural level through a relational, reflexive, collaborative, and interdisciplinary process. Barrett (2010A) argues that the generation of personally situated knowledge is where the innovative and critical potential of practice-based research lies and that 'the generative capacity of creative arts research is derived from the alternative approaches it employs—those *subjective*, *emergent* and *interdisciplinary* approaches' (p.3). Barrett describes situated knowledge as operating in 'relation to established knowledge and thus has the capacity to extend or alter what is known' (2010B, p.145). The production of this kind of knowledge is a core aim of this research methodology, by creating space for representations of Iraqi diaspora narratives hitherto unknown and evaluating the impact of their reception.

The design of this research methodology is informed by a holistic approach, one that is process-oriented and embraces transdisciplinary methods (see Appendix B-2-3 for details on all hardware and software used). This methodological approach could be viewed as a form of bricolage, which Stewart defines as a hybrid praxis where:

> *the bricoleur appropriates aspects of research methodologies which best suit the task at hand, travelling between various research disciplines in an attempt to build the most appropriate bridge between aesthetics and experience through processes of production, documentation and interpretation. The bricoleur is seeking to explore, reveal, inform and perhaps inspire by illuminating aspects of insider praxis within their field.* (Stewart, 2010, p.128)

3.2.2 Critical Approach: Participation and Embodied knowledge

The use of dialogic and participatory methods such as crowd-sourcing photographs and oral history interviews, together with the privileging of the values and knowledge of the researcher and participants and their potential to affect change, locates the methodology within a critical paradigm (Spencer, Pryce, & Walsh, 2014, p.90-91). In this theoretical model, 'the relationship between researcher and participant is transactional, subjective, and dialectic' and a goal of critical research is to 'empower participants to transform the status quo' (ibid. p.91). Bhavnani, Chua and Collins argue that 'the critical research approach is generative of narratives and knowledges' and that this knowledge is created, not merely captured (2014, p.172). They contend that critical qualitative research 'insists on the interplay of reflexivity, process, and practice' and suggest that 'critical research can agitate against the homogeneity of ethnographic representation, allowing for the realities of people's lives to come into view' (ibid. p.176). Conducting research as an embodied subject and embracing research that offers situated knowledge to counter dominant interests and advance well-being, are key components of a critical research practice (ibid. p.176-177).

Embodied knowledge is embraced in this methodology with participatory methods such as crowd-sourced vernacular photographs, oral history interviews, and exhibition presentation. The use of transdisciplinarity, employing methods and techniques from multiple disciplines, to holistically address a real-world issue is, according to Leavy (seen in Boyd, 2014), a social-justice-oriented approach to research. This critical arts-based participatory approach aims to address lack of representation (of Iraqi diaspora within photo archives and authentic Iraqi narratives within digital simulations) and explore the impact of the empowerment of participants to present and share personal narratives in a creative process, and as such, this process promotes social justice goals.

3.2.3 Participatory Method: Oral History and Photo Elicitation

Oral history is a participatory method which harnesses the power of storytelling to forefront the subjective knowledge and experiences of participants. For instance, Janesick contends that a post-modern approach to oral history which highlights stories from persons on the outside or periphery of society allows us to view oral history practice as a social justice project (Janesick, 2007). She characterises postmodern oral history as an interpretive approach that includes the participant in the project and may involve: technology being used to enhance the power of the story being told; transparent and diligent approach to ethical issues throughout the project; an approach which proudly validates and celebrates the subjectivity of participants in order to promote new understanding of an individuals lived experience; and the inclusion of narratives from marginalised or disenfranchised members of society, thereby allowing oral history to be viewed as a social justice project (Janesick, 2014, p.301).

The oral history interviews are designed to use the photo elicitation method, which as Harper outlines, is 'based on the simple idea of inserting a photograph into a research interview' (2002, p.13). This is a widely employed technique in which photographs are used to generate discussion and create knowledge (Glaw et al., 2017, p.1). It is key aspect of the methodology as it can evoke feelings, memories, and information (Harper, 2002, p.13). A photo elicitation approach is used here to focus the discussion to the photographic moment depicted in order to forefront narratives of the everyday by recording memories associated to this one temporal event (small stories), rather than grander or broader narratives. Central to this approach is the personal dimension of the moment discussed, as it is the individual's memory of the moment they are depicted in that is being recorded. The photograph functions as an anchor point in the interview, which uses semi-structured interview questions to prompt discussion and guide the conversation back to the narratives related to the image where necessary. This approach is also informed by the creative remediation of the photograph and audio from the interviews into a VR experience. Focusing the discussion on the photograph allows for the creation of visual elements within the virtual environment, either abstract or denotational, which can be coherent, concise, and relational.

3.2.4 Remediation: Composing narratives and Virtual Reality

The approach of analysing the interviews and remediating elements of narrative into a presentation in VR adopts an element of the neonarrative process, 'a qualitative method that offers an interpretive reconstruction of an aspect of a person's life' (Stewart, 2010, p.130). Neonarrative method gives voice to experience derived from direct experience, and Stewart outlines five phases involved in the process: (1) 'identification of the research method, (2) the establishment of the collaborative process, (3) the collection, transcription and review of data, (4) analysis of the data and (5) synthesis into neonarratives' (ibid., p.131 - numbers added by researcher). This research aligns with this structure, however regarding the final phase, whereby neonarrative can involve the

creation of new narratives based upon recorded material, the process used in this research does not seek to interpret or rewrite the authentic voice of participants narratives. Rather it seeks to edit the interview narrative into a concise duration that can inform the construction of an immersive and visually engaging virtual environment, which is informed by the visual elements present in the photograph and informational elements from the audio narrations.

The intention is rather than the recorded interviews and stories be treated as data for analysis, the standpoint of the storyteller is instead privileged through an experiential encounter with the story, whereby the audience can interact with the stories in a relational way and think with the participant's stories in order to understand them (Bochner & Riggs, 2014, p.205). The presentation of these stories also offers the potential for the creation of counterstories, a concept Nelson describes as a means or resistance for individuals to neutralise oppressive master narratives which construct image and identities based on race (ibid. p.215)

The arts-based approach taken in this research champions public engagement with the outcomes and presents opportunities to measure the impact of the resulting representations with central participants and audiences. The credibility and impact of this arts-based approach can be dependent on the aesthetic power of the work produced and its capacity to create 'evocative, provocative, illuminating and sensory representations of findings' (Leavy, 2011, p.121) which connects or stimulates its audience (Barone & Eisner, 2012). Chilton and Leavy argue that one of the primary factors to consider in arts-based research (ABR) is the 'usefulness of the resulting representation', or the contribution of the work to educating broad audiences in this instance (2014, p.416). Thus, Leavy provides a concise approach to evaluating ABR by encouraging the following question be asked: 'What is this piece of art good for?' (Leavy, 2009, p.37). The evaluations presented in Chapter Four attempt to address this question.

3.3   Methods

This section details the three stages of practice research: (1) Collecting Materials (2) Analysing Materials (3) Remediating Materials.

3.3.1   Collecting Materials

3.3.1.1   Iraq Photo Archive: Online photo sharing platform

3.3.1.1.1   Overview

The first stage of material gathering involved the creation of an online portal www.iraqphotoarchive.com through which Iraqi diaspora and others could interact, learn about the project, and if they so wished, submit a photograph to the website. The purpose of creating this collection was in the first instance to encourage Iraqi diaspora to share hitherto unseen images of Iraq. Late 20th century and early 21st century Iraqi history has been dominated by conflict and as such the photographic representation of Iraq over the last 4 decades in the media is skewed towards images of violence, destruction, and trauma. As outlined in Chapter Two, formal photographic collections of archive photos of Iraq are predominantly those created in a colonial context. Outside of this, there is widespread circulation of digitised historical photographs from Iraq across numerous online platforms, and the provenance and veracity of many images is hard or impossible to determine, due to many generations of digital copy and layers of annotation. The Iraq Photo Archive website attempts a focused curation of vernacular images from diaspora where the contributor has a direct connection to the image, either through being in the photograph, a subject in the image, or a relative of either. Creating

a moderated website for participants to engage with, aims to ensure the veracity of the provenance of the images. Flowchart diagram in Figure 7 shows the workflow of this phase of the material collection process.

Iraq Photo Archive
Photograph collection process
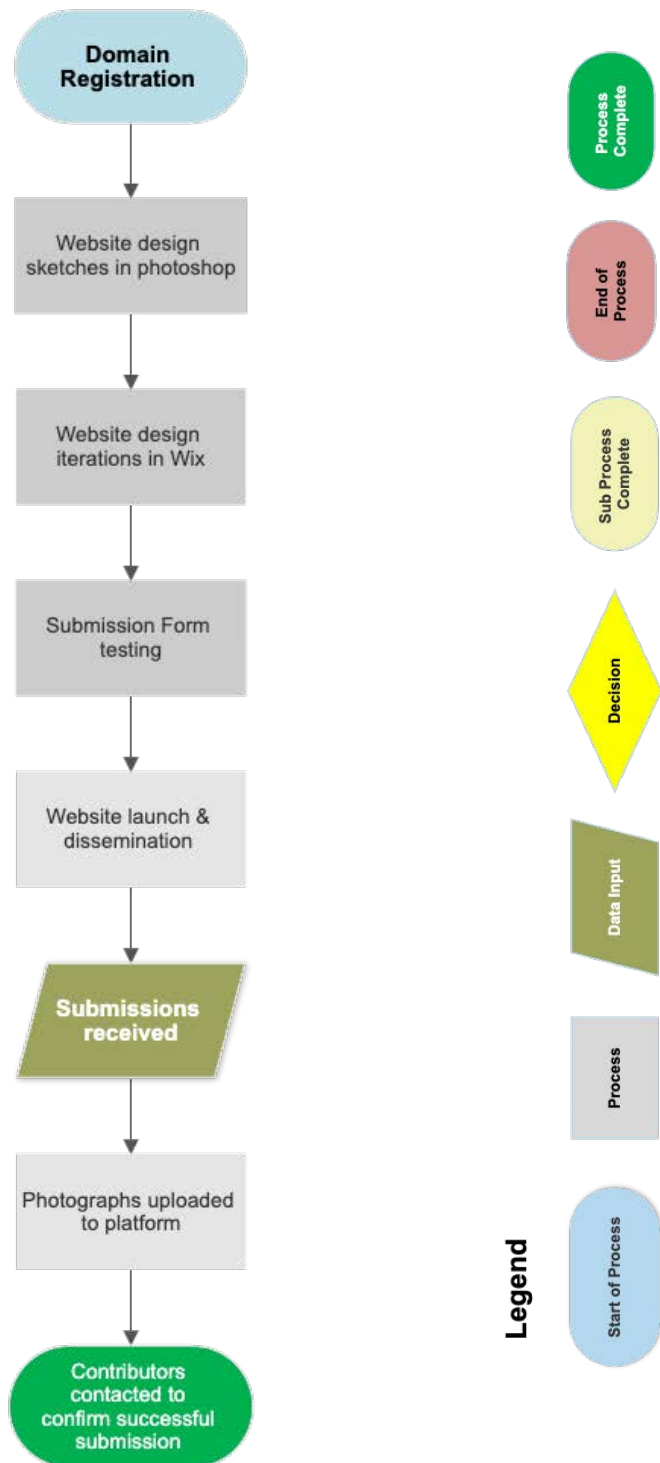
Figure 7. Platform development and photograph collection process

3.3.1.1.2   Domain Registration & Design Iterations

The domain www.iraqphotoarchive.com was registered using Dreamhost on 30th October 2018. I then created a design brief to share with a front-end developer (Panos Barablidis), in order to seek advice on design, structure, and functionality of a photo sharing platform (see Appendix B-4). Using initial designs created in Photoshop (Figure 8) as well as text information for the submission form, he sent the first prototype of the website to me on 1st May 2019 (Figure 9 and Appendix B-5). This version was sent along with text documents for the submission form, participant information sheet, and oral history research consent form (Appendix B-7 & 8) for ethical approval (Appendix B-6) on 8th May 2019, which was granted on 22nd May 2019.
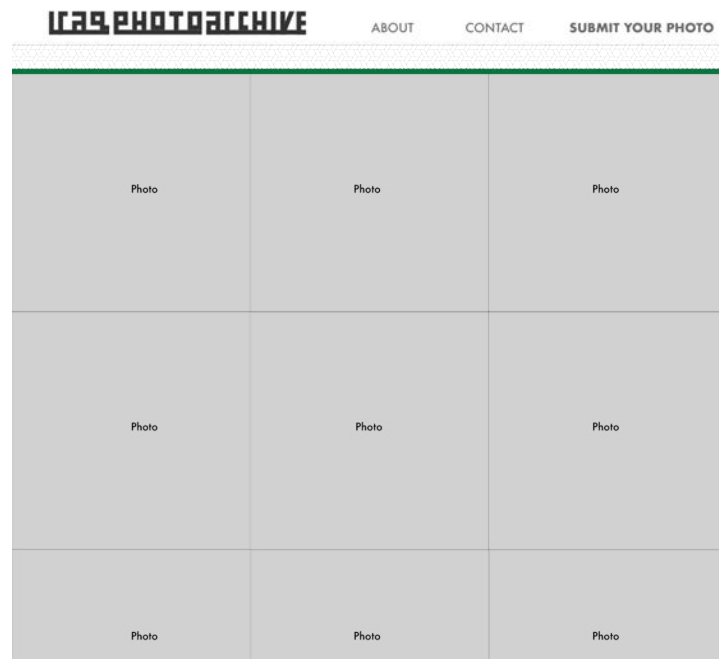
Figure 8. Initial draft design for website

Figure 9. First homepage design

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3.3.1.1.3   Website Design

The design of the home page of the website which displays the collection of submitted images is based on a simple masonry grid, expanding dynamically as submissions are received, reviewed, and added to the collection. The Wix Pro Gallery grid was utilised by the designer to achieve this layout style. The number of pages and menu items are kept to a minimum to not overwhelm visitors. The menu provides the following options: *Archive*, *Submit Your Photos*, *About*, and *Contact*. *Archive* is the homepage and displays all the submitted and approved images. *Submit Your Photos* opens a page which displays a required reading about the nature of the research project, instructions for how to submit an image, and a 'Terms and Conditions' (Appendix B-8) which outlines in detail the kind of submissions that will not be accepted. Participants are also invited to give consent to being contacted regarding the oral history phase of the project.

Figure 10 shows the final design of the website homepage and flowchart in Appendix B-10 details the steps in the photo submission process.
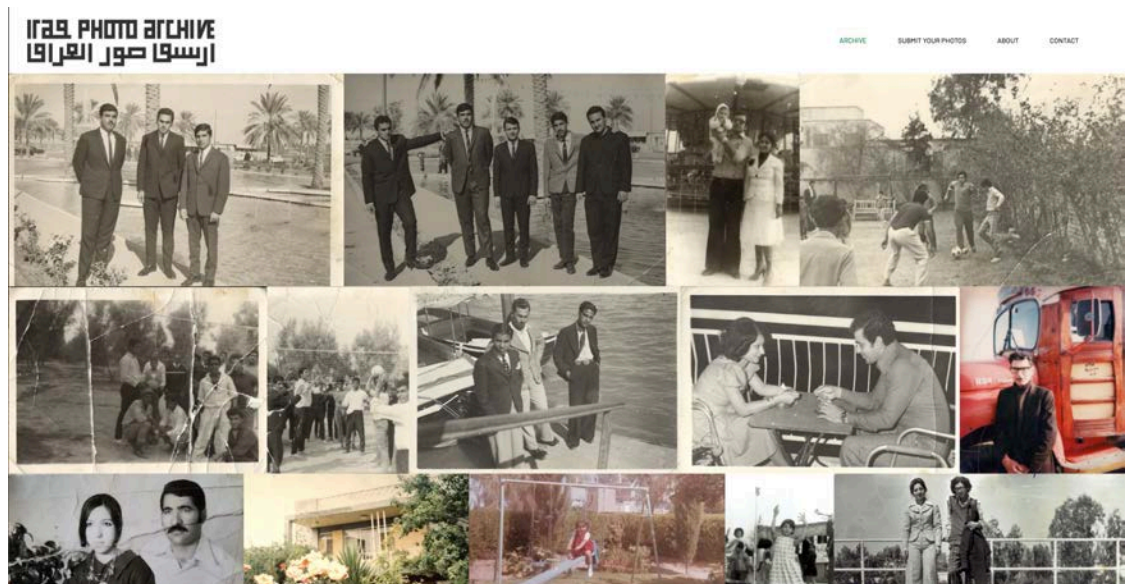
Figure 10. Iraq Photo Archive final design showing photo gallery on the home page

3.3.1.1.4 Website Launch and Dissemination

In January 2020, I created the Instagram page @iraqphotoarchive as a vehicle to disseminate information about the project and the website to the wider public. In order to populate the collection with some images initially, I uploaded a selection of photographs from my father's personal album. The first post was on 26th January 2020, with a brief text outlining the project and used the hashtags #iraq #iraqidiaspora #photoarchive (see Figure 11). I received the first submission through the website on January 29th. Following this there was a gap until March 14th before I received further submissions. During this time, I contacted the following organisations to try to leverage their networks to disseminate information about the project: Arab British Centre, British Institute for the Study of Iraq (BISI), The Iraqi Association (UK), Ruya Foundation. Except for the Ruya Foundation, I received positive response from all other organisations who agreed to share information about the project in their respective newsletters. I had arranged an in-person meeting with the Arab British Centre at the end of March 2020, as well as a presentation at the Iraqi Medical Association Spring Scientific Meeting to discuss and further disseminate the project, however these were cancelled following the beginning of the COVID-19 pandemic. The pandemic however did correspond with an uptake in submissions to the website. Submissions increased further thanks to promotion and dissemination of the project to wider Iraqi diaspora networks by the Iraqi online magazine ShakoMako.net.

Figure 11. First Instagram post by @iraqphotoarchive, 26th January 2020

3.3.1.1.5　Publishing submissions

Notification of submissions were sent to my Glasgow School of Art email address. From here, I was able to view a summary of information submitted and download the photograph. I initially moderated the suitability of the submitted material (Appendix B-9). In a couple of instances, images submitted did not appear to be owned by the submitter, in which cases the contributors were informed of this by email. Suitable images were uploaded to the website gallery, along with the descriptive information provided. All contributors were contacted to thank them for their submission along with a link to the updated version of the site containing their submission. Participants who consented to being contacted about the oral history part of the project were informed to expect a separate email about this (Appendix B-11).

3.3.1.1.6　Denotational Inventory

To classify the type of photos submitted by participants prior to conducting evaluations (see Chapter Four), a denotational inventory of images was conducted using MAXQDA (see section 4.1 for details about this software), essentially a cataloguing of the literal meaning of the images (Penn, 2007). This involved importing all images into the program and carrying out a process of inductive coding on the photos, whereby the denotational content of the image prompted the code attached to it. The codes were colour coded to group them into categories, such as 'Activity', 'Subjects', Environment', (Figure 12). Informational content from descriptions provided by contributors during the photo submission process added an extra layer of context, especially in the 'Occasion' and 'Subjects' categories and allowed for further level of categorisation. Code frequency and code relation analysis were conducted to observe which categories appeared the most (Appendices B12-13), information which would feed into the discussion of results in section 5.1.
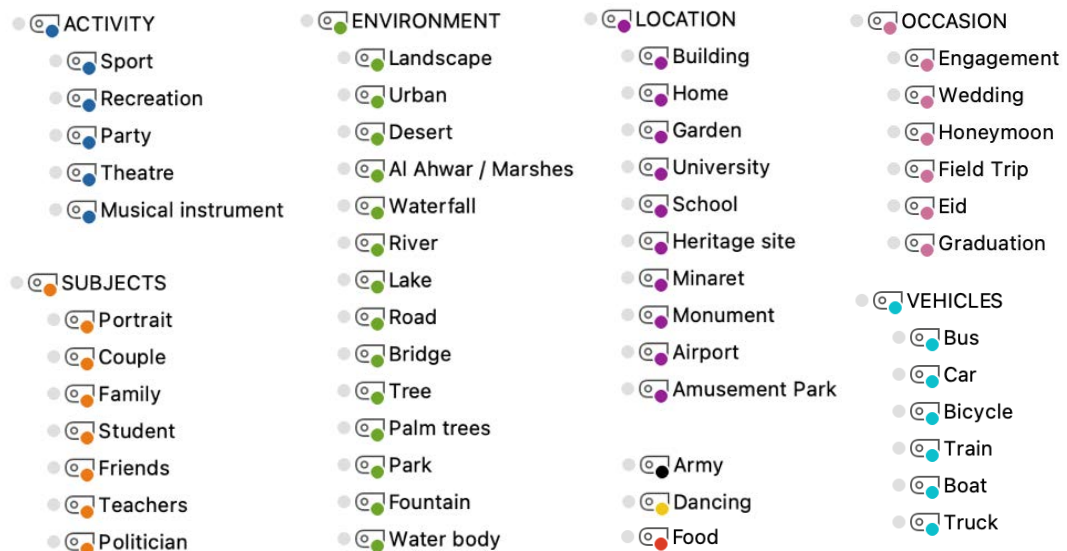
Figure 12. Code system applied to Iraq Photo Archive images

3.3.1.1.7　Reflection on Materials Submitted

The denotational inventory provides a categorisation of images submitted and a reflection on the nature of the materials (images and descriptions) leads to some interesting observations. As could be expected from an open call to private individuals to share images from their own collections, the photographs submitted are

predominantly portraits of people (relatives, friends, colleagues) taken at events such as graduations, engagements, and at university. They reveal a practice not distinct to Iraq, the use of photography within families to document occasions. As recounted anecdotally by one participant, the large number of high-quality images from Baghdad University was due to there being a photographer on campus (and on field trips) who took photos of students and displayed prints on the canteen wall for them to acquire. The images mostly display a formality of poses and smiles (subjects being arranged and posing for the shot) rather than candid moments. This could indicate the nature of photography from the pre-1980s, when film stocks were slower, and photographs were conventionally 'posed' for.

The accompanying texts provided by contributors include basic denotational descriptions of the content of the photograph (who, what and where), nostalgic reflections, emotive recollections, comparisons between past and present, and sometimes a combination of all. Anecdotal reading of these descriptions also reveals that engagement with the platform was largely taking place amongst second generation diaspora, whereby people in the photos from the 60s, 70s and 80s are referred to as mum, dad, auntie, uncle etc. This engagement from 2nd generation diaspora could be due to a number of factors: the dissemination of the platform on social media channels where this demographic may be more active; the use of English as the main language which precludes certain non-native English-speaking diaspora from accessible interaction with the platform; a desire by 2nd generation diaspora to connect with identity and homeland through familial narratives.

3.3.1.2 Oral History Interviews

3.3.1.2.1 Overview

The second phase of material gathering involved conducting audio-visual oral history interviews with consenting participants to explore the personal narratives and memories around the submitted photographs. The Oral History Society (OHS) in the UK describes the process as 'an opportunity for those people who have been 'hidden from history 'to have their voice heard 'and 'a source of new insights and perspectives that may challenge our view of the past' (OHS, 2022). Gathering oral testimonies from primary sources gave the research first-hand accounts of the narrative behind the archive photos. They help with the reconstruction of these past moments as 'history based on interviews provides a way into understanding the revealing values that have structured individual and collective experiences '(Sandino, 2013, p.7). The recorded interviews, together with the archive photos, are another output of this project. Flowchart diagram in Figure 13 shows the workflow of this phase of the material collection process.

Iraq Photo Archive
Oral history interview process
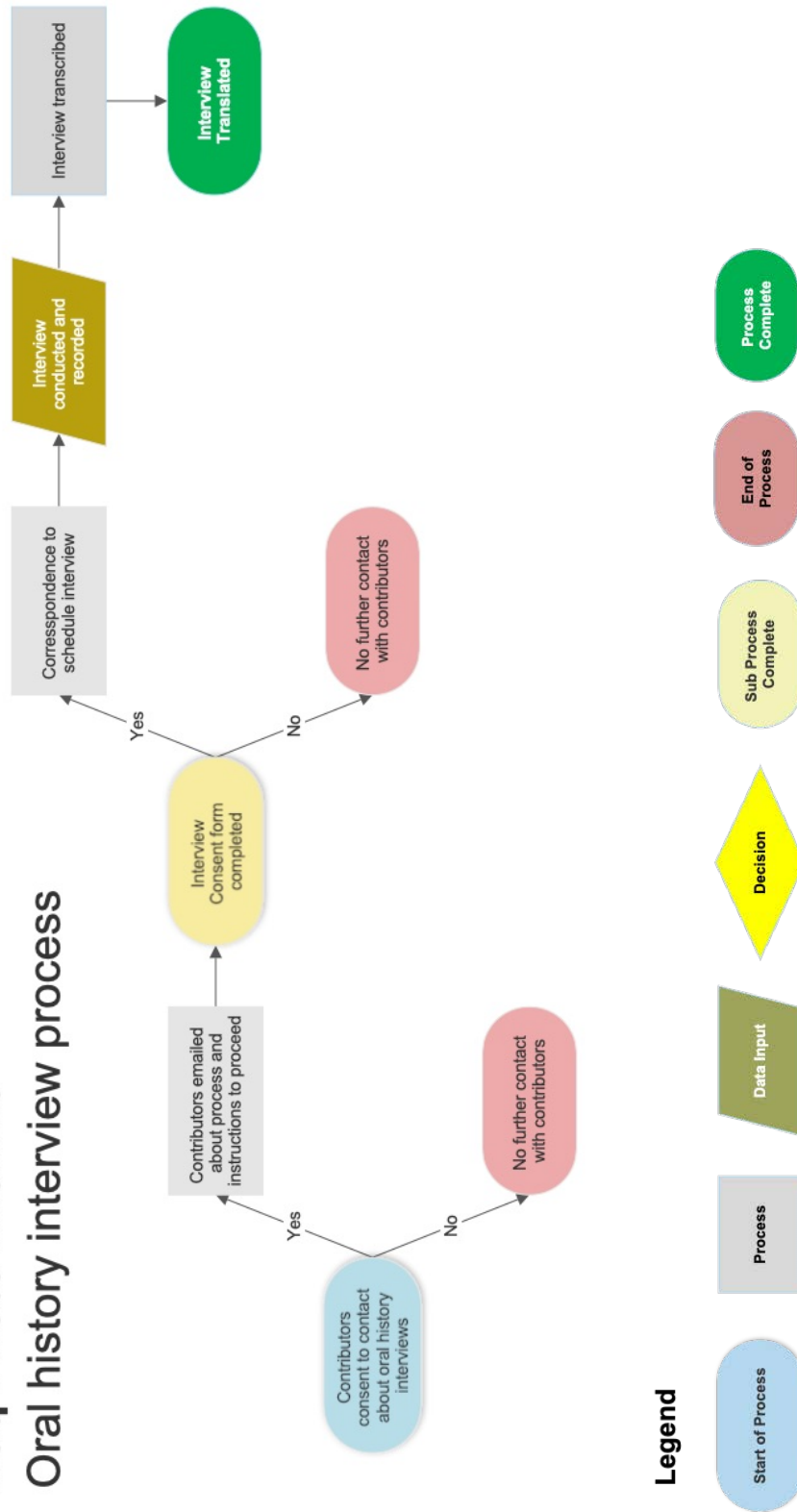
Figure 13. Oral history interview process

3.3.1.2.2   Contacting participants

The online submission form included a consent check box asking for permission to contact the contributor about the oral history part of the project. All contributors who checked this box were emailed with information about this part of the project, including links to a participant information sheet (Appendix B-7) and an online research participation consent form (Appendix B-8).

3.3.1.2.3   Conducting Interviews

Prior to the outbreak of the COVID-19 pandemic in March 2020, filming of oral history interviews was to take place in person. As a result of the Covid19 pandemic, in-person filming became impossible. Thus, I developed a remote filming workflow which involved the use of the video conferring application Zoom to record the visual image and audio, as well as a portable microphone recorder sent to participants to record higher fidelity audio. The contents of the recording kit can be seen in Figure 14.

A   Microphone
B   Tripod
C   SD Card
D   Windshield
E   2 x AA Batteries
F   USB Cable
G   AC Adaptor
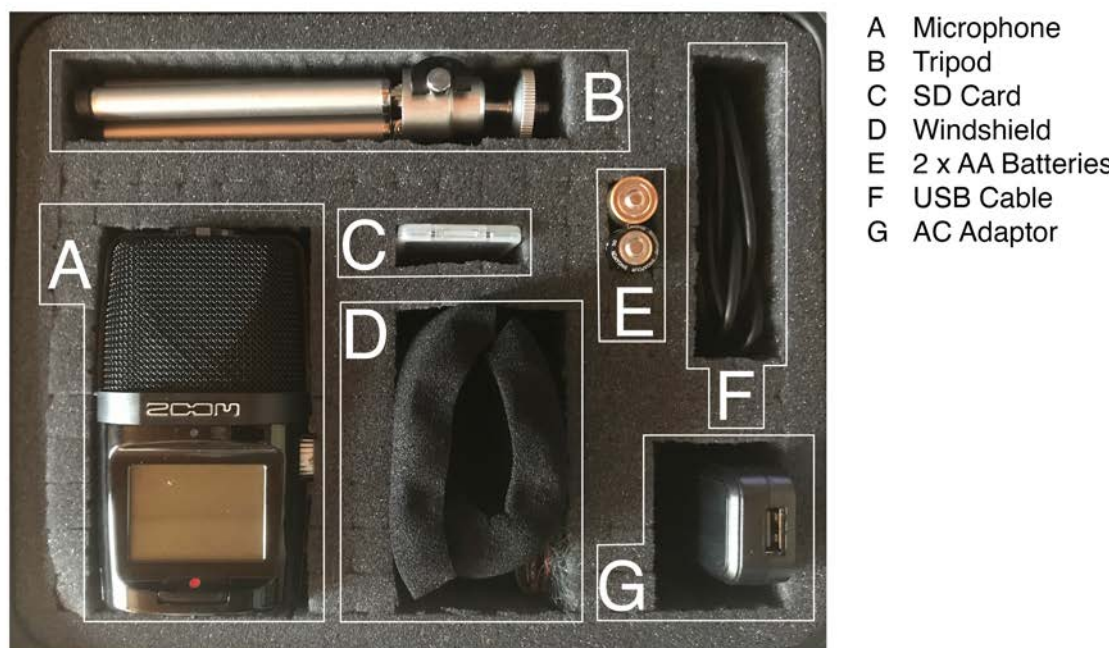
Figure 14. Oral history interview audio recording kit

I prepared two documents for participants taking part in interviews. The first document titled "Preparing for the interview" was sent in advance of the interview and provided technical information and guidance on installing Zoom and the ideal positioning of computer/tablet/phone (Appendix B-14). The second document pertained to setting up the interview recording kit and arrived to the participants home inside the case of the kit (Appendix B-15). This step-by-step visual guide showed participants how to set up and prepare the microphone for the interview. Due to lengthy postal times between the Republic of Ireland (where I was based at the time) and the UK between Oct - Dec 2020, I was only able to conduct 2 out of 5 interviews using this recording kit as it was taking 2 weeks each way for the package to arrive. New customs regulations in January 2021 due to Brexit meant that there was no guarantee of the package arriving to participants without incurring import duties and taxes therefore I was unable to continue using this method, and interview audio was just recorded over Zoom.

My initial concept for the in-person interviews was to employ a very specific style to maintain visual uniformity and conceptual consistency. The visual approach to the

interviews would use a central subject framing with a neutral eye-line angle. This would give symmetrical balance to the composition and attempt to avoid unconscious positive or negative readings of the subjects by viewers, which a low or high angle shot could elicit (Robotham, 2022 p.51). All subjects were to be filmed in 4K using a 50mm lens. Through the use of an EyeDirect in front of the camera lens, interviewees would be looking directly at the photograph they submitted but also straight down the lens, resulting in a very direct engagement between subject and viewer (Holben, 2021). This approach would allow the subject to become engaged in looking directly at their image, as a method of encouraging recollection, and to avoid the researcher inadvertently leading responses through involuntary body language or eye contact. I would have been seated behind the camera and they would engage in discussion with me about the content of the photograph, through the photograph. Unable to employ this method but keen to replicate it as close as possible remotely, I instead used screen sharing in Zoom to present their photograph full screen on their computer. I recorded the call within the Zoom application, but also through a screen recording so I could a get a clean hi-resolution file of just the participants camera, as I was using dual monitors.

3.3.1.2.4   Interview Questions

The aim of this process was to give participants the opportunity to take part in a filmed conversation describing their memory of a photographic moment, giving voice to the intangible and visually unrepresented elements, such as recollections of sounds and feelings. Photo elicitation interviewing was used in order for participant's narratives to emerge in response to their photographs.

The aim was to conduct an in-depth semi-structured interview with participants free to use their own language and means of expression, and able to choose direction in the creation of their narrative.

In order to maintain a consistency of approach, I prepared a document for myself to refer to during this process, with a series of procedural instructions and a number of questions with sub-questions as prompts (Appendix B-16).

3.3.1.2.5   Interview transcription and translation

Following the interviews, audio recordings were transcribed using Otter.ai. This resulted in text documents for each interview, all of which needed to undergo a lengthy clean-up process as the software was unable to accurately transcribe English spoken with Iraqi inflections. Three of the interviews I conducted had live translation from Iraqi Arabic to English from a participating relative. These transcriptions also required accurate translation from Iraqi Arabic dialect to English, which was undertaken by Nazli Tarzi. Transcription editing took place after translations were completed.

3.3.1.2.6   Reflection on Interview Content

Photo-elicitation proved to be an extremely effective method for the interviews. With their photograph as a prompt, recollections generally flowed quite freely, and often the initial cue to 'describe the photograph' was a sufficient catalyst for a detailed response. As participants were describing images from a time in their past and a younger version of themselves, responses tended to be a mixture of descriptive recollections of denoted elements within the photos (objects, location, subjects etc.) combined with reflections on personal life and political/social realities at the time. Sometimes these reflections were contrasted with current political/social situation in Iraq. These more introspective musings tended to be expressed without cues, whereas the descriptive details about the surrounding environment, sights, sounds etc. required some prompting.

In relation to the two chosen interviews (see section 3.3.2.1 and Appendices B-17 & B-18), both demonstrate examples of these observations. In *Adhamiyah,* the participant offered very detailed reflections on how she felt as a person during this time of her life, her interest in fashion, and her relationship with her father. The image was taken in the garden of her family home, where she is seated in her father's chair, and the denoted elements in the scene, specifically her clothes, brought forth reflections on her love of fashion and how her interest in the arts was developing at the time. Follow up questions elicited very detailed descriptions of surrounding elements in the scene, such as the type of trees in the garden, and the sounds and smells. The photo depicts her seated in her father's chair and this object led to detailed reminiscences of her relationship with him, combined with everyday memories of morning rituals. In *Tarmiyah*, the car and the other individual in the photo prompted the participant to reflect on his political activity at the time, eventual exile from Iraq, and what became of his friend in the photo. His recollections oscillated between descriptions of denoted elements in the scene, and reflections on everyday life, political ideology, and the contrasts between past and present-day Iraq.

3.3.2 Analysing Materials

3.3.2.1 Criteria for inclusion and exclusion

As there were 17 images discussed in total from the interviews conducted, it was decided that remediating all 17 would be unachievable within the timeframe of the research, and that instead presenting **two examples** would adequately demonstrate the remediation of personal photographs and accompanying audio narratives; facilitate the development of a VR experience of a suitable duration that could be evaluated by viewers i.e., further remediations would lengthen the experience and thus the time needed for each viewer to participate and evaluate; ensure that male and female genders could be represented equally, as well as Arabic and English-speaking interviewees.

Interviewee Language and Gender breakdown				
	Male	**Images**	**Female**	**Images**
Spoke Arabic	1	1	2	4
Spoke English	2	10	2	2

Table 1. Interviewee language and gender breakdown

Out of the 7 participants who were interviewed, two females and one male spoke Arabic, while the other four spoke English, two from each gender. From the three Arabic speakers, there were a total of five images discussed; from the four English speakers, a total of 12 images were discussed (Table 1).

Choosing which image and associated narrative would be remediated raised the issue of researcher bias and the necessity for defining a framework for inclusion and exclusion. The following criteria were applied to the decision, which involved analysis of both the image and its associated interview excerpt:

1. **The content of the image**: images which depicted landscape, architecture, cultural heritage sites, domestic space, street scenes; images which depicted

an action that can be described or narrated; images which contained a subject in relation to an environment, as opposed to just portraits.

2. **The complexity of the image**: images with less complex subject compositions were prioritised, for example those with large numbers of subjects were deemed too labour intensive and time consuming for 3D reconstruction in the timeframe of this research.

3. **The content of the interview excerpt**: the narrative provided physical descriptions of the denoted content of the photograph; a mix of physical descriptions and personally reflective memories.

After applying these criteria to the 5 images and associated narrations in Arabic, image IPA_012_Baghdad_early_1950s (Fig.15) was the one which fulfilled all the criteria (henceforth referred to as *Adhamiyah*, a name derived from the location of the photo as discussed in the interview). This interviewee was female, and as such the other image was chosen from the 10 images discussed by the two male participants in English. Image IPA_003_Baghdad_1978_07 (Fig. 16) fulfilled all the criteria and was chosen as the 2nd image for remediation (henceforth referred to as *Tarmiyah*; name derivation as per previous example).

Figure 15. IPA_012_Baghdad_early_1950s - *Adhamiyah*

Figure 16. IPA_003_Baghdad_1978_07 - *Tarmiyah*

3.3.2.2   Neonarrative Process

The process of remediating the memory material into the Virtual Reality experience first required a series of iterative transcription editing passes to distil interview excerpts pertaining to each photograph in order to create a synthesis between image and narrative with a concise duration for presentation. This process involved four passes: (1) Clean up, (2) Refine, (3) Excerpt, and (4) Creative (See Figure 17). The four stages of this transcription editing process correspond to phases three - five of the neonarrative process as outlined by Stewart (2010, p.131) above, specifically: (3) 'the collection, transcription and review of data, (4) analysis of the data and (5) synthesis into neonarratives' (ibid. - numbers added by researcher).

Figure 17. Neonarrative workflow

1. Clean up

The first pass was carried out while listening to the audio file in order to clean up incorrect or missing words from the Otter AI transcription. The goal of this pass was the accurate transcription of all words spoken.

2. Refine

This pass focused on several 'fixes' to the text to improve intelligibility and flow. These included: removal of repetition, removal of stock phrases and quirks specific to the interviewee (for example: kind of, like, you know, yeah, so, just, then, actually), fixing

grammar (where it didn't change the essence of what was being said), making small changes for clarity.

3. Excerpt

Editing down the text to excerpts directly related to the photograph and associated memories. Tangential discussions not relevant to the photograph were removed, as well as the interviewer questions and interjections.

4. Creative

This final pass focused on creating a short narrative surrounding the photograph from the excerpts in pass three. This could involve moving statements from earlier or later responses to create a coherent narrative flow. The first stage of this process was printing out the text, analysing the passages for narrative content, annotating passages with notes, and underlining key sentences which could form a story. These choices were informed by whether the sentence was descriptive of a time or a physical location or object visually present in the photo, or whether it was something more reflective of an emotional feeling associated with the photo. After annotating print outs of the text, I then worked on the digital files of the transcripts in Microsoft Word (Figure 18).
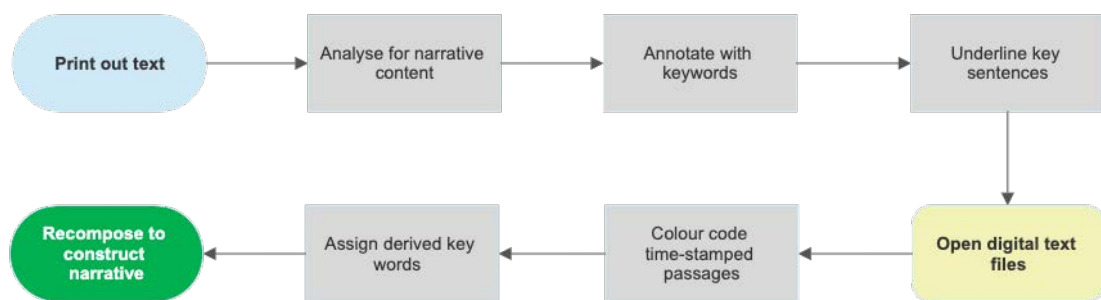
Figure 18. Creative narrative editing pass

Sections of the text were colour coded to keep track of timestamps for the editing of the audio file. Each timestamped passage of text was then assigned with a colour. These passages were then assigned key words derived from the first print out pass, such as whether the passage was describing a physical detail of the environment, a sound, a smell, or whether it was a more reflective memory (see Appendices B17-18 for these colour coded and keyword annotated transcriptions). I began editing the excerpt by choosing a passage which sets the scene for the viewer and establishes some context to engage the viewer. For example, a piece of audio which either directly referenced the photograph: "This is a photo that I really love", or one which references the denoted environment in the image: "Wonderful, you are isolated from the city … and suddenly you are in beautiful quiet nature". Once these establishing narrations were in place, I used the content of the end of these segments to determine the subsequent flow of the narrative. For example, a description of an element of the environment would prompt the choice of an excerpt which elaborates on this description. If no further elaboration or detail was present in the transcript, I then moved the narrative to a reflective memory. The narrative was created in this manner and sentences were rearranged accordingly. Their colour code previously assigned to the sentence/word was retained during this rearrangement to assist with editing the audio file. The final narratives can be seen in Appendices 19-20.

3.3.2.3 Audio Editing

Following the creation of the narratives, the relevant interview audio files were edited accordingly using Adobe Audition, using the colour coded timestamped documents as a guide for where audio edits were required. This editing process followed the same methodology as the transcription editing process, removing repeated words so that the audio narration followed the text verbatim. Long pauses were removed, and glitches edited out were possible. Once all editorial edits were made, I applied the processes and effects detailed in Table 2 to enhance the fidelity of the audio file. Once audio post-processing was complete, both files were exported in WAV format sampled at 44.1 kHz and 16 bits, ready for inclusion within the Unreal Engine 5 editor.

Effect	Description of use
Vocal Enhancer	This effect enhances the vocal frequencies for a chosen range. I used 'High Tone' for the Adhamiyah narration which optimises audio for a female voice, and 'Low Tone' for the Tarmiyah narration which optimises audio for a male voice. This effect 'automatically reduce sibilance and plosives' and applies 'microphone modelling and compression to give vocals a characteristic radio sound' (Adobe, 2022).
Normalize	This effect was applied at 95% to maximise the amplitude of the audio.
Parametric Equaliser	This effect was set to use the 'Vocal enhancer' preset.

Table 2. Interview audio post-processing effects

3.3.2.4 Material Analysis

The final stage of material analysis involved a detailed reading of the chosen images in order to classify a list of elements for 3D reconstruction. This was a three-stage process:

1. **Denotational reading**: non-subject elements present within the frame were classified for modelling (Figures 19-20)

2. **Interview information**: contextual information added from expositions within the interviews, to include physical props but also sound cues. This stage used inductive coding, whereby the list of props and sound cues is derived from the language used by the participants. References to props or sounds in the text were highlighted in the text in MAXQDA and added to lists of props and sound cues.

3. **List of props and sounds**: items classified in stage 1 & 2 above populated a list of props and sounds required for each environment (Table 3 – 4).
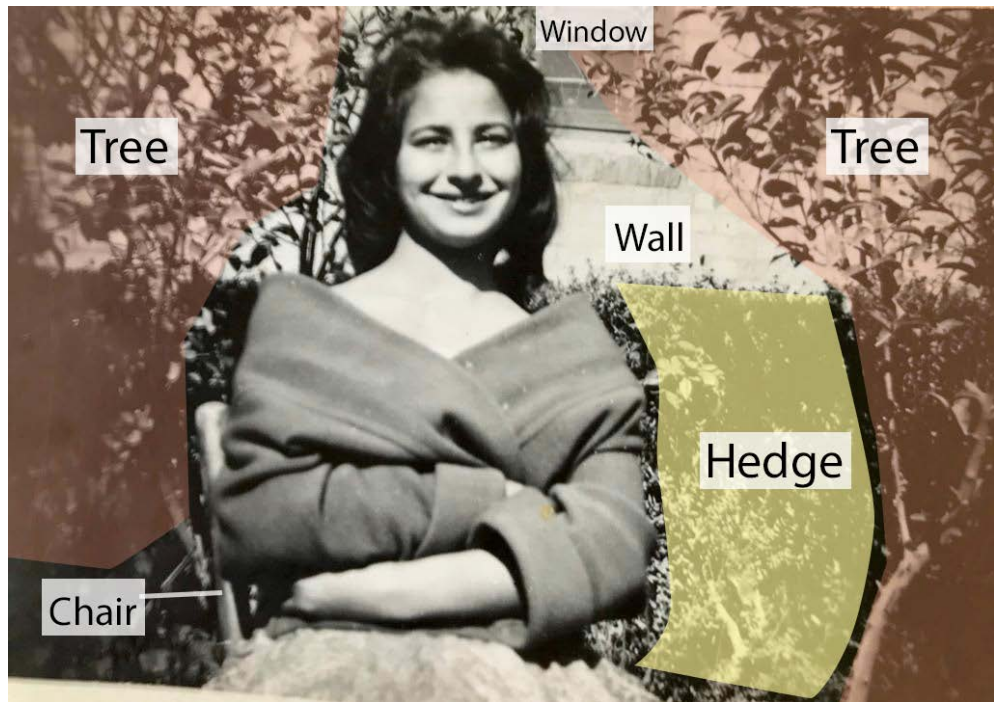
Figure 19. *Adhamiyah* - annotated
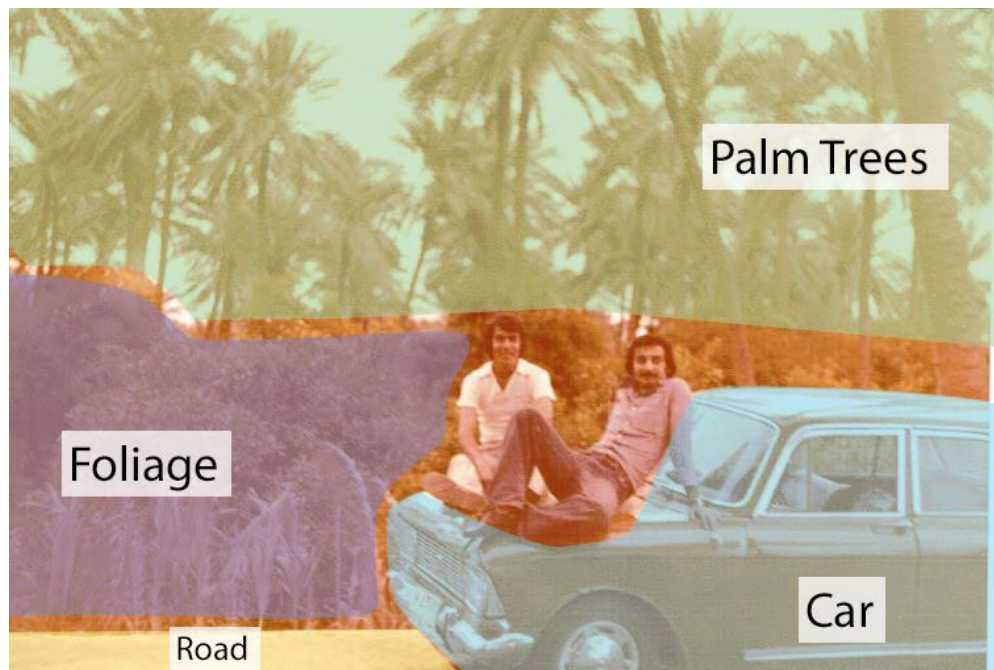
Figure 20. *Tarmiyah* - annotated

Image	Interview
List of Props	
Window	
Wall	
Hedge	
Chair	
Trees	Citrus trees - Orange and lemon
	Garden
	White Qadah flowers (orange/lemon blossoms)
	Tablecloth
	Geymar
	Jam
	Chai
	Iraqi samoon (bread)
	Table
	Coffee
	Glass of water
List of Sounds	
	The bulbul warbling

Table 3. Adhamiyah props and sounds list

Image	Interview
List of Props	
Palm Trees	
Foliage	Orange/lime trees
Car	Moskovitch
Road	
	Small rivers/canals
List of Sounds	
	Birds singing (bulbul)
	Wind
	Trees moving
	Water running in small rivers/canals

Table 4. Tarmiyah props and sounds list

3.3.3 Remediating Materials: Virtual Environment Design

This section outlines the conceptual thinking and practical approach taken to the remediation of the selected photographs and their associated narratives into a Virtual Reality experience.

3.3.3.1 VR & Photorealism

The choice of VR for the remediation of the memory material was motivated by the idea of creating an immersive and experiential encounter with an individual's narrative. As mentioned earlier (section 3.2.4), creating an experiential encounter privileges the standpoint of the storyteller and creates the conditions for an empathetic encounter to emerge (Bolter & Riggs, 2014, p.205). Immersive experiences can be constructed through physical installation (use of architectural props, textures, colours, sounds, and smells), however I felt that VR offered the potential to bring the photos and stories to life in a manner which allowed for the visual and aural environment to evolve in response to narrative elements. The nature of a VR headset, which envelopes a user's field of view (and aural field through headphones), promotes a higher degree of immersion as it limits the distractions to the visual and aural senses which can occur in a physical

installation (for example, other participants in the space, extraneous sound, distracting architectural elements etc.). The choice of this medium was also informed by the desire to counter the dominant representation of Iraqi environments within military training simulations and conflict-themed video games.

Such is the nature of the medium, there are myriad approaches that can be taken in the design of the visual elements within a virtual environment, from stylisation to photorealism. As the project is concerned with the representation of authentic Iraqi narratives within simulations, creating abstracted, expressionistic, or overly stylised elements would have introduced an extra layer of creative interpretation and the conditions for visual distraction from the essence of the narratives. Furthermore, photorealism 'increases the feeling of being present in an actual space and is considered more visually appealing' (Zibrek et al., 2019, p.18).

3.3.3.2 Conceptual Approach

The design of the virtual environment was informed by these considerations:

1) *the experience required a central virtual environment (or portal) from which remediations could be interacted with;*

2) *this portal should allow users to freely explore and get used to basic functionality;*

3) *the portal should provide temporal space for the user to pause for reflection in-between interaction with the remediations.*

Conceiving the design of this portal followed the same methodological process characteristic of my creative practice, beginning with visual research into archive photographs. During the scoping exercise to classify collections of archive photographs from Iraq, images of traditional courtyard houses (shanasheel) in Baghdad in various conditions and stages of restoration in The Archie Walls Archive (Khalili Research Centre at the University of Oxford, see Table 5 in Appendix A-1) emerged as a conceptual starting point. The core of a traditional Baghdadi house is a central courtyard, 'an open stage where life is played out' (Rifat Chadirji, seen in Warren and Fethi, 1982, preface), around which rooms are oriented across three stories. This vernacular courtyard domestic space as a conceptual stage for stories to be enacted upon seemed to be an elegant device apropos of encounters with personal photographs and associated narratives. Additionally, this type of structure is evocative of Iraq, with specific architectural design elements present both in palatial structures and in vernacular buildings from Mosul to Baghdad and Basra (Warren & Fethi, 1982), and as such presents itself as a fitting space to house the remediations. With many of these structures in a state of disrepair, decay or destroyed entirely, the construction of a virtual model of a shanasheel also serves as a form of digital heritage visualization.

The creative decision to construct a virtual shanasheel house as the central virtual environment to house remediations was informed not only by this conceptual thinking, but also by the alignment with my creative practice methodology, of reconstructing environments from archive photographs to form virtual bonds with the past. Furthermore, the shanasheel structure and elements of this kind of middle eastern vernacular architecture are used within other simulations of Iraqi environments (see section 2.4.4 for discussion of simulated representations of Iraq in exposure therapy treatments and military training simulations) and as such, their use in this context to house personal photos and narratives from Iraqi diaspora, provides a representation of these environments which is not contextualised as a stage for simulated conflict.

Using a shanasheel house as a portal for remediated memories prompted the title '*House of Memory'*, not only for its literal connotation, but also for its evocation of the

House of Wisdom, an intellectual centre in Baghdad during the Abbasid period. The inauguration of the *House of Wisdom* is said to have begun a period known as the Islamic Golden Age during which Baghdad was the largest city in the world. *House of Memory* as a name not only forms a conceptual link to this period, its enquiry into layers of remediation of photographic material (from analogue print to digital file to computer generated reconstruction) is ontologically connected with intellectual optical research from this period of history.

3.3.3.3   Designing '*House of Memory*'

3.3.3.3.1   Flow

The virtual environment consists of the central shanasheel courtyard space from which the two remediations can be accessed. Figure 21 outlines the initial structure of the virtual experience:
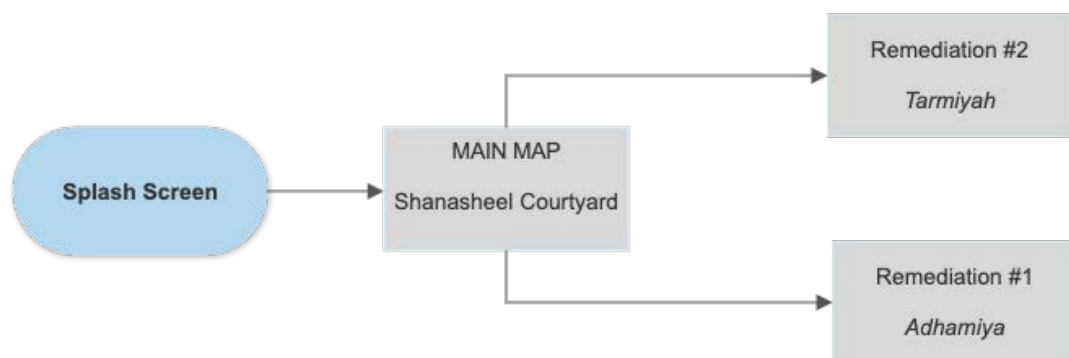
Figure 21. *House of Memory VR* experience - initial structure

This structure is informed by the two photographs and narratives chosen for remediation based on aforementioned criteria, and the decision to have a central portal from which they can be accessed, as well as an opening splash screen. The design workflow can be seen in Figure 22.

3.3.3.3.2   Visual references

Initial visual reference gathering was carried out using searches on Pinterest and the creation of a number of Pinterest boards to get a sense of the type of photographic material of shanasheel available online. I gathered a range of images, however they were mostly exteriors and were too disparate in time frame to form a solid visual basis for design. I turned instead to what became the primary source of visual references, the book 'Traditional Houses in Baghdad' by John Warren and Ihsan Fethi published in 1982. The book came about from a conservation and restoration programme for traditional Baghdadi houses which began in 1981 in certain areas of the city. Through surveys conducted for the purposes of restoration, the book presents the qualities and architectural characteristics of subject buildings across social scales, from grand to more humble dwellings. Accurate floor plans from a range of buildings are reproduced in the book, as are idealised forms and the layout and logic of room placement. These plans together with photographic references from the book, as well as from *The Archie Walls Archive*, were core references in the design of the virtual shanasheel. I produced a series of mood boards in Photoshop focused on the core elements of the building to form a design understanding (See Appendix B-21). These mood boards were used for visual reference (as well as a digital reference board in PureRef) during the floor plan design and 3D modelling. Certain images within these mood boards became key

references to guide the design approach to the layout of the space (Figure 23-24) and these were referred to regularly during the planning and modelling phase.
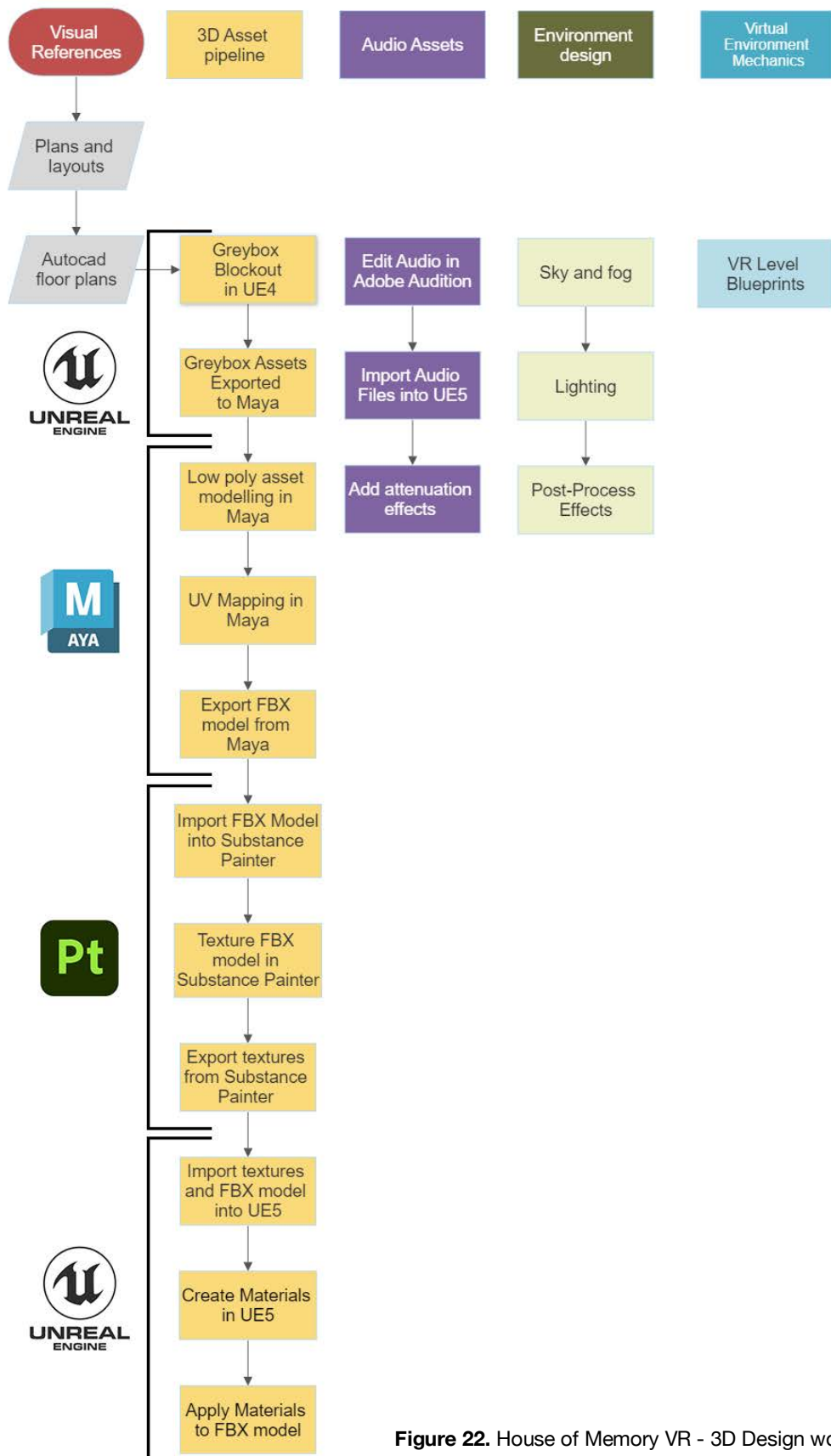
Figure 22. House of Memory VR - 3D Design workflow

Figure 23. Key visual references of hosh layout (Warren and Fethi, 1982, p.58)
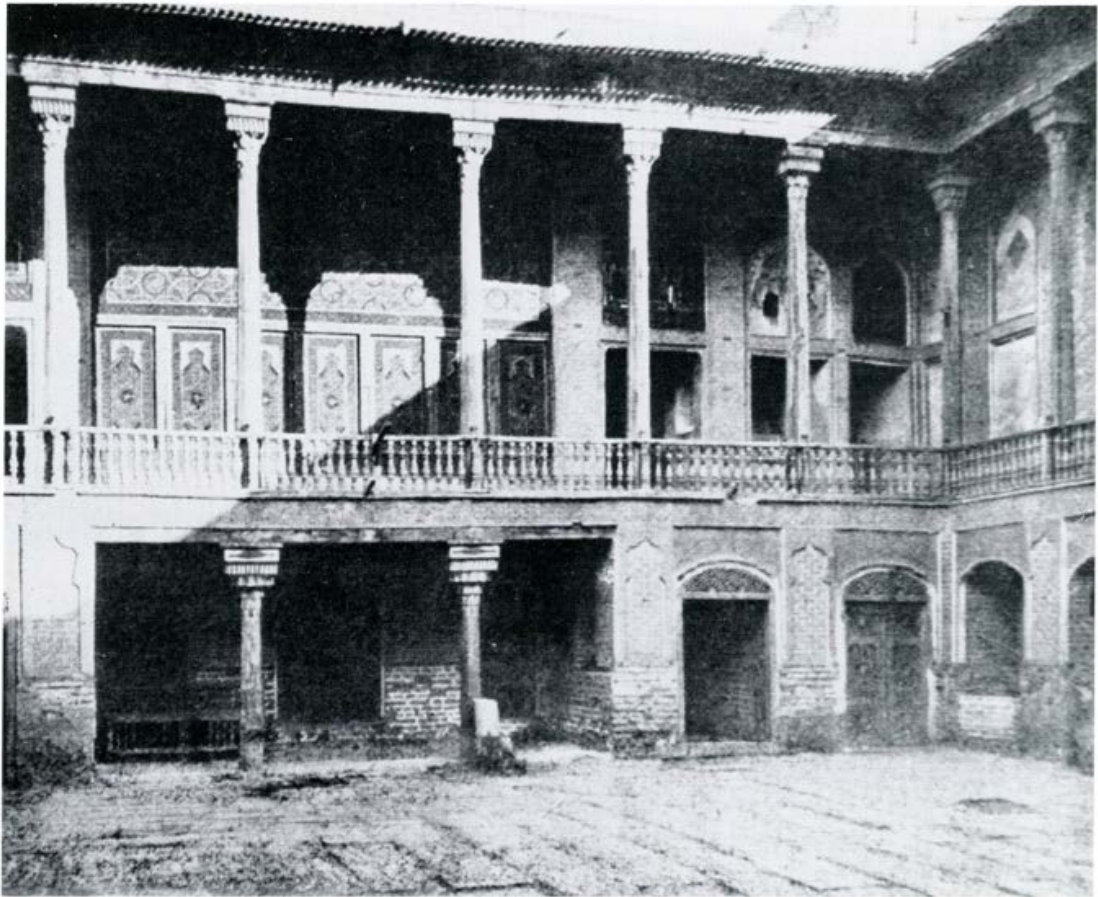
Figure 24. Key visual references of hosh layout (Warren and Fethi, 1982, p.65)

3.3.3.3.3   Plans and Layouts

Following careful study of the floor plans in *Traditional Houses in Baghdad,* I utilised the idealised forms in Figure 25 and the floor plans in Figure 26 as starting points for the creation of a new floor plan to base the virtual model on.
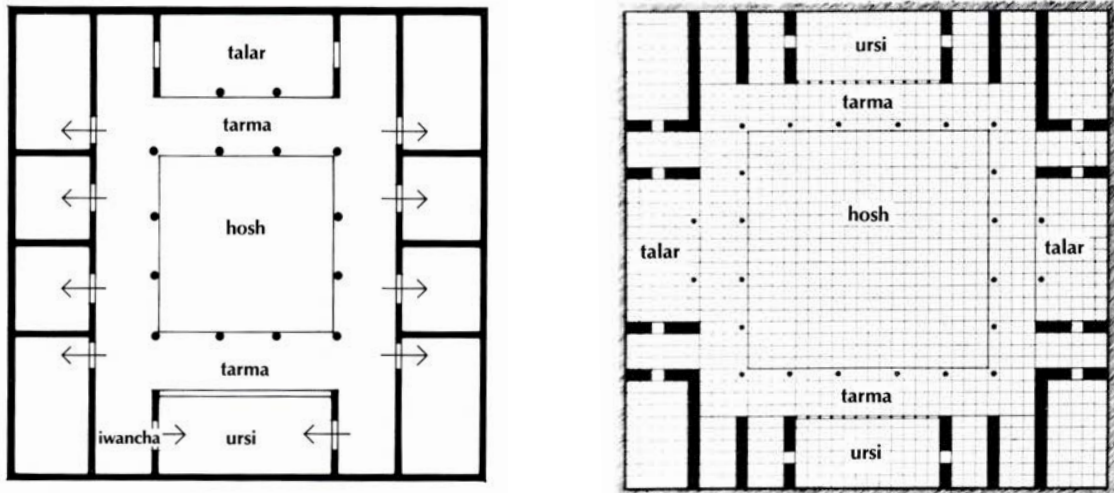
Figure 25. Idealised upper floor plans (Warren and Fethi, 1982, p.47)
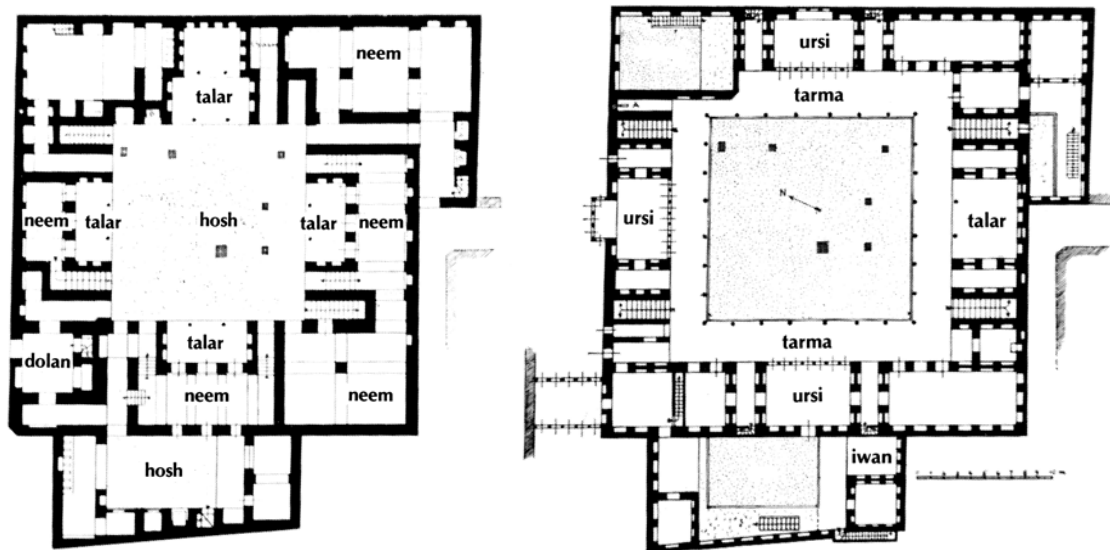
Figure 26. Ground and first floor plans of a large double courtyard house. - Oscar Reuther (seen in Warren and Fethi, 1982, p.47)

3.3.3.3.4   AutoCad Floor Plans

Using drafting software AutoCad, I created floor plans for the ground and upper floor (Figure 27), incorporating a *neem* (semi-basement) and *kabishkans* (small, mezzanine-level rooms in the upper story).

Ground floor plan   Upper floor plan (with kabishkans in purple)
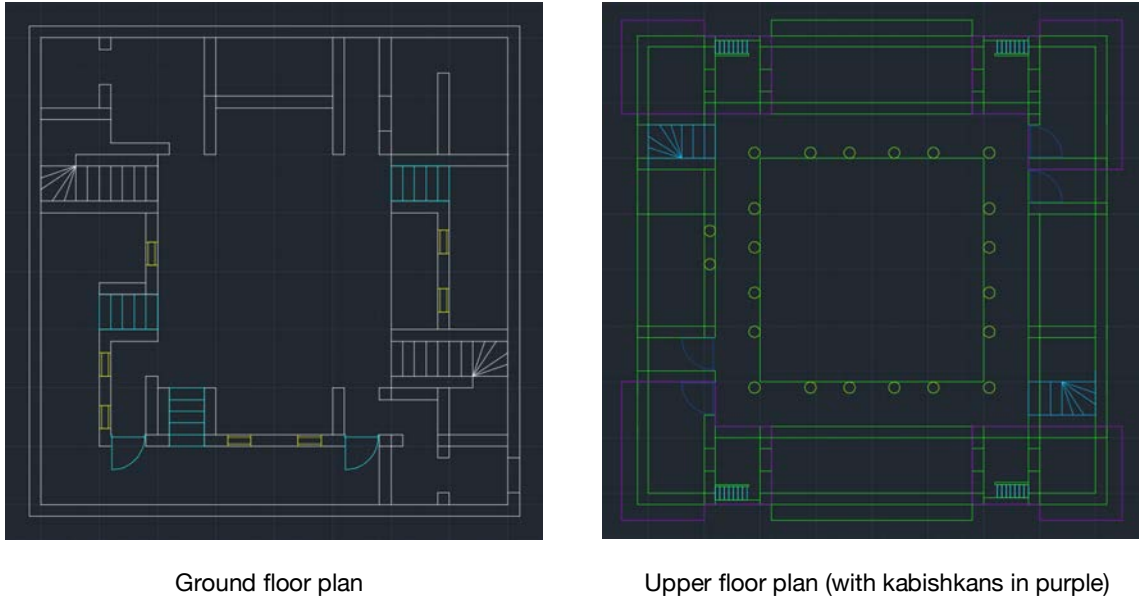
Figure 27. Ground and upper floor plans created in AutoCad

3.3.3.3.5   Greybox Layout in Unreal Engine 4

Using the floor plans in Figure 27 combined with ceiling height information from another floor plan (Figure 28) and aforementioned mood boards for reference, I used basic polygonal box brushes in Unreal Engine 4 (UE) to construct a grey box model of a shanasheel house (see Figure 29-30 for screen grab views and plans of this prototype).
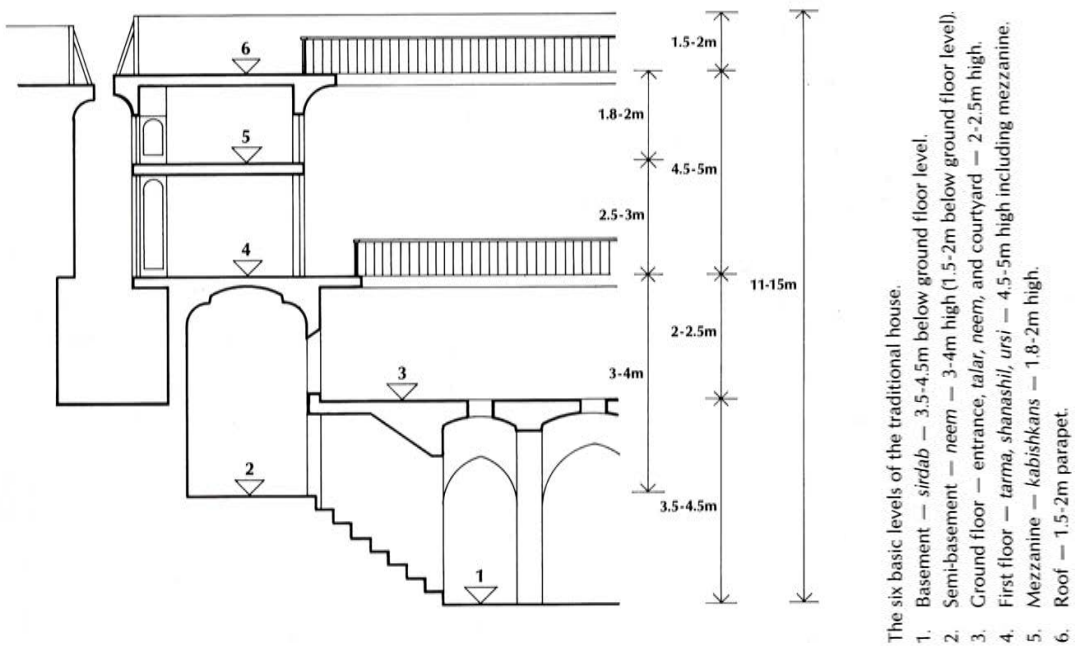
Figure 28. Ceiling heights in traditional Baghdadi house (Warren and Fethi, p.64)

Figure 29. Greybox model of shanasheel house - screen grabs from UE4
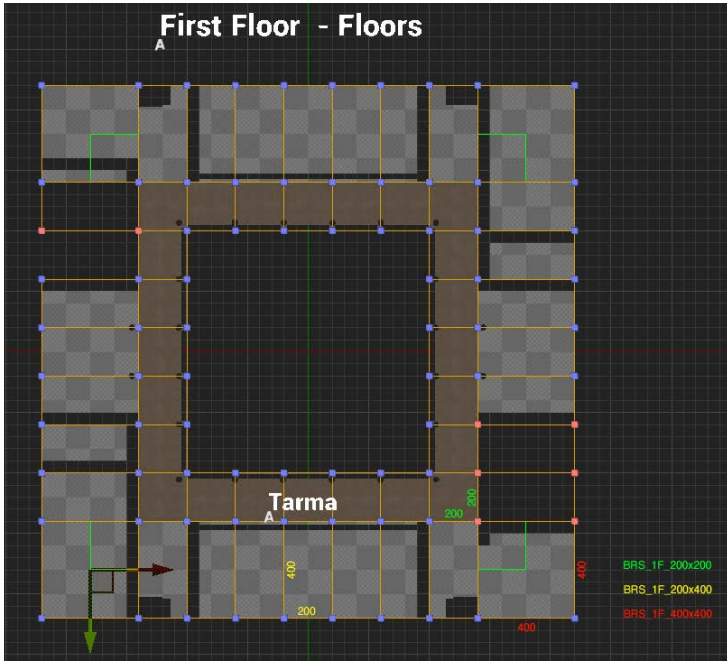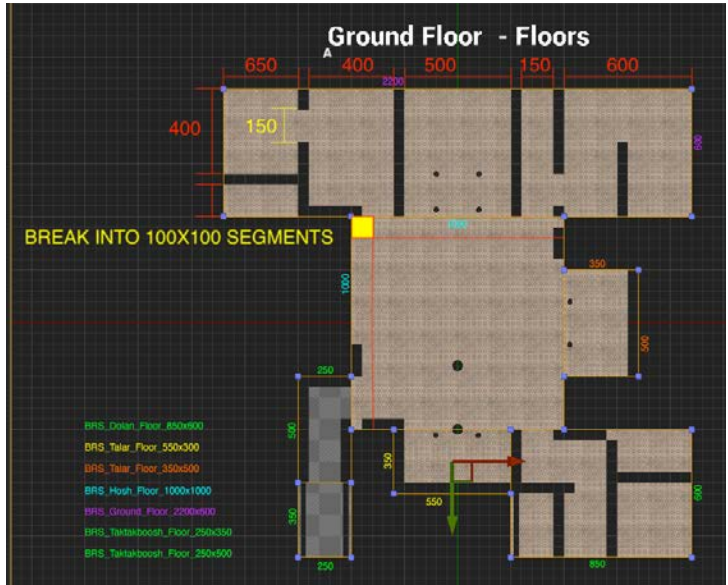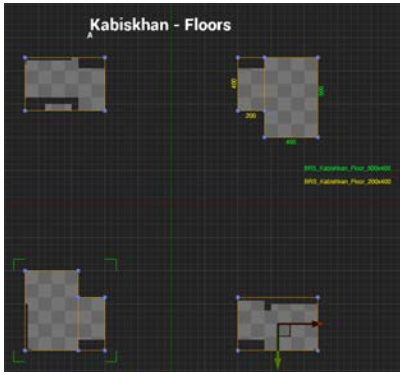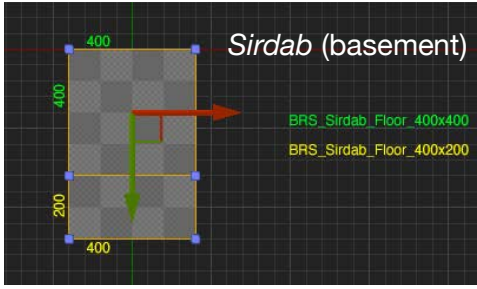
Figure 30. Floor plans screen grabbed from UE4 and annotated in Photoshop to assess dimensions and scale for planning the creation of modular assets

3.3.3.3.6　　Reworked layout in Unreal Engine 5

The prototype contained a large amount of architectural detail across 6 floors: sirdab (basement), neem (semi-basement), ground floor, upper floor, kabiskhans, and roof. The upper floor rooms such as the *ursi* are characterised by intricate detailing on window screens, walls, and ceilings, and constructing these assets would have required lengthy production time, beyond the timescale of this PhD. With only two remediations being presented: design changes were made to limit the navigable area of the environment to just the ground floor, meaning that only the façades of ground and upper floor rooms needed to be modelled, reducing the number of textured assets required considerably; a larger multi-floored space would be somewhat redundant from an interaction perspective, serving only as an architectural space to be explored and could cause the user to become disengaged with the core focus of the experience. The new design was based around a simplified *hosh* with four *talar* spaces arranged symmetrically, two of which would provide space for the remediated photographs to be displayed (see Figure 31).
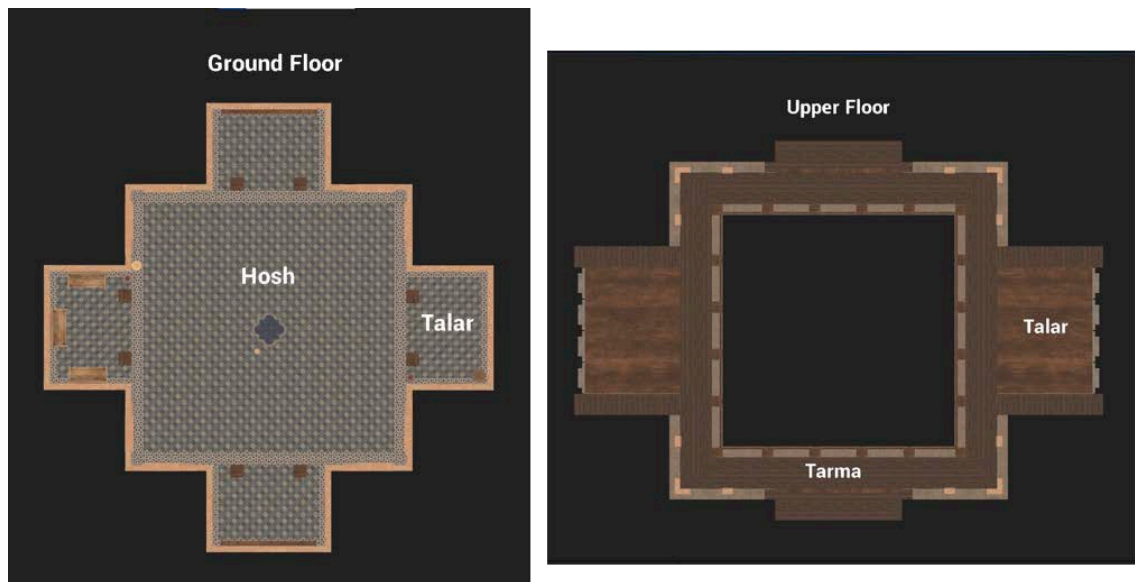
Figure 31. Redesigned floor plans - screen grabs from UE5

3.3.3.3.7　　3D Asset Design Workflow – *Muqarna* capital and column

In order to 3D model the house environment in an efficient manner, I utilised a modular asset workflow combined with unique assets production. Modular asset design involves creating assets which can be reused multiple times within a scene and can be linked with other assets to form the building blocks of the virtual shanasheel house. The following case-study of the production of one asset (*muqarna* capital and column) serves here to demonstrate the workflow utilised in the construction of all assets for the house, both modular and unique.

3.3.3.3.7.1　　Visual References

The first stage in asset design was the preparation of central visual references to base the construction of the model on. Several detailed plans of a variety of *muqarnas* were available in *Traditional Houses in Baghdad* and these drawings served as key references (Figure 32). I identified one form on which to base the design upon (Figure 32). This particular muqarna was chosen due to its simplified form as it would be less

complex to model. The top of this particular capital was too basic in form so another reference was used to base the model on. This reference was brought into Maya and set up as an image plane to assist with modelling its form (Figure 33)
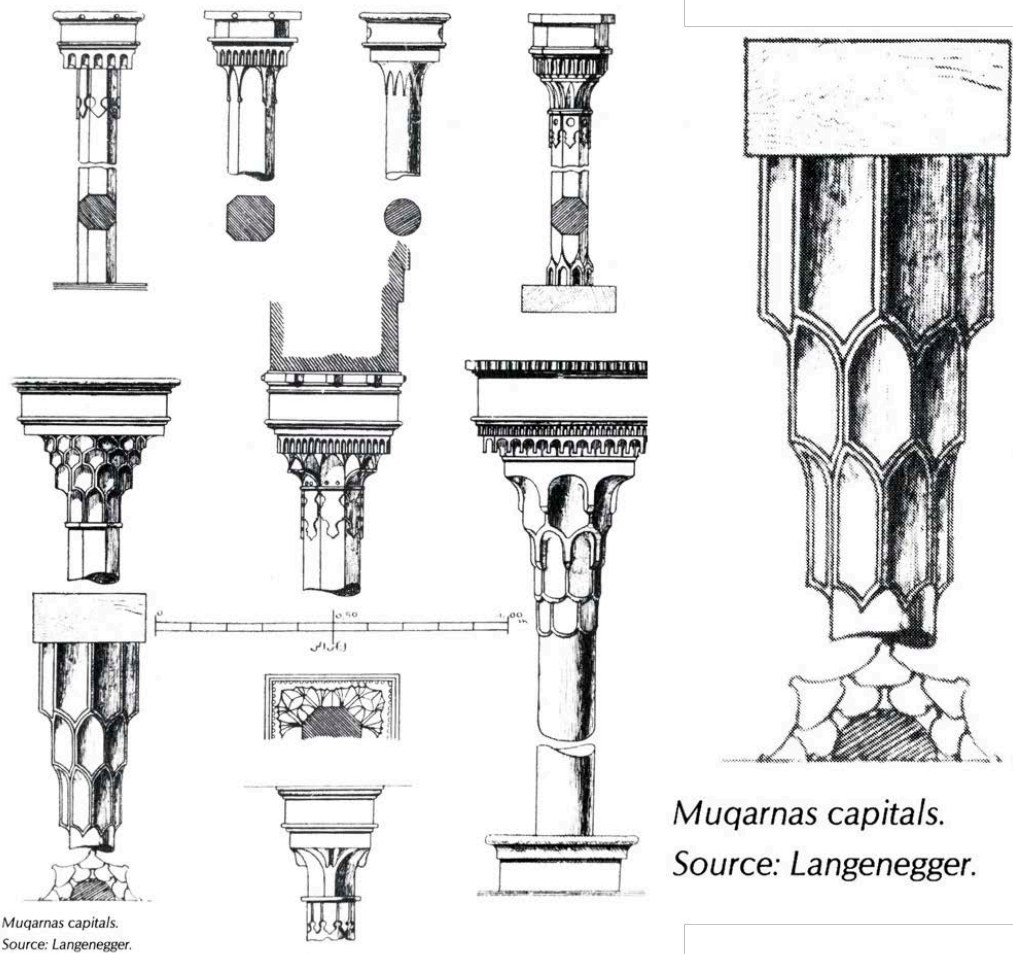
Figure 32. Muqarna references and chosen form enlarged on the right (Langenegger as seen in Warren and Fethi, p. 62)
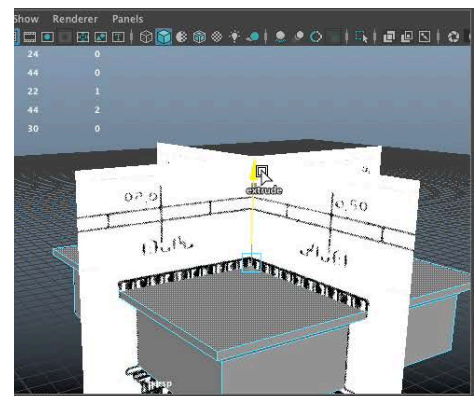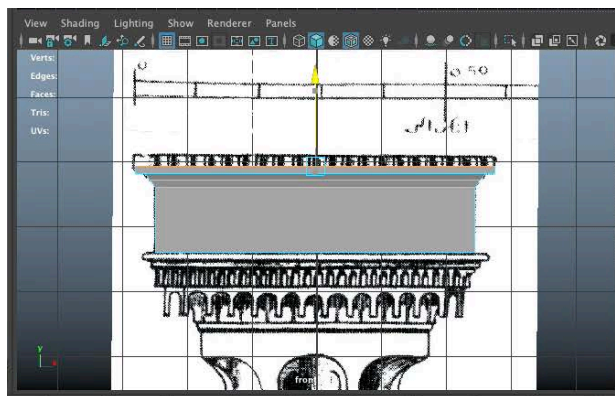
Figure 33. Muqarna references in Maya as image planes

3.3.3.3.7.2   Greybox Assets Exported to Maya

Greybox assets created in UE4 were exported as FBX models and imported in Maya (Figure 34). They were used as a guide to base the height or width of a particular asset on, to maintain the design dimensions arrived at during the greybox design phase.

3.3.3.3.7.3   Low poly asset modelling in Maya

Using the greybox model as a guide together with aforementioned visual references, the asset was modelled using primitive modelling techniques using cubes, cylinders, and Boolean processes with polygonal modification to achieve the distinctive shape of the muqarnas. The octagonal form was created by modelling one section of the three vertical muqarnas forms and duplicating them by instancing to ensure any further edits made to the form would be generated across this part of the model (Figure 35).
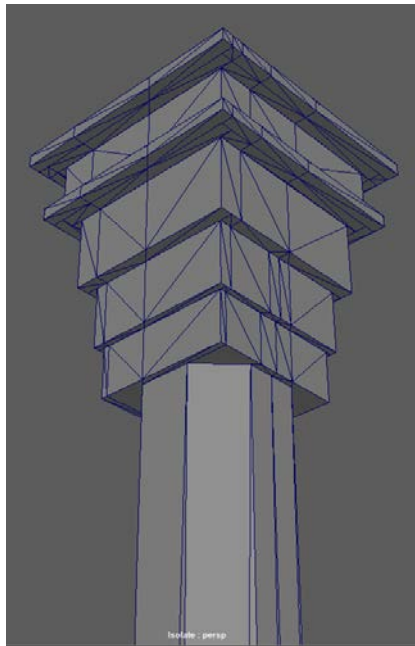
Figure 35. Greybox model created in UE4 imported into Maya
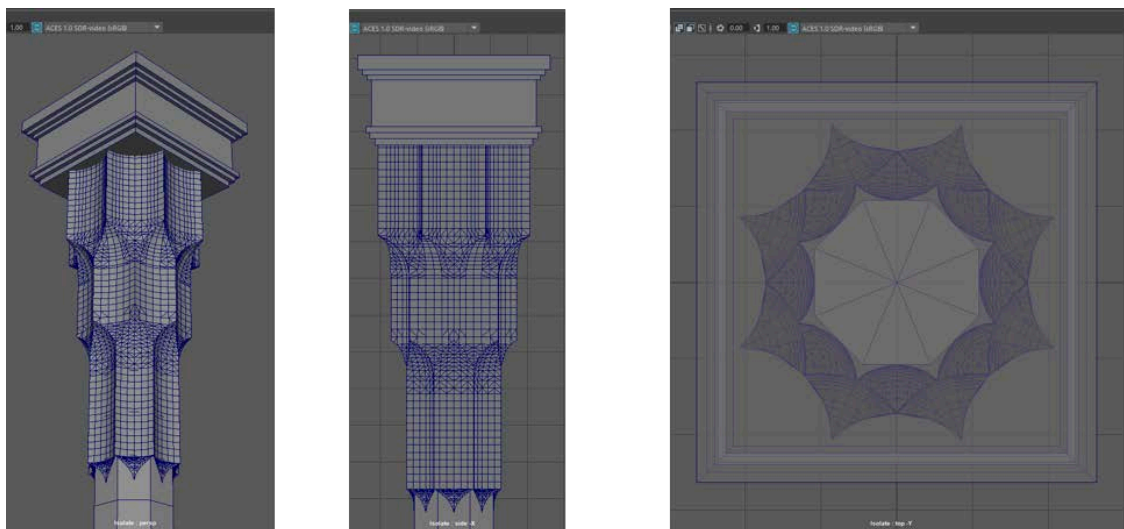
Figure 34. Perspective, side and top view of final muqarnas capital model in Maya

3.3.3.3.7.4   UV Mapping in Maya

Once modelling was completed, the mesh was unwrapped and two UV tiles (UDIM#1001 and UDIM#1002) were used to layout the UV shells to prepare for texturing (Figure 36).
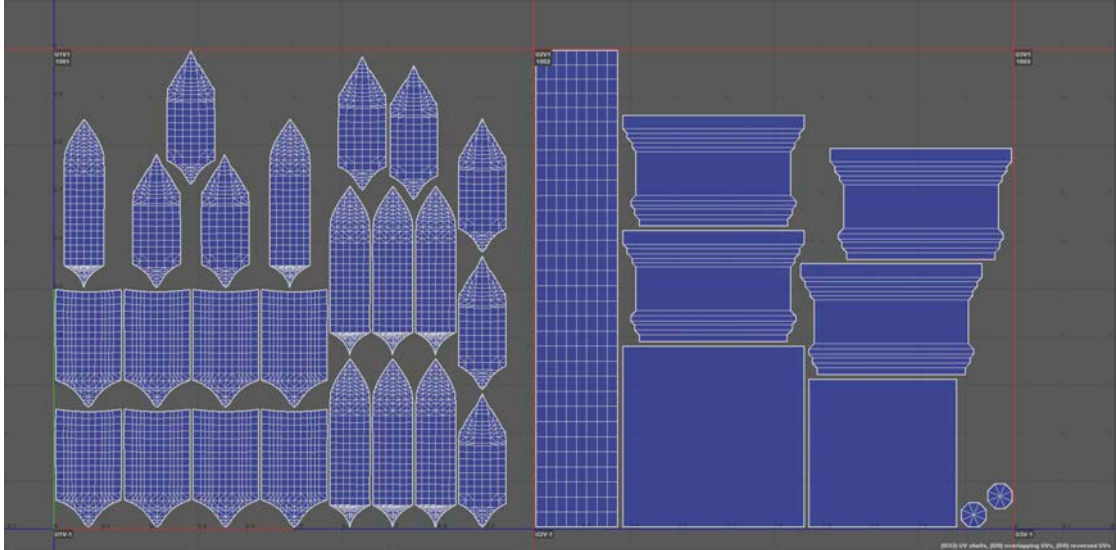
Figure 36. UV mapped asset across two UV tiles (UDIMs) in Maya

3.3.3.3.7.5   Texture FBX Model in Substance Painter

Once the model was UV mapped in Maya, it was exported as an FBX file and imported into Substance Painter. The project was set up using the Unreal Engine 4 template using a document resolution of 2048 (2K). For this asset, a UV tile workflow was used in order to preserve the UV tile layout set up in Maya (Figure 36). Once the FBX file was imported, the following mesh maps were baked at 2K resolution: Normal, Ambient Occlusion, Curvature, Position, and Thickness. A 'Wood Walnut' material was added from the Substance material asset library as the base material in the layer stack (Figure 38) and used to paint each UV shell (see Figure 37). A floral alpha brush was used to add details and another layer of 'edge wear' was added to provide a look of aged wood and complete the texturing process (Figure 39). Once texturing was complete, the following texture set was exported based on the Unreal Engine 4 (packed) template:

- Base colour map [RGB + Alpha (containing greyscale information for bump offset material expression in UE – see section on material creation in UE below)]

- Occlusion, Roughness & Metallic map (packed into R,G,B channels respectively)

- Normal map (RGB)

3.3.3.3.7.6   Import textures and FBX model into Unreal Engine

The FBX model was imported into Unreal Engine as well as the texture set. As this asset utilised textures spread across more than one UV tile, 'virtual texture support' must be enabled in the 'Engine-Rendering' settings in order for textures to display correct on the UV mapped model.
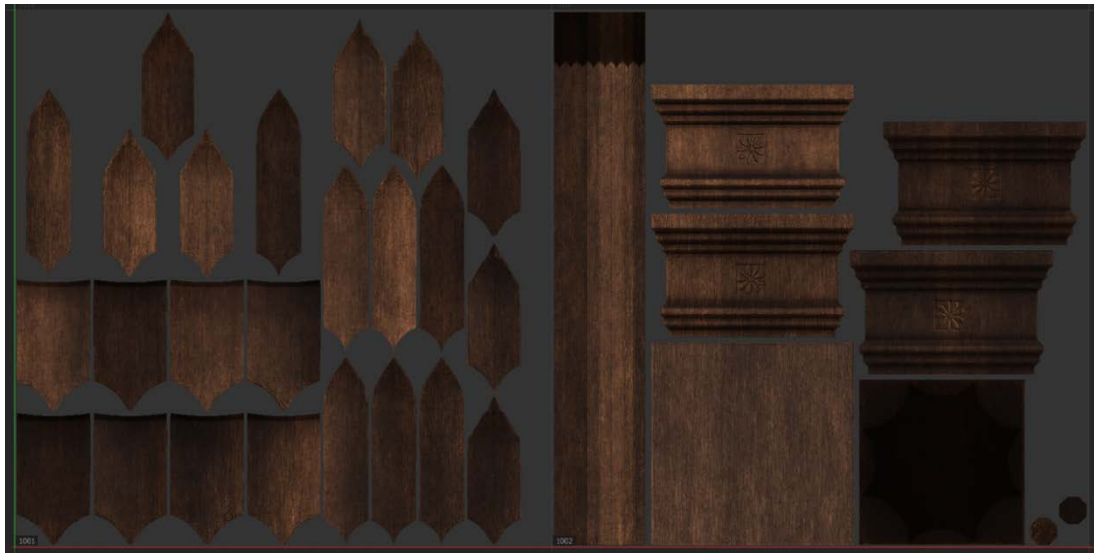
Figure 37. Textured UDIMs in Substance Painter
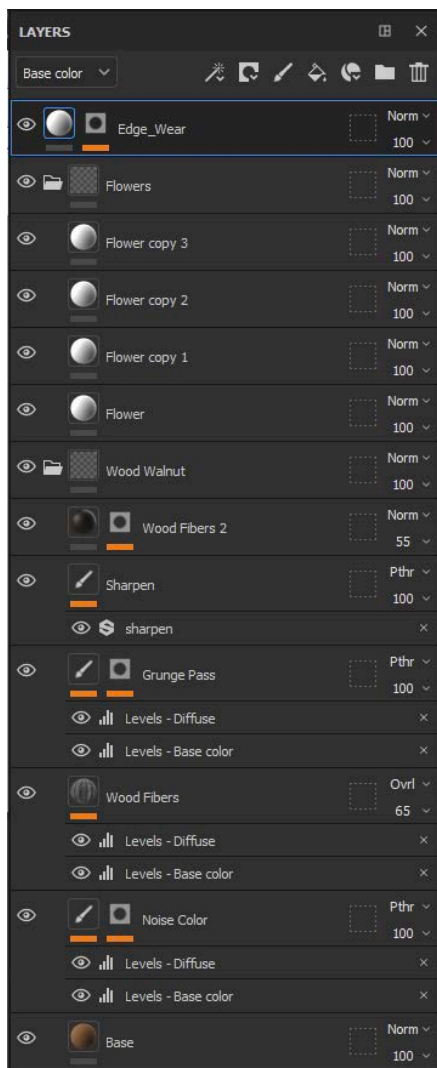
Figure 38. Layer stack in Substance Painter

Figure 39. Final textured model in Substance Painter

3.3.3.3.7.7   Create and Apply Material to FBX in Unreal Engine

A new material asset was created in UE and the texture set was connected with their corresponding nodes (see Figure 40). In order to improve the illusion of depth on the surface of models in the VR environment, I utilised a *Bump Offset* material expression, which is a term Unreal Engine uses for what is commonly known as *parallax mapping* (UE 5 documentation-A, 2022). This expression uses a greyscale height map from a material to provide height information, and in this case, this greyscale information was packed into the alpha channel of the base texture on export from Substance Painter.
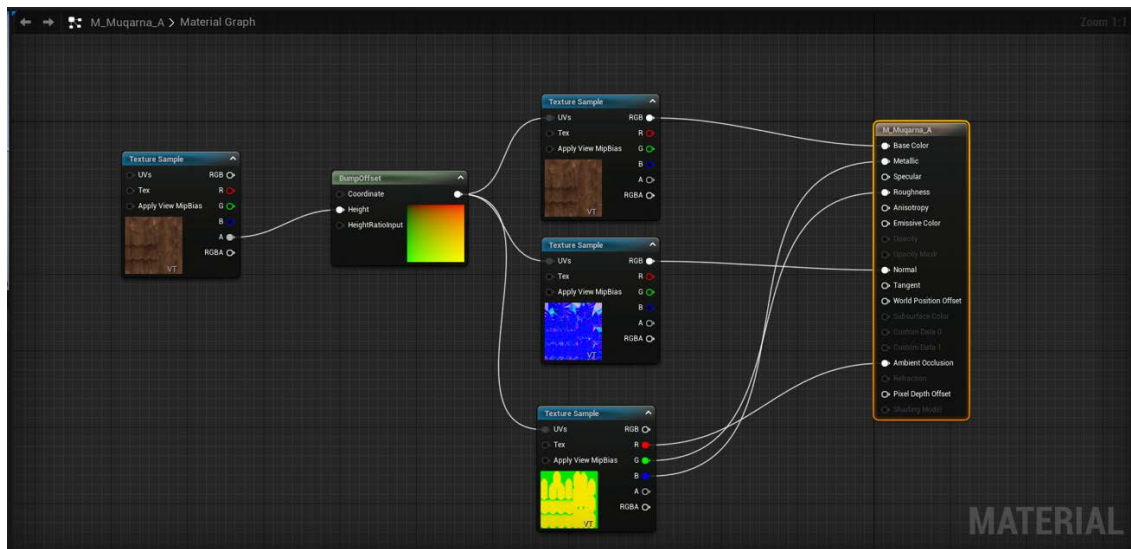
Figure 40. Material graph in Unreal Engine

Once all textures were connected to their corresponding nodes and bump offset was set up, the material was saved and applied to the FBX asset, completing the 3D asset design workflow. The final model (Figure 41) was then ready to be used within the UE editor for the construction of the virtual environment.
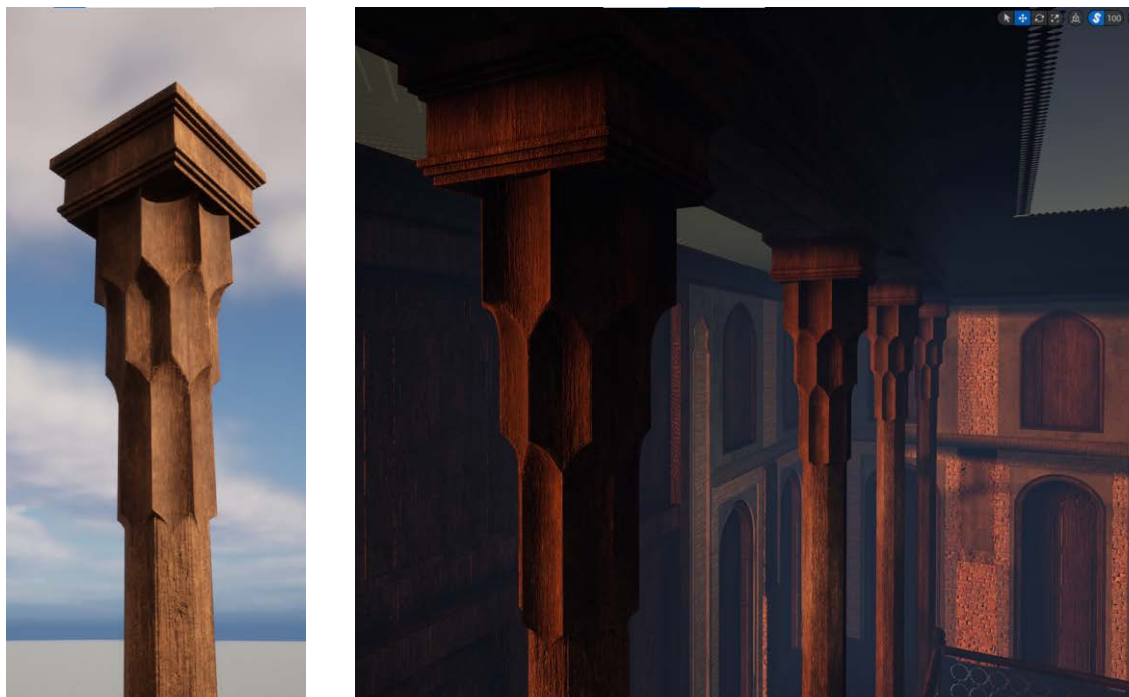
Figure 41. Final textured model in Unreal Engine editor

3.3.3.3.8 Final Model of *House of Memory*

Following design of all architectural assets for the construction of the shanasheel house, assets were assembled together within the Unreal Engine editor in a level called 'House of Memory VR' (Figures 42-43). A number of decorative props were also included in this environment, reappropriated from asset packs, as detailed in the following subsection. The *shithirwan* (fountain) in the center of the *hosh* (courtyard) was designated to function as an interactive prop for transitioning between levels, as detailed in the VR Blueprints section below.
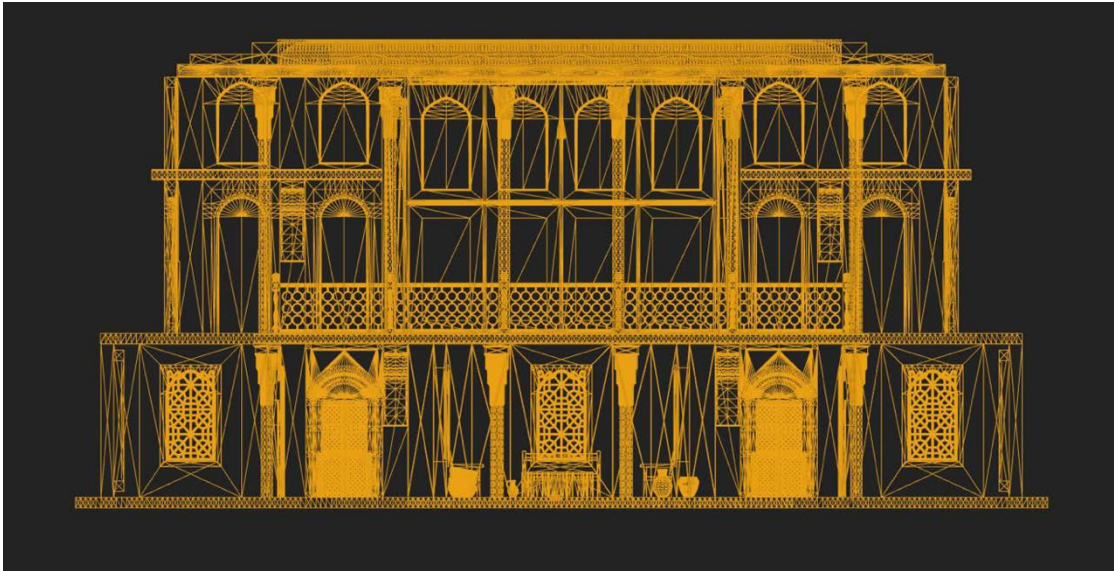
Figure 42. Front wireframe view of final assembled shanasheel model in UE

Figure 43. Perspective view of final shanasheel model in UE editor

3.3.3.3.9   Acquired assets

Several acquired assets were used across the levels to create a visually accurate and appealing environment. The utilisation of acquired assets served two functions, firstly to reduce the amount of production time required to complete the virtual environment and secondly, as a means of countering the use of certain digital assets designed for the creation of so-called MOUT (military operation urban training) scenarios in generic Arabian environments. I appropriated 12 assets from Modular Military Operation Training Environment – Arabian Pack by CGHero (see Tables 11-12 in Appendix B-22) and used them across all three maps in this experience. The assets in this pack are marketed as empowering 'users to create realistic virtual Military Operations Urban Training (MOUT) scenarios with ease' (Figure 44). Several assets from the Quixel Megascans library were also utilised in the environment design, ranging from surface textures to 3D plants and assets. Tables 10-14 in Appendix B-22 classifies all the assets used which were not created by me. The full range of assets used specifically in the *House of Memory VR* map can be seen in Figure 45.
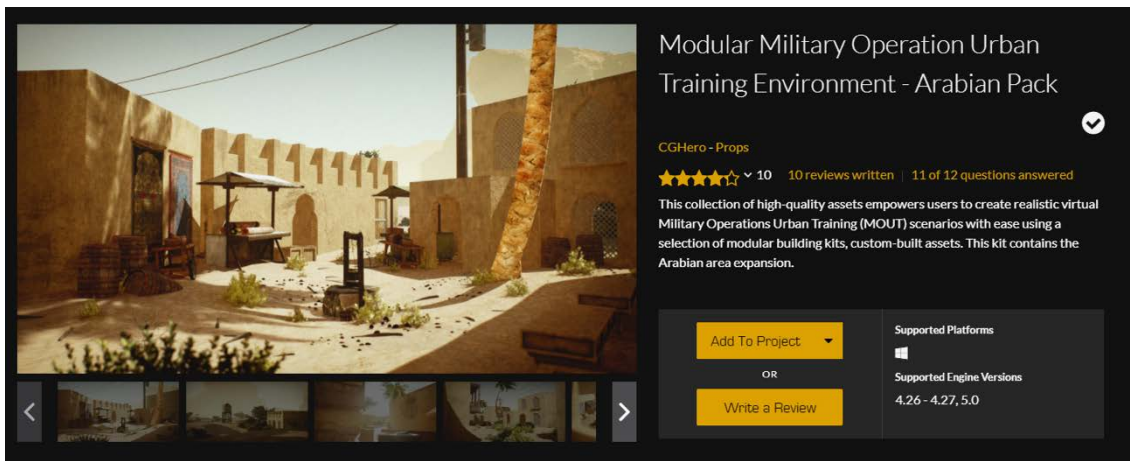
Figure 44. Arabian MOUT Pack by CGHero (UE Marketplace 2022)

Figure 45. Asset layout from House of Memory VR map (assets not to relative scale, sized for presentation)

3.3.3.3.10   Adhamiyah and Tarmiyah map design

The design of both levels was informed by the information derived during the image analysis process as detailed above (section 3.3.2.4). Using the denotational information in the photograph combined with the contextual information from the interview, I placed the photograph as a 3D asset within the virtual space and created an environment around it containing the elements described in the narration. The placement and orientation of objects were creative and aesthetic decisions, based upon how they would compositionally complement each other, and the logic of their spatial relationship to the composition of the photograph (Figures 46 & 48). A NavMeshBoundsVolume was used to demarcate the navigable area for the user (Figure 47).

Figure 46. Perspective view of Adhamiyah map

Figure 47. Top view of Adhamiyah (L) and Tarmiyah (R) maps showing navigable areas in green
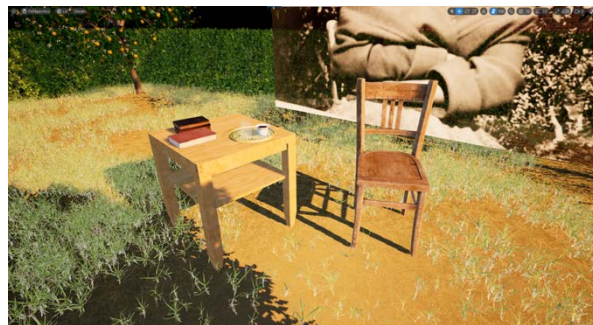
Figure 48. Top – detail view of breakfast assets in Adhamiyah map
Middle – *Shithirwan* (fountain), prop appearing at end of narration as interface to return to the main map.
Bottom – detail view of chair and table with props in *Adhamiyah* map

Figure 49. Perspective view of Tarmiyah map

Figure 50. Asset layout from *Adhamiyah* map (assets not to relative scale, sized for presentation)

Figure 51. Asset layout from *Tarmiyah* map (assets not to relative scale, sized for presentation)

3.3.3.3.11 Environment Lighting – Sky, fog, atmosphere & detail lighting

House of Memory VR Map

This map uses a Directional Light (to simulate sunlight), a SkyLight (to capture the lighting from the sky and apply it to the scene), Atmospheric and Exponential Height Fog (to add ambience and atmosphere to the scene), as well as a number of Point lights to detail parts of the scene. In particular, Point Lights were used in the *talars* where the photographs were located, to mimic the effect of light emitting from the photographs and increase their overall illumination in the scene, thereby attracting the viewer's eye towards these scene elements. A Spotlight was also used above the *shithirwan* (fountain) in the centre of the *hosh,* again as a means of increasing its illumination compared to other elements in the scene as it is an interactive prop.

Tarmiyah Map

This map contains a Directional Light, a SkyLight, a Sky Atmosphere component [which represents atmosphere material and simulates sky and light scattering within it (Unreal Engine Documentation, 2022-B), Volumetric Cloud (a physically-based cloud rendering system), and Exponential Height Fog.

Adhamiyah Map

This map uses only a single Directional Light to simulate hard sunlight and create shade beneath the trees in the scene, something specifically referenced by the participant in her interview. A creative choice was made not to include any sky or clouds in this scene, to focus the audience's attention on the photograph and the specific elements referenced by the narration. There are no other lighting or atmospheric elements in this scene.

3.3.3.3.12 Audio assets

Three types of audio assets were used in the sound design of the experience (1) the interview (2) specific sound effects (3) general atmosphere. All audio assets were mixed in Adobe Audition and exported in WAV format sampled at 44.1 kHz and 16 bits. Sound attenuations were created for the narrations, the sound effects and the atmosphere files. These attenuations enabled the source audio to be spatialized in 3D space – when the audience turns their head the audio is spatialised and the sound appears to be coming from a source within the 3D space. Narration audio assets were located at the photograph assets, and sound effect assets, such as the sound of the bulbul bird or water, were placed according to the asset's location within the virtual environment. Table 15 in Appendix B-23 outlines the assets acquired from sound libraries to create the sound design for all the levels.

3.3.3.3.13 VR Experience Sequencing

Once all assets were created and the levels fully designed, the sequencing of the experience was implemented. Building on the initial experience structure, it was decided that the *shithirwan* would serve as interactive portal to trigger the transition back to the main map after the narration ends in each side map. Once both narrations were viewed, the *shithirwan* in the main map would prompt the user to exit the experience (Figure 52). The design of the flow of events within each map was informed by the structure and content of the audio interviews. With *Adhamiyah*, I decided that this environment would build as the participant describes certain elements. In *Tarmiyah,* elements are added to the scene as the participant describes them, but then due to the
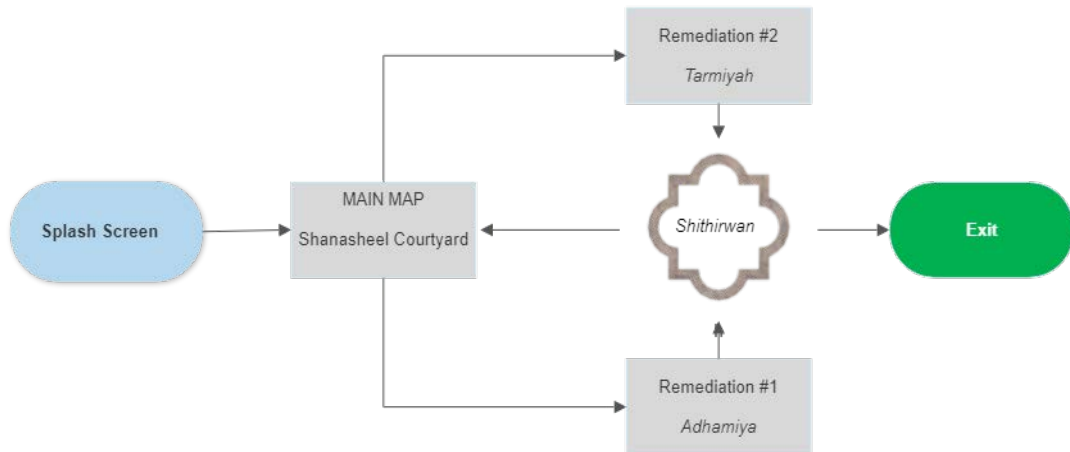
Figure 52. House of Memory VR experience structure

content of the personal narrative and its descriptions of loss, elements of the scene are removed incrementally. To implement these object and level transitions, as well as the overall functionality of the Virtual Reality mechanics in the experience, I enlisted the help of an Unreal Engine VR blueprint developer, Alessandro Pregnolato. He was provided with a detailed brief (Appendix B-24) and he created the level blueprints across the experience as well as VR locomotion functionality. Appendix B-24 outlines in detail how the experience was sequenced and the interactive functionality required.

3.3.3.3.14   VR Locomotion

VR locomotion refers to the method which enables movement from one location to another within a virtual environment (for empirical comparison of VR locomotion techniques, see Boletsis and Cedergren, 2019). For this experience, I decided to use the widely implemented point-and-click teleportation technique which is integrated into many commercial VR systems (Bozgeyikli et al, 2019). With teleportation, when the user presses the joystick forward on the controller, an arc emits outward from the virtual controller and a circle appears where the arc meets the floor of the VE, indicating a virtual position within the space to move to. When the user lets go of the joystick, their virtual viewpoint is instantaneously teleported to this position (Figure 53). This decision was motivated by the widespread use of this technique and as such, users of the experience with prior experience of VR systems would become quickly accustomed to the method of movement in the VE. For those unaccustomed to this type of locomotion in VR, teleportation provides ease-of-use, good usability, and 'mastering its interaction aspects are considered straight-forward and easy' (Boletsis and Cedergren, 2019, p.9). Ease-of-use was key to the decision to use this method of locomotion as it was anticipated that many of the users of the experience (such as the core project participants) may not have extensive experience of VR systems and so a straightforward and effective method of locomotion was required to facilitate their immersion into the experience. When the main map opens, users are presented with a text instruction bound to the controller explaining how to move: 'Press the joystick to move' (Figure 53).
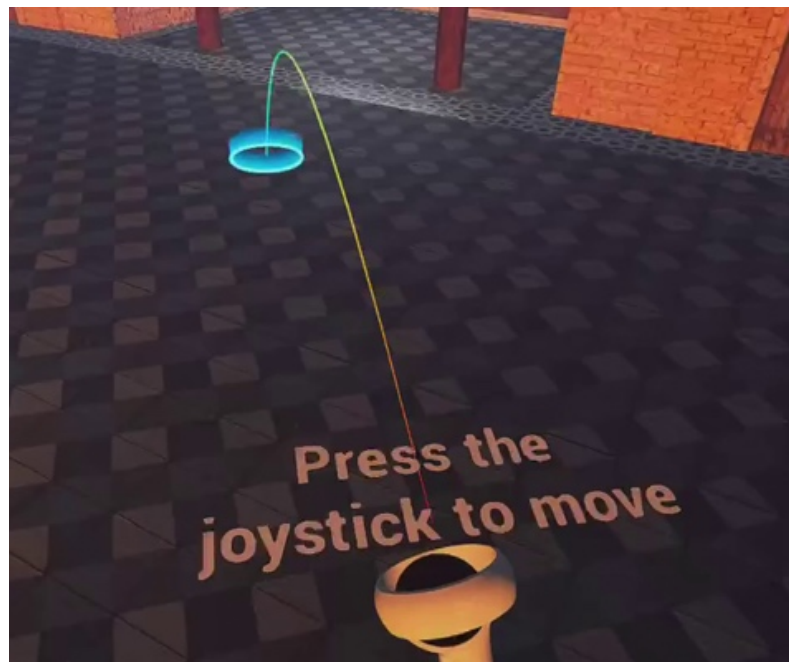
Figure 53. Virtual motion controller with teleportation system activated, with text instruction shown at level start

3.3.3.3.15   Interactive elements

There are three interactive elements across the whole experience - the two photographs, and the *shithirwan* portal. When in proximity of these interactive assets, a red line trace from the controller indicates their interactivity and pressing the controller trigger activates the interaction. In the case of the photographs, stepping within the space of the *talar* activates the line trace (see Figure 54).

Figure 54. Left – perspective view in UE editor of talar space with photograph. Right – screengrab from VR headset view of red line trace activated when in proximity of the photograph.

Once the controller trigger is pressed, the relevant map (*Adhamiyah / Tarmiyah*) opens up and the sequence of events within this level begins. When the sequence ends, the *shithirwan* portal appears in the space with the text 'Return' above it. Teleporting close to the *shithirwan* activates the line trace (Figure 55) and the interactivity of this asset, and once the trigger is pressed, the user is returned to the *hosh* in the main map, *House of Memory VR*. Once the user has viewed both stories, the *shithirwan* in the *hosh* displays the word 'Exit' to prompt the end of the experience (Figure 55).
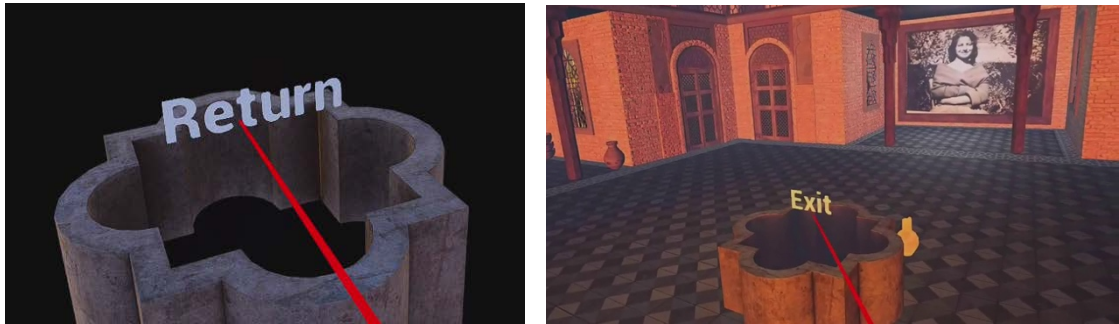
Figure 55. Left – screengrab from VR headset view of red line trace activated when in proximity of the shithirwan. Right – screengrab from VR headset showing shithirwan displaying Exit prompt at end of the experience

3.3.3.3.16 Material Fade Functions

As outlined in Appendix B-24, elements in each level fade in and out according to informational or thematic elements in the narration. This effect was achieved using a material function with a fade affect (see Figure 56) which was applied to the opacity channel of an asset's material attributes (see Figure 57). The timing of the fade was set within the level blueprint and in this manner, assets could be faded in and out as the narration progressed (Figure 58).
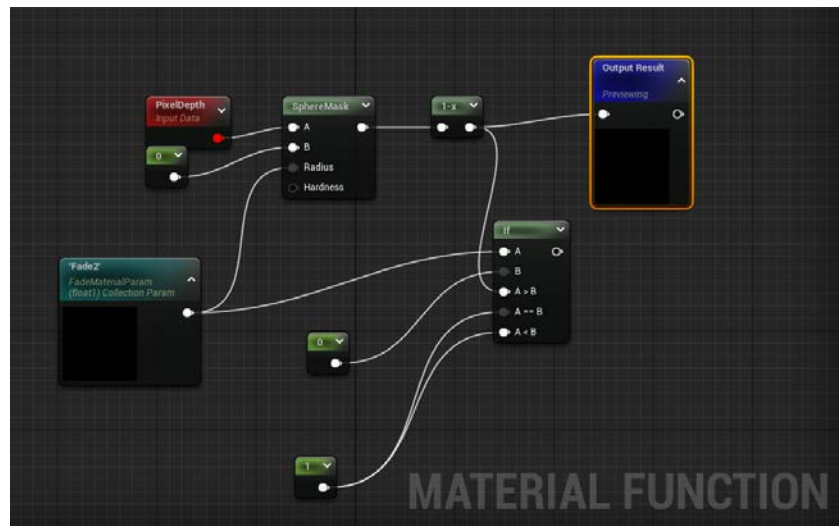
Figure 56. Blueprint for Material function Fade effect created by A. Pregnolato.
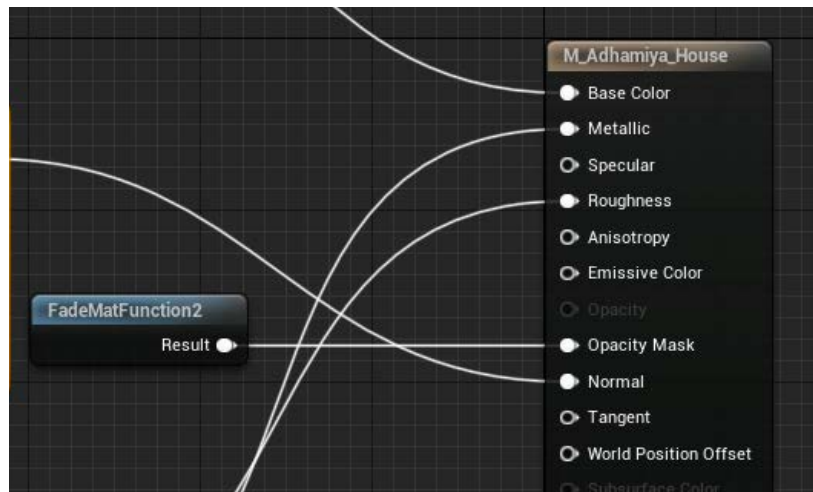
Figure 57. Fade effect material function plugged into opacity mask channel of material attributes.
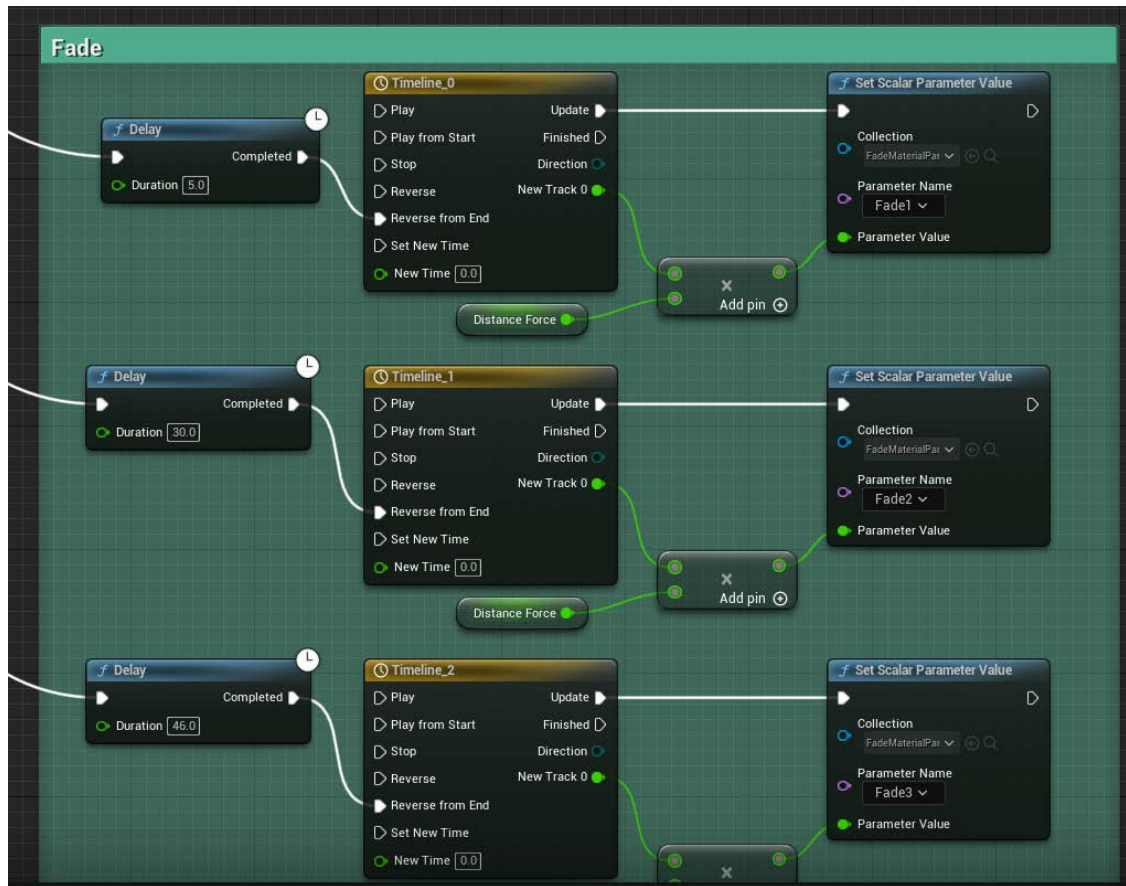
Figure 58. Fade effect timings within the level blueprint

A video walkthrough of the *House of Memory VR* experience can be viewed at this link: https://youtu.be/1NovCyH1Lhc

3.3.4 Conclusion

The methodology outlined in this chapter details the approach to combining personal art practice with qualitative participatory methods to gather images and narratives from Iraqi diaspora and remediate them into a VR experience. The following chapter details the design and implementation of evaluations conducted for each stage of practice outlined above, to understand whether the objectives of the study have been achieved and to answer the research questions.

4   Evaluation

4.1   Introduction

This chapter will present the evaluations for each element of the practice (A: *Iraq Photo Archive*, B: oral history interviews, and C: *House of Memory VR*).

These evaluations were conducted to establish the impact of the arts-based methodology on individuals and contribute to answering the research questions:

1) *What impact does an online archive of vernacular photographs from Iraqi diaspora have on the interest in representations of authentic Iraqi narratives within and outside the Iraqi diaspora community?*

2) *What impact does the participatory methodology (sharing personal images and photo elicitation interviews) have on Iraqi diaspora participants?*

3) *What impact does using a visual arts-based methodology to creatively remediate archive photographs and associated memories into Virtual Reality have on the desire for authentic representations of Iraqi narratives within and outside the Iraqi diaspora community?*

The structure of this chapter presents the evaluations carried out for each phase of practice according to the order (A, B, C) outlined above. Each section will outline the evaluation methods used, including the design of evaluation procedures and data collection methods, the approach to data analysing, and the presentation of outcomes for each evaluation. Surveys were used to gather data for evaluating each phase of practice. The process of analysing and interpreting the data gathered through the surveys followed the general phases as outlined by Leavy (2017, p.150): '(1) data preparation and organization, (2) initial immersion, (3) coding, (4) categorizing and theming, and (5) interpretation.'

The surveys employ a mixed-methods approach, combining open-ended qualitative responses with fixed answer responses. MAXQDA (2022) was the computer-assisted qualitative data analysis software (CAQDAS) used to analyse the survey responses within each evaluation phase. Open-ended questions (OEQ) were used in contexts where pre-set answers may have steered responses in certain direction or where the possible range of answers was too varied or hard to predict (Porst, 2014 as seen in Rädiker and Kuckartz, 2020).

Prior to disseminating online evaluations and carrying out face-to-face activities, the evaluation methodology was subject to assessment by GSA ethics committee, and approval for all activities was granted on 16th August 2022 (see Appendices C-1 – C-7 for all ethics documentation including consent forms and participant information sheets).

4.2   Iraq Photo Archive Evaluation

The Iraq Photo Archive (www.iraqphotoarchive.com) is a website created during the first phase of practice research (section 3.3.1.1). It is an online platform for Iraqi diaspora to share personal archive photographs from Iraq through a submission form.

4.2.1   Methods

Since its launch at the end of January 2020, the *Iraq Photo Archive* website has had over 4,000 site sessions and over 7,400 page views from across the world (as of April

25th 2023). In order to try to understand its impact, a free use survey was designed and distributed online.

4.2.1.1 Participants

The survey was published and distributed to:

1) All participants who submitted images to the archive and consented to receiving updates about the research.

2) All followers of the Iraq Photo Archive Instagram page (3400+) via stories published twice a week over a month.

28 participants (M: 11; F: 17) aged between 18 and 65+ years completed the survey although a total of 247 individuals started the survey but stopped on Page One. One participant was excluded from the analysis as he/she explicitly mentioned in an open-ended response, never having visited the website. Participants were identified with the code (IPA) and a number, for example: IPA01. Therefore, data analysis was conducted on 27 responses, 15 (55.6%) of whom identified as Iraqi and 12 (44.4%) as non-Iraqi. The majority of respondents (over 50%) were educated to Master's level (Appendix C-9).

4.2.1.2 Survey Design

As the Iraq Photo Archive (IPA) is a wholly online platform, evaluating its impact on users was designed to take place only online. Participants were invited to freely explore the IPA at their own pace. A questionnaire was designed and distributed using the online survey service provided by JISC (see Appendix C-10 for the final survey). This survey was devised to gather audience feedback using a combination of closed questions (CQ), open-ended questions (OEQ), and statements rated on a 5-point Likert Scale (LS).

4.2.1.3 Data Collection & Analysis

The survey was two pages long; Page One for Questions 1-9, and Page Two for 'Demographics' screening.

Questions 1-4 sought background information and Questions 5-9 gathered feedback specifically related to participants interaction with the website. Questions were as follows:

Q1 - How did you first hear about the Iraq Photo Archive website? [CQ]

Q2 - Have you ever visited any other archives (online or in person) to look at photographs from Iraq? If Yes, please specify. [CQ]

Q3 - Prior to visiting the Iraq Photo Archive website, please describe the content of photographs you generally associate with Iraq? [OEQ]

Q4 - Prior to visiting the Iraq Photo Archive website, through which mediums have you seen photographs or representations of Iraq or Iraqi stories? Tick all that apply [CQ]

Q5 – A list of statements about their expectations and thoughts about the website and its content which participants could indicate their degree of agreement or disagreement to (Appendix C-10) [LS]

Q6 – A list of SUS questions where participants could indicate their degree of agreement or disagreement to (Appendix C-10) [LS]

Q7 - What did you like most about the website? [OEQ]

Q8 - What did you dislike most about the website? [OEQ]

Q9 - What would you change about the website? [OEQ]

Q10 – Demographic questions [CQ]

Analysis of the responses was conducted depending on the qualitative or quantitative nature of the question, which will be detailed on a question-by-question basis. Responses were initially exported from JISC as an Excel (.xslx) file and imported into Excel for analysis. Using responses to the demographic questions related to Iraqi identity, results were separated into different sheets with data from Iraqi and Non-Iraqi respondents, to understand the impact of interaction with the website on each of these cohorts. Likert-scale responses to question 5 were collated into a single bar-chart to understand the difference in responses from each cohort. Question 6 utilised the standard System Usability Scale (SUS) to measure usability and this score was calculated based on the SUS scoring metric, as outlined by Brooke (1995). Open-ended questions were subject to an inductive method of analysis (Fielding, Fielding and Hughes, 2012), whereby they were imported into MAXQDA, coded *in vivo* (a qualitative analysis process which uses the participant's own language in the coding data and is a particularly appropriate method in 'studies that prioritise and honour the participant's voice' (Miles et al., 2014)), and cross-tabulated between Iraqi and non-Iraqi respondents, in order to present and analyse responses for these cohorts. Finally, all survey data in Excel format was imported into MAXQDA; OEQs were coded as text and closed questions coded as variables on import, using the column names from the Excel sheet. Figure 59 illustrates the codes generated on import.
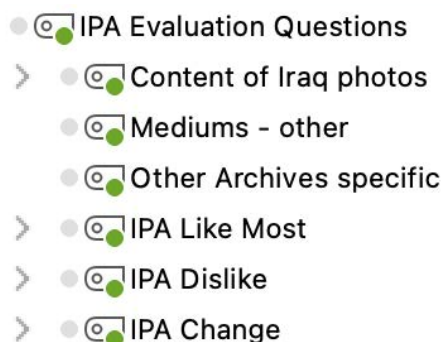
Figure 59. Codes automatically generated by MAXQDA during import

A 6-step QDA process was then used on all OEQs:

1. The 'Categorize Survey Data' function was used on the relevant code which allows you to create categories in an interactive table window and assign them to survey responses.

2. A Word Cloud was generated to highlight the frequency of words used in responses from all respondents and from each cohort.

3. Codes were assigned based on the words used by respondents (in vivo coding).

4. Individual responses were studied, and the codes were refined.

5. A Cross Tab analysis was created to present the differences in the number of responses from Iraqis and non-Iraqis according to the code categories.

6. An Interactive Quote Matrix was created to observe the nature of the responses between the two cohorts.

4.2.2   Results

Questions 1-4 aimed to provide background information.

Question 1 aimed to establish through which medium participants became aware of the website. The results (Figure 60) revealed that social media was the medium through which most heard about the IPA website (Iraqi=11; non-Iraqi=2), whereas it was mostly through word-of-mouth for everyone else (Iraqi=2; non-Iraqi=10). The two remaining Iraqi-identifying respondents answered internet-search and others (Art workshop / Shubbak).
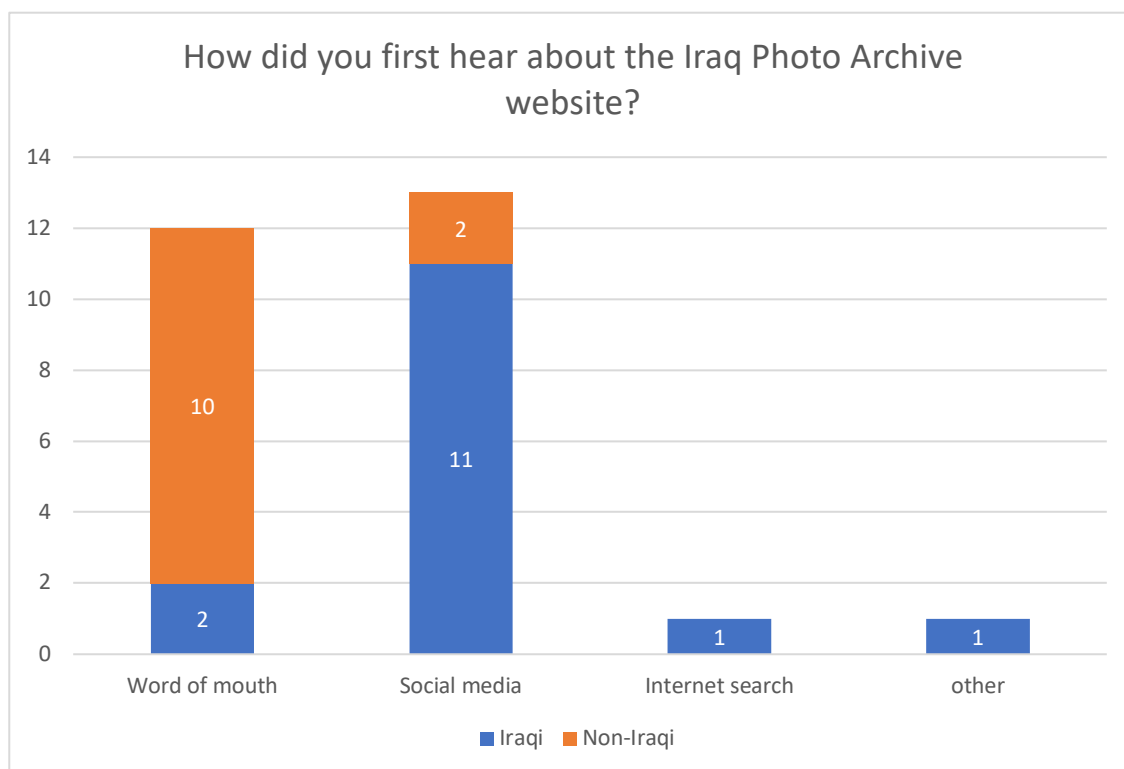
Figure 60. IPA Eval Q1 - Frequency of categories in responses following coding

Question 2 aimed to understand the awareness or interest in other archives with photos from Iraq. The results revealed an almost even split between Iraqi respondents (Yes: 8; No 7) who had visited other archives or not, and that non-Iraqi respondents had never visited other archives with photos from Iraq. In Table 18 (Appendix C-11) participants identified the archives they have visited. This reveals an even mix between formal archives (Gertrude Bell Archive, British Library, Royal Geographic Society, Israeli and Sephardi Jewish Archives), informal archives online (Middle East Archive, and Levantine Stories on Instagram, Pinterest, Facebook groups of Basra) and family photos.

Question 3 aimed to assess the perception of the content of photos from Iraq prior to visiting the IPA website. The analysis for this question followed the 6-step QDA process outlined above (4.2.1.3).

The visualisations of word frequencies (Appendix C-12) in these responses revealed that the most frequent word associated with photographs of Iraq was "war", followed by the word "family", and that these words were most-frequently used by non-Iraqis and Iraqis respectively. The occurrence of words such as "invasion" or "conflict" were eventually grouped under the category of "War" and following detailed reading of

responses, the categories were refined and then assigned to the responses. Figure 61 illustrates the final categories and the frequency which these categories were assigned to responses.
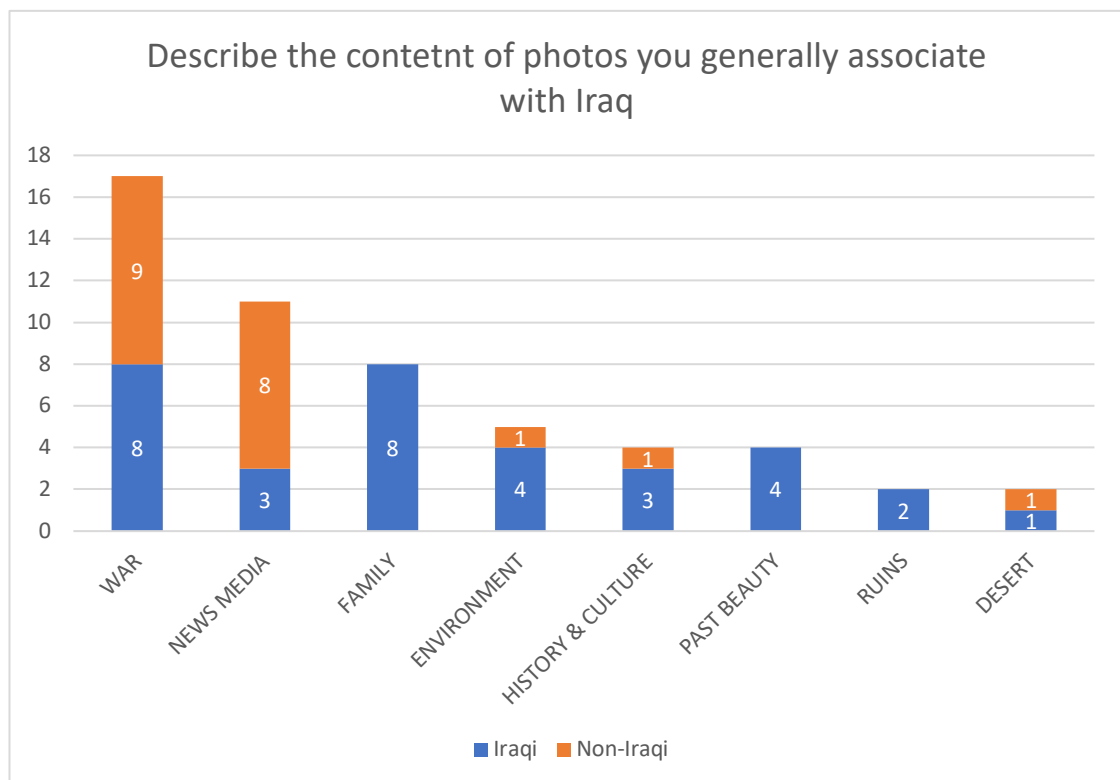
Figure 61. IPA Eval Q3 - Frequency of categories in responses following coding

Figure 61 outlines the spread of these categories in responses from Iraqis and non-Iraqis. It reveals an even spread of mentions of "war" across both cohorts, and "news media" features more heavily for non-Iraqi respondents. Categorisation of "Family" is exclusively from Iraqis, as well as other topics such as "Past Beauty" and" Ruins".

An Interactive Quote Matrix (Appendix C-13) allows for a detailed comparison between responses from Iraqis and non-Iraqis to this question. The following responses reflect the difference of responses between cohorts and underline the general expectations from each.

> Iraqi: *"Either personal family photos from older generations, which can be quite rare but always very meaningful. I think from media I mainly associate photos of Iraq with war, sadly!"*

> Non-Iraqi: *"War photos from news and media"*

Question 4 aimed to understand the mediums through which Iraqi images or stories have been experienced prior to this study. The results suggested a very even spread across cohorts of encountering representations of Iraq through news media ["TV"(11/12), "Online"(10/11), "Print"(7/10)] as well as through "Films"(7/7). Iraqi respondents report viewing representations across a number of different media in greater numbers than non-Iraqis, including "Blog"(5/1), "Art Exhibition"(4/1), and especially in the case of "Photo Books"(9/0) (Figure 62). Seeing representations of Iraq through "Video Games" is reported exclusively from non-Iraqi participants (0/4). Three

respondents who listed "Other" were exclusively Iraqi and 2 out of the 3 responses cited "family" as the medium with the other specifying "documentaries" (Appendix C-14).
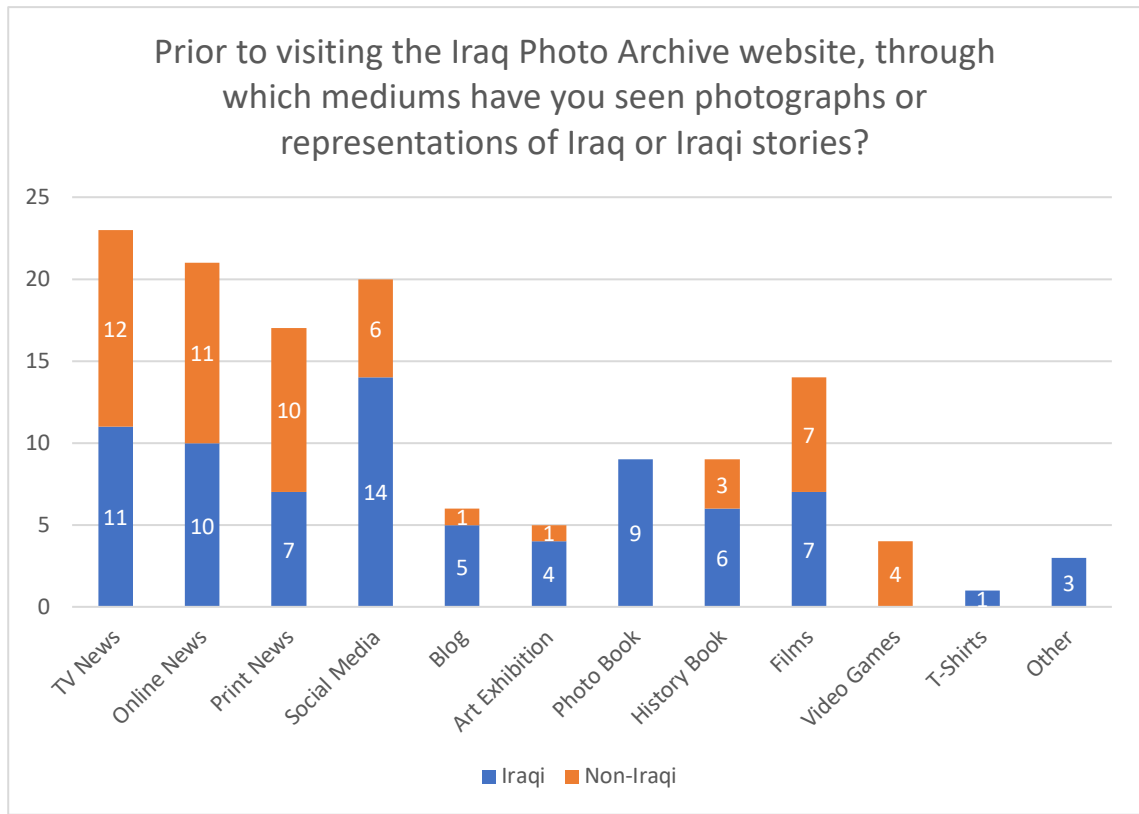
Figure 62. IPA Evaluation Q4 - Mediums through which respondents have seen representations of Iraq

Questions 5-9 gathered the specific feedback related to participants' interaction with the IPA platform.

Question 5 aimed to understand the impact of the experience of interacting with the IPA website on users: knowledge, expectations, feelings, thinking, and desires in relation to representations of Iraq (images and stories). Figure 63 presents the responses to each question for each cohort. The majority of respondents found it easy to know what the website was about. For Iraqis, the majority agreed that the photos in the archive were representative of what they would expect to see from Iraq, whereas for non-Iraqis it was the opposite. The majority agreed that the descriptive information accompanying the photos encouraged them to think deeper about the content of the images. The majority of respondents agreed that they felt moved or inspired. A majority of Iraqis agreed that they felt represented, whereas a majority of non-Iraqis were neutral in their response. The vast majority of non-Iraqis agreed that they were exposed to new points of view of ways of thinking about Iraqi stories. A majority of Iraqis also agreed with this statement, although a third were neutral in their response. Respondents overwhelmingly agree that they wished to see/hear more stories from Iraq told by Iraqis. A majority of respondents in both cohorts agreed that the archive made them want to know more about Iraqi culture and society. A majority of Iraqis agreed that their interaction with the website made them want to share their photos and stories with the platform. As could be expected, most non-Iraqis responded neutrally to this question and a quarter disagreed.
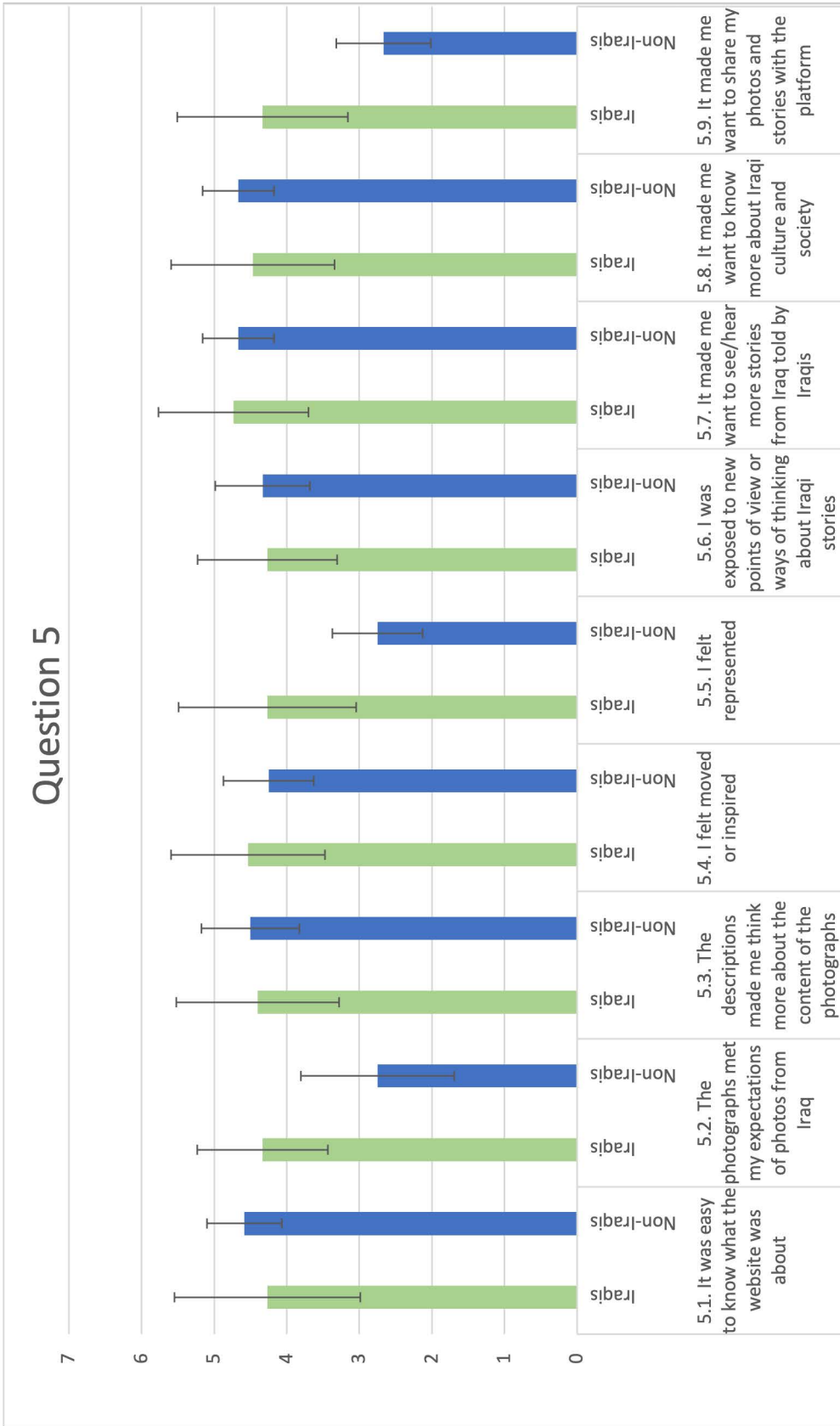
Figure 63. IPA Evaluation Q5 – Mean responses for Iraqi and Non-Iraqi respondents

Question 6 used the standardised SUS to assess the usability of the website. Responses were reported on a 5-point Likert scale (Strongly Agree = 5, Agree = 4, etc. Strongly Disagree = 1) and the SUS score was calculated based on the scoring metric, as outlined by Brooke (1995). As per the Brooke's instructions, the value 68 was used as a benchmark to assess the usability of the system.
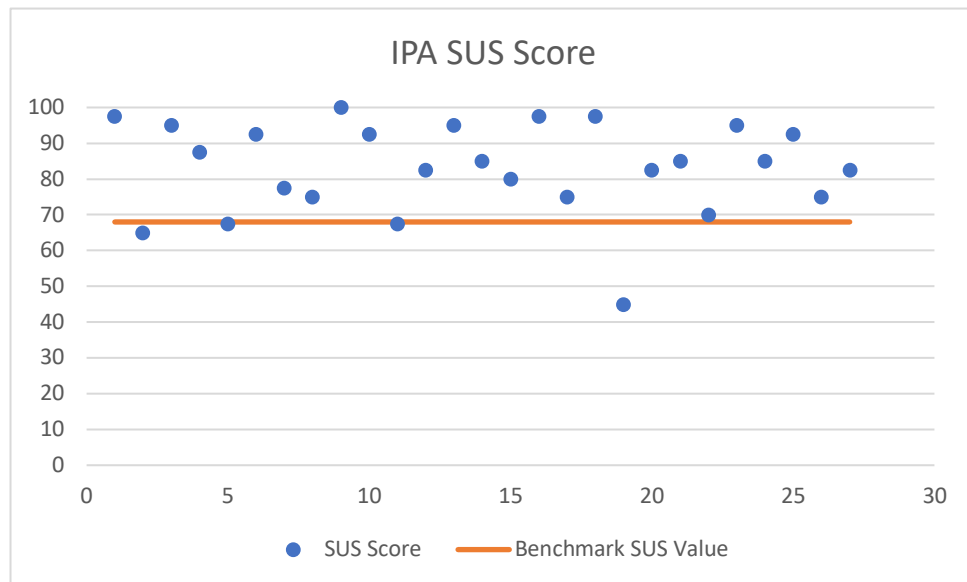
Figure 64. IPA Evaluation Q6 - Scatter plot of SUS scores from users

The average usability score was 83.06 ($\sigma = 5.15$), placing the usability reported by users in the 4th quarter, in the range of 'Acceptable', and with an adjective rating close to Excellent (see Figure 65). One user returned a usability score far lower than other respondents (see Figure 64); anecdotally, this respondent reported in question 8 that they 'had difficulty using the website'.
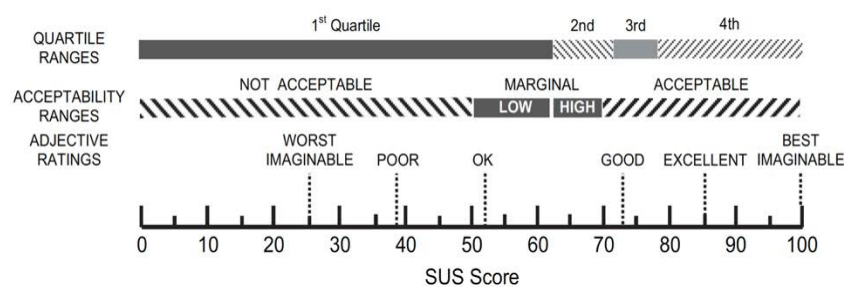
Figure 65. 'A comparison of mean System Usability Scale (SUS) scores by quartile, adjective ratings, and the acceptability of the overall SUS score' (Bangor et al., 2008)

Questions 7, 8 & 9 gathered additional feedback about usability looking at participants' preferences and recommendations for refinements. The collected responses to these questions were analysed following the 6-step QDA methodology as described before in section 4.2.1.3.

Question 7 was an OEQ aimed at gathering subjective responses to what participants *liked* about the IPA website. Word cloud visualisations (Appendix C-15) provided a starting point for developing coding categories. These visualisations revealed that the most frequent responses related to what participants liked about the website were "*picture*" (4) and "*history*" (3) for Iraqis, and "*easy*" (4) for non-Iraqis. Due to the detailed nature of responses, further inductive coding was carried out on answer-by-answer

basis over a series of coding passes to refine the categories. A cross-tab analysis (Table 23 in Appendix C-15) shows the breakdown of category responses between cohorts and the chart in Figure 66 visualises this.
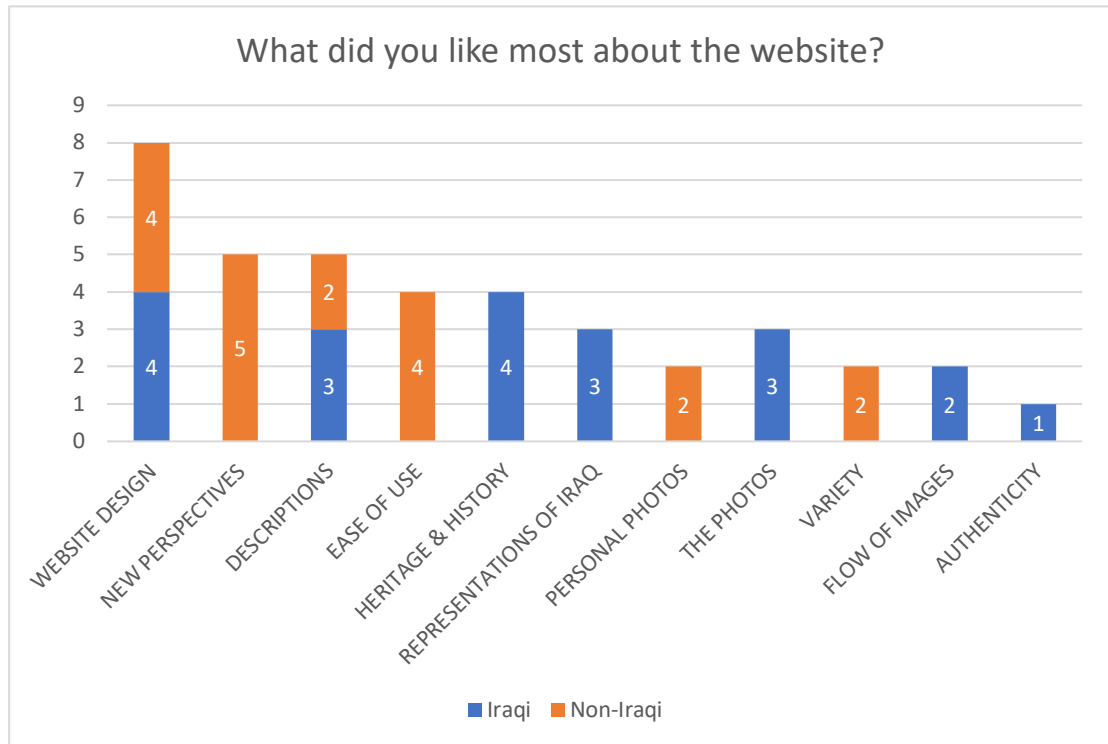
Figure 66. IPA Evaluation Q7 - Frequency of responses to coded categories

It reveals an even spread of responses from Iraqis and non-Iraqis related to liking aspects of the design of the website (Iraqi=4, non-Iraqi=4). It also underlines the findings from the word clouds, showing responses related to history coming exclusively from Iraqis (4) and those related to 'ease of use' coming from non-Iraqis (4). It shows that for Iraqi participants, the aspects they liked the most were seeing photographic representations of Iraq (3), the descriptions accompanying the photos (3), and the representation of heritage and history in the collection (4). For non-Iraqi respondents, the category 'New Perspectives' arose the most (5) and was exclusive to this cohort, indicating a very positive response to seeing vernacular photos from Iraq within this cohort.

The Interactive Quote Matrix (Appendix C-16) reveals that both cohorts found the design of the website appealing, describing the layout as "beautiful" (Iraqi) and noting the appeal of the variety (non-Iraqi):

> *"The images represented are varied and each one after another was different in theme. This drew me in as a viewer."* (IPA10, non-Iraqi)

This Iraqi respondent gave details the depth of impact the archive had on them:

> *"The photos with the short descriptions were really meaningful and made me feel nostalgic for a world I haven't really experienced for myself, being part of the diaspora (my family moved from Iraq when I was just 6 months). I shared the website with various family members and it sparked conversations (we thought someone in the photos looked identical to my great aunt but turns out it wasn't her). I also shared it with a few close friends (non-Iraqi) as I felt it gives a good representation of the country and peoples stories there. This website is a really great initiative."* (IPA16, Iraqi)

One non-Iraqi respondent described how it was an *"eye-opener"* and that it looked *"totally different than how I expect Iraq to look"* (IPA03, non-Iraqi). Another described what they liked the most was:

"The opportunity to gain a different perspective of Iraq through photographs – to see everyday Iraqi life through personal photos of Iraqi people." (IPA01, non-Iraqi)

Question 8 was an OEQ aimed at gathering subjective responses to what participants *disliked* about the IPA website. Word cloud visualisations (Appendix C-17) revealed that the most frequent response related to what respondents disliked about the website was "*nothing*" (8). A cross-tab analysis (Table 25 in Appendix C-17) shows the breakdown of category responses between cohorts and the chart in Figure 67 visualises this. It reveals an even spread of responses from Iraqis and non-Iraqis across the categories. Disregarding the most frequent response of 'nothing', the second most frequent were comments about the lack of a catalogue or search option, as well as usability options related to browser compatibility and some optimisation errors on mobile.

The interactive quote matrix (Appendix C-18) elucidates on comments surrounding the lack of a catalogue:

"The photographs are all displayed as one on the main page. They do not seem to be ordered or catalogued." (IPA15, non-Iraqi)

"It just felt like a photo dump in some ways. I would love if the photos were categorized by year range and province. Also if the photo had some sort of caption on it before clicking it, like 'Teens playing football in Baghdad, 1979'" (IPA27, Iraqi)

Some specific usability issues were reported:

"When I changed from portrait to landscape and back to portrait on mobile, it took me back to the first picture, and then the x wouldn't let me close the image, meaning I had to refresh the page." (IPA07, non-Iraqi)

"I think depending on the browser the photos are a bit bigger to see the full image so you have to scroll around unless you click into it" (IPA12, non-Iraqi)
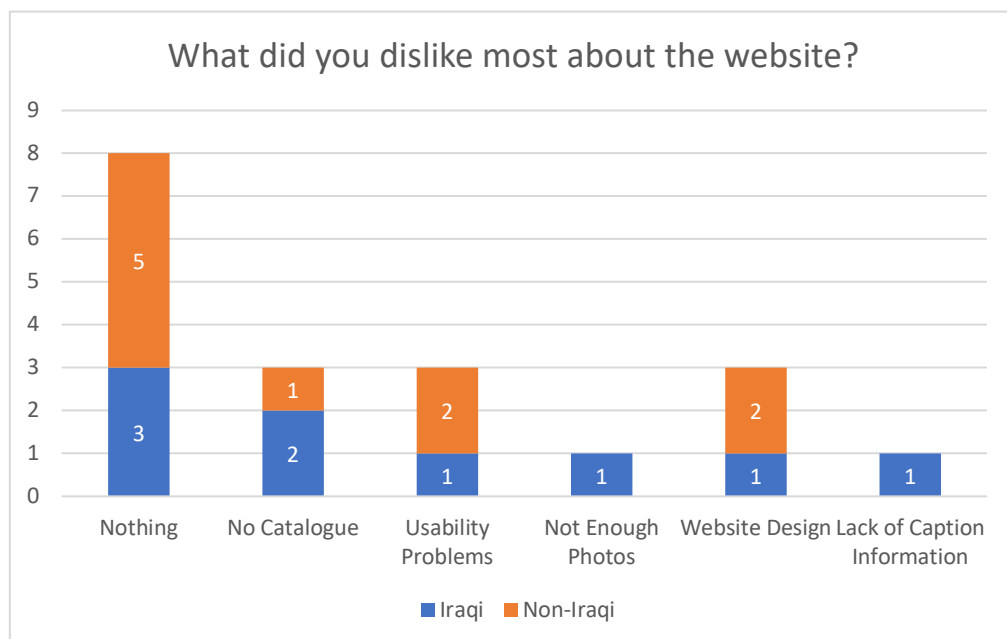
Figure 67. IPA Evaluation Q8 - Frequency of responses in coded categories

Question 9 was an OEQ aimed at gathering subjective responses to what participants would *change* about the IPA website. Due to the limited responses to the question and short answers, it was difficult to ascertain dominant categories for Iraqi respondents from the word clouds visualisations (Appendix C-19). Whereas for non-Iraqis, 'descriptions' emerged as the dominant response for something that could be changed. The small number of detailed answers meant only 3 categories were coded. A cross-tab analysis (Table 27 in Appendix C-19) shows the breakdown of category responses between cohorts and the chart in figure 68 visualises this.

It reveals an even spread of responses categorised as 'nothing' from Iraqis (2) and non-Iraqis (3). Non-Iraqis commented exclusively on making changes to the 'descriptions' (4) whereas Iraqis commented exclusively on the addition of a 'search function'(2). Iraqi respondents expressed a wish for a 'searchable catalogue' or a filter/sort function. Non-Iraqis commented on the visibility, placement, and amount of information in the descriptions:

> *"It wasn't immediately clear to me that there was a description attached to each photo until I read the survey. Some photos have no description at all. I don't know if the information is available but it would be great if there was a similar amount of context for each photo."* (IPA13, non-Iraqi)

> "*I would like more information about each photograph. Many photographs have plenty of detail but some photographs have limited information.*" (IPA15, non-Iraqi)
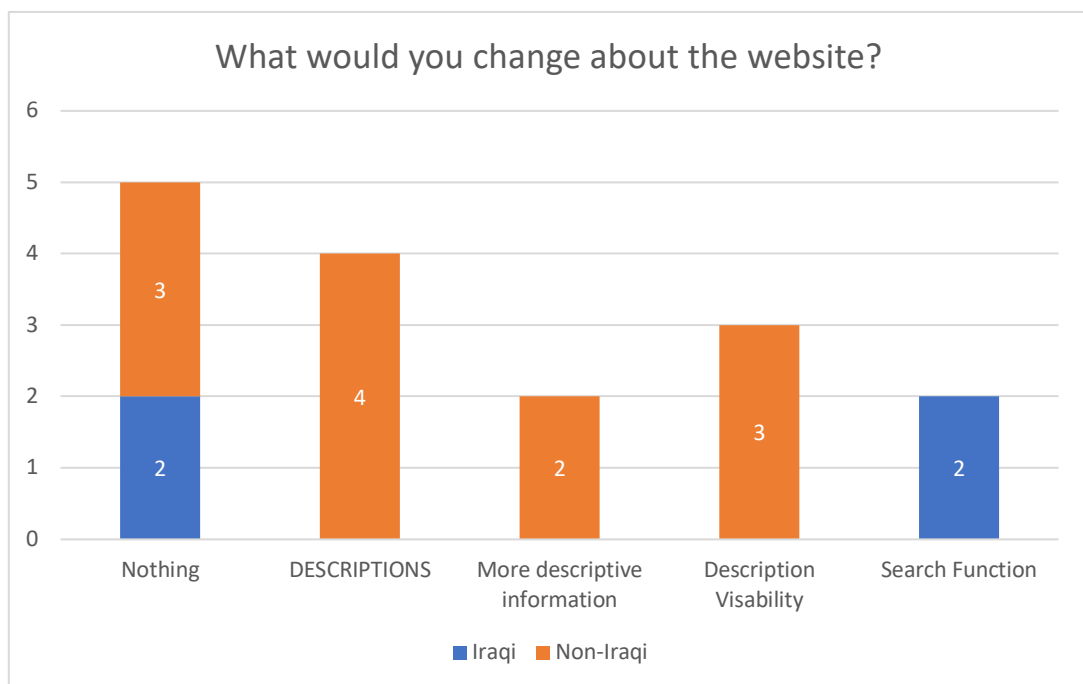
Figure 68. IPA Evaluation Q9 - Frequency of responses in coded categories

4.2.3 Anecdotal Findings & Remarks

The results of this evaluation show that for all non-Iraqi respondents, this was their first time visiting an archive with photos from Iraq in it, and correlating this with answers given in question 5, the experience of interacting with the website provoked a desire to see more images and narratives from Iraq by Iraqis, and to know more about Iraqi culture and society. This cohort heavily associated the content of photos from Iraq with

war and news media and this correlates with their answers to question 5.2, as they describe the content of images in the archive as unexpected. This was one of the things this cohort liked the most about the website as many of them commented about how the archive gave them a new perspective on narratives and images from Iraq.

For Iraqis, the content of photos in the archive aligned with their expectations and made them feel represented. They generally reported very favourably about the representation of Iraq portrayed on the website and the inclusion of personal descriptions with the images resonated strongly.

4.3   Oral History Interviews

During the IPA photo submission process, participants were asked about their interest in taking part in an oral history interview about their image. Those who consented were invited to take part in a filmed interview (see section 3.3.1.2). 7 interviews were conducted in total.

4.3.1   Method

4.3.1.1   Participants

The survey link was emailed to 5 out of the 7 interviewees. The remaining two interviewees had their photos remediated in the VR experience hence they did not take part here, but rather had a different evaluation conducted (see Section 4.5). Participants were identified with the code (OH) and a number, for example: OH01. All interviewees completed the evaluation questionnaire, with one including responses from two participants as a relative was present during filming and had submitted photos on her parents' behalf.

4.3.1.2   Online Evaluation Design

A short qualitative questionnaire was designed to assess the value of the participatory process from the interviewee's perspective. The questionnaire was designed and distributed using the online survey service provided by JISC (see Appendix C-21 for the final survey). The procedure for this assessment was as follows:

1. Oral history interview participants were contacted via email and invited to take part in the evaluation.

2. Interviewees were provided with a participant information sheet and a digital consent form to sign (Appendix C-3 & C-5)

3. Interviewees were provided with a link to the survey, to be completed in their own time.

4.3.1.3   Data Collection and Analysis

The survey was comprised solely of open-ended questions (OEQs) and was structured in three sections:

Iraq Photo Archive: this section contained three questions about their motivations and feelings around their interaction with the IPA (Q.1-3)

1. Can you tell me why you decided to share a photograph with the Iraq Photo Archive?

2. Did you share the photo yourself or did a relative or friend do it on your behalf?

3. How do you feel about having your photograph included in this online public archive?

Oral History Interview: four questions to assess their feelings around participation in the interview, before and after (Q.4-7)

4. Can you tell me how you felt about taking part in the oral history interview?

5. How did you feel before and after taking part?

6. What did you like/dislike about the process?

7. Is there something I could have done differently?

Final thoughts: one question regarding overall satisfaction and another for any other comments. (Q.8-9)

8. Are you satisfied with your participation in the process as a whole?

9. Is there anything else you would like to mention about your participation in this project?

Data analysis followed a similar OEQ analysis methodology as the 6-step process used in the Iraq Photo Archive evaluation above. Survey responses were exported from JISC as an Excel (.xslx) file and imported into Excel for analysis. A document group and ID column were added and the file was then imported into MAXQDA; OEQs were coded using the column names from the Excel sheet. Figure 69 illustrates the codes generated on import. As there were only 5 respondents and all eight questions were open-ended, theme-based codes were created through a process of reading the responses and generating codes inductively from the text (Fielding, Fielding and Hughes, 2012). This process was repeated consistently across all eight questions. All responses can be found in Appendix C-22.

Figure 69. Oral History Evaluation - Codes automatically generated by MAXQDA during import

4.3.2 Results

Question 1 aimed to understand the motivation of contributors to participate by sharing their personal images with the IPA.

Figure 70 illustrates the theme-based codes which were applied to responses and their frequency. The majority of interviewees (4 out of 5) expressed that part of their motivation was to represent part of Iraqi culture. They described a desire to *"showcase what Iraq was like in the past"* (OH01), to show *"the true nature"* of university social life

in the 70s (OH02), show the *"diversity of culture that Iraq offers"* (OH03), and preserve and document life pre-1980s (OH04). Portraying alternative representations was explicitly mentioned by 2 of the interviewees, to show people *"that it's not a scary place like on news to change perceptions"* (OH01) and as *"a way for people to get a second look into Iraqi culture, other than what the media portrays"* (OH04). One participant expressed a hope that by uploading them onto the platform, long-distance relatives and other people could *"find each other and connect"* (OH05).
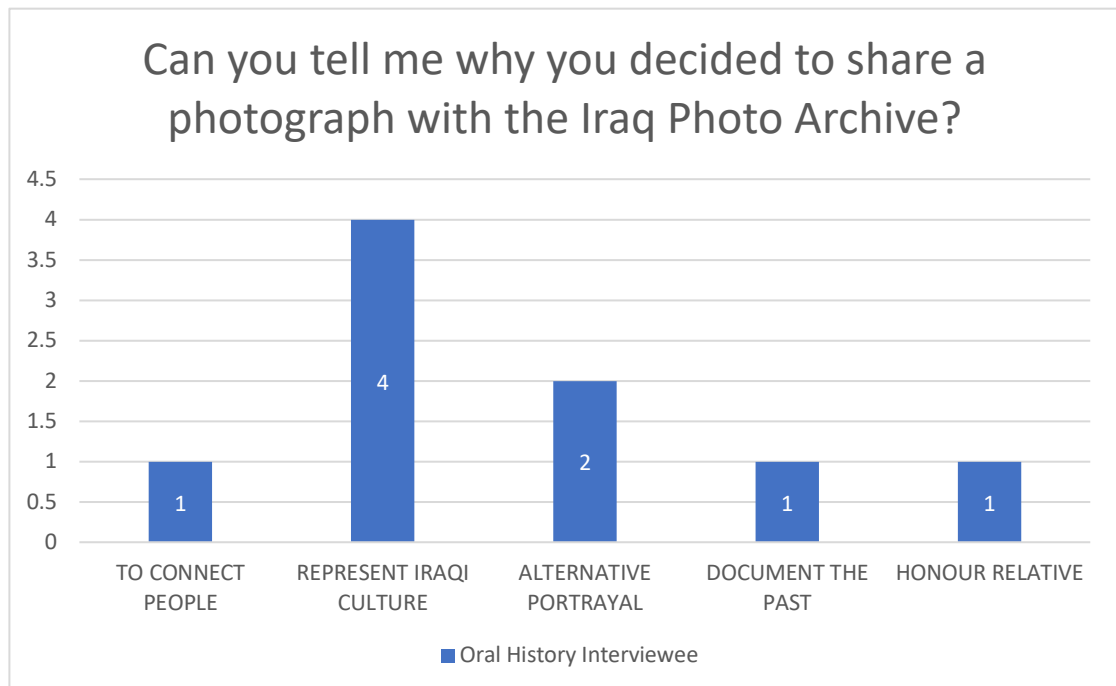
Figure 70. Oral History Evaluation Q1 - Frequency of responses to coded categories

Question 2 aimed to understand whether the engagement with the archive was instigated by the interviewee personally or by a relative/friend. These responses reveal an almost even spread between those submitting images themselves (2) and those who had a relative do it (3).

Question 3 aimed to understand the impact on participants of having their photo in the archive. Three out of five participants felt positive having their photos included in the archive. They made comments such as *"I'm happy they … have been viewed and seen"* (OH01) and *"I felt very good"* (OH03). One set of responses from a mother and daughter (OH04) elaborate in more detail about the impact of contributing their photo:

> Daughter: *"I feel included within the Iraqi diaspora community, that I've often not felt connected to before."*

> Mother: *"I feel I can keep my father alive, by keeping even just one of his photos in this archive, as well as the photo of myself. It feels like I am participating in history, or documenting history."*

In question 4, participants were asked to describe how they felt about the oral history process. These responses were coded in vivo with 'feeling' words expressed by participants (see figure 71)

Can you tell me how you felt about taking part in the oral history interview?

GREAT · ENJOYED · VERY NICE · MORE CONNECTED · SAD · INTERESTING
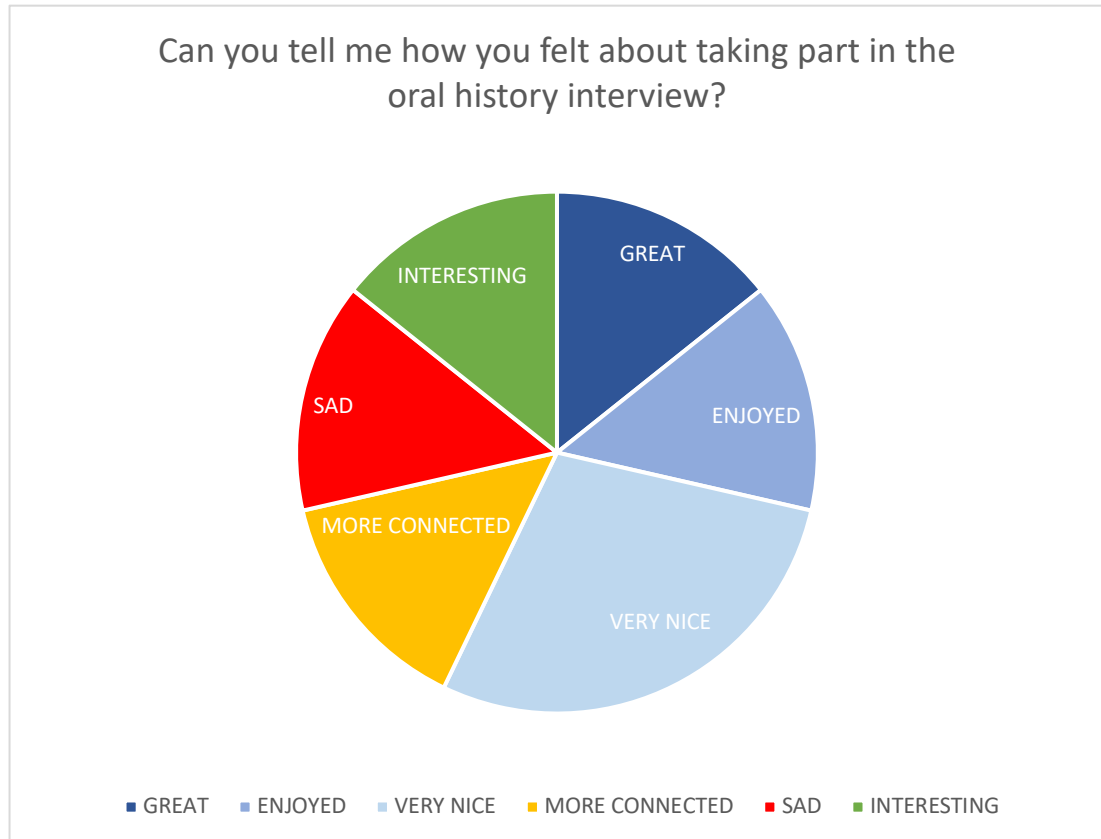
Figure 71. Oral History Evaluation Q4 - Feelings expressed by participants about oral history interview

Respondents broadly reported positive feelings about the process, describing how it was *"great to hear stories of my family and what life was like back then"* (OH01), how they "*enjoyed talking about some dear memories*" (OH02), and how getting the opportunity to explain more about the photo "*felt nice*" (OH03). The mother and daughter (OH04) once again shared more detail about their feelings. The mother in particular spoke about feeling happy to revisit memories from childhood and subsequently sad about the contrast between these happy memories and the events that occurred to her family in Iraq since:

> Daughter*: "Hearing my mother go into details on specific memories of her childhood made me feel more connected to her."*

> Mother*: "I felt like I was revisiting my childhood home, a very nice feeling, very warm feeling of thinking about my life in Iraq. But it also made me sad, to think of my family and their situation in Iraq, what happened after these photographs, what happened to my father and brother during Saddam, during the sanctions in the 90s, the US invasion, etc…"*

Question 5 gauged whether participants had been positively or negatively impacted by the interview experience, and responses were overall positive with participants reporting feeling *"excited"* (OH03) and thinking the project was "*cool*" (OH05). One respondent (OH04) revealed how she was unsure what to expect before the interview, but afterwards, the process made her to want document the memories of her family in her own way:

> *"I want to go look at the rest of my family photographs again, I want to find my own way to record and document my memories of my family, and things my father would say".*

Question 6 aimed to understand any specific elements of the process that participants liked or disliked. There were two significant responses to this question. One respondent (OH04) described how she liked the process of *"thinking about the people in the photos and the lives of these people"* but would like the process to have occurred with other people who had submitted photos so she could *"see these people also document their own photos and listen to their memories too".* One participant (OHO5) felt that the interview was a bit long and that I wanted *"way too much detail"* and they were unsure of how I would express it, using the example of questions regarding memories of "*smell*" during the interview.

Question 7 sought to capture any feedback specific to my facilitation of the interview and (OH03) repeated their previous response expressing a desire to have different archive participants taking part in a discussion together to *"find similarities in their experiences of life in Iraq".*

Question 8 tried to gauge overall satisfaction with the participatory process and all five respondents answer this question positively with the word "Yes". One participant (OH04) elaborated on their answer: *"Basil made us feel very included and involved and updated in the process".*

Finally, **Question 9** gave participants the opportunity openly share any other comments about their participation in the project. The majority of participants responded "*no*" to this question, except for one who expressed thanks for the opportunity to participate: "*Thank you for having me participate in this project! It really meant a lot!"* (OH03)

4.3.3   Anecdotal Findings & Remarks

Overall, participants statements seem to suggest that the interview process was enjoyable for them, and it was meaningful for them to contribute to the project. However, responses were mostly very short, and the survey format did not allow for the elicitation of more in-depth feedback.

4.4   *House of Memory VR* Evaluation

House of Memory VR is a virtual reality experience which presents the creative remediation of personal photographs and narratives from two Iraqi diaspora contributors to the Iraq Photo Archive (section 3.3.3). The experience experiments with using personal archive photographs to inform a spatial reconstruction of the photographic moment in 3D, together with audio recordings of personal recollections from participants, to create an immersive experience of the archive photograph accessible through a VR headset.

4.4.1   Methods

An in-person testing experience was designed around inviting viewers to a physical location where the testing and questionnaires could be conducted. I was awarded a month-long residency by the Museum of Everyone at the Incubation Space at the LAB Gallery in Dublin in August 2022, where most of the testing took place. Testing also took place at the Arab British Centre in London supported by the team at Shubbak Festival, in order to facilitate presentation and evaluation of the VR experience with one of the core participants[8] who was based in London. Another day of testing took place at the Reid Building at Glasgow School of Art, to facilitate presentation and evaluation of the VR experience with the other core participant who was based in Glasgow.

4.4.1.1   Participants

For testing at the Incubation Space in Dublin, an open call for participants was distributed on personal and Iraq Photo Archive social media channels (Instagram and Twitter). A Jotform online booking form (Appendix C-23) allowed members of the public to book a timeslot. For the one day of testing at the Arab British Centre, invitations were sent directly to the core participant. They were invited to bring family or friends with them, and remaining timeslots were offered to other members of the Iraqi diaspora community in London. In Glasgow, an invitation was sent directly to the core participant. An open-call for participation was also shared among GSA students through an internal email announcement (canvas.gsa.ac.uk) as well as through social channels (Discord, Twitter).

In total, 39 individuals took part in the experiment (Dublin: 25; London: 8; Glasgow: 6). As two of these were core participants accompanied by relatives, the total number of objective questionnaire respondents was 35 (10 identified as Iraqi and 25 as non-Iraqi). Participants were identified using a unique identifier (VR) and a number, for example: VR01.Tables and Figures in Appendix C-24 detail other demographic data, including that gender was evenly split between male (17) and female (18). The age range was between 19 and 71 years old ($M = 38; \sigma = 11.67$) and the majority of respondents (60%) were educated to Master's level.

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[8] The 'core participant' is the oral history interviewee whose image and narrative was remediated into the VR experience.

4.4.1.2 Evaluation Design

The procedure for testing the *House of Memory VR* experience was as follows (Figure 72):

Figure 72. Flow of House of Memory VR evaluation process

1. Participants were provided with a personal information sheet (Appendix C-7), VR health and safety guideline (Appendix C-8), and a digital consent form (Appendix C-6)

2. Participants completed the 'Before VR' survey (Appendix C-25) which was designed to gather audience feedback using a combination of closed questions (CQ) and open-ended questions (OEQ) on the following:

   I. Expectations of the content of narratives [OEQ]

   II. Expectations of visual representations [OEQ]

   III. Prior experience of simulated representations of Iraq [CQ]

   IV. Word associations with Iraq prior to VR experience [OEQ]

   V. Demographics [CQ]

3. Participants were then guided to the VR viewing area where they were introduced to the Oculus Quest 2 headset and controllers. They were explained the paradigms of navigation and interaction within the virtual environment and assisted with putting on the headset. Once they were comfortable, they were instructed to explore the digital remediated content following the guided narrative proposed through the virtual experience.

4. Participants were then invited to complete a questionnaire that assessed the perceived sense of presence throughout the virtual experience. Presence is a term which has numerous definitions and interpretations [see (Lessiter et al., 2001) for a detailed overview on various definitions] but can be generally understood as a *"user's subjective sensation of "being there" in a scene depicted by a medium* (Barfield, Zeltzer, Sheridan, & Slater, 1995, as seen in Lessiter et al., 2001). A high degree of presence can be associated with the extent to which an individual is provided with an inclusive, extensive, surrounding, and vivid display (Slater and Wilbur, 1997, as seen in Lessiter et al., 2001).

5. Finally, they were asked to complete the 'After VR' survey (Appendix C-26) which was designed to gather audience feedback using a combination of closed questions (CQ), open-ended questions (OEQ), and statements rated on a 5-point Likert Scale (LS).

4.4.1.3 Data Collection & Analysis

The *Before* and *After* surveys were designed in JISC and participants filled them in on a provided tablet. This facilitated more efficient capture and processing of survey data.

The *Before* survey was two pages long; Page One for Questions 1-4, and Page Two for 'Demographics' screening. The questions were as follows:

Q1 - What are your expectations of the type of stories you are about to hear? (OEQ)

Q2 - What are your expectations of the kind of visual environment you will see? (OEQ)

Q3 - Have you ever experienced a simulated representation of Iraq before? E.g. an Iraqi location used as a setting in a video game, a heritage visualisation in a museum/online, a simulated character in a video game etc.? If yes, please describe in as much detail as possible your memory of this representation. (CQ)

Q4 - Prior to this VR experience, please list any words you generally associate with Iraq. (OEQ)

The *After* survey was 1 page long and consisted of the 8 following questions:

Q1 - Did the stories you heard meet your expectations? Please explain why/why not? (OEQ)

Q2 - Did the visual environment you saw meet your expectations? Please explain   why/why not? (OEQ)

Q3 - A list of statements about their expectations and their thoughts on the nature of the experience which participants could indicate their degree of agreement or disagreement to (Appendix C-26) (LS).

Q4 – A list of SUS questions which which participants could indicate their degree of agreement or disagreement to (Appendix C-26) (LS).

Q5 - What did you like most about this VR experience? (OEQ)

Q6 - What did you dislike most about this VR experience? (OEQ)

Q7 - What would you change? (OEQ)

Q8 - What value, if any, do you think there is in reconstructing archive photographs and presenting them in Virtual Reality? (OEQ)

The presence questionnaire consisted of the ITC-SOPI[9] questionnaire, a two-part survey consisting of 44 CQs which asks users about their thoughts and feelings during and after the experience, to measure users' perception of *presence* in the experience. The ITC-SOPI is a tool through which the four facets of a media experience related to presence can be measured (Lessiter et al., 2001): (1) Spatial Presence; (2) Engagement; (3) Ecological Validity; and (4) Negative Effects.

Analysis of the qualitative and quantitative responses was conducted following the same method outlined above for the Iraq Photo Archive website evaluation (4.2.1.3). Responses to the ITC-SOPI questionnaire were scored according to the scoring rubric which accompanied the questionnaire. The same 6-step process was used on all OEQs as per previous evaluations and Figure 73 illustrates the codes generated on import.

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[9] Permission to use the questionnaire was provided courtesy of Dr. Jane Lessiter, Dr. Jonathan Freeman, and Lewis Turner Brown at i2 Media Research Ltd at Goldsmiths University

Figure 73. VR Evaluation - Codes generated in MAXQDA on import of survey data

4.4.2 Results

4.4.2.1 House of Memory VR Before Survey

Question 1 was an OEQ aimed to gather subjective responses from Iraqi and non-Iraqi participants to understand the kind of stories they might associate with Iraqi narratives. The word frequency visualisations (Appendix C-27) revealed that for both cohorts, expectations prior to the experience were observed to be stories about personal memory and life. Notable occurrences include "*nostalgia*" for Iraqis and *"media"* and "*conflict"* for non-Iraqis. Responses to this question were quite detailed in some instances and categorisation required several readings of each response to refine the final categories. Visualisation of cross tab analysis (Figure 74) revealed a relatively even spread between cohorts across a number of categories including expectations of stories about *Family* (Iraqi=4, non-Iraqi =4), *Everyday Life* (Iraqi=3, non-Iraqi=4), and *Old Iraq* (Iraqi=3, non-Iraqi=4). Responses categorised as expectations of *Alternatives to media perspective* (5) were exclusively recorded by non-Iraqi respondents, as well expectations of stories about *Conflict* (3).
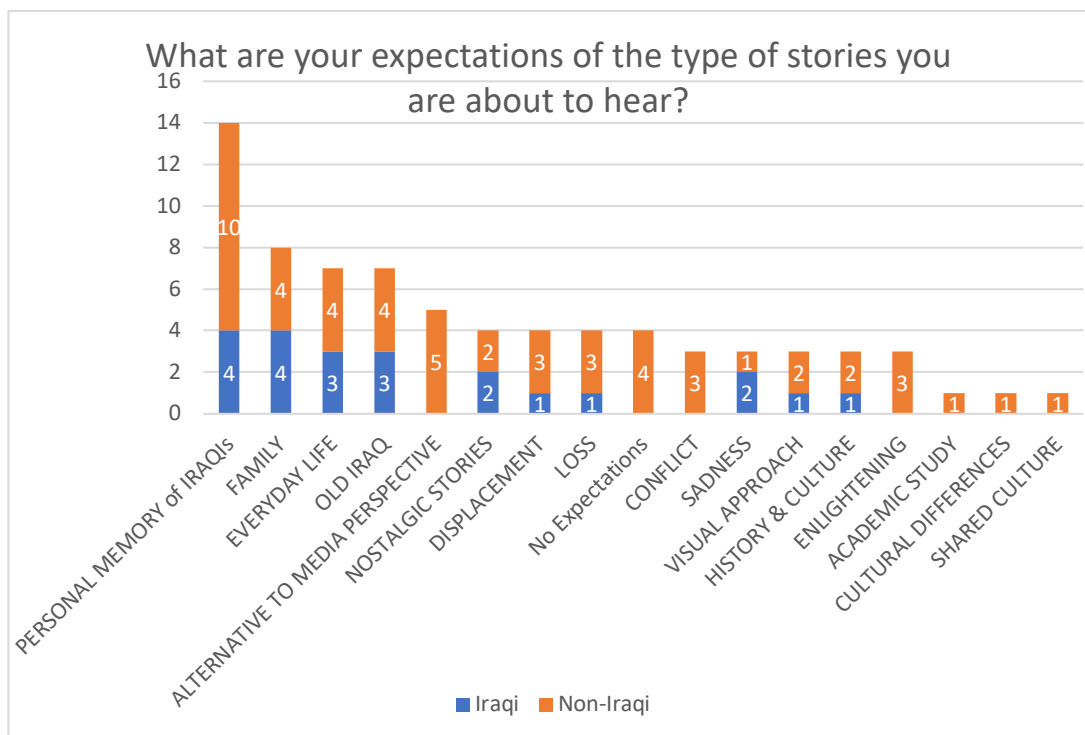
Figure 74. VR Before Q1 - Frequency of responses in coded categories from Iraqi and non-Iraqi participants

Using the Interactive Quote Matrix (Appendix C-28) to examine the most frequent categories, in relation to personal memory, Iraqis expected stories of "*family life*" and "*everyday activities*", told through the *"eyes of Iraqis"*. One observed that they would be memories of those forced to flee Iraq while another made an observation that the stories would relate particularly to nostalgic memories from middle- and upper-class Iraqis, perhaps mostly from families in Baghdad or Basra due to access to cameras:

> *"I think I'll probably hear about how Iraqi's, particularly middle and upper class Iraqi's used to live in Iraq in the so called 'golden era' of the 40s-70s. I'm sure that I'll hear lots of positive and nostalgic memories of how good life used to be there, rather than*
>
> *the difficulties potentially."* (VR30, Iraqi)

Almost half of non-Iraqi respondents (10 out of 25) expected to hear stories related to personal memories of Iraqis, many of which referred to themes of loss, displacement, and conflict:

> *"nostalgic stories about a lost time ... fond memories tinged with sadness about a world in which they left and which no longer exists"* (VR25, non-Iraqi)
>
> *"I expect to hear stories about displacement and loss, conflict, war and hardship. Overall I expect to hear about the difficult situations Iraqi people has had to endure"* (VR12, non-Iraqi)

Outside of the categories related to the personal memories and life of Iraqis in Iraq's past, the next most frequent category was *Alternative to Media Perspective* (5) and these responses were exclusively from non-Iraqis. There were expectations that the stories would *"counteract[ing] negative media portrayals"* (VR10, non-Iraqi) and *"shift ... understanding of coming from and growing up in a country like Iraq... expand my knowledge of what it is like to be Iraqi"* (VR4, non-Iraqi), by presenting *"normal, day-to-day life that's different than what's portrayed in the media"* (VR24, non-Iraqi).

Question 2 aimed to gather subjective responses from Iraqi and non-Iraqi participants to understand what kind of visual representations participants might associate with Iraqi narratives. Observing the word cloud visualisations (Appendix C-29) for each cohort reveals an expectation to see representations of *"family"* from Iraqi respondents whereas more of an expectation to see built or natural *"environment"* from non-Iraqis. Due to the detail and varied responses, deriving the code system required numerous coding passes to arrive at a series of codes and sub-codes for each category. The chart in Figure 75 illustrates the top-level frequency of codes and the Cross Tab (Appendix C-30) reveals the full code system applied to these responses.

The Cross Tab further underlines the observation that Iraqi respondents expected to see *family* photographs (4) and were more specific about the type of photos they expected (*university*, *old*, *black and white*, *occasions*). They also expected to see the *environment* of Iraq (4) as well as representations that were *historical* (1), *authentic* (1), and *visually appealing* (4). Non-Iraqi respondents made the most references to aspects related to *VR* (9) as well as to representations of built and natural Iraqi *environments* (11). They also exclusively expected representations of *war* (3) although one of these responses was desire to see something different from *"the war narrative that we've been bombarded with for years through the media"* (VR15, non-Iraqi).
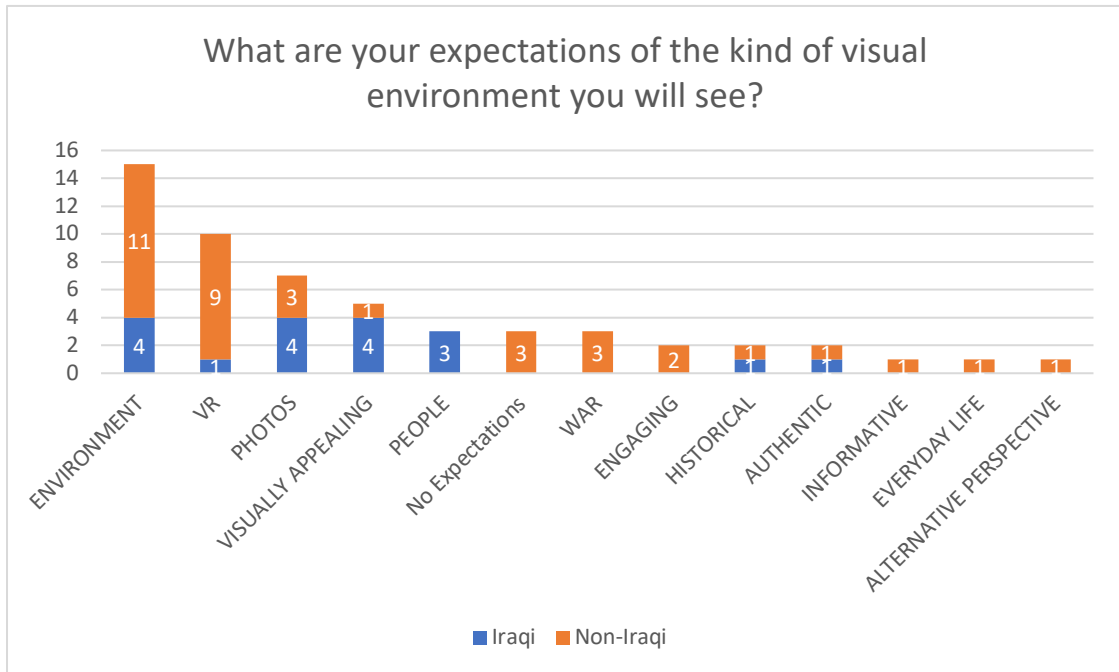
Figure 75. VR Before Q2 - Frequency of responses in coded categories from Iraqi and non-Iraqi participants

Some of Iraqi respondents' expectations were informed by prior experience of viewing photos from Iraq, with one describing how they were *"struck by the beauty of Iraq and Iraqis in old photographs"*, how *"many old photos of Iraq and Iraqis depict a kind of 'normality' and peacefulness"*, and that *"family and friends are often at the centre, always very well dressed"* (VR29, Iraqi). Another expected to see lots of black and white photos with big groups of people at a meal or an event, as well as *"lots of photos of momentous days in people's lives, such as the first day of school, weddings, engagements, birth of a new child or the first day of university"*, describing them as *"very popular in my family photos"* (23).

Non-Iraqi respondents made a number of mentions related specifically to VR, expecting something *"immersive and compelling"* (VR13, non-Iraqi), a *"virtual immersive photo album"* (VR19, non-Iraqi), and *"immersive and interactive"* (VR33, non-Iraqi). One respondent was apprehensive as it was their first time using VR, they described being *"concerned about the physical feeling of using VR rather than what it is that I will be viewing"* (VR25, non-Iraqi).

Question 3 consisted of a CQ which aimed at understanding the level of awareness of simulated representations of Iraq prior to taking part in the *House of Memory VR* experience.

The results (Figure 76) revealed an almost even split between the number of Iraqi and non-Iraqi respondents who had experienced a simulated representation of Iraq and that the vast majority (28 out of 35 - 80%) had never experienced one. Table 34 in Appendix C-31 details the types of simulations that have been experienced and 5 out of 7 responses refer to video games. 4 out of these 5 responses reference the context or environment of the video game as being related to war or conflict -*"computer game environment, a war situation"* (VR20, non-Iraqi). There is also reference made to representations of daily life in The Baghdad Museum and heritage visualisation of Babylonian architecture. Some commented on the negative and contradictory natures of the portrayal of Iraq within these simulations:

> *"Video games represent Iraq in a negative way, terrorism, backward whereas I know it is a place of culture and beauty"* (VR22, non-Iraqi)
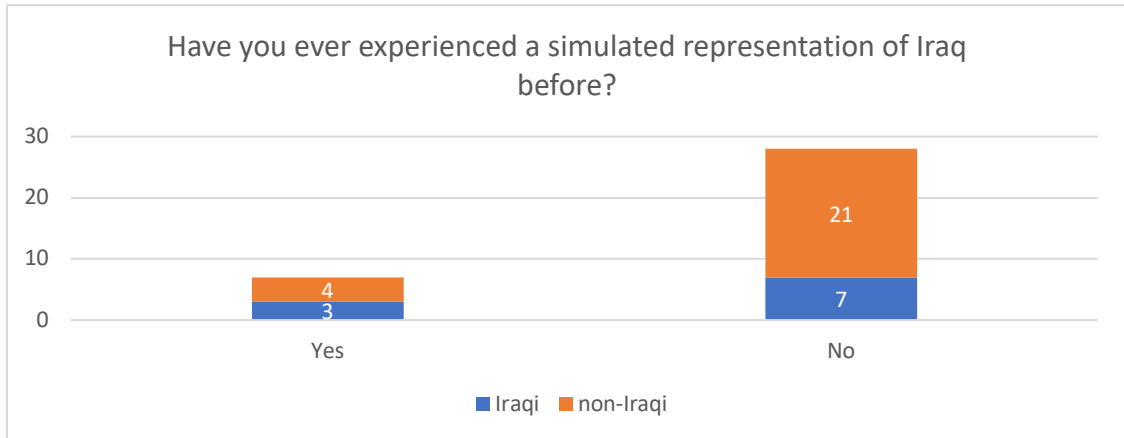
Figure 76. VR Before Q3 – Frequency of responses

Question 4 was an OEQ aimed at understanding general perceptions of Iraq prior to taking part in the VR experience by asking participants about the words they generally associate with Iraq. The word frequency visualisations (Appendix C-32) returned similar results as the responses gathered from question 3 of the Iraq Photo Archive website evaluation (see section 4.2.2). In that instance, and here also, the most frequent word associated with Iraq is *"war"*, followed by the word *"family"*, in responses from non-Iraqis and Iraqis respectively.
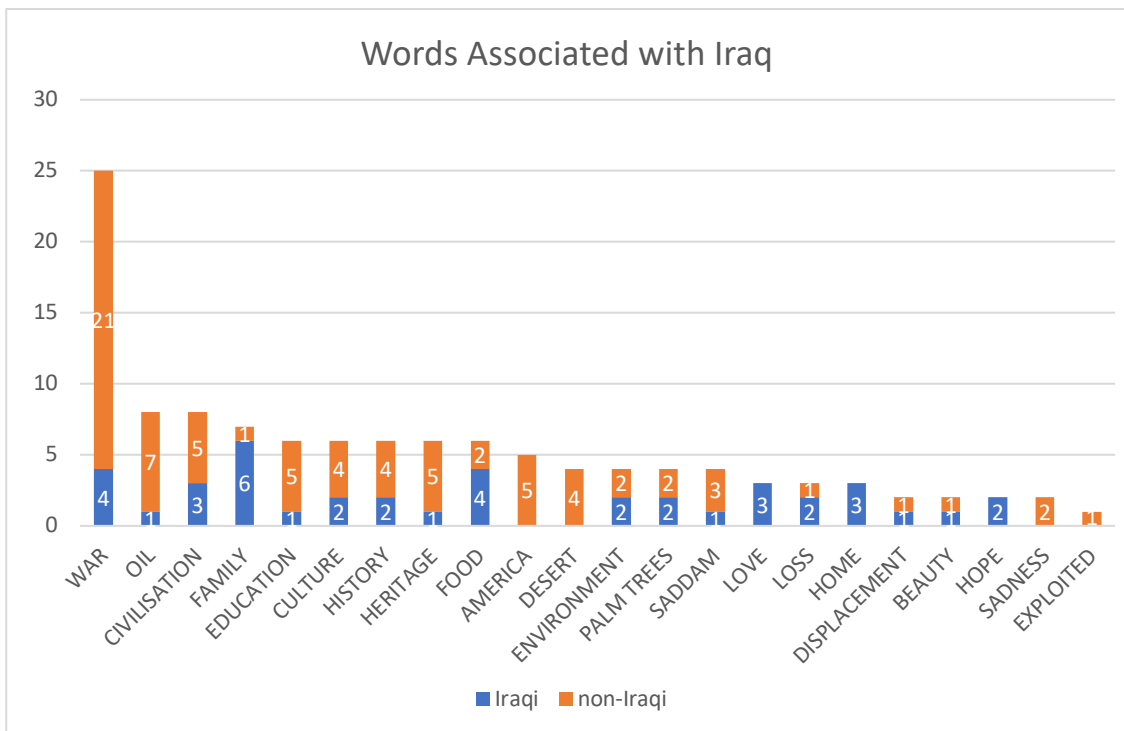
Figure 77. VR Before Q4 - Frequency of responses in coded categories from Iraqi and non-Iraqi participants

Figure 77 illustrates the final categories and the frequency which these categories were assigned to responses. The Cross Tab analysis (Table 35 in Appendix C-32) reveals a few observations. Taking into the account there were 2.5 times as many respondents that were non-Iraqi, many categories report a very even spread of responses, such as mentions of *civilisation, culture, history, environment, palm trees, loss, displacement,* and *beauty.* Responses mentioning *love, home*, and *hope* were exclusively from Iraqi

respondents while those mentioning *oil, education, heritage, America, desert, Saddam, sadness,* and *exploited*, were almost exclusively from non-Iraqi respondents.

Looking through the responses from Iraqis in the categorised survey data (Appendix C-33) reveals many participants mentioning associations of *family* and *love* combined with *loss*, *displacement* and *war.* For example:

> *"Family, love, food, home, heat, roots, belonging, health, hardship, disappearance, melancholy, friends, art, revolution, amba, children, alliances, intelligence, loss, pain, hope."* (VR28, Iraqi)

Reponses from non-Iraqis reveal a mix between associations with *war* combined with *history, civilisation* and *culture*, for example:

> *"War Desert Babylon Gardens Education History "* (VR18, non-Iraqi)

> *"Culture History Heritage War Baghdad Basra Shooting"* (VR9, non-Iraqi)

> *"Education, civilisation, history but also war"* (VR6, non-Iraqi)

4.4.2.2 ITC – SOPI

The ITC-SOPI questionnaire, a two-part questionnaire, asked users about their thoughts and feelings during and after the experience, to measure their perception of *presence* in the experience.

Data from respondents was collated in an Excel sheet and mean scores for each of the four factors (Spatial presence, Engagement, Ecological Validity, and Negative Effects) were calculated according to the scoring rubric provided with the questionnaire.

Results:

	Mean	SD
SPATIAL PRESENCE	4.01	0.49
ENGAGEMENT	4.46	0.38
ECOLOGICAL VALIDITY / NATURALNESS	3.96	0.71
NEGATIVE EFFECTS	1.61	0.63
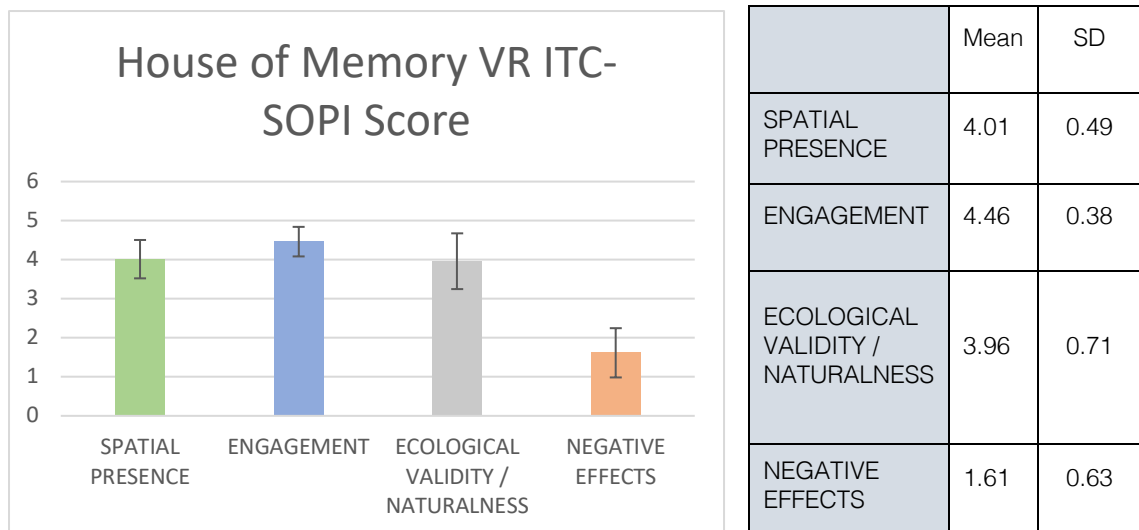
Figure 78. Mean scores and standard deviation for *House of Memory VR* in Spatial Presence, Engagement, Ecological Validity, and Negative Effects

Spatial presence relates to a user's sense of being located '*within a spatially contiguous physical environment*' (Lessiter et al., 2001). Overall, participants agreed the virtual experience provided a good Sense of Physical Space (Spatial Presence) (M = 4.01 σ =0.49).

Engagement measures a user's *'involvement and interest in the content of the displayed environment, and their general enjoyment of the media experience'* (ibid.). Overall users found the content of the experience highly appealing (M = 4.46 σ =0.38)

Ecological Validity relates to the *'believability and realism of the content and the naturalness and solidity of the environment'* (ibid.). Overall, there was a relatively high degree of naturalness reported by users (M = 3.96 σ =0.71).

Negative Effects relates to undesirable physiological and cognitive effects that may lower the perceived presence within the virtual experience. Overall, a low level of negative effects was reported by users (M = 1.61 σ =0.63).

A total of 18 participants provided comments (Appendix C-34). Their responses were collated in Excel format and then imported into MAXQDA. Participants responses were coded with the same identifier as the *Before* survey e.g., VR01. Comments were then coded in vivo, and cross-tabulated between Iraqi and non-Iraqi respondents, to present and analyse responses for these cohorts. Figure 79 categorises the content of responses given. The most frequent comments were those related to the immersive nature of the experience and how that affected their emotional response. One described how they were *"so consumed by the landscape"* that they *"felt the room get hotter … in the garden, and under the palm trees"* (VR26, Iraqi). Another participant described how they *"felt the environment so strongly"* they were *"searching for smells and even had a visceral reaction worrying about bugs"* (VR19, non-Iraqi).
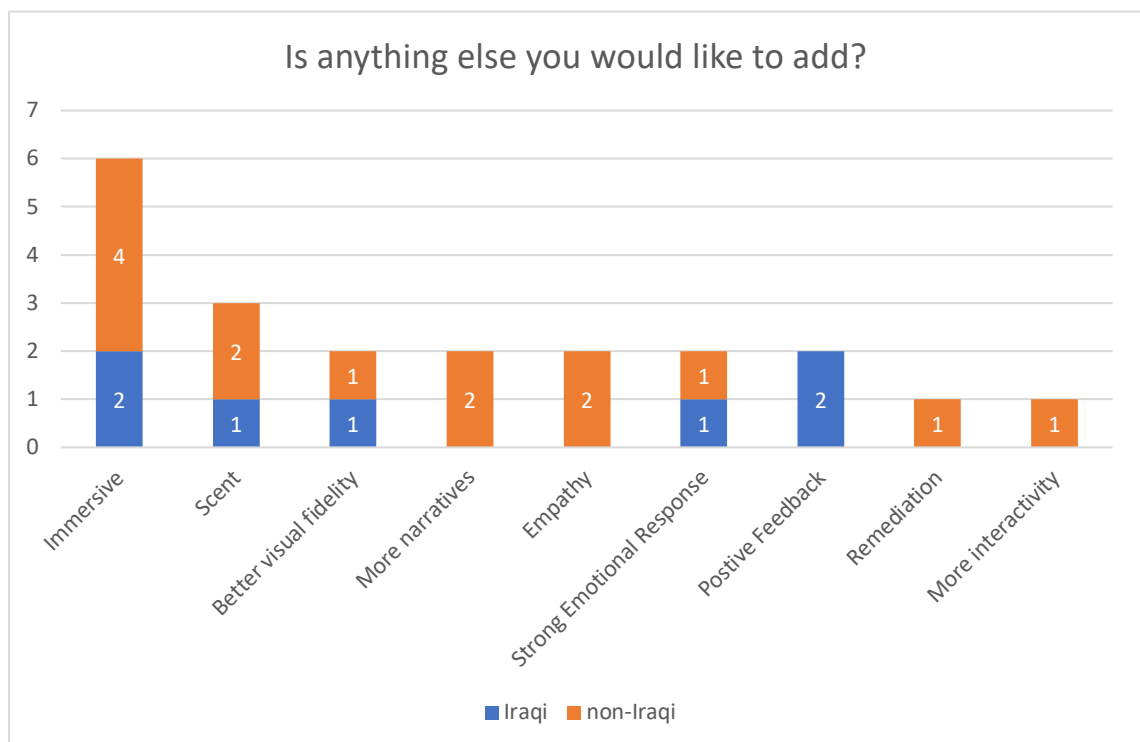
Figure 79. ITC-SOPI Comments - Frequency of categories in responses from Iraqi and non-Iraqi participants

Scent was also brought up two other participants, especially a desire to have it as an element within the experience. This was expressed most strongly by the granddaughter of the lady in the *Adhamiyah* story, who also wanted more sound design:

> *"Scents. An actual curation of scents triggered in the room by playback points would've destroyed me and put me in my grandmother's garden."* (VR28, Iraqi)

Another of the Iraqi participants described a particularly strong emotional response to the experience:

> "This experience really brought about a huge emotional response from me. At times I felt like crying, at others I felt like sitting and eating the food on the picnic blanket. I almost just wanted to be there at that time, in real life, forever!" (VR29, Iraqi).

Two of the non-Iraqi participants referred to *empathy* in their comments, one describing how it "*felt very human, real and respectful*" (VR12, non-Iraqi) while another observed that:

> "The idea of constructing a three-dimensional location of someone's memory, particularly in the context of diaspora, promotes empathy and personal human understanding where it wouldn't otherwise exist." (VR35, non-Iraqi)

There were also a couple of comments related specifically to the visual fidelity of the experience; one participant referred to *"more representative rendering"* (VR7, Iraqi) while another commented that *"it'd be better if the scenes can swift [sic] more smoothly"* (VR34, non-Iraqi).

4.4.4.3 House of Memory VR After Survey

Questions 1 and 2 consisted of OEQs aimed to gather reactions to the story content and visual environment. They were both analysed according to the 6-step QDA process outlined in the Data Collection and Analysis in section 4.2.1.3.

Question 1 aimed to gather subjective responses from Iraqi and non-Iraqi participants to understand whether the story content aligned with their expectations. This question was designed with two objectives in mind (1) to gather responses to establish whether or not their expectations on the story content were met and (2) to gather subjective reactions to the story content. Most respondents in both cohorts had a positive response to the stories (Appendix C-35). However, as the answers in some responses were quite detailed, creating categories from just the word frequencies was not possible. Instead, inductive coding was done on answer-by-answer basis and refined over a series of
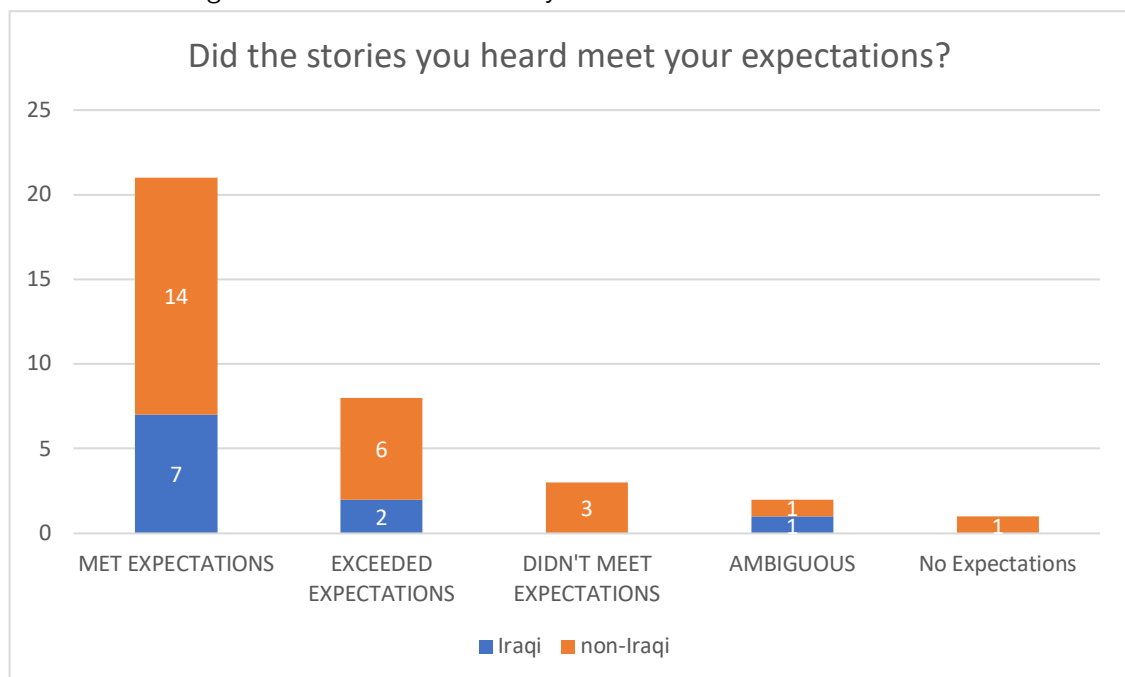
Figure 80. VR After Q1A - Frequency of responses in coded categories from Iraqi and non-Iraqi participants

coding passes. These coding passes established a series of codes related to the two objectives above. Figure 80 presents the responses related to expectations while Figure 81 displays the frequency of codes related to the subjective experience of the content.

A cross-tab analysis (Table 38 in Appendix C-35) as to whether or not story expectations were met reveals that the vast majority of respondents in both cohorts (Iraqis=90%, non-Iraqis=92%) reported their expectations met or exceeded (see figure 86). For some Iraqi respondents, they described how the stories were expected due to their own family experience or diasporic frame of reference. One respondent described how their mother *"shared some stories … of her growing up in the 70s and 80s in Iraq"* (VR3 – Iraqi)) and another described how although the stories were expected, they were also surprised about being reminded about details of culture that can be forgotten when living in the diaspora:

> *"The beauty of the gardens, the passion for fashion, having picnics, the warm Iraqi bread - all very nostalgic aspects of Iraqi culture. I did expect some of these kinds of things to come up … it is so easy to forget about these aspects of Iraq's culture I don't think many people associate Iraq with oranges."* (VR30 - Iraqi)

Figure 81. VR After Q1B - Frequency of responses in coded categories from Iraqi and non-Iraqi participants

For non-Iraqis, the personal, genuine, universal, and everyday nature of the narratives resonated with some participants, with one commenting that although they didn't know what to expect, the stories *"really evoked the places through descriptions of smells, sounds and relationships"* (VR14, non-Iraqi). Another described how the stories met their expectations in a *"much more personal, minute way"* due to the *"descriptions of small everyday things like making coffee, the smell of lemons growing on trees"* (VR4 - non-Iraqi). Another participant elaborated in detail on how they were affected by the stories:

> *"…both stories resonated with me. They teleported me back to a time I was happy with my family or that I had to fight for something important."* (VR35-non-Iraqi)

There was specific mention of the genuine nature of the stories and those who commented that their expectations were exceeded (2-Iraqi, 6-non-Iraqi) described how both the content of the stories and the nature of the immersive experience made them feel. One commented that they were:

> *"sort of ready for how they would make me feel. But certainly not the depth of those feelings. It's sort of being halfway between choking/welling up and immense happy sadness. The Great Melancholy"* (VR28 – Iraqi)

Another described how they were emotionally affected by deeply personal nature of the stories shared:

> *"Though each deeply personal, each represented a beautiful point in time for the participants. I am interested in their stories, feeling their moments acutely. I would like to know more about them…"* (VR13 – non-Iraqi).

In relation to the immersive presentation of the stories, one Iraqi respondent told of how they were brought back to the moment of the photo:

> *"I truly felt as though I was transported to a different moment in time and felt as though I was with the people in the picture"* (VR23 – Iraqi)

Another explained how the felt like they were living in the event that was being described and experiencing it for themselves. They elaborate that the personal nature of the narration made it feel like *"the person was beside me, in the place they were describing telling me the story"* (VR24 – Iraqi).

The concept of 'prosthetic memory' (see Section 2.2.1) was mentioned explicitly by one participant who described the environments and stories as giving them *"a sense of two 'prosthetic memories' of the experience'"* (VR11 – non-Iraqi). While not mentioning the term explicitly, another participant alluded to it and its affect by describing how:

> *"although I have never experienced this person's memory nor this specific place and time they describe. I will remember this experience, now I have my own memory of their memory and the way they made me feel by sharing it"* (VR12 – non-Iraqi)

Question 2 aimed to gather subjective responses from Iraqi and non-Iraqi participants to understand whether the visual environment they saw met their expectations. This question was designed with the same objectives as question 1: to (1) gather responses to establish whether or not their expectations on the visual environment were met and to (2) gather subjective reactions to the visual environment. Data analysis followed the same six-step QDA process. Similar to the responses in question 1 above, inductive coding was done on answer-by-answer basis over a series of coding passes. These coding passes established a series of codes related to the two objectives above. Figure 82 displays the responses related to expectations while Figure 83 displays the frequency of codes related to the subjective experience of the visual environment.

A cross-tab analysis (Table 39 in Appendix C-36) reveals that a significant majority of respondents in both cohorts (Iraqi=70%, non-Iraqi=88%) reported their expectations met or exceeded (see Figure 82). The most frequent code related to *visual impact* (Iraqi=6, non-Iraqi=16), with participants describing the impact of a particular visual or experience design element on them, such as the sequencing of the appearance of objects in response to the audio narration:

"It felt very immersive and really coloured the recorded audio very well and captured the sense of emotion that was coming across from the audio." (VR30 – Iraqi)
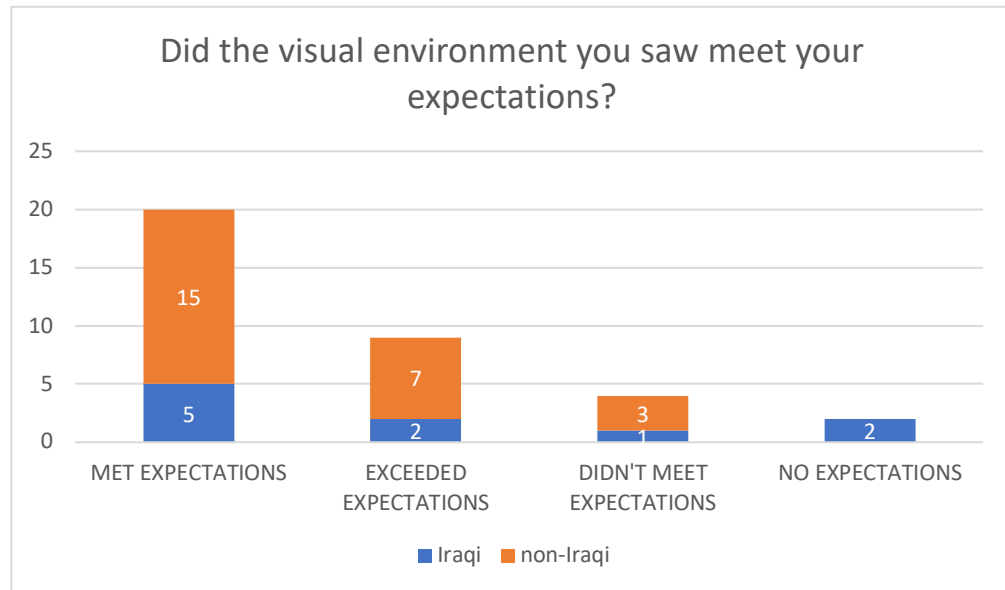
Figure 82. VR After Q2A - Frequency of responses in coded categories from Iraqi and non-Iraqi participants
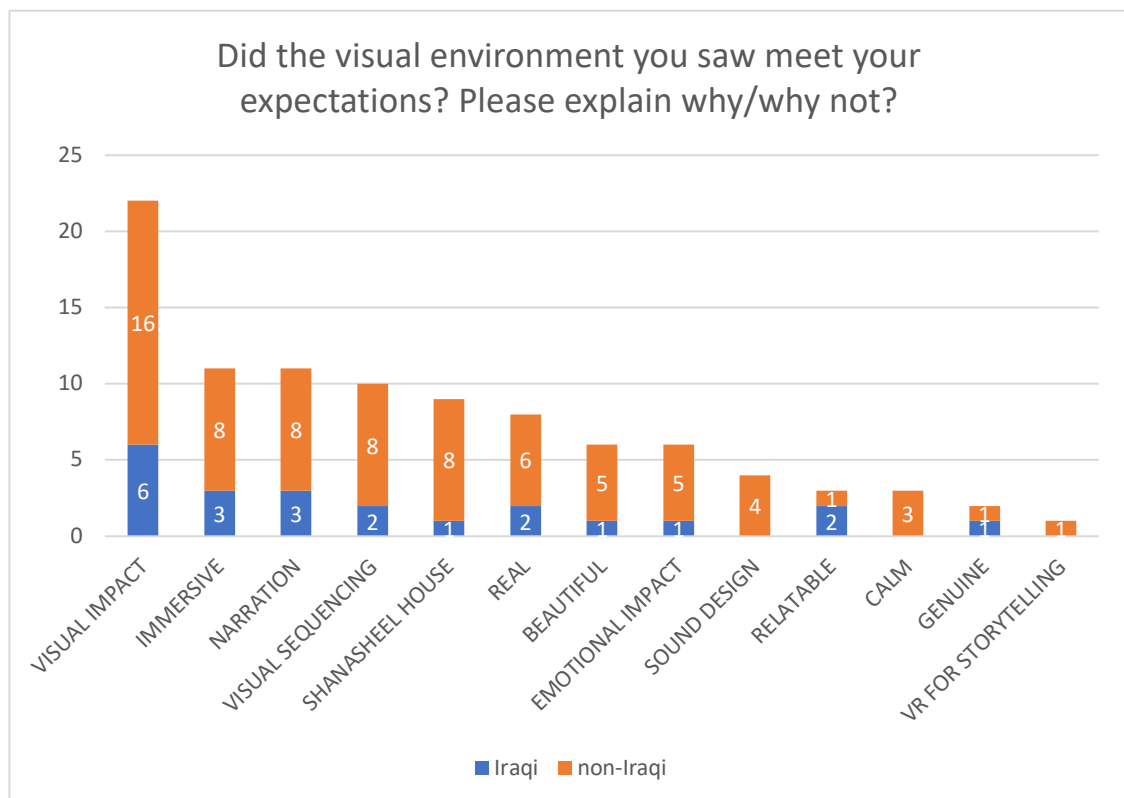
Figure 83. VR After Q2B - Frequency of responses in coded categories from Iraqi and non-Iraqi participants

One Iraqi participant describes the impact of the synchronicity of audio and the visual development of the environment on their immersion into the story:

"I thought the fact that the orange trees come into the fore so gently as ... starts to talk about them, and also the bird song as she mentions them is so impactful

> *- it means that you're carried into the story as it goes, a proper journey."* (VR29 – Iraqi)

For one participant the impact of visual sequencing *"evoked a strong connection"* (VR14 – non-Iraqi) while its impact on immersion was referenced by several participants (11):

> *"On engaging with the images, you are slowly introduced to the various visual elements as the stories progress in their telling. This allowed me the time to absorb the sights and sounds and to become completely immersed."* (VR12 – non-Iraqi)

Interestingly, 4 participants reported that the visual environment didn't meet their expectations. One expected *"more photo realism"* (VR3-Iraqi) while another described it as being *"more academic"* than they expected, and that they were *"expecting a more video game like experience"* (VR2-non-Iraqi). The other two participants in this category described how it was contrary to their expectations but in a positive way, one describing it as *"more green, lush, less harsh and hostile"* (VR4-non-Iraqi). Another revealed how they were *"expecting conflict and war"* but *"this experience on the contrary is calm and peaceful"* (VR12-non-Iraqi).

Question 3 asked participants the extent to which they agree or disagree with a series of statements about the experience to understand the impact of the VR experience on participants: knowledge, expectations, feelings, thinking, and desires in relation to representations of Iraq (images and stories). Responses were filtered in Excel between Iraqi and non-Iraqi respondents (see Figure 84).

All participants across both cohorts either agreed or strongly agreed that it was easy to know what the VR experience was about.

The vast majority of Iraqi participants (90%) reported that it met their expectations of stories from Iraq. For Non-Iraqis, a majority said that it met their expectations (60%), 20% were neutral and 20% disagreed.

All Iraqi respondents either agreed or strongly agreed that the narrations made them think more about the content of the photographs. A significant majority of non-Iraqis (92%) reported similarly.

All participants across both cohorts either agreed or strongly agreed that hearing the voices of those who were in the photographs was engaging.

All participants across both cohorts either agreed or strongly agreed that the experience brought the photos and stories to life.

The vast majority of Iraqis (80%) and non-Iraqis (92%) disagreed that they would prefer to just look at the photo and hear the audio narration, with the remaining responses neutral.

80% of Iraqi and non-Iraqi participants agreed that they were exposed to new points of view or ways of thinking about Iraqi stories, with the remaining responses neutral.

All participants across both cohorts either agreed or strongly agreed that they would like to hear more stories from Iraq told by Iraqis.

All participants across both cohorts either agreed or strongly agreed that the experience made them want to know more about Iraqi culture and society.

The vast majority of Iraqi participants (90%) felt represented by the experience. For non-Iraqis, the majority (68%) answered this question neutrally while 24% agreed that they felt represented. The remaining responses (8%) were neutral.
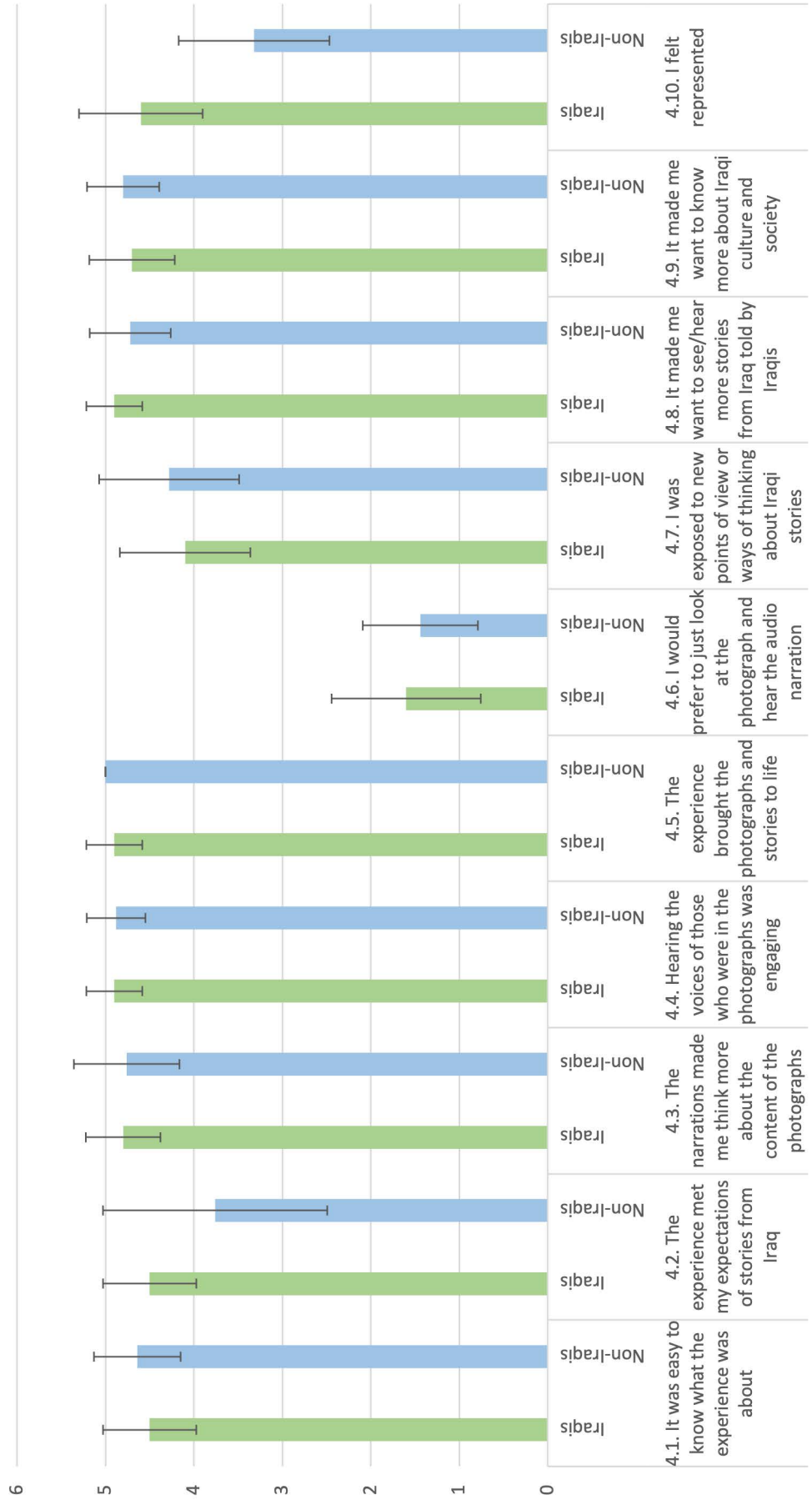
Figure 84. VR After Q3 – Likert scale responses for Iraqi and non-Iraqi participants

Question 4 used the standardised SUS to assess the usability of the VR experience. Responses were reported on a 5-point Likert scale (Strongly Agree = 5, Agree = 4, etc. Strongly Disagree = 1) and the SUS score was calculated based on the SUS scoring metric, as outlined by Brooke (1995).
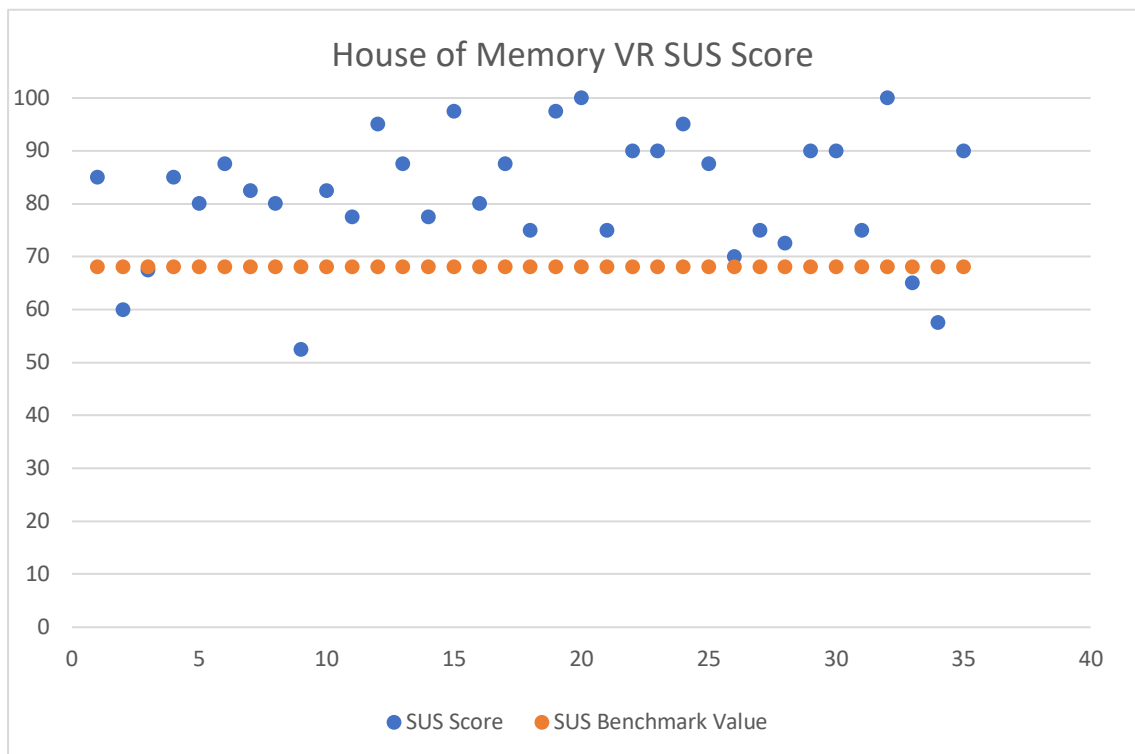
Figure 85. VR After Q4 - Scatter plot of SUS scores from respondents

The average usability score was 81.71 ($\sigma = 4.78$), placing the usability reported by users in the 4th quarter, in the range of 'Acceptable', and with an adjective rating close to Excellent (Figure 85). Overall, it can be inferred from the high SUS score that participants were very satisfied with the usability of the VR experience.

Questions 5, 6 & 7 gather additional feedback about usability, looking at participants' preferences and recommendations for refinements. The collected responses to these questions were analysed following the same 6-step QDA methodology as described before.

Question 5 consisted of an OEQ aimed at gathering subjective responses to what participants *liked* about the VR experience. Word cloud visualisations (Appendix C-37) provided a starting point for developing coding categories and further inductive coding was done on answer-by-answer basis over a series of coding passes to refine the categories. Figure 86 displays the frequency of elements participants mentioned in their responses.

The most frequent elements liked by participants related to the *immersive* (14) nature of the virtual environment and how the medium of VR enhanced their experience of the images and narratives, which was expressed in a number of different ways. One participant described how the design of the experience felt *"respectful to the participants"* and it allowed them to *"understand and feel their memories"* (VR13 – non-Iraqi). Some described how the experience gave them a *new perspective on the photos* by making them *"focus and reflect on the topic"* (VR2 – non-Iraqi), as well as how it *"expanded on the photographs in a new way…VR encouraged attention to the*
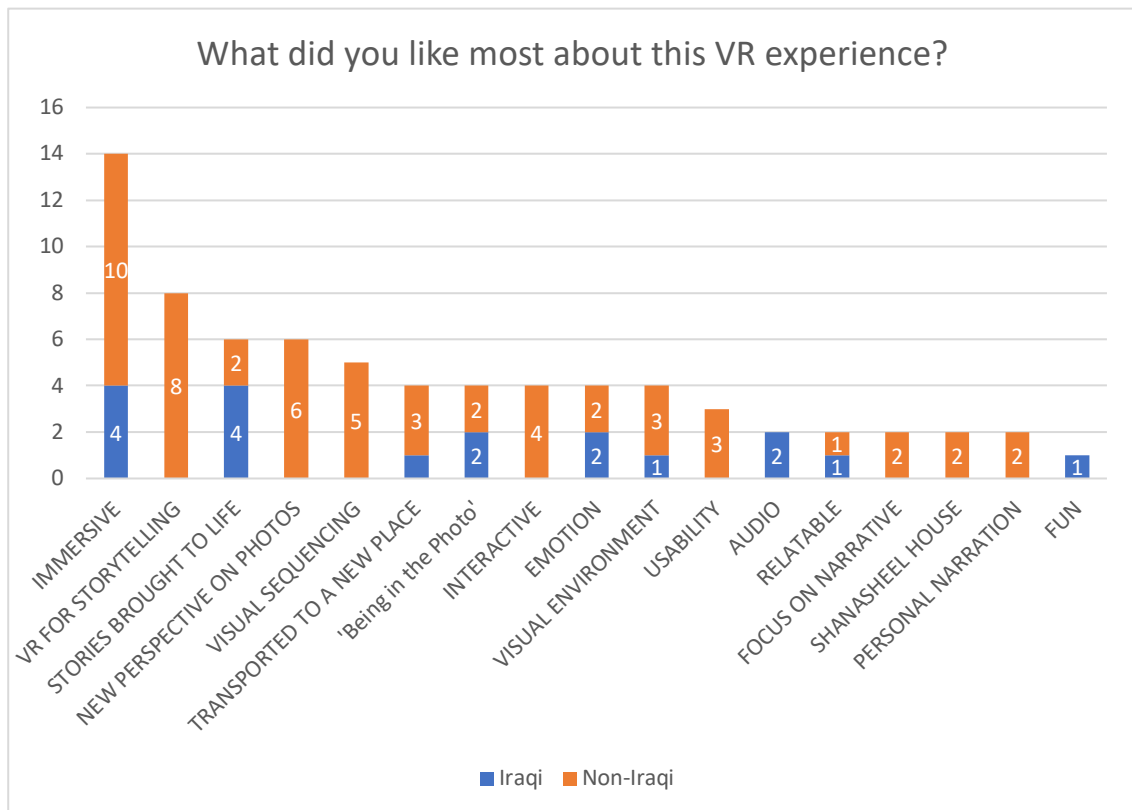
Figure 86. VR After Q5 - Frequency of responses in coded categories from Iraqi and non-Iraqi participants

storyteller" (VR10 – non-Iraqi). The word *immersion* or *immersive* was explicitly used by several participants (10 out of 14), describing how the immersive nature of the experience brought the photos and stories to life, as well as giving the feeling of being transported to another place:

> *"It created an immersive experience which brought the photos and audio to life"* (VR30 – Iraqi)

> *"The feeling of being immersed and transported somewhere else"* (VR9 – non-Iraqi)

> *"It's totally immersive nature really added to the story telling, great, really brought me to a completely different place emotionally"* (VR22 – non-Iraqi)

A relative of one of the storyteller's describes the impact of the immersive nature of the experience on them:

> *"What I loved most was feeling like I was in my grandma's actual really garden in Baghdad at that moment in time, feeling safe, happy and just emotional. I've never been, so to be able to experience just 5 minutes of that was magical. The picnic blanket with the pomegranates, the Kahi and the coffee was just so beautiful and brought to life what I've been told verbally."* (VR29 – Iraqi)

Question 6 was an OEQ aimed at gathering subjective responses to what participants *disliked* about the VR experience. The same coding method was used here as in question 5 above. Figure 87 displays the frequency of elements participants mentioned in their responses.
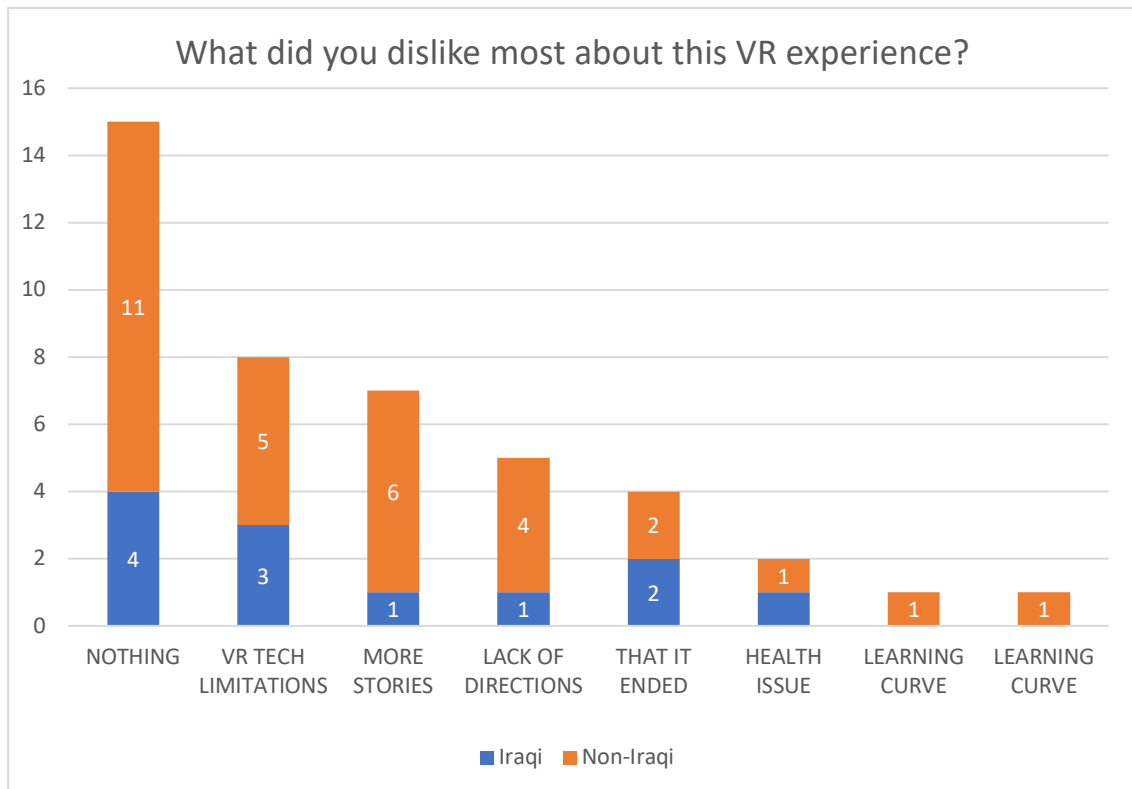
Figure 87. VR After Q6 - Frequency of responses in coded categories from Iraqi and non-Iraqi participants

The most frequent response to this question was *nothing* followed by comments related to the VR technology, both hardware and visual fidelity. Two participants (VR2, VR4 – both non-Iraqi) referred specifically to the weight of the headset, with one also elaborating that it limited their movement *"due to the headset being wired"* (VR4, non-Iraqi). Limitation of movement was also described by two other participants, who disliked *"the lack of physical space to move around"* (VR26, Iraqi) and another who *"felt limited in how much I could explore the environment physically, that is I felt I needed to rely on the controllers to move around"* (VR34, non-Iraqi). Regarding visual fidelity, one disliked the *"the technological limitations on quality of photos and renders in the space"* but qualified this with: *"I wanted the impossible. For it to be real"* (VR28, Iraqi). Another commented that *"Making the environment less animated would enhance the experience"* (VR31, Iraqi). A lack of direction was reported by 5 participants (1 Iraqi, 4 non-Iraqi), who commented that they were unsure about how the interactivity in the experience worked. One described how they didn't understand that they needed to *"go into the rooms to access the stories"* (VR14, non-Iraqi) while another reported that at the beginning they didn't interact with the scenes as they were *"lost on the ground floor of the building"* (VR33, non-Iraqi). Another described that they only discovered this interactivity by coincidence:

> *"I only discovered that photographs were portal to the further levels of experience by coincidence. I must have missed the instruction to do so by not being too familiar with VR controls"* (VR1, non-Iraqi)

A number of participants reported the need for more provided content (7), *"I disliked that there were only two photos, I wish there were more!"* (VR23, Iraqi). another one expressed the need for more time in one of the scenes and the feeling that listening to the stories may have affected their exploration within the environment:

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"It took me a minute to realise how much I could explore in the individual stories, I think this is possibly because you accidentally go into the mode of feeling you're being told a story and so just stand and watch" (VR19, non-Iraqi)

Question 7 was an OEQ aimed at gathering subjective responses to what participants would *change* about the VR experience. The same coding method was used here as in question 5 and 6 above. Figure 88 displays the frequency of elements participants mentioned in their responses. The most frequent response was *nothing* (10), all of which
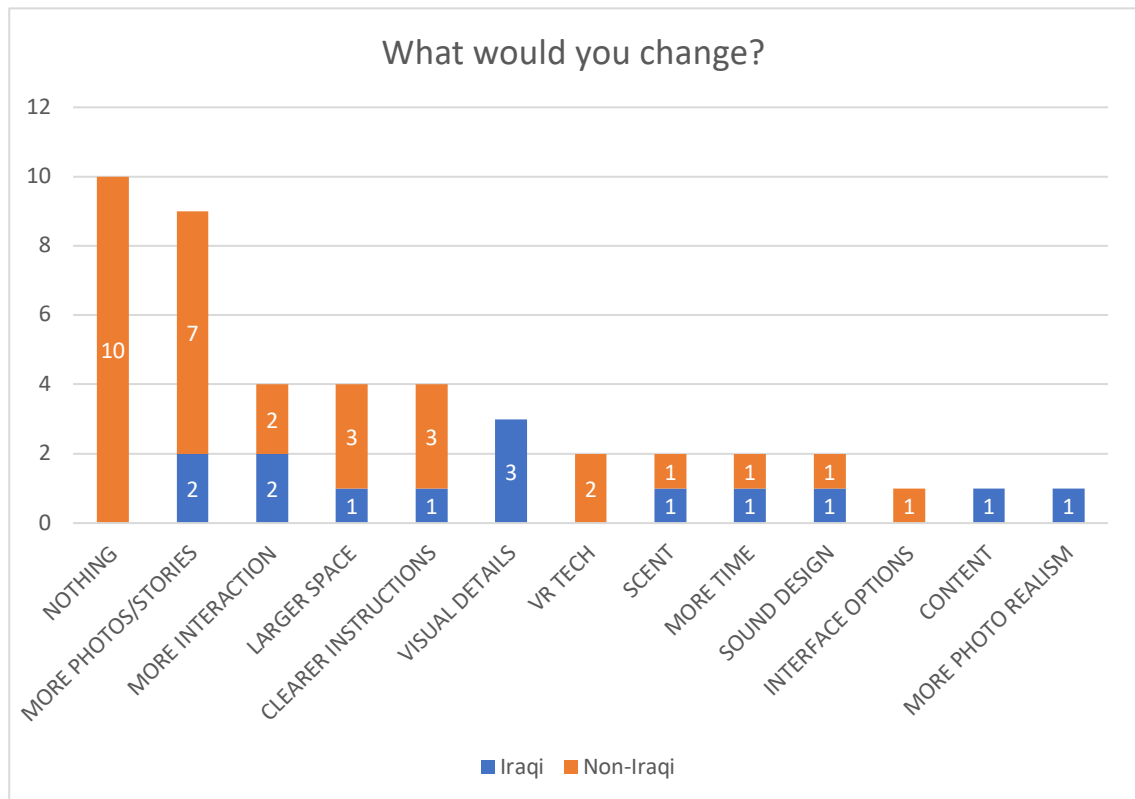
Figure 88. VR After Q7 - Frequency of responses in coded categories from Iraqi and non-Iraqi participants

came from non-Iraqi participants. Some of these responses qualified their answer by expressing a wish to see something extra, like *"the smell of the citrus trees"* (VR5, non-Iraqi), *"the next floor and potentially outside the building"* (VR17, non-Iraqi), or just *"more"* of the experience (VR13, non-Iraqi). This latter desire, *more photos/stories,* is the next most frequent category (9), with some participants specifying that they would like *"at least 3 more images to explore"* (VR11, non-Iraqi). Four participants wanted *more interaction,* by making use of the *"functions of VR* more*"* (VR26, Iraqi), enabling *"the audience to engage with the objects on the picnic floor to involve them with the environment"* (VR31, Iraqi). *Clearer instructions* on the functionality of the experience were expressed by four participants, who suggested *"a way for the viewer to know that they are to enter the room"* (VR14, non-Iraqi) and that it *"would help if it was clearer that the trigger interaction should occur with the photograph"* (VR2, non-Iraqi). Some participants mentioned specific *visual details* (3) to change in the experience, such as the sky in the *Adhamiyah* story (VR29 & VR31, Iraqi) and changing a prop detail (VR16, Iraqi).

There were other suggestions related to adding a longer cable (VR34, non-Iraqi), deactivating the controller buttons not in use (VR35, non-Iraqi), more photo realism (VR3, Iraqi), and one participant provided very detailed feedback related to the duration

of the experience and having the ability to have more time in the story space, as well as optionality with the subtitles:

> *"I'd also be interested to experience it without the text. It's easy to default to reading rather than listening. I'm also interested in the choice of how the text enters and exits."* (VR19, non-Iraqi)

Finally, one participant made a suggestion regarding the content and how they felt it could be elevated by the inclusion of the speakers within the environment:

> *"Not so much change. But a growth point/Factor. I would've loved to have the option for the storytellers to be in the space with me…"* (VR28, Iraqi)

Question 8 consisted of an OEQ aimed at gathering subjective responses from participants on the value they perceive in the design process in this practice-research, specifically, in reconstructing archive photographs and presenting them in Virtual Reality. The collected responses to these questions were analysed following the same 6-step QDA methodology as described before and Figure 89 displays the frequency of categorised responses.

As Figure 89 illustrates, the number of categories indicates the varied nature of the responses and the level of detail offered by participants. Many participants (9 non-Iraqis, 2 Iraqis) commented on how this practice could promote a deeper understanding of personal narratives as well as broader cultural knowledge. One
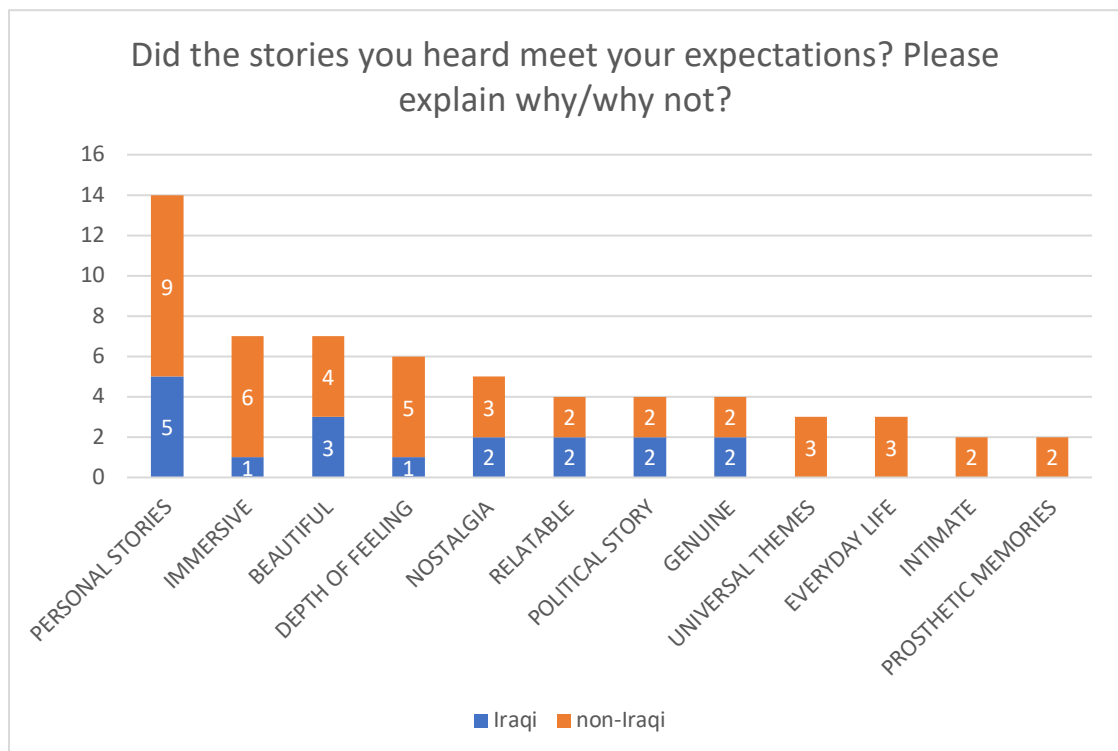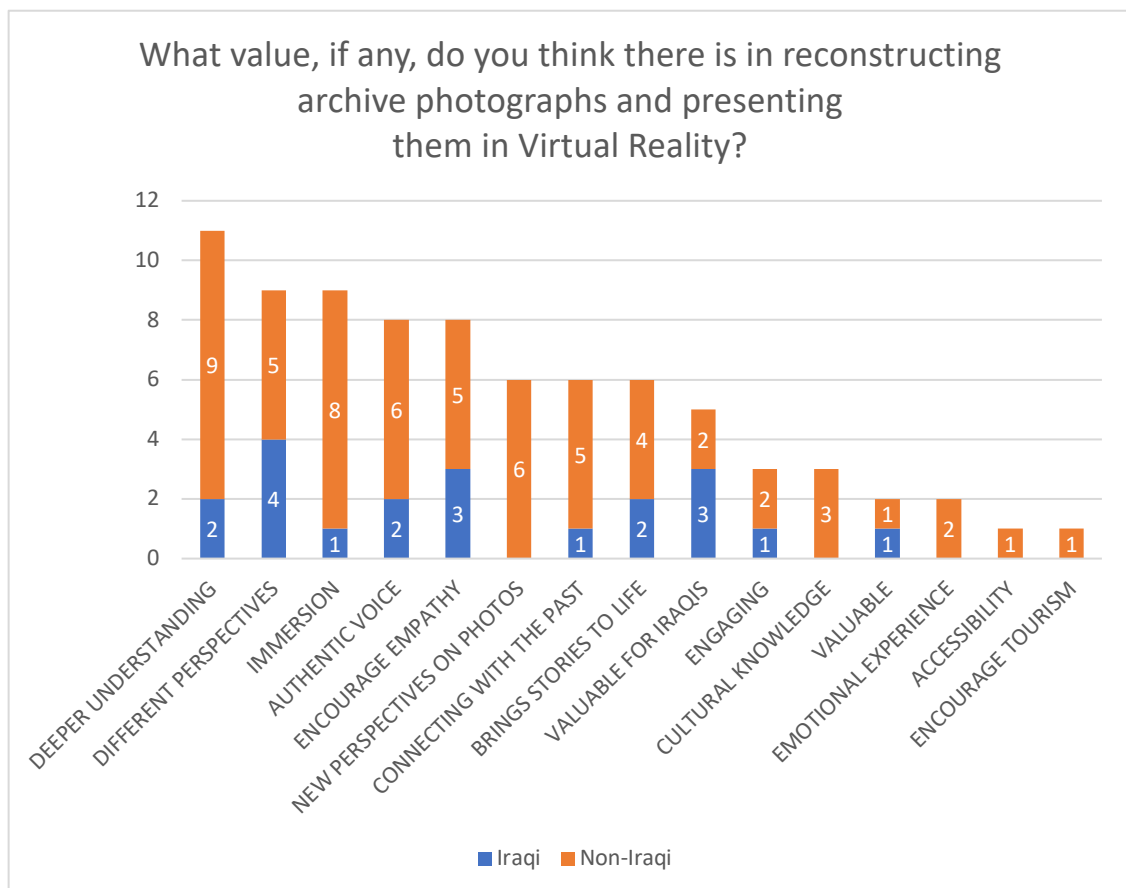

Figure 89. VR After Q8 - Frequency of responses in coded categories from Iraqi and non-Iraqi participants

participant describes how the value of presenting material in VR gives them a *"360 view of what the participants experience. I understand their happiness, their memory, I am*

in it, part of it. It extends my understanding and appreciation of their chosen archive" (VR13, non-Iraqi). Two participants specifically mention the greater context offered by this kind of presentation in comparison to just viewing a photograph:

> *"it gives you much more context, you can really experience the photograph much more than what you can imagine from simply looking at a photograph"* (VR20, non-Iraqi);

> *"You get a much more rounded story and more context than a piece of text on a gallery wall could ever give you. It truly allows you to preserve the story and photograph from the individual's perspective"* (VR19, non-Iraqi).

Several participants (5 non-Iraqis, 4 Iraqis) thought that this kind of presentation could offer *different perspectives* to a culture or a place, in particular, Iraq. One Iraqi participant described how this experience *"is of great value, particularly to those unfamiliar with Iraq and it would allow them to experience a side of Iraq that they probably don't get to see very often"* (VR30, Iraqi). Another Iraqi participant described how it could impact Western perspectives on Iraq in a positive way:

> *"I think this experience could really shape the western view of Iraq in a positive way ... make the view of Iraq much more realistic, as opposed to people just viewing it as a war zone"* (VR23, Iraqi)

While another spoke about the impact it could have on Iraqi diaspora specifically:

> *"I think this has such a huge impact for Iraqi's living in the diaspora who have never been to Iraq, to just be able to experience what it could have been like for a little bit - given this was robbed of us due to the war"* (VR29, Iraqi)

One non-Iraqi participant referred to the potential of this experience for opening up perceptions on Iraq:

> *"As someone who is not Iraqi, the value I can see is the potential to open up narrow perceptions of Iraq. The use of VR for reconstruction of archive photos offers a unique and poignant experience for the participant"* (VR12, non-Iraqi)

4.4.3 Anecdotal Findings & Remarks

Results suggest that the VR experience was positively received by the majority of participants across cohorts. There were no critical usability issues reported beyond discomfort with the weight of the headset and limitations with movement because of the cable.

4.5 Core Participant Feedback Interview

Out of the 7 participants that were interviewed during the oral history phase, only 2 narratives were remediated into the *House of Memory VR* experience (see section 3.3.3). For the final stage of the participatory process, the two subjects whose images and narrations made up the core remediated components of the VR experience, were invited to view the experience, and take part in an evaluation interview.

4.5.1 Methods

Participants were invited to attend the *House of Memory VR* testing location. Email correspondence in advance explained the process and a participant information sheet

was shared (Appendix C-4). To allow time for participants to take part in the experience and a follow-up interview, a 2-hour timeslot was allocated. Upon arrival at location, time was spent in informal conversation before the participants began the experience, following the same procedure as outlined in section 4.2.1.3 above. Following the experience, we conversed informally about their initial reactions before the evaluation interview began. A Sony FX3 camera with a wireless radio mic was used to record the interview. Participants were sitting facing the camera. One participant (I4) was more comfortable speaking in Arabic and a relative was present to assist with translation of the questions and answers during filming. That relative submitted their grandmother's photo on her behalf and made her aware of the project so she was also asked a question related to her participation with the IPA. The other participant (I7) answered the first question in Arabic and provided an answer in English also, and then conducted the remainder of the interview in English.

4.5.1.1 Data Collection & analysis

The interview questions were designed to gather their subjective feedback on their participation in all three participatory phases of the project.

Question 1 related to their participation with the Iraq Photo Archive platform:

1) Can you tell me why you decided to share a photograph with the Iraq Photo Archive?

   a. Did you share the photo yourself or did a relative or friend do it on your behalf?

   b. How did you feel about having your photograph included in this online public archive?

Question 2 related to their participation in the oral history interview:

2) Can you tell me how you felt about taking part in the oral history interview?

   a. What did you like/dislike about the process?

   b. How did you feel before and after taking part?

   c. Were you able to talk about everything you wanted to talk about?

   d. Is there something I could have done differently?

Question 3 related to their participation in the *House of Memory VR* experience:

3) Can you tell me how you felt about taking part in the Virtual Reality experience?

   a. How did it feel to experience your story in this virtual environment?

   b. Is it what you expected?

   c. Did the experience relate faithfully the stories you shared with me?

   d. Is it as faithful as you expected?

4) Are you satisfied with your participation in the process as a whole?

5) Is there anything else you would like to mention about your participation in this project?

Video files were offloaded and processed in Final Cut Pro to extract the audio file. The audio files were imported into Otter.ai for transcription. Following transcription, the transcripts were cleaned up to remove any personal names and I utilised the translation services of Nazli Tarzi once again to provide accurate translation of the subject's answers from Iraqi Arabic dialect to English. Following translation, the transcripts underwent another clean-up pass to distil the conversations down to just the questions and participant answers (Appendices C43 & C-44). As there were only two short interviews, responses could be studied in detail and presented below.

4.5.2   Results

The granddaughter(R2) of participant I4 was asked question 1 as she had submitted the photos on her grandmother's behalf. The main reason why she submitted the photos to the archive was to *"share the beauty that I saw my family share with me when they were talking about Iraq and the stories from Iraq"* (R2). This was motivated by a reaction to the media representations and perceptions shared by others as they didn't resonate with her personal experience:

> *"I didn't relate to the image of Iraq that I was seeing in the media around me, that people were telling me it was their version of Iraq. It didn't resonate with me … I was so excited to show people what Iraq was really like. And it's not just told through the eyes of the BBC News"* (R2)

The core participant I4 described feeling *"proud"* about having her image in the archive. She describes her participation in terms of being *"chosen for the project"* and feels *"proud"* about this and about her participation in the interview. For core participant I7, he felt *"impressed and surprised"* as it was his daughter who submitted the images to the archive. This made him happy because his daughter was curious about his *"background and personal history"* as he had *"done a lot to make her to be close to our culture"*. He describes feeling proud to be in the project and how it has *"refreshed"* his memory and made him able to *"relive the past, anew"*.

For question 2, participant I4 describes being very happy about the interview as because of her background as an artist, she's given multiple interviews in the past but this was the first one that didn't focus on her work, but instead was *"very personal"* and focused on her *"past life…childhood…youth…and memories of life in Baghdad"*. She was initially unsure of what to expect from the interview but once we started talking, she *"felt encouraged to talk and to share everything …beyond the questions"* asked. She explains that she has *"been cut-off from Iraq for many years, very disconnected, but the interview took me back to the happiest days we lived in Iraq"*.

Participant I7 uses the metaphor of a river breaking its banks during a flood to describe his feelings about the interview and also felt comfortable to share and talk freely, and he describes wanting to *"put everything"* and how he felt *"happy"* and *"relaxed"* after the interview.

Regarding the interaction with the *House of Memory VR* experience and seeing her photo and narrative remediated in VR, participant I4 describes how she didn't have any idea what to expect and through she was just going to attend a photographic exhibition. She describes the experience as *"amazing"* and elaborates:

> *"I appeared in the film, as though I were acting out and reliving the role, and the physical environment of the garden, the house, my family and the moments we spent together, sitting with my father and my mother"* (I4)

She describes how she felt when she was a young girl in Iraq and how she *"valued the way life was then … when we were immensely happy, and everything functioned"* and

speaks of a desire for things to return to the way they were so her grandchildren can enjoy the *"Iraq of the past"*.

> *"I wish that life in Iraq would go back to the way it was when we were kids. For our grandchildren and for them to enjoy the same life. Iraq of the past"* (I4)

Participant I7 describes being *"impressed"* by the experience and that it was unexpected. He explains that because of his background, he likes technique and how he was *"interested in the technique more than my story!"*. He mentions liking artwork and being interested in Virtual Reality. He describes how he shared the edited version of the interview transcription with his friends also explains how he feels it's important to share these pictures and stories in order to communicate shared culture and desires:

> *"And I want to show also, the picture, this is important for me, to show … We're not different, not different from all the people"* (I7)

Questions 4 and 5 regarding satisfaction and adding anything else became combined during the flow of the interview. Participant I4 responded expressing an interest to assist and contribute further to the project:

> *"Because it makes me proud. It is something exceptional, so I am happy to assist him in any way possible"* (I4)

The only additional feedback provided by I7 was of a technical nature, commenting that photograph that was used in the VR experience could have been worked on and enhanced by me to make it clearer:

> *"I believe the pictures … you can find more programmes they can edit the picture to make it more clear, to give a life again to the pictures. I think you miss this. You put the picture like the raw picture when you got it. You didn't work on it. That's all what I think"* (I7)

4.6   Brief Summary of Results

Results from each evaluation are briefly summarised below and will be discussed in further detail in the following chapter.

Iraq Photo Archive Evaluation

27 respondents (Iraqis=15, non-Iraqis=10) participated and reported very positive usability with the website. General association of the content of photos from Iraq is *Family* (Iraqis) and *War* (non-Iraqis). Iraqis report that the collection makes them feel represented. Both cohorts agree that it has exposed them to new points of view about Iraqi stories, generated interest in Iraqi culture and society, and encouraged a desire to see more authentic stories from Iraqis. Iraqis enjoyed seeing representations of Iraq and non-Iraqis felt it offered them new perspectives. The website would benefit from a searchable catalogue and further descriptions.

Oral History Interview Evaluations

Participants shared their images to present different perspectives on Iraq, and generally commented positively on their inclusion in an online collection, describing feeling *"included"* (OH03) and *"participating in history"* (OH04). They generally felt positive about the interview process and enjoyed the opportunity to revisit memories. One participant was inspired to further explore her family archives following the interview.

Core Participant Evaluations

Both participants felt very comfortable sharing their memories and felt they could talk freely during the interview. They describe feeling proud at being involved and one described feelings of nostalgia following the VR experience.

House of Memory VR Evaluation

35 participants provided feedback before and after the experience. Story expectations beforehand were generally personal memories of everyday life (Iraqis) and alternative perspectives to media representations (non-Iraqis). Visual expectations were to see visually appealing presentations of photos (Iraqis) and representations of Iraqi environments (non-Iraqis). Most frequent word associations prior to VR were *Family* (Iraqis) *and War* (non-Iraqis). After the experience, both cohorts report good usability and a strong sense of presence. Story and visual expectations were met or exceeded, and many report being immersed emotively in the personal stories due to the nature of the medium and the visual impact of the design and sequencing. Participants report great value in remediating archive photos in VR to create the conditions for deeper understanding, present different perspectives, and bring stories to life with authentic voices.

4.7   Conclusion

The evaluations presented in this chapter employed a mixed-methods approach with the assistance of MAXQDA software to conduct qualitative data analysis on the survey responses. Analysis of qualitative responses (OEQs) used an inductive method of coding (Fielding, Fielding and Hughes, 2012) in MAXQDA, an appropriate method for a study which seeks to prioritise the voice of participants (Miles et al., 2014). The responses gathered provided encouraging results, and the following chapter will discuss in detail the findings from each survey and reflect on the overall efficacy of the research methods in answering the research questions and achieving the objectives.

5 Discussion & Conclusion

The creation of the *Iraq Photo Archive* and *House of Memory VR* are both outcomes of a participatory process involving the representation of images and narratives from Iraqi diaspora through different mediums. The methods used in the creative process (section 3.3.3) are an aggregation and development of methods from personal practice as well as from research into Iraqi archive photos and simulated representations (chapter two). The critical arts-based methodology embraced embodied knowledge from Iraqi diaspora contributors and transdisciplinary methods of gathering memory material and remediating them into an immersive VR experience. It was an inductive process, whereby the design of the VE was informed by the denotational elements within the photographs and the descriptive information provided by participants throughout their interviews. *House of Memory VR* could be described as a form of memory visualisation, an arts-based interpretation of qualitative material gathered through a participatory process.

The following discussion outlines how the aggregation of methods and the results of evaluation address the research questions:

1) *What impact does an online archive of vernacular photographs from Iraqi diaspora have on the interest in representations of authentic Iraqi narratives within and outside the Iraqi diaspora community?*

2) *What impact does the participatory methodology (sharing personal images and photo elicitation interviews) have on Iraqi diaspora participants?*

3) *What impact does using a visual arts-based methodology to creatively remediate archive photographs and associated memories into Virtual Reality have on the desire for authentic representations of Iraqi narratives within and outside the Iraqi diaspora community?*

It also outlines how the aims and objectives are addressed:

- Find out how a participatory art-based project (informed by personal practice) can impact representation of, and desires for, authentic Iraqi narratives, within and outside of the Iraqi diaspora community;

- Communicate situated relational and experiential knowledge on the experiences and memories of the Iraqi diaspora using photography, oral history, and VR;

- Present counter narratives to the representation of Iraq in simulations, and more generally by the media;

- Develop a methodological approach for remediating personal images and narratives into VR as a means of contributing to the preservation and dissemination of individual (and collective) community histories for diasporic communities.

5.1 Iraq Photo Archive

Research into formal archives containing images from Iraq (Appendix A-1) revealed collections dominated with colonial era images as well as some more contemporary collections with thematic collections related to architecture (section 2). Informal archives on social media platforms, especially Pinterest and Instagram, contain a far more diverse and representative body of images, but these collections are often uncategorised assemblies of disparate images (photo dumps). In some instances, the

provenance of images is hard to ascertain and there are many that have been through several layers of annotation (a practice worthy of further research). Crowd-sourcing images with specific context can result in the creation of unique collections which hitherto would not have emerged, for instance the *Man on Bridge* collection which gathered street photos taken by Arthur Fields on Dublin's O'Connell Bridge over 50 years between 1930-1980. No negatives survived from the hundreds of thousands of images he took, so the project crowd-sourced images from personal collections of individuals who bought copies from him over the years. This process resulted in over 6300 images being collected and presented on a catalogued website. This project preserved and celebrated the work of the photographer, but also presented a fascinating photographic record of the evolution of fashion and the built environment in central Dublin over the course of 50 years (EZ Films, 2022). I became inspired by the participatory methodology used in this collection through personal participation within the project, as my Mum had a portrait taken by Arthur Fields which we submitted to the website. The *Iraq Photo Archive* is partly inspired by this crowd-sourced project, and attempts through its methodology of collection and exhibition, to create a space dedicated to the consented presentation of vernacular photos from Iraqi diaspora contributors.

The call out for submissions requested images prior to 1980, before the Iran-Iraq war commenced, to limit the potential presence of conflict related images. In total, 123 images were submitted from 31 contributors. Images submitted present 'iconic date palms, impish smiles, summer breaks, weddings, and people dancing, laughing and graduating' (Tarzi, 2020). As figure 95 in Appendix B-12 illustrates, portraits of people constitute the vast majority of images submitted to the archive (74.6%). Table 9 in Appendix B-13 illustrates the intersection of codes across the collection of images. These codes emerged from a process of inductive coding which resulted in a denotational inventory, essentially a cataloguing of the literal content denoted by the images (Penn, 2007). Inductive coding is a method employed throughout the research process, an approach to analysing qualitative material which prioritises the authenticity of the language in the material (photos or interviews). It's very appropriate in the context of this research as it forefronts the communication of the embodied knowledge of participants. The code table (Appendix B-13) further reveals that most portraits were coded as 'Landscape', therefore indicating that they were predominantly exterior images. As most images in the archive are portraits of people and only 2 images are coded in the category of 'Army', this aligns with the word frequency data for the content of images of Iraq in the question 3 of the corresponding evaluation (Appendix C-12), as well as the categorised responses. They revealed primary associations of 'Family' and 'War' for Iraqi and non-Iraqi respondents respectively. It can be concluded then that the collection of vernacular images in the IPA presents unexpected representations of Iraq and Iraqis to non-Iraqi respondents. These observations are further correlated through the statement responses in question 5, as most non-Iraqi respondents disagreed that the photos met their expectations. This suggests that non-Iraqi views on Iraq are potentially biased towards the misrepresentation of Iraq that is presented in the media and in video games. For Iraqi respondents, the images in the archive met their expectations, and the content they mostly associated photos with is 'Family', a response with emotional connotations. Despite this, many of responses also associated Iraq with images of 'War'. Contrary to non-Iraqi respondents, the images met their expectations.

All non-Iraqi respondents overwhelmingly agreed that the experience of interacting with the website made them want to see/hear more authentic Iraqi stories told by Iraqis, as well as want to know more about Iraqi culture and society. This was also the case for Iraqi respondents, demonstrating that the presentation of vernacular images and descriptions had a great impact on generating positive interest in seeing more authentic

representations of Iraq in both cohorts. Most non-Iraqis and Iraqis agreed that the collection also exposed them to new points of view or ways of thinking about Iraqi stories. This was elaborated on by 5 non-Iraqi respondents in question 7, describing how it was an *"eye-opener"* and that it looked *"totally different than how I expect Iraq to look"* (IPA03, non-Iraqi). Another described what they liked the most was:

> *"The opportunity to gain a different perspective of Iraq through photographs – to see everyday Iraqi life through personal photos of Iraqi people"* (IPA01, non-Iraqi)

Importantly, a majority of Iraqi respondents agreed that they felt represented by the archive collection, and seeing representations of the country and its people was something 3 Iraqi respondents specifically mentioned about the collection, describing how they liked *"The history and seeing Iraqi people from my parents generation represented"* (IPA09, Iraqi) and how they felt it gave *"a good representation of the country and peoples stories"* (IPA16). When it came to elements that were disliked about the website, participants broadly responded that there was nothing they disliked about the website, however some participants did wish to see some form of cataloguing or search option within the collection, as for one participant, the lack of categorisation made it feel like a *"photo dump"* (IPA27, Iraqi). There were a couple of usability issues reported but as can be deduced from the SUS score of 83.03, participants found the usability of the website to be close to excellent. Specific usability problems may have been related to individual device or browser compatibility issues. Adding a catalogue and more in-depth and visible descriptive information were the only changes put forth by participants, and this is constructive feedback to consider when presenting a collection with a large volume of images.

Research question 1 was concerned with understanding the impact an online archive of vernacular photographs from Iraqi diaspora would have on the interest in representations of authentic Iraqi narratives within and outside the Iraqi diaspora community. Overall, it can be concluded that the participatory process which foregrounded the embodied knowledge of Iraqi diaspora participants, through their personal photographs and descriptions, created a collection of images which presented new perspectives on Iraqi images and stories to non-Iraqi audiences, and elicited a desire in both cohorts to see more authentic images and stories about Iraq. The participatory element of crowd-sourcing was relatively successful and those who did interact with the collection reported good usability and a positive reaction. However, engaging participants on Instagram but using a dedicated website to collect the images as opposed to an Instagram page for instance, may have discouraged some participation, due to the extra steps involved in leaving the app. This observation emerges from viewing other Instagram pages which have emerged since the creation of the IPA which are also focused on presenting images and narratives from Iraq. *The Story of Us Iraq* for instance, crowd sources photos through direct messages within Instagram. This page presents over 500 sourced images and has amassed 8,000 followers since its launch in June 2021 (as of April 2023).

5.2   Oral History Interviews

As discussed in Chapter Two, there have been a number of oral history projects conducted with Iraqi diaspora which focus on the diasporic experience, including the Iraqi Narratives Project and the Iraqi Oral History Project. Of closest alignment to the sensibilities of this research project is the Iraqi Voices Storytelling Lab initiative by IARP, which also uses an arts-based methodology to pair Iraqis in Minnesota with professional

artists to create artwork about their lives (2.4.3). The participatory memory workshops that artist Rand Abdul Jabbar conducted with women from the Iraqi and Arab diaspora community also align closely with the methods used in this research. The key component of the oral history methodology used here was the photo elicitation method, using participants personal photographs to generate discussion and elicit memories and narratives surrounding the photographic moment depicted. Photo elicitation is an interviewing technique that has been successfully used on a variety of studies across diverse fields, including visual autobiography, visual anthropology, and psychology (see Glaw et al. (2017) for an overview on the range of studies).

Rather than eliciting grand life narratives or focusing on a specific issue such as displacement or the refugee experience, this method focused on 'smaller stories' connected with the everyday, creating opportunity for relational stories to emerge which could impact on audiences, something discussed further below. These kinds of memories add further layers of embodied knowledge generated around the archive photograph, privileging the participant's knowledge, as well as creating opportunities for individual narratives to feed into collective community histories.

Participants who submitted images to the IPA were asked about their interest in taking part in an interview. Those who expressed interest were invited to take part, and in total, 7 participants were interviewed. As outline in section 3.3.1.2, the COVID-19 pandemic resulted in these interviews being conducted over Zoom rather than in-person. This introduced some challenges with regard to visual and audio quality, as recording fidelity was dependent on the hardware used by participants. Audio quality was paramount as this was the element that would be remediated in VR and so an interview recording kit with a stereo microphone was sent to interview participants (3.3.1.2). However, a change in custom regulations due to Brexit meant this approach could not continue after January 2021, and only 2 interviews were recorded this way. All interviews were transcribed and translated (where required) as the first step of analysis.

With a total of 17 images discussed in the interviews, it was decided that remediation of all photos in VR was practically unachievable in the timeframe of the research and two images would sufficiently demonstrate the remediation, facilitate practical experience duration for evaluation, and ensure equal gender representation (3.3.2.1). Criteria of inclusion and exclusion were drawn up in order to mitigate researcher bias in the choice of images for remediation: (1) the content of the image (2) the complexity of the image and (3) the content of the interview excerpt. Interview analysis used aspects of the neonarrative approach, a qualitative method which embraces an interpretive reconstruction of an individual's narrative (3.2). However, in this process, the narrative is not rewritten, but rather just edited shorter for brevity to facilitate a suitable duration for the VR experience. This process (3.3.2.2) was informed by the 5-phases of the neonarrative process as outlined by Stewart (2010). The coding process during the final creative pass (3.3.2.2) enabled themes to be assigned to timecoded segments, facilitated the construction of the narrative, and assisted with editing the audio files. This process resulted in the creation of narrations which set the scene for viewers, described the visual and aural environment of the photo, and communicated memories and reflections. These denotational or connotational story elements could then inform the design and sequencing of the VR environment, maintaining the inductive approach of the research within this creative element of design.

The evaluation (4.3) conducted with oral history participants assisted with answering research question 2: What impact does the participatory methodology (sharing personal images and photo elicitation interviews) have on Iraqi diaspora participants? The findings revealed most participants were motivated to share their images by a desire to represent diverse elements of Iraqi culture through the lens of the past

depicted in the photos. Some felt that these representations had the potential to *"change perceptions"* by showing that Iraq is not *"a scary place like on the news"* (OH01), which indicates the view that Iraqi diaspora project participants also believed in the transformative potential of vernacular archive images. Overall, the responses suggest that participants were comfortable and enjoyed the opportunity to share their personal histories, and one was explicitly thankful about their participation and how meaningful it was for them. The ethical conduct of the process was alluded to by one participant who described how they were made to *"feel very included and involved and updated in the process"* (OH04). This participant appears to be impacted the most by the process, describing how she felt unsure about what to expect prior to the interview, but after felt inspired to look through more of her family photographs and find her own approach to record and document the memories of her family. She also wished for the process to be conducted in more of a group environment as this would allow participants to share the similarities and differences between their life experiences in Iraq. As such, this indicates that process of sharing the photos, followed by the photo elicitation interview, inspired this participant to embark on their own personal journey of recording individual family histories, showing the impact that this kind of arts-based methodology can have on participants beyond the scope of the project.

However, despite these observations, the responses from participants were concise, and on reflection, it would have been beneficial to conduct these evaluations as a follow up interview rather than a questionnaire. English not being their native language could have been a factor in written responses being short. Furthermore, the personal nature of an interview would have allowed more opportunity for the interviewer to elicit elaborations from participants. This comes with the caveat that interviews require transcription (and possibly translation) and analysis, and the timeframe required to conduct this kind of evaluation must be considered when planning the research.

5.3   House of Memory VR

Representations of Iraq in the media and simulated environments such as video games and VR experiences are contextualised by conflict and heritage visualisation (2.4.4) As discussed in detail in Chapter Two, the most advanced digital representations of Iraq are those produced at either end of the military industrial complex; from *Virtual Baghdad,* a high-resolution 3D replica of Baghdad as a military training simulation for the US army (MVRsimulation, n.d.B) to *Virtual Iraq,* VR exposure therapy for US veterans of the Iraq war suffering from PTSD (Yeh et al, 2009, p. 164). There are significant representations of Iraq within the field of heritage visualisation, specifically the digital preservation of sites carried out by CyArk and the digital reconstructions of destroyed cultural heritage sites in Mosul by QAF Media Lab.

Informed by personal creative practice focused on using computer generated simulations to create expanded photographic moments from archive photos, this project attempts to create a VR experience that is informed by the embodied knowledge of Iraqi diaspora. It forefronts personal memory and narrative to construct a simulated representation where the digital materiality of the VE is designed around authentic Iraqi narratives, as a means of countering the aforementioned dominant representations of Iraq in simulated media, as well as demonstrating the potential of this arts-based methodology to achieve this goal.

The methodology used to remediate the photographs and associated narratives into the VR experience (3.3.3) was conceptually informed by processes characteristic of my creative practice. The design of the experience is informed by denotational image and

story elements, maintaining an inductive approach within the creative design of the VE. In this research, a three-stage material analysis process was developed to (1) create a denotational inventory of non-subject elements in the image (2) conduct QDA on interview excerpts to gather contextual information not present in the image (3) create a list of props and sounds required for each environment (3.3.2.4). Reconstructing a vernacular courtyard domestic space as the VE from which remediated personal narratives are experienced was a conceptual device to not only create a temporal space for users to reflect in-between experience remediations, but also to situate users within an architectural environment evocative of historical Iraq, encouraging connotations with the past, and celebrating aspects of Iraq's cultural heritage. The 3D design of this environment was informed by the book *Traditional Houses in Baghdad,* which contained detailed surveys, floor plans, and photographs of shanasheel houses in Baghdad (Warren and Fethi, 1982). Prop reconstruction and space design were based on visual references within the book, again maintaining an inductive analysis approach. The design of the environments for the remediations were informed by the denotational information in the photograph combined with the contextual information from the interview. A key aspect of the remediations was the sequencing of visual elements to fade in or out depending on literal or emotional elements in the narrations e.g., a garden appears when mentioned in *Adhamiyah;* the sky fades to black and environment elements disappear when the narrator speaks of loss in *Tarmiyah.* The success and impact of the experience design is evidenced through evaluations conducted with participants (4.4.2) which is discussed further below.

Following the editing of participant narratives (3.3.2.2) before inclusion in the final experience, these texts were shared with the core participants to ensure their satisfaction with the edited narrative. This kept participants updated about the progress of the development of the creative practice and ensured they were involved in having control over which aspects of their narratives would be included in the work. One of the core participants described the impact of this kind of collaboration had on him, revealing how much he liked the edited narrative and that he shared it with his friends as he felt it '*really talked about part of me, part of my story'* (I7). This kind of participant knowledge underscores the value not only of giving participants the opportunity to share their individual narratives through the oral history process, but also how important it is to keep them involved in the process. After all, the material shared is highly personal and valuable to the participant, and must be treated with care.

In an interpretive practice such as this which involves working creatively with authentic narratives and images from community participants, ethical questions must be considered at all stages of the process, from material gathering all the way through creating works for presentation and evaluation. Informed consent is sought from participants at every stage of the process (see Appendices B-8, C-2, C-3, C-6), together with clear information regarding the use and ownership of material. Crucially, all photographic material remains in the ownership of participants, who retain the right of removal of their images at any point during the research process. One must also guard against any 'othering' of participants in the creation of works during this kind of process; a central mitigation for this is my personal frame of reference as being a member of the Iraqi diaspora community. Furthermore, as described, active dialogue between researcher and participants is key from the start to the end of process, ensuring their input into the research process and giving opportunity for feedback and learning.

The two subjects whose images and narrations made up the core remediated components of the VR experience, both described in their feedback interviews being impressed at how their images and stories were presented, and proud at being involved in the participatory process overall. They both describe how the photo elicitation method

during the interview encouraged a deep personal reflection and prompted a lot of memories, and the VR experience elicited a strong sense of nostalgia in one participant.

5.4   Public Presentation and Evaluation

Presenting the *House of Memory VR* experience to members of the public created the opportunity to evaluate the impact of the work on non-Iraqi and Iraqi audiences. These evaluations assist with answering research question 3 by providing insight into the value attached by participants to experiencing memory material remediated into VR. Responses to surveys before the experience revealed expectations participants had about the kind of stories and visual representations of Iraq they were about to see. Prior awareness that the VR experience was created in collaboration with contributors to the Iraq Photo Archive may have informed the most frequent expectation from both cohorts that they were about to hear stories about the personal memory of Iraqis. Reflecting on the responses given to this question reveals that, broadly speaking, non-Iraqis anticipated that the personal stories would be connected with themes of loss, displacement and conflict but that also that these stories could expand on their knowledge of the Iraqi experience and counteract negative media portrayals. This indicates that prior to the VR experience, the awareness of the Iraq Photo Archive and its vernacular images of past Iraqi life, already impacted on non-Iraqi participant's expectation that this kind of content has the potential to shift further their understanding.

This observation occurs in relation to expectations of visual representations also, whereby a number of non-Iraqi participants expected the experience to present something visually different from the *"the war narrative that we've been bombarded with for years through the media"* (VR15, non-Iraqi). For Iraqis, their expectations of the visual environment focused on seeing personal photos and depictions related to occasions and *"momentous days in people's lives"* (VR23, Iraqi), an expectation most likely informed by their own frame of reference as Iraqi diaspora. Interestingly, most respondents (80%) had never experienced a simulated representation of Iraq and for those who did, the majority of responses refer to video games, and the context or environment as being related to war or conflict. This is in keeping with the observations from section 2 around simulated representations of Iraq and demonstrates in some way the latent expectations associated with simulated representations of Iraq. These impressions are further emphasised when the word associations prior to the experience are examined. The results are comparable to the findings from the Iraq Photo Archive surveys, returning the same most-frequent word associations of 'Family' and 'War'' for Iraqi and non-Iraqi respondents respectively. Although there are a lot of categories of associations that are similar across cohorts (*civilisation, culture, history, environment, palm trees, loss, displacement,* and *beauty*), it is the exclusive responses which are telling; *love, home* and *hope* from Iraqis, *oil, education, heritage, America, desert, Saddam, sadness,* and *exploited* from non-Iraqis. (Appendix C-30)

The feedback gathered following the experience was very insightful and encouraging. From responses as to whether expectations of the stories and visual environment were met, participants described an overwhelmingly positive and impactful experience. It appears that the aggregation of authentic personal narratives voiced by participants, the visual impact of the elements within environment, and the sequencing of visual elements in the environment in response to story progression, affected viewer's emotional connection with the narratives, as well as positively impacting their immersion: *"It felt very immersive and really coloured the recorded audio very well and captured the sense of emotion that was coming across from the audio"* (VR30 – Iraqi).

The immersive aspect of the experience and how the medium of VR enhanced their experience of the photos and narratives is what participants liked most. One participant specifically described how the design of the *"VR encouraged attention to the storyteller"* (VR10, non-Iraqi) and another how it felt *"respectful to the participants"* and allowed them to *"understand and feel their memories"* (VR13, non-Iraqi). These kinds of responses align with the intentions set out in the methodology section (3.2.4) and reveal that remediating the images and narratives in this manner creates an experiential encounter with the story, which privileges the storyteller, and creates the circumstances for a relational interaction between audience and storyteller where viewers can think with them, and in turn, understand them (Bochner & Riggs, 2014, p.205).

This kind of relational interaction facilitated by remediation of memory material together with its impact on the emotional connection with the storyteller, is described by number of respondents, who expressed how the immersive presentation transported them to a different moment in time and made them *"feel as though I was with the people in the picture"* (VR23, Iraqi), or that *"the person was beside me, in the place they were describing telling me the story"* (VR24, Iraqi). One participant vividly illustrated the emotional impact of the relational encounter they had:

> *"Though each deeply personal, each represented a beautiful point in time for the participants. I am interested in their stories, feeling their moments acutely. I would like to know more about them...see and feel what happened next. I think I was just expecting them to explain that moment, but it felt deeper"* (VR13 – non-Iraqi).

The broad agreement to the statements in question 3 of the corresponding experiment across both cohorts suggests a measure of the positive impact of this experience both in relation to the perceived value of the remediation process, and the generation of interest in authentic representations of Iraqi stories. Anecdotally, there were lots of emotive exclamations while participants were taking part in the experience and once it was over, many felt the need to share their feelings immediately, describing elements that they found particularly affecting or just expressing their enjoyment. The experience was particularly emotive for some; one Iraqi participant was so affected, he remained silent for a long period after removing the headset, and then became quite emotional and was moved to tears. He recounted how the authenticity of the stories in the experience, from the descriptions of breakfast in the garden in *Adhamiyah* to the exile story in *Tarmiyah*, were so close to his own family experience, that it made him miss his parents whom he hadn't seen in almost 10 years.

5.5 Sense of Presence

The findings indicate that the methodology employed in the design of the VR work resulted in an immersive and highly engaging experience, an observation supported by the outcome of the ITC-SOPI questionnaire. Results were very encouraging across all four factors (Spatial presence, Engagement, Ecological Validity, and Negative Effects). Participants agreed that the virtual experience provided a good Sense of Physical Space (Spatial Presence) (M = 4.01 σ =0.49). As outlined by Lessiter et al. (2001), a user's sense of presence is related not only to their 'sense of being located within a spatially contiguous physical environment' but also to their 'evaluation of the appeal and naturalness of the content with the displayed environment'. Lessiter et al. (ibid.) assert that the form of the media is one of the prime determinants of this factor as higher fidelity presentations tend to give higher scores in this factor. So, the immersive nature of VE experienced by users may be a factor in this relatively high

score. Overall users found the content of the experience highly engaging (M = 4.46 σ =0.38) and this factor is determined not only by the media content, but also the media form (ibid.). In this instance, it could be asserted that the user's engagement with the content was intensified by its presentation in an architectural structure evocative of Iraq within the VE. There was a relatively high degree of ecological validity/naturalness reported by users (M = 3.96 σ =0.71). Lessiter et al. (ibid.) note that with media forms with greater immersive properties (such as VR), the content has less influence on the believability, realness, and naturalness of the presentation. However, variables such as photo realism can affect this factor and produce lower ratings and the 3D graphics and game environment aesthetics of this experience may have contributed to lower scores being reported by some users. Finally, a low level of negative effects was reported by users (M = 1.61 σ =0.63). Lessiter et al.(ibid.) outline that this factor is 'significantly but modestly (and positively) related to Sense of Physical Space', but less so correlated with Engagement or Ecological Validity. Certain negative effects such as headaches, eyestrain, or tiredness can be associated with the media form (ibid.). VR headsets can be uncomfortable and heavy and as such this could contribute to negative effects being reported, as specifically reported by two participants. Overall, the results indicate that participants had a highly immersive experience, and those that commented further, emphasised having emotional and visceral responses to the simulation, such as sensations of temperature change and scent (4.4.2.2).

5.6   Usability

The experience opens within the courtyard of the house, allowing participants time to become familiarised with navigating the VE, and this may have positively impacted their general perception of the experience. Although participants were very satisfied with the usability of the experience as indicated by the SUS score of 81.71 (σ = 4.78), limitations of VR software and hardware were reported by some, regarding headset weight and the fact that movement was limited due to being tethered to the computer. In order to achieve higher visual fidelity, the VR experience in this instance was being run directly from UE5 and was not packaged to run wirelessly on the Oculus Quest 2, hence it being connected directly to the PC. Optimising the experience to run natively on a mobile wireless VR device like the Oculus Quest 2 may offer more flexibility for independent movement providing unrestricted navigation in a wide tracking area and offering opportunities for hand interaction and manipulation within the VE. As VR hardware develops in coming years, the limitations with visual fidelity reported by some users should be addressed.

5.7   The Impact of Remediation

Overall, the creative process employed in remediating the archive photos and narrations into an immersive experience resonated very deeply with participants. The majority agreed that they preferred the experiential nature of the medium as opposed to just looking at the photo and hearing the narrations. When asked about the value of reconstructing archive photographs in VR, the responses were extremely insightful. Observing the most frequently coded responses reveals that the remediation methodology created an immersive experience which when combined with authentic voices, had the ability to create connections with the past, encourage empathy, and promote deeper understanding through the presentation of different perspectives. The

potential for the creation of counter stories is evident through this process, and this methodology is of value to individuals or communities seeking ways to neutralise 'oppressive master narratives' (Nelson, as seen in Bochner & Riggs, 2014). Having just experienced a photographic moment remediated and expanded in VR, participants expressed both here and in question 3, their preference for this manner of presentation over *"simply looking at a photograph"* (VR20, non-Iraqi). One described how it has the potential to give much more context than *"a piece of text on a gallery wall could ever give you"* (VR19, non-Iraqi), and the immersive experience creates the conditions for an empathetic response to the material:

> *"I think the huge value of presenting in virtual reality is that I have a 360 view of what the participants experience. I understand their happiness, their memory, I am in it, part of it. It extends my understanding and appreciation of their chosen archive"* (VR13, non-Iraqi)

5.8   Reflection on qualitative research process

Tracy's eight criteria 'model of excellent qualitative research' can be used as a framework to reflect on the quality of the methodological process used: (1) worthy topic, (2) rich rigor, (3) sincerity, (4) credibility, (5) resonance, (6) significant contribution, (7) ethical, and (8) meaningful coherence (Tracy, 2010, p. 849). As VR technology develops and its use becomes more widespread, the potential for archival material to be remediated and brought to life is worthy of enquiry, as this research attempts to show. The methodology employed for gathering material, creatively remediating it, and evaluating the process, generated 123 images from 31 contributors, 7 oral history interviews with evaluations, and 35 participants evaluating the VR experience, illustrating that the process employed was thorough and rigorous. As outlined in Chapter Three, the researcher's position as a member of the Iraqi diaspora community and the motivation to build upon personal art practice to address issues with representation of Iraqi narratives in photographic collections and simulated media, is well flagged, transparent, and presented sincerely (Tracy also notes that the utility of researcher reflexivity need not be bound only to critical research (2010, p. 849)). Leavy (2011) argues that the credibility of an arts-based approach can be dependent on the aesthetic power of the work. Participants feedback on the visual impact of the environment and visual sequencing in *House of Memory VR* indicates that the experience was evocative, emotional, and visually pleasing. As such, it can be inferred that the process was both credible, and resonant. The arts-based methodology outlined contributes a significant example of a creative and conceptual framework to inspire other artists and researchers when conducting participatory research with archive photographs and oral history. As evidenced in each stage of the research, the process has kept ethics at the forefront of all activities. Finally, the criteria of *meaningful coherence*, whereby "*the study achieves what it purports to be about, uses methods and procedures that fit its stated goals, and meaningfully interconnects literature, research questions/foci, findings, and interpretations with each*" (Tracy, 2010), appears satisfied, based on the methods and outputs presented in this thesis.

5.9   Contribution

The practice of constructing an informal archive of personal photographs from Iraqi diaspora and remediating associated memory material into a VR experience locates this work as a form of archival arts practice. Foster regards this kind of practice as archival as not only is it drawing upon informal archives in the creation of new work, but it is also producing them (2004, p.5). The retrieval and artistic treatment of memory material are not only a 'gesture of alternative knowledge or counter memory', but it also

indicates a move from the archive as a site of 'excavation' to a site of 'construction' (ibid., p.22). The personal photographs shared with this project are 'touchstones' (Millar, 2006, p.105) for the retrieval of memories. The sharing of these individual memories with the wider community contributes to a sense of shared knowledge or experience, and in turn the idea of a social or collective memory which, as Millar states, can only be realised when these records and archives are mediated or used (ibid., p.122). This research demonstrates an approach to the remediation of individual memories, one that harnesses the medium of VR to facilitate experiential encounters with personal Iraqi stories from the past. As demonstrated through the evaluations, these immersive encounters are impactful, relational, and create the conditions for new perspectives to emerge. This aligns with Bolter and Grusin's understanding that we can empathise with another's point-of-view through the immersion of our point-of-view in VR (2000, p.232).

The *House of Memory VR* experience contributed to the creation of prosthetic memories, which for Landsberg is 'a crucial step toward learning how to experience empathy' (2004, p.47). She views empathy a means of breaking down individual subjectivities and creating intersubjective relations, and because empathy recognises the alterity of the "other", prosthetic memory creates the conditions for an ethical relation to the "other", as well as 'political alliances that transcend race, class, and gender' (ibid., p21-38). As demonstrated by this project, VR technology can facilitate an intimate experiential encounter with a personal memory material. However, Van Alphen warns against conventional and uncritical uses of archive media and argues for a critical and self-reflexive use which subverts traditional temporality and historicism[10], and creates the conditions for being able to relate to the past in the present (2014, p.265). With this in mind, this research has attempted to interrogate the use of simulated entertainment media in the entrenchment of problematic cultural and visual stereotypes from Iraq, and highlights the impact that authentic narratives have on the construction, mediation, and reception of simulated representations of Iraq.

5.10 Limitations

Although the results of this research are encouraging, there are some limitations. The main language of the website was English (due to personal limitations with Arabic language fluency, an issue afflicting many in the diaspora) and this may have precluded many participants from engaging with the project. That said, there were a number of participants who wrote the descriptions in Arabic and I received many messages from the public in Arabic, despite English being used on the website and social posts. Most of the submissions came from UK-based diaspora and there is scope to broaden the out the collection much further as there are very large diaspora communities in Jordan, Syria, Turkey, UAE, US, Germany, Sweden, Australia for instance (Migration Policy Institute, 2021). The timeframe criteria employed (pre-1980) could be lifted and it would be of interest to compare and contrast the development of vernacular representations during more recent years. The COVID-19 pandemic created difficulties during the oral history stage, both on a personal and practical level. As opposed to just audio narrations remediated within the VR experience, these interviews were intended to be short films to form another output from the project, but the fidelity of the screen recordings and hardware limitations adversely affects their visual impact. The public

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[10] See Van Alphen reference to German sociologist and cultural critic Siegfried Kracauer reflections on the impact of photography on memory in the 1920s to explain how media culture have an effect on memory (Van Alphen, 2014, p. 249)

presentation of the work was limited to a physical location and wider distribution would increase engagement and impact of the work (see section 5.11).

5.11 Future Work

Drawing on participant feedback, further development of this work should expand the navigable space of the house to the upper stories and include multiple remediated narratives. Presenting the first iteration of the VR experience could encourage increased engagement within the Iraqi diaspora community to expand the number of images in the archive. The remediation process was labour and time intensive and would benefit from a more streamlined process. Current AI technology demonstrates the potential to generate 3D models from single images (Gross, 2022) and prompts, which in theory could dramatically speed up the 3D design process and allow more time for creative experiential design within the VE. However, while the technology may be useful to speed up certain software specific tasks, in an artistic process which deals with personal narratives and representations from the past, one must guard against entrusting an AI to create authentic representations.

As some participants commented, more interactivity in the experience would be desirable, such as interactivity with props (hand tracking), body tracking (e.g. using Vive tracker) to rig a virtual character and recreate moving body limbs legs and arm, and using inverse kinematics (Parger et al., 2018) to increase embodiment (Schultze, 2010). The goal is to conduct further design iterations and optimisation so that the VR experience can be packaged as an app and freely available on Steam, Oculus or Vive stores, which would open up the possibility for the experience to be viewed by a much larger audience across the world. It would be interesting to evaluate whether the impact of the experience persists over time, and this would require a more longer-term assessment with non-Iraqis to assess further the ability for this kind of VR experience to change perceptions.

5.11 Conclusion

This research has shown how curating an online space to crowd-source vernacular personal photos can energise and engage the Iraqi diaspora community to construct a photo archive that is representative of their personal histories. The website enables global accessibility, which can offer those in the diaspora spaces where they can feel represented and help contribute to the creation of collective community histories across national boundaries. Over 7500 page impressions from across the world (at the time of writing), as well as the over 3400 followers on the Iraq Photo Archive Instagram page, is evidence of the keen interest within the global Iraqi diaspora community for historical photos from Iraq. As revealed in the evaluations, representations of Iraqi images and narratives are still informed by the legacy of conflict reportage, and the vernacular archive reveals the potential for personal images and narratives to create counter stories to dominant narratives and media representations of Iraq. The process of remediation to VR, the creative construction of expanded photographic moments, offers the framework of an arts-based methodology where presenting authentic narratives in an experiential and immersive way heightens the emotional impact and creates desire for similar material. For many non-Iraqi viewers, the VR experience created an emotional response, which created the conditions for new perspectives to emerge about Iraq.

Crucially, the methodology forefronts the value of situated knowledge in the reconstruction of a VE representative of a place or time in the past, and illustrates the impact of transdisciplinary methods through the combination of creative practice with

various research disciplines. It attempts, in a humble way, to address the lack of authentic representations of Iraq within simulations and counter the continued dominant use of simulated Iraqi environments as props for conflict themed video games (see *Six Days in Fallujah* scheduled for release in 2023*)*. It demonstrates, through the knowledge generated through participant feedback and the harnessing of the storytelling power of VR, the potential for an experiential encounter with memory in VR and the emotive impact this can have on viewers. These findings can inspire other artists and researchers with an approach to conducting participatory research using archive photographs and photo elicitation interviews.

On a community level, both the archive and the VR work have impacted Iraqi diaspora participants in a positive way, as is evidenced in the aggregation of comments from the evaluations (see section 4). Having her photo in the archive made one Iraqi participant feel *"included within the Iraqi diaspora community, that I've often not felt connected to before"* (OH04). Another described how her own experience of encountering personal family archives the *"beautiful, incredible stories"* made her *"passionate about sharing"* what she was seeing and the archive made her *"excited to show people what Iraq was really like"* (R2). The archive has generated interest from story editors in newspapers (The New Arab, Arab News), prompted invitations to contribute to an issue of ShakoMako.Net, an independent digital magazine about Iraqi run by members of the diaspora community, engaged other researchers interested in archives from the middle east, and fellow Iraqi artists in the diaspora interested in instigating projects using material from the archive. It has also led to invitations to co-curate "Today, Tomorrow", a crowd-sourced exhibition of Iraqi art for the Iraq American Reconciliation Project (IARP, 2023), as well as "Between Lines", a participatory memory project with Iraqi diaspora in Ireland, in association with the Museum of Everyone and funded by the Arts Council of Ireland and Cork County Council (Between Lines, 2023).

This study presents an effective methodological and technological framework that combines personal art practice with established qualitative methodologies for the collection and analysis of personal narratives and intangible heritage towards the creation of an immersive digital experience. In the current global context, which sees communities continue to be displaced en masse due to conflict and climate emergencies, this approach can be of value to community members, artists, researchers, and activists concerned with the preservation and communication of personal narratives, collective histories, and intangible cultural heritage.

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APPENDIX A

Appendix A-1   Photo archives containing images of Iraq

Table 5. Photo archives containing images of Iraq

Collection	Location	Description	Number of images related to Iraq	Years	Classification	Link	Search criteria
Gertrude Bell Archive	Newcastle University, England & Online	For each photograph, the digitised collection provides: date, location, modern location, size, condition, subject date, and description.	1,342*	1909 - 1918	Landscapes, archaeological sites, people	http://www.gerty.ncl.ac.uk	"Iraq"* * returns 1,344 images but 2 are images from a place called 'Iraq el Amir in Jordan
Oriental Institute Photographic Archives	University of Chicago, US & Online	Images are all related to archaeological digs and removal of heritage objects from Iraq. Images lack captions or any textual descriptions.	15	No info	archaeological sites, archaeological heritage, antiquities,	https://oi.uchicago.edu/collections/photographic-archives/photographic-archives-iraq	Direct link; keyword search: "Iraq"
The Middle East and Islamic Photography collection	Fine Arts Library, Harvard, Cambridge, Massachusetts, US & Online	Images are almost exclusively of Jewish religious objects and manuscripts, apart from an album reproducing images from "Camera Studies in Iraq" by Kerim, A. ca 1923 and an album with 8 different crops of a photograph of former Iraqi prime minister Abdul Kareem Kassim from 1969.	777	1920 - 1969	Judaism, ritual objects, archaeological sites	https://library.harvard.edu/collections/middle-east-and-islamic-photographs https://images.hollis.harvard.edu/primo-explore/search?vid=HVD_IMAGES&sortby=rank&lang=en_US	Keyword search "Iraq" in all Harvard Repositories through Hollis Images search, search filtered Form/Genre to "Photographs" and Subject to "Iraq"
ArchNet Digital Library	Aga Khan Documentation Center at MIT & online	For each photograph, the digitised collection provides: caption, date, associated sites, associated names, associated collections, keywords	1645	1907 - 2017	Architecture, landscapes	http://archnet.org	Keyword search "Iraq" Geo location filtered to Iraq. Search filtered to "Images"
Rifat Chadirji's Photographs	Archnet	Collection of photographs showing daily life, cultural engagement, and social conditions, as well as photographs of Rifat Chadirji's architectural projects.	398	1954 - 1981	Architecture, landscapes, people	https://www.archnet.org/collections/1426/details	https://www.archnet.org/collections Kamal and Rifat Chadirji's Photographic Archives accessible via a link on the Collections main page

Collection	Location	Description	Number of images related to Iraq	Years	Classification	Link	Search criteria
Kamil Chadirji's Photographs	Archnet	Collection of photographs showing daily life, cultural engagement, and social conditions.	217	1920s – 1970s	Architecture, landscapes, people	https://www.archnet.org/co llections/1427/details	https://www.archnet.org/collections Kamal and Rifat Chadirji's Photographic Archives accessible via a link on the Collections main page
American Geographical Society Library Digital Photo Archive – Asia and Middle East	University of Wisconsin, Milwaukee	Online searchable repository with comprehensive information for each archive record	295*		Architecture, archaeological sites, landscapes, people, industry, animals,	https://collections.lib.uwm. edu/digital/collection/agsp hoto/search/searchterm/ iraq!iraq/field/countr!all/mo de/exact!all/conn/and!all/or der/nosort/ad/asc/page/1	Keyword search "Iraq" Country/Nation filter: "Iraq" *search returns 296 results but one is a film
The Middle East Centre Archive	St Anthony's College, The University of Oxford, England	Catalogue of Historical Photographs of the Middle East on microfiche. Information in catalogue provides microfiche catalogue number and description for each image.	4,023	1909-1956	Architecture, landscapes, people, animals,	https://www.sant.ox.ac.uk/s ites/default/files/meca-hpme-catalogue.pdf	N/A
The Middle East Centre Archive - John Bagot Glubb Collection	St Anthony's College, The University of Oxford, England	Online collection has low resolution watermarked images with basic descriptive thumbnail captions which include broad location information but no year.	34	1920s	Architecture, landscapes, people, animals,	http://www.sant.ox.ac.uk/m ec/mecaphotos-john-glubb.html	https://www.sant.ox.ac.uk/research-centres/middle-east-centre/mec-archive/meca-photos The main archive page has a list of contents and resources offered by the archive. Access to this collection can be made by clicking on "Online Photo Galleries" < https://www.sant.ox.ac.uk/mec/mecaphotos-gallery.html> followed by clicking on the thumbnail for "John Glubb: Iraq 1920s" < https://www.sant.ox.ac.uk/mec/mecaphotos-john-glubb.html> Accessed: 26/05/21

Collection	Location	Description	Number of images related to Iraq	Years	Classification	Link	Search criteria
The Middle East Centre Archive - Arthur Lionel Forster Smith Collection Album 6	St Anthony's College, The University of Oxford, England	Online collection described as Arthur Lionel Smith Album 6, has low resolution watermarked images with basic descriptive thumbnail captions from the original photographs, which include some location information but no year.	64	1920s	Architecture, landscapes, people, animals,	http://www.sant.ox.ac.uk/mec/mecaphotos-alf-smith.html	https://www.sant.ox.ac.uk/research-centres/middle-east-centre/mec-archive/meca-photos The main archive page has a list of contents and resources offered by the archive. Access to this collection can be made by clicking on "Online Photo Galleries" < https://www.sant.ox.ac.uk/mec/mecaphotos-gallery.html> followed by clicking on the thumbnail for "Arthur Lionel Forster Smith: Mesopotamia/Iraq 1920s" < https://www.sant.ox.ac.uk/mec/mecaphotos-alf-smith.html > Accessed: 26/05/21
The Middle East Centre Archive - Harry Wade Collection	St Anthony's College, The University of Oxford, England	Online collection has low resolution watermarked images with basic descriptive thumbnail captions from the original photographs, which include some location information but no year.	60	1928 - 1930	Architecture, landscapes, people, animals, planes	http://www.sant.ox.ac.uk/mec/mecaphotos-wade.html	https://www.sant.ox.ac.uk/research-centres/middle-east-centre/mec-archive/meca-photos The main archive page has a list of contents and resources offered by the archive. Access to this collection can be made by clicking on "Online Photo Galleries" < https://www.sant.ox.ac.uk/mec/mecaphotos-gallery.html> followed by clicking on the thumbnail for "Harry Wade: Iraq 1928-1930" < https://www.sant.ox.ac.uk/mec/mecaphotos-wade.html > Accessed: 26/05/21
The Archie Walls Archive	Khalili Research Centre, The University of Oxford, England	Images of heritage sites and urban and domestic architecture, included a large number of photographs of traditional courtyard houses in various stages of restoration. Images have descriptions as part of filenames which include some location information. Some images classified with keywords and some have descriptive notes but no years.	551		Architecture, people	http://krcfm.orient.ox.ac.uk/fm/webd/wallsarchive	The main archive page has a "Search the Archive" button which brings you to a search form. Search for "Iraq" in "Filename"

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Collection	Location	Description	Number of images related to Iraq	Years	Classification	Link	Search criteria
Prints and Photographs Online Catalog	Library of Congress, Washington, US	The digitised collection provides high resolution digital files, with comprehensive information for each archive record	619*		Architecture, landscapes, people, animals,	https://www.loc.gov/picture s/search/?q=iraq&fi=title&s p=1&st=grid	https://www.loc.gov/pictures/ On main page of "Prints & Photographs Online Catalog", Use advanced search for "Iraq" and "Search in the title fields" * Advanced search does not allow results to be restricted to photographs or to context. Search returns 635 records, some are cartoons, some are book covers, some relate to political meetings at the UN. 619 images refers to a manual count of photographs present using this criteria.
Akkash Center for Photography	New York University, Abu Dhabi, UAE	Records predominantly from RAF servicemen in Iraq in the 1940s. For each photograph, the digitised collection provides description, location, and date (if known) as well as information about the physical location of records with the archive.	150		Architecture, landscapes, people, animals, military documents	https://akkasah.org/en/resu lts/?filter=location%3EIraq::&queries=&pageid=undefi ned	https://akkasah.org/en/page/frontpage/collections From main "Collections" page, search by location: "Iraq"
Iraq National Symphony Orchestra	Baghdad, Almansur	The Iraqi National Symphony Orchestra (INSO) is a government funded symphony orchestra in Baghdad. The INSO plays primarily classical European music, as well as original compositions based on Iraqi and Arab instruments and music. Researcher Tareq Abdullah Hasson has been collecting photographs dating from to the initial years of the orchestra. He has documented and digitized the orchestra's archive in 2009.	1001 - 1000	1931 - present		http://meppi.me/organizatio n/iraq-national-symphony-orchestra/	Searched for "Iraq" in directory of The Middle East Photograph Preservation Initiative (MEPPI)

Appendix A-2   Simulations of Iraq in Video Games

Table 6. Simulations of Iraq in Video Games

Title	Year	Developer	Publisher	Platform	Genre	Link	Description
Gulf Strike	1984	Microcomputer Games	The Avalon Hill Game Company	Apple II, Atari 8-bit, Commodore 64, DOS	Military strategy simulator	https://www.mobyga mes.com/game/gulf-strike	Top-down military strategy game set in the Persian Gulf, where players compete for territory around and the country of Iran. Players play as either US-Iranian forces, or Soviet-Iraqi forces. "The playing area is represented as a map extending west to east from the Tigris and Euphrates Rivers to the eastern border of Iran and north to south from the Caspian Sea to the north coast of the Persian Gulf." <Compute! Magazine issue 077, p.70 https://archive.org/details/1986-10-compute-magazine/page/n71/mode/2up>
Sceptre of Bagdad (sic)	1987	Productive Playtime	Atlantis Software Limited	Commodore 64, ZX Spectrum	Platform	https://www.mobyga mes.com/game/scept re-of-bagdad	Platform game where the player plays as 'Caliph', king of Iraq. After an evil wizard breaks into the palace and steals the sacred Sceptre of Bagdad, the player must solve a series of puzzles and mazes to recover the sceptre and restore rule.
Iznogoud	1987	Infogrames Multimedia	Infogrames Multimedia	Amstrad CPC, Atari ST, Commodore 64, DOS, Thomson	Fixed perspective action	https://www.mobyga mes.com/game/iznog oud	Fixed-side-perspective action game based on French comic book character Iznogoud. The player takes on the role of Grand Vizier Iznogoud with the mission to depose the Caliph of magical Baghdad and become Caliph.
A-10 Tank Killer	1989	Dynamix	Dynamix	Amiga, DOS	Air combat simulator	https://www.mobyga mes.com/game/a-10-tank-killer	Single-player combat flight simulator which allows to players to fly a series of missions to destroy enemy tanks and infrastructure. A re-released version in 1991 added 7 new scenarios set during Operation Desert Storm in Iraq.

Title	Year	Developer	Publisher	Platform	Genre	Link	Description
F-15 Strike Eagle II	1989	Microprose	Microprose	Amiga, Atari ST, DOS, Sega Mega Drive	Air combat simulator	https://www.mobygames.com/game/f-15-strike-eagle <accessed 26/5/21>	Single-player combat flight simulator which allows the player to fly missions in four scenarios: Libya, Persian Gulf, Vietnam, and Middle East. The player has to fire an array of bombs and missiles at ground and air targets, based upon real-life missions the plane was originally used in. In 1991 an add-on disk was released called "Operation Desert Storm Scenario Disk", which included a mission located in Iraq which is based on the Gulf War.
F-117a Nighthawk Stealth Fighter 2.0	1991	MPS Labs	Microprose	Amiga, DOS, Linux, Macintosh, PC-98, WIndows	Air combat simulator	https://www.mobygames.com/game/f-117a-nighthawk-stealth-fighter-20	Single-player combat flight simulator which allows the player to fly missions in several battle ares including Cuba, Vietnam, and the Persian Gulf.
Storm Over the Desert (NES) / Norman (Genesis)	1991 / 1993	Active Enterprises (NES) FarSight Technologies (Genesis)	Active Enterprises	NES, Sega Genesis	Tank combat simulator	https://action52.fandom.com/wiki/Storm_Over_the_Desert <accessed 26/5/21>	Topdown scrolling tank shooter in which you play as an American tank in the 'Middle-East', destroying enemies by shooting or crashing into them. Former Iraqi president Saddam Hussein appears as a character on the title screen and as an enemy within the game.
Operation Desert Storm	1991	Bungie Software Products Corporation	Bungie Software Products Corporation	Macintosh	Tank combat simulator	https://www.mobygames.com/game/macintosh/operation-desert-storm	Topdown scrolling tank shooter action game which takes place during the first Gulf War. The player controls an American M1A1 tank through 20 missions in Kuwait, Iraq, Iran and Saudi Arabia.
Desert Assault	1991	Data East Corporation	Data East USA	Arcade	Isometric scrolling shooter	https://www.mobygames.com/game/desert-assault	Isometric scrolling shooter which takes place in the Persian Gulf during the first Gulf War. The player takes control of one of four commandos fighting enemies with a variety of guns.
Operation Secret Storm	1991	Color Dreams	Color Dreams	NES	2D platform scroller	https://www.mobygames.com/game/nes/operation-secret-storm	2D platform fighting scroller set in Iraq and Kuwait during the first Gulf War. The player takes control of the character Agent George B. who must fight his way past lots of Arabs to get to Saddam H. to save the oil refineries in the Gulf and stop the production of chemical weapons.

Title	Year	Developer	Publisher	Platform	Genre	Link	Description
Harpoon BattleSet 4: Indian Ocean / Persian Gulf	1991	Three-Sixty Pacific	Three-Sixty Pacific	Amiga, DOS, Macintosh	Military strategy simulator	https://www.mobygames.com/game/harpoon-battleset-4-indian-ocean-persian-gulf	Add-on maps for original military strategy simulation DOS game *Harpoon*, featuring 16 playable scenarios and a mission specifically based on the 1991 Gulf War.
A Line in the Sand	1992	Strategic Simulations	Strategic Simulations	DOS	Military strategy simulator	https://www.mobygames.com/game/a-line-in-the-sand	Top-down military strategy game depicting various conflicts in the the Middle East, including the Gulf War in Iraq.
F-15 Strike Eagle III	1992	MPS Labs	Microprose	DOS	Air combat simulator	https://www.mobygames.com/game/f-15-strike-eagle-iii	Single-player combat flight simulator which allows the player to fly missions in Iraq (Desert Storm), North Korea, and Panama.
Desert Strike: Return to the Gulf	1992	Electronic Arts	Electronic Arts	Amiga, DOS, Game Boy, Game Gear, Genesis, Lynx, SEGA Master System, SNES	Isometric Shooter	https://www.mobygames.com/game/desert-strike-return-to-the-gulf	Isometric overhead shooter set in the Middle East a year after the Gulf War, where a self-styled general named Kilbaba threatens to start 'Armageddon'. The player, chosen by the president of the United States, flies an Apache attack helicopter on a series of missions in Middle-Eastern themed environments to destroy Kilbaba's army.
Point of Attack	1992	HPS Simulations	HPS Simulations	DOS	Military strategy simulator	https://www.mobygames.com/game/point-of-attack	Top-down military strategy game set in the Middle East depicting a set of hypothetical and actual scenarios, including the Operation Desert Storm from the first Gulf War in Iraq.
Campaign II	1993	Empire Software	Empire Software	Amiga, DOS	Military strategy simulator	https://www.mobygames.com/game/campaign-ii	Top-down military strategy game based around numerous historical conflicts, including the Iran/Iraq War and the Gulf War.
War in the Gulf	1993	Oxford Digital Enterprises	Empire Software	Amiga, Ataru ST, DOS	Tank combat simulator	https://www.mobygames.com/game/war-in-the-gulf	1st-person tank combat simulator set in an imaginary conflict where Iraq invades Kuwait for a second time.
Patriot	1993	Three-Sixty Pacific	Artech	DOS	Military strategy simulator	https://www.mobygames.com/game/dos/patriot	Top-down military strategy game set during Desert storm. Player can control Iraqi or coalition forces to prepare for the battle.

Title	Year	Developer	Publisher	Platform	Genre	Link	Description
K-1 Tank	1994	Taff System	Taff System	DOS	Tank combat simulator	https://www.mobygames.com/game/k-1-tank	1st-person tank combat simulator set in Desert Storm in January 1991. The player must complete 20 missions of increasing difficulty.
Steel Panthers II: Modern Battles	1996	Strategic Simulations	Mindscape	DOS	Military strategy simulator	https://www.mobygames.com/game/dos/steel-panthers-ii-modern-battles	Top-down military strategy game which allows the player to fight battles based on real historical conflicts using different armoured machinery. One of the scenarios that can be played is Desert Storm, 1991, set in Iraq.
Back to Baghdad	1996	Digital Workshop Limited, FAAC Inc.	Military Simulations Inc.	DOS	Air combat simulator	https://www.mobygames.com/game/back-to-baghdad	1st-person perspective flight simulator where the player takes control of an F-16 in a series of air war missions over Iraq a few years after the end of the Gulf War. The graphical game environment included a software rendering of the terrain of southern Iraq, mapped using satellite imagery.
Saban's Iznogoud	1997	MC2-Microïds	MC2-Microïds	DOS, PlayStation, Windows	Side-scrolling Platform	https://www.mobygames.com/game/sabans-iznogoud	Side-scrolling platform game where the player takes on the role of Grand Vizier Iznogoud with the mission to depose the Caliph of Baghdad to become the Caliph. See *Iznogoud* (1987) above.
Janes Combat Simulations: IAF - Israeli Air Force	1998	Pixel Multimedia	Electronic Arts	Windows	Air combat simulator	https://www.mobygames.com/game/janes-combat-simulations-iaf-israeli-air-force	1st-person perspective flight simulator where the player takes control of 7 different bombers of the Israeli Air Force. The game has 6 campaigns, three historical wars, and three fictional conflicts set in a hypothetical future, one of which is set in Iraq. The game features terrain with true elevation made using satellite data.
Gulf War: Operation Desert Hammer	1999	3DO Company	3DO Company	Windows	Tank combat simulator	https://www.mobygames.com/game/gulf-war-operation-desert-hammer	3rd-person tank combat simulator set in Iraq, where the player controls a M12 tank called "The Hammer". There are 18 missions, each one accompanied by a cutscene showing an atrocity committed by "The Beast", the dictator who rules Iraq.
Soldier of Fortune	2000	Raven Software Corporation	Activision	Dreamcast, Linux, Windows	1st-person shooter	https://www.mobygames.com/game/soldier-of-fortune	1st-person shooter where the player takes the role of US mercenary John Mullins who is tasked with killing enemies across the globe to prevent a terrorist organisation from selling their stolen Russian nuclear weapons to various developing countries. The includes graphic depictions of injuries sustained and ethnic diversity of enemies, including Iraqis.

Title	Year	Developer	Publisher	Platform	Genre	Link	Description
Conflict Desert Storm	2002	Pivotal Games	SCi Games Ltd.	GameCube, PlayStation 2, Windows, Xbox	1st-person / 3rd-person shooter	https://www.mobygames.com/game/conflict-desert-storm	1st-person/3rd-person tactical shooter set during the first Gulf War. The player controls a squad of four soldiers from either British S.A.S or American Delta Force, using variety of weapons and vehicles to kill Iraqi enemies and complete the missions.
Quest for Saddam	2003	Petrilla Entertainment	Petrilla Entertainment	Windows	1st-person shooter	https://en.wikipedia.org/wiki/Quest_for_Saddam	1st-person shooter where the player must shoot Iraqis and eventually kill the boss, Saddam Hussein.
Conflict Desert Storm 2: Back to Baghdad	2003	Pivotal Games	SCi Games Ltd.	GameCube, PlayStation 2, Windows, Xbox	1st-person / 3rd-person shooter	https://www.mobygames.com/game/conflict-desert-storm-ii-back-to-baghdad	Sequel to Conflict Desert Storm (see above), where the player is ordered back to Iraq to complete further missions.
Elite Forces: Navy SEALs - Weapons of Mass Destruction	2003	Jarhead Games	ValuSoft	Windows	1st-person shooter	https://www.mobygames.com/game/elite-forces-navy-seals-weapons-of-mass-destruction	1st-person shooter set in Iraq, North Korea and Pakistan, where the player's missions involve finding chemical and nuclear weapons plants as well as Al Qaeda training camps.
Kuma War	2004	Kuma	Kuma	Windows	1st-person / 3rd-person shooter	https://www.mobygames.com/game/kumawar	1st-person/3rd-person tactical shooter based on real-world scenarios. Controlling a US soldier, one mission, is based on the capture of Saddam Hussein in Iraq following the American invasion and occupation. The game depicts Iraqi urban and rural environments.
The Road to Baghdad	2004	Atomic Games	Bold Games	Windows	Military strategy simulator	https://www.mobygames.com/game/windows/road-to-baghdad	Top-down military strategy game set in Iraq. Civilian version of Close Combat: Marines, a USMC military training simulation
Will of Steel	2005	Gameyus Interactive	GMX Media	Windows	Military strategy simulator	https://www.mobygames.com/game/will-of-steel	Top-down military strategy game including missions from the 2001 Afghanistan invasion and 2003 Iraq invasion. The player can control over 100 different military units.
Project Reality Battlefield 2	2005	The Project Reality Team	The Project Reality Team	Windows	1st-person shooter	https://www.realitymod.com/about	Project Reality: Battlefield 2 is a mod for the 1st-person shooter Battlefield 2. The mod adds graphic and gameplay modifications, as well as a series of Iraq maps where players can fight the "insurgency" in cities such as Basra, Fallujah and Karbala.
Baghdad Central: Desert Gunner	2006	Digital Fusion	Digital Fusion	Windows	1st-person shooter	http://www.fusiongames.com/Store/DesertGunner/	1st-person shooter set in modern-day Baghdad, Iraq. Player controls a gunner in a convoy on patrol in the city, tasked with shooting and killing insurgents.

Title	Year	Developer	Publisher	Platform	Genre	Link	Description
Blacksite Area 51	2007	Midway Home Entertainment	Midway Home Entertainment	PlayStation 3, Windows, Xbox 360	1st-person shooter	https://www.mobygames.com/game/blacksite-area-51	1st-person shooter set in Iraq in 2003. The player must investigate a weapons bunker in Iraq, which turns out to be infested with mutated humans and wildlife.
Insurgency: Modern Infantry Combat	2007	Insurgency Development Team	New World Interactive	Windows, OSX, Linux	1st-person shooter	https://en.wikipedia.org/wiki/Insurgency:_Modern_Infantry_Combat	1st-person shooter set in Iraq and Afghanistan. The gameplay involves team-based combat between US Marine Corps and groups of rebels. The game is a community made mod for Valve's Source engine.
Army of Two	2008	EA Montreal	Electronic Arts	PlayStation 3, Xbox 360, Xbox One	3rd-person shooter	https://en.wikipedia.org/wiki/Army_of_Two_(video_game)	1st-person shooter where the player plays in cooperative two man missions as ex-Army rangers turned private military contractors in different locations around the world including Iraq.
Tom Clancy's Splinter Cell: Conviction	2010	Ubisoft	Ubisoft	Macintosh, Windowsm Xbox 360, Xbox One	1st-person / 3rd-person shooter	https://www.mobygames.com/game/tom-clancys-splinter-cell-conviction	1st-person shooter where the player controls Sam Fisher fighting covert special operation in different locations around the world. One mission is set in Diwaniya, Iraq, a flashback to 1991 when Fisher was captured by the Iraqi Republican Guard on the Highway of Death during the Gulf War, the player controls Victor Coste and must fight past enemies to rescue Sam.
Steel Armor: Blaze of War	2011	Graviteam	United Independent Entertainment	Windows	Tank combat simulator	https://www.mobygames.com/game/steel-armor-blaze-of-war	1st-person / 3rd-person tank combat simulator set in three historical conflicts, including the First Persian Gulf War (or Iran/Iraq war) in 1981.
Babel Rising 3D	2012	Mando Productions	Ubisoft Entertainment SA	Android, iOS, Macintosh, Playstation 3, Windows, Xbox 360	Tower defence	https://www.mobygames.com/game/babel-rising-3d	1st-person tower defence game set in ancient Babylon where the player takes on the role of God to stop the Babylonians from constructing the Tower of Babel.
Call of Duty Advanced Warfare	2014	Sledgehammer Games	Activision Publishing	PlayStation 3, PlayStation 4, Windows, Xbox 360, Xbox One	1st-person shooter	https://www.mobygames.com/game/call-of-duty-advanced-warfare	1st-person shooter set in the future around 2054 where the player controls US Marine Corps soldeier Jack Micthell, fighting a private military corporation in multiple global locations, including one mission set in Iraq.
Steel Armor: Basra 86	2015	Graviteam	Graviteam	Windows	Tank combat simulator	https://www.mobygames.com/game/steel-armor-basra-86	Mod for Steel Armor: Blaze of War, which adds the a new area of operations set in the flood plain of the Shatt al-Arab river during the Iran-Iraq war.
Six Days in Fallujah	2023	Highwire Games, Atomic Games	Victura Inc.	PlayStation 4, PlayStation 5, Windows, Xbox Series X and S	3rd-person shooter	https://www.sixdays.com	3rd-person shooter based on the US army siege of Fallujah in 2004.

APPENDIX B

Appendix B-1   Personal art practice portfolio

Figure 90. *Baldati (My Hometown)* (2014), postcard front and back.

Baldati (My Hometown) (Al-Rawi, 2014) is a collection of constructed postcards from my 'hometown', a place filled with conflicting emotions, mixed with memories, cultures, and desires. Through a process of subtle digital manipulation, the structures in these images have been altered. The text inscription, traced from my father's handwriting, reads: 'my hometown'. In 2014, these postcards were delivered by hand to my relatives in Iraq, when there was no functioning postal service. The postcards were filled in by my relatives and returned to me by my father. This work used constructed and digitally altered photos remediated as postcards with text added through participatory process.
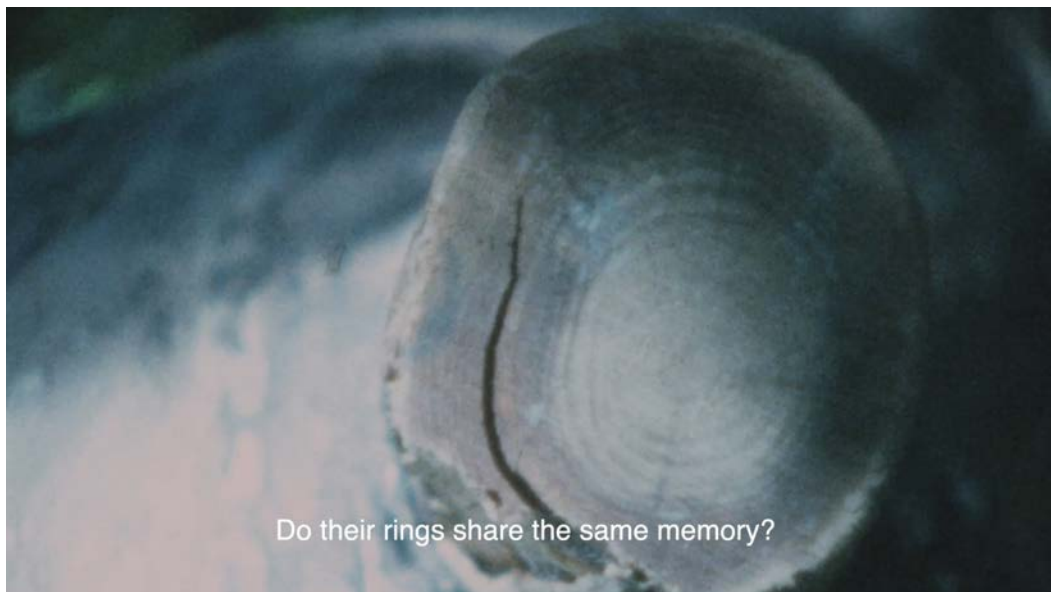
Figure 91. The Salmon Leapt Toward Babel (2020), film still.

The Salmon Leapt Toward Babel (Al-Rawi, 2020) uses archive photographs remediated into a moving image work with audio recordings of associated memories. The title is drawn from the Irish name of my hometown Leixlip, which translates to 'The Leap of the

Salmon'. This film combines archive photographs taken by me as a 12-year-old child in Jordan, with 8mm and 16mm film footage from Leixlip. Using vignettes of memories voiced by me in Irish and Arabic which speak of half-remembered moments, the film explores memory, displacement, and identity. The film screened as part of Mexindex 2020 screening programme 'Displacements', curated by Richard Ashrowan, with an accompanying text about the work:

> "As the film unfolds, the voiceover continually flips between languages and memories, gesturing toward traumas, while the images traverse two very different locales and times in the artist's life. Nothing is ever quite still; even the still photographs, refilmed, appear to quiver with movement. The question of the narrator's identity remains fluid and uncertain throughout…Yet from within the film, a visceral sense of clarity and cohesion pervades, its linguistic displacements do point toward difference, yet ultimately what they achieve is an overall aura of synthesis. Across three languages and two places, it is one human being who speaks." (Ashrowan, 2020)

Figure 92. Baba Gurgur بابا گرگر (Father Of Flames), 1927 (2019), film still.

Baba Gurgur گرگر بابا (Father Of Flames), 1927 (Al-Rawi, 2019) derives from a black-and-white archive photograph held in the Library of Congress taken at Baba Gurgur in northern Iraq in 1932, the site of Iraq's first oil discovery. It depicts natural gas fires seeping through cracks in the rocks, 'eternal flames 'believed to have burned for at least 4,000 years. These perpetual flames heralded the birth of Iraq's oil industry. The fires at Baba Gurgur are still burning today, surrounded by the Kirkuk oil production facilities, still a contentious and vital strategic resource. The archival photograph condenses geological time and the origin of current middle-eastern geopolitical conflicts, economic ideology, and environmental catastrophe. This work is created using the video game engine Unreal Engine, and the use of this medium is a meditation on the technology used in military conflict training and entertainment. It begins as a macro view, slowly tracking back to reveal a simulation of the landscape as based on the original photograph. The process involves an archive photograph reconstructed as a temporal simulation, creating a virtual bond with the past to transport the viewer to a temporal space that encourages reflection on the provenance of current environmental and geopolitical traumas in Iraq.

Appendix B-2   Hardware used

Table 7. List of hardware used.

Name	Description	Usage
Apple Mac Book Pro 16"	2.4 GHz 8-Core Intel Core i9, 64Gb 667 MHz DDR4 RAM, AMD Radeon Pro 5500M GPU	Web design; Autocad; Photoshop; Illustrator;
PC Workstation	3.7 GHz 6-Core Intel Core i7 8700K, 64Gb RAM, 1080Ti GPU	3D modelling - Maya, Z-Brush; 3D texturing - Quixel Mixer; 3D baking - Toolbag Marmoset; Virtual Environment design - Unreal Engine;
HTC Vive	VR HMD and Lighthouse sensors	VR development and testing
Oculus Quest 2	VR HMD	VR development and testing
Wacom Intuos Pro M	Pen tablet	Digital drawing in Autocad, Photoshop and Illustrator
Zoom H2N	4-channel portable recording device	Oral history interviews
Sony FX3	4K cinema camera	Filming evaluation interviews
Sennheiser G4	Wireless radio mic	Recording audio during filming of evaluation interviews

Appendix B-3   Software used

Table 8. List of software used.

Name	Description	Usage
Adobe illustrator	Graphic Design Software	Web graphic design; Vector design for alpha brushes
Adobe Photoshop	Photo and Image Editing Software	Photo editing; visual reference editing and annotation;
Adobe Substance Painter	Real-time rendering, texturing, and baking suite for 3D art	Creating and Baking textures
wix.com	Cloud-based web development	Online portal for photographic contributions from Iraqi diaspora; research consent forms; participant information sheets
Jotform	Online form creation tool	Research consent forms and booking forms for evaluation process
Autodesk Maya	3D modelling application	Static mesh modelling
Unreal Engine 4 & 5	Real-time 3D environment creation tool	Blockouts and greybox; Creating immersive VR experience
PureRef	Reference image viewer	Organising and displaying visual references
AutoCad	Computer-aided design and drafting software	Designing floor plans of 'Shanasheel' house
SpeedTree	3D vegetation programming and modelling software	3D design of trees and foliage for Virtual Environments
TurboSquid	Online stock 3D model store	Purchasing assets for Virtual Environment
Zoom	Video conferencing application	Oral History Interviews
Otter.ai	AI powered real-time transcription software	Oral History Interviews

Appendix B-4   Website design brief

Website Design Brief for:

Basil Al-Rawi "Iraq Photo Archive" project

Introduction

As the first stage of my PhD research at the School of Simulation and Visualisation at The Glasgow School of Art, I'm looking to create a website that will serve as an online portal to archive user-submitted photographs of Iraq.

Project Objectives

The website should be able to gather, store, categorise and display the images with an interesting frontend design and a backend searchable database.

Target audience

Iraqi diaspora in the UK and Ireland primarily

Call to action

My goal is for visitors to the site to be clearly aware what the nature of the research project is, to be able to submit a photograph(s), to complete an enquiry form, and to contact me. I will need an automated response to an enquiry form to be emailed back to the user. I would also like to build an email list, so wish to encourage users to subscribe via the website.

Requirements

Aims

- To clearly outline my research project and its aims and objectives
- To clearly outline who it is aimed at
- To allow submission of a image file
- To collect users contact information
- To clearly state ethical and data submission guidelines
- To allow an enquiry to be made

Scope/size of the website

The main section of the website will be the image archive, expanding as submissions are recieved, together with static "about", "contact" and "image submission technical guidance" pages.

Features and functionality

- Image archive - a fluid expanding slideshow of submitted images
- Image submission form
- Image submission guideline section
- About section
- Enquiry form
- Bi-lingual - English and Arabic

Approving and Updating content

The image archive needs to have the capability of expanding and displaying images as they come in. I will need to be able to screen and approve the images before they are added to the gallery. I will need to be able to update the "about" section, so perhaps some kind of wordpress backend functionality for this would be ideal.

Design brief

I'm open to design ideas on this, but these websites are very good starting points -

www.manonbridge.ie
https://www.projectsave.org

https://images.rgs.org

https://archnet.org/collections/14/details

The fluid masonry layout in the manonbridge.ie site as a way of presenting the images is great. The way the images pop-up is ideal.

I want the functionality to be clear and simple - the landing page of the site should allow you clearly see:

- how to submit a photo

- read what the project is all about

- contact me

- view the images

These are some good examples of what I don't want it to look like!

http://www.fai.org.lb/Home.aspx - not bad, but not great

http://almashriq.hiof.no/base/photography.html

https://www.photoarchive.aramcoworld.com/SearchResults.aspx?keyword=iraq

http://access.cjh.org/home.php?type=dtype&term=UGhvdG9ncmFwaHM=#1

http://www.loc.gov/pictures/

https://digitalcollections.nypl.org/collections/?topic=culture#/?scroll=0

http://www.gerty.ncl.ac.uk/photos.php

http://digitalcollections.lib.washington.edu/cdm/search/collection/neareast/searchterm/egypt/field/locati/mode/all/conn/and/cosuppress/

https://oi.uchicago.edu/collections/photographic-archives/photographic-archives-iraq

Timescales

I would like to advertise the site from mid-January with the site to go live on **1st February 2019**.

Technical information

I will be buying the domain (name.tbc) and hosting it on my hosting plan. Unless you advise another type of hosting?

I mostly have experience with Wordpress functionality in terms of maintenance and design, but I have no preference for the platform used to build the website and welcome your recommendations

As some users could be accessing the site from locations with a slow internet connection, download speed is an important factor to be taken into consideration, especially considering the loading of the image archive. Any suggestions or advice on how this could be managed would be great.

Appendix B-5   Initial draft design of web submission form

Figure 93. Initial draft design of web submission form

Appendix B-6   Ethics assessment application

Please complete all sections unless instructed otherwise by your Research Developer. Questions highlighted in bold and italicised are particularly important and answers must be detailed or there will be a delay in obtaining ethical approval.

Upon completion, please email or send in internal mail for the attention of the Research Developer (a.hay@gsa.ac.uk). Your application will then be sent for review by members of the GSA Research Ethics Sub Committee.

1. APPLICANT DETAILS

Name of researcher (Applicant):	Basil Al-Rawi
School:	Simulation & Visualisation
Project Title:	Recomposing the archive: rearticulating memories of Iraqi diaspora using archive photography, oral history and Virtual Reality.
Funder:	GSA
Date work is scheduled to begin:11	1st June 2019

2. RECRUITMENT
a)
+

Number of participants required:	Minimum of 5
Will recruitment be direct (led by the researcher) or indirect (led by an organisation / third party)?	DIRECT / INDIRECT *Delete as appropriate

b) If your study involves INDIRECT recruitment, please detail the recruitment plan covering: i) organisation / institution / individual in charge of identifying possible participants; ii) how they will recruit individuals (letters, phone calls etc); iii) any individual who has direct contact with participants; iv) any ethical protocols the third party has in place; v) level of permission that third party has to disseminate information on behalf of the participants (append any documents if necessary)

c) If your study involves DIRECT recruitment (i.e led by the applicant / research team):

---

11 We will endeavor to return a speedy response to applicants but you are advised to send us your application as soon as possible to ensure your research timetable is not compromised

Who is in charge of recruitment:

Recruitment will be led by me, Basil Al-Rawi, the applicant and researcher.

What is the method of identifying participants:

Participants will be identified through a website created by the researcher. This website, www.iraqphotoarchive.com, will be an online photo archive, populated by photographs submitted by participants, specifically Iraqi diaspora in the UK & Ireland. The website will contain information about the research project and a submission form for those who wish to take part. Built into the submission form is an informed consent form.

How will participants be invited to take part: (e.g. letters, phonecalls, door to door):

The website will be disseminated to Iraqi diaspora via online community groups who already have established networks with Iraqis in the UK and Ireland. To date, I have been in contact with the Ruya Foundation, the Iraqi Association, and the Arab British Centre, all of whom have agreed to share a link to the website with their networks. In Ireland, I will be disseminating it through the Islamic Cultural Centre in Clonskeagh and South Circular Road Mosque in the first instance. I am hoping that that word of mouth within communities will help to spread knowledge about the website also.
During the second stage of the research, the oral history stage, participants will be invited via their email address which they will have provided when they submitted their photograph, if they have consented to be contacted.

d) Regardless of method of recruitment, what is your exclusion / inclusion criteria for this study:

The submission form on the website will outline the criteria for the photographs I'm seeking to be submitted. I am seeking photographs (with the informed consent and permission from the rights holder to include it in an online archive) taken in Iraq prior to 1980 that depict daily life in Iraq, including people, landscapes, buildings, but which are not related to conflict. This period is chosen as it is before the First Persian Gulf War between Iraq and Iran, which began a period of prolonged conflict in the country up to the present day. Prior to this, the was much political upheaval including the overthrow of the monarchy in a coup d'etat in 1958 by General Qasim and subsequent coups in 1963 and the establishment of the Ba'ath party in 1968, but not as prolonged as the wars that followed.

The focus of this research is the articulation of memories of Iraq from Iraqi diaspora, specifically just the memories of the moments and feelings surrounding the photographic moment. One of the objectives is to elicit alternative representations of Iraq beyond images and narratives of violence and conflict. The archive photographs are the starting point for these narratives to be voiced.

The criteria for the type of images sought is broad, as the submission form states: "They can be images of landscapes, monuments, buildings, or people. This archive is interested in images of daily life, both on the street and in the home." Participants can submit as many photos as they wish. There is a terms and conditions section built into the submission form (attached) which outlines in detail the kind of images that will not be accepted.

The second stage of the research involves oral history interviews with some of the participants regarding the photograph(s) that they have submitted. This stage initially involves a visual analysis of the images submitted to identify those suitable for recomposition in Virtual Reality. This process of identification raises the issue of researcher bias and the necessity for defining a framework for inclusion or exclusion. This criteria is informed primarily by the following considerations:

a) the complexity of the image - large numbers of subjects (human or otherwise) renders the image too labor intensive and time consuming for 3D reconstruction. Images with less complex subject compositions will be filtered first.

b) the content of the image - images which contain a visually strong sense of place or narrative* will be filtered second.

*place or narrative can be defined as: images which display an interior or exterior element of Iraqi architectural heritage or interest; images which contain an action that can be described or narrated; activities which give situational context to a period of time

Following a filtering of images, and based on consent from participants within submission form, initial contact will be made via email to inquire about interest in taking part in oral history interviews. Collation of consent and interest will then be carried out to establish interested individuals.

The practice-based element of the research will then involve the reconstruction of the photograph into Virtual Reality. This reconstruction will use the submitted photograph as a visual reference, and the oral history interview to provide information relating to sound, emotion, and other elements (architectural, figurative) which are not present within the 2D frame of the photograph but are present within the wider context of the represented moment as described. As VR is a 360-degree medium, the oral history interviews will assist with this kind of descriptive information.

For feasibility, no more than 5 of these reconstructions will be made but also in order to experiment with five different styles of recomposition in VR:
1. Re-mediation
2. Passive viewing
3. User-centered interactivity
4. Audio-led experience
5. Interconnecting narratives

With this in mind, only 5 interviews will be utilised in the final artworks, but I intend to conduct a larger number of interviews in order to have a wider range of narratives to consider for the recomposition process and that will be suitable for the aforementioned criteria. Any interviews that are not utilised in recompositions, will be available for potential inclusion in the final exhibition, if participants consent to it.

In all cases, append a copy of i) information sheet for participants; ii) consent form; iii) copies of any other documents distributed to participants

3. CONSENT

a) Give a detailed account of the steps taken by the researcher to obtain informed consent from the participants (regardless of method of recruitment):

The first stage of participation in this research project involves submitting a photograph to the website, www.iraqphotoarchive.com.
Step One of the submission form on the website asks some information about the contents of the photograph, but not any identifying information.

Step Two asks participants to upload one or more photographs.

Step Three asks participants to provide their contact details. This is asked in order for me to be able to get in touch with participants to see if they are interested in taking part in the second stage of this research project, which involves oral history interviews with participants who have submitted photographs. This is outlined on the submission form. Participants have the option to not be contacted by me about the oral history part of the project. No personal details will be visible on the website and personal contact details will be stored in the encrypted back-end database of the website.
Contact details are also required to inform and confirm to participants that their image has been successfully submitted to the website. If the images complies with the terms and conditions of submission, they will then receive another email informing them that it is viewable on the website.

Step Four is the detailed informed consent section. Participants must read the consent form and tick all boxes to ensure they understand the nature of the project and their participation. Please see attached 'Web submission form'.

For the second phase of the research, the oral history phase, participants will be contacted based on their consent to be contacted in the web submission form. This stage will also involve an informed consent form which is also attached to this document. Participants will asked to complete this form before oral history filming takes place. This consent form will also ask for their permission to use the interview as part of a Virtual Reality recomposition.

b) How will researchers ensure the participant has capacity to consent:

As part of the online submission process, participants must read and complete a detailed consent form. The targeted participants are likely to have fluent English-language skills.
If any stage of this is not completed or understood, participants will not be involved in the study. It is assumed that the participant is not under duress when submitting their photograph to the website and understands the consent form they are reading and completing.

c) If your work requires participants belonging to vulnerable groups (children under 16, adults unable to give consent, prisoners, individuals in dual relationships), what additional steps will be taken to gain consent:

d) If your work requires the consent of a gatekeeper, please detail the steps you will take to ensure participants are not coerced by their gatekeeper. State also whether you plan to obtain additional signatures from participants and if not, why

e)

How much time will be given for the participant to decide whether or not to take part:	The participants can choose to participate at any point between June 2019 – December 2019.
By what method will you seek to obtain consent (written, oral, video etc) and why: NB: please be aware of any Data Protection issues here	Consent will be obtained via an online written form which participants must read before the submission process can be completed.
Will copies of consent be given to participants:	YES / NO
For how long will the copies of consent be retained by the researcher and where will the consent form be stored:	Copies of the consent form will be built into the encrypted back-end database of the website and stored for the duration of the research project.

4. LOCATION
a) If the research activities take place in a third party location (i.e. not on GSA premises), please explain the choice with reference to the study. Append confirmation of permission to use location given by the owner and confirm that all researchers have been made aware of any local rules and regulations (append if necessary).

> The initial research activities will take place online as detailed.
>
> The second phase of this research project, the oral history interview phase, will take place in a third-party location. The intention is to conduct these interviews at a suitable location (eg community centre) in a large urban area (eg Glasgow, Manchester, Birmingham, London, Dublin) that is easy for participants to travel to. Once there are a sufficient number of participants willing to engage in the interviews, I will be able to plan exactly where and when they will take place and can provide the appropriate permissions at that stage.

b) If the research activities take place in the participants' home, please CLEARLY explain the choice with reference to the study and why no other location is possible. Detail all measures taken to minimise the risk to both participants and researchers entering the home.

5. INCENTIVES

a) Reasonable reimbursements for time and travel compensation are acceptable as incentives to participate in a research study. An acceptable level of reimbursement would be no more than £50 (approximately).

Do you plan any of the following:

Travel reimbursement only	~~YES~~ / NO
Small incentive only (e.g. gift voucher)	~~YES~~ / NO
Travel and small incentive	~~YES~~ / NO

b) If the incentive exceeds £50, please state the reasons why (note a large financial incentive, whilst appearing generous, could be deemed unethical on the grounds of coercion. See also, the Bribery Act 2010):

6. METHODOLOGY AND ACTIVITIES

a) Please state the methodology employed within the study and give references (literature or any previous work by the researcher) to support their use:

This practice-led research adopts a participatory design approach to produce a series of immersive visual artworks. The project is composed of three distinct phases, which correspond to the three spheres of interest that this project covers: photographic archives of Iraqi diaspora, oral history, and Virtual Reality. The aim is to create a body of visual work (archive photographs, AV oral history films, and immersive VR experiences) and stage a public exhibition, to explore the re-composition of personal photographic archives and associated memories into immersive simulations. The simulations intend to convey the hidden histories and narratives of Iraqi diaspora to the wider community. Utilising VR technology to circulate these memories draws on Alison Landsberg's theory of 'prosthetic memory', whereby experiencing a historical narrative through a technological medium can facilitate a shared memory across cultures and 'creates the conditions for ethical thinking precisely by encouraging people to feel connected to, while recognizing the alterity of, the "other." (Landsberg, 2004)

The first stage involves the creation of the online portal www.iraqphotoarchive.com through which Iraqi diaspora can interact, learn about the project, and if they so wish, submit a photograph to the website. The purpose of creating this archive in the first instance is to encourage diaspora to share hitherto unseen images of Iraq. Late 20th century and early 21st century Iraqi history has been dominated by conflict and as such the photographic representation of Iraq in the media is skewed towards images of violence, destruction and trauma. There are a number of online photo archives and repositories which formally host other types of images from Iraq, such as ArchNet Digital Library at MIT, the Oriental Institute at the University of Chicago, The Royal Geographical Society and the Gertrude Bell Archive at Newcastle University. The ArchNet archive and the Gertrude Bell archives contain the largest number of images of Iraq. The former is focused on the architecture of Muslim societies and contains a range of images from the early-nineteenth century up to present day, with an emphasis on buildings and landscape. The Gertrude Bell archives present the travel photographs of Gertrude Bell and they are a diverse and personal photographic representation of the country, displaying photos of landscapes, buildings and people. They cover a period from 1909-1918 with 1,344 photographs tagged with Iraq online.

Akram Zaatari's Arab Image Foundation is vast online archive which contains more than 600,00 photographs from the middle east. Zaatari's project was established in Beirut in 1997 'to preserve and study photographs from the Middle East, North Africa and the Arab diaspora.' The database is currently inaccessible online due to an extensive digitization campaign which began in 2016 so I am unable to comment on the nature of the diaspora images contained in the database. I have contacted the Arab Image Foundation to enquire about this part of their collection. To date, I have not come across any website which specifically deals with photographs from Iraqi diaspora in the UK and Ireland. Pinterest contains a vast amount of images from Iraq from early 20th century to present day, however it is difficult to ascertain right holders and provenance of the images. Creating a dedicated and monitored website for participants to engage with will ensure the veracity of the provenance of the images.

Artists working with archives is a common contemporary art practice which can be seen in the work of Tacita Dean, Sam Durant and Thomas Hirschorn amongst many others. Hal Foster writes of an 'archival impulse' in contemporary art, and that intervening in an archive, as I am proposing by creating simulated recompositions of photographs, is a "'gesture of alternative knowledge or counter-memory', which can harbor the possibility of an unexpected utopian dimension" (Merewether, 2006). Conceptually, the artwork uses the surface of the photograph as a starting point for an expanded virtual exploration of a particular moment. Using archive photographic references as a basis for creating simulated environments is a contemporary art practice visible in the work of Thomas Demand, John Gerrard, David Claerbout and Victor Burgin. It's a practice rooted in appropriation art, a means of creating a virtual bond with the past to decode and produce alternative narratives in the present.

The second phase of the research involves conducting audio-visual oral history interviews with participants. This stage initially involves a visual analysis of the images submitted to identify those suitable for recomposition in Virtual Reality. This process of identification raises the issue of researcher bias and the necessity for defining a framework for inclusion or exclusion. This criteria is outlined in section 2.(d) above. This phase of the research is critical to revealing the personal narratives and memories around the submitted photographs. The Oral History Society in the UK describes the process as 'an opportunity for those people who have been 'hidden from history' to have their voice heard' and 'a source of new insights and perspectives that may challenge our view of the

past.' Gathering oral testimonies from primary sources gives the research first-hand accounts of the narrative behind the archive photos. They will help with the reconstruction of this past moment as 'history based on interviews provides a way into understanding the revealing values that have structured individual and collective experiences' (Sandino, 2013).

Oral history research projects related to Iraqi diaspora and refugees include Duke Universities community-based language initiative 'Arabic Communities', Nicole Ludwig's oral history research study in the lives of 10 female refugees from Iraq and Iran, and the Iraqi Narratives Project. All of these projects are focused Iraqi communities in the US. The Iraqi Oral History Project conducted by the American Academic Research Institute in Iraq conducted an oral history project with 181 individuals from the Iraqi diasporic communities in Jordan, Lebanon, Yemen, the US, Canada, and Turkey. The Sephardi Voices UK is an oral history project concerned with recording the experiences of displaced Sephardi/Mizrahi Jews from North Africa, Middle East, and Iran, who settled in the UK, including some Iraqi's. To date I have not come across oral history project dealing with Iraqi diaspora in the UK and Ireland in the context of my research, which is concerned with memory and non-visual elements in historical photographs. Through email correspondence with The Arab British Centre in the UK received on 23rd January 2019, I was informed that they are currently embarking upon a new, long-term series of projects titled Arab Britain, which focuses on the history and presence of Arabs in Britain and which will also have an oral history element.

Phase three of this project involves the convergence of five archive photographs and accompanying interviews into Virtual Reality simulations. The simulations will experiment with novel approaches to immersive sound and oral history, to go beyond merely transposing one medium within another. Archive (Arab Image Foundation), oral history (Iraqi Oral History Project) and VR (Virtual Iraq – USC Institute of Creative Technologies) projects related to Iraq already exist separately; this research will explore the convergence of these mediums. VR and 360° film are powerful devices for immersive cinema (Clouds Over Sidra' – WITHIN) and as a medium to encourage empathy, e.g. by allowing viewers to experience the lives of refugees (Carne y Arena - Alejandro González Iñárritu). The VR experience I propose, aims to transcend physical representation of place, and harness the richness of personal memory and narrative to enhance visualisations (Jeffrey, 2015). It is a beyond conventional approach to immersive simulations, fore-grounding personal narrative to heighten emotional resonance.

The final stage is the exhibition of the practice-based research outputs. The exhibition, like the project as a whole, will have three main elements. It will include a selection of printed photographs from the online archive, exhibited in a traditional manner using framed images on the wall and vitrines. An iPad will give viewers access to the whole online archive. A selection of oral history interviews will be projected, with wireless headphones for viewers to listen to the audio. Finally, a physical installation of a room scale sculpture of a hallway from a Shanasheel house will provide a physical portal for entering the VR experiences. Viewers will put on a wireless VR headset before entering the space and can then freely explore the experience in VR. Participants will be invited to attend and experience this final stage of the research project.

A precise and considered framework for evaluation of the exhibition is currently being explored and developed. Currently, I intend to ask attendees, upon experiencing all the elements of the exhibition, to complete a questionnaire, in order to evaluate the impact of the immersive simulation on viewers in comparison to the photographs and oral history narratives. This will require another consent form and participant information sheet, which will be drawn up along side the evaluation strategy during the exhibition planning stage at the end of Year 2 of the project.

Arab Image Foundation. 2019. Home. [ONLINE] Available at: http://www.fai.org.lb/home.aspx. [Accessed 20 April 2019].

ArchNet. 2019. Home. [ONLINE] Available at: https://archnet.org. [Accessed 20 April 2019].

Gertrude Bell Archive, Newcastle University. 2019. Photographs. [ONLINE] Available at: http://www.gerty.ncl.ac.uk/photos.php. [Accessed 20 April 2019].

Jeffrey, S. (2015). Challenging Heritage Visualisation: Beauty, Aura and Democratisation. Open Archaeology, 1(1), p150.

Landsberg, A. (2004). Prosthetic Memory: The Transformation of American Remembrance in the Age of Mass Culture. New York: Columbia University Press. p9

Ludwig, N., 2016. The Life Experiences of Ten Female Refugees from Iraq and Iran: An Oral History Research Study.. Doctoral. San Fransisco: The University of San Fransisco.

Merewether, C. (2006). 'Art and the Archive', in Merewether, C. (ed.) The Archive. London: Whitechapel Gallery, pp. 10-17

Sandino, L. (2013) 'Introduction: Oral history in and about art, craft and design' in Sandino, L. and Partington, M. (2013) Oral history in the visual arts. 1st edn. London: Bloomsbury. p7

Sephardi Voices UK. 2019. Mission. [ONLINE] Available at: https://www.sephardivoices.org.uk/mission. [Accessed 20 April 2019].

The American Academic Research Institute in Iraq. 2019. The Iraqi Oral History Project. [ONLINE] Available at: http://www.taarii.org/projects/iraqi-oral-history-project. [Accessed 20 April 2019].

The Oral History Society. 2019. Home. [ONLINE] Available at: https://www.ohs.org.uk. [Accessed 20 April 2019].

The Oriental Institute, The University of Chicago. 2019. Photographic Archives: Iraq. [ONLINE] Available at: https://oi.uchicago.edu/collections/photographic-archives/photographic-archives-iraq. [Accessed 20 April 2019].

The Royal Geographic Society. 2019. Picture Library. [ONLINE] Available at: https://images.rgs.org/index.aspx. [Accessed 20 April 2019].

Virtually Better. 2019. Virtual Iraq. [ONLINE] Available at: http://www.virtuallybetter.com/virtual-iraq/. [Accessed 20 April 2019].

b) For each activity employed please detail: i) its purpose; ii) direct correlation to the research outcomes; iii) how any analysis will be performed. Copies of all material given to participants must be appended to this form wherever possible.

ACTIVITY 1: (e.g. questionnaire, focus group, interview etc),

Creating an online photo archive: www.iraqphotoarchive.com

Purpose
To create an online archive of hitherto unseen photographs from Iraq pre-1980 from Iraqi diaspora in UK & Ireland. To digitally collect and study personal photographic collections from Iraqi diaspora.

Direct correlation to research outcomes
The research is concerned with the role that personal photographic archives, and audio-visual oral histories, can play in reconstructing everyday memories from Iraqi history as Virtual Reality experiences.

How analysis will be performed
Photographs will be visually analysed to identify those suitable for recomposition in Virtual Reality. This process of identification raises the issue of researcher bias and the necessity for defining a

framework for inclusion or exclusion. This criteria is informed primarily by the following considerations:

a) the complexity of the image - large numbers of subjects (human or otherwise) renders the image too labor intensive and time consuming for 3D reconstruction. Images with less complex subject compositions will be filtered first.

b) the content of the image - images which contain a visually strong sense of place or narrative* will be filtered second.
*place or narrative can be defined as: images which display an interior or exterior element of Iraqi architectural heritage or interest; images which contain an action that can be described or narrated; activities which give situational context to a period of time

ACTIVITY 2: (e.g. questionnaire, focus group, interview etc),

Oral History interviews

Purpose
To reveal the personal narratives, memories, and non-visual information surrounding the content of a photograph.
Direct correlation to research outcomes
This research is concerned with investigating how archive photographs and oral history interviews can be creatively utilized to reconstruct narratives and photographic moments of hidden histories from the Iraqi diaspora in Virtual Reality experiences. The VR experiences will experiment with novel approaches to immersive sound and oral history, to go beyond merely transposing one medium within another. It is a beyond conventional approach to immersive simulations, fore-grounding personal narrative to heighten emotional resonance. The narratives that are communicated will contain information about elements that are not represented within the image, such as emotion and sound.

How analysis will be performed
The audio-visual interviews will be approached in a very specific way to maintain visual uniformity and conceptual consistency. As these interviews may become part of the public exhibition at the end of the research, informed consent of this aspect must be acquired from all participants. The visual approach to the interviews is a central subject framing with a neutral eye-line angle. This gives symmetrical balance to the composition and attempts to avoid unconscious positive or negative readings of the subjects by viewers. All subjects will be filmed in 4K using a 50mm lens. Through the use of EyeDirect in front of the camera lens, interviewees will be looking directly at the photograph they submitted but also straight down the lens, resulting in a very direct engagement between subject and viewer. This approach allows the subject to become engaged in looking directly at their image, as a method of encouraging recollection, and to avoid the researcher inadvertently leading responses through involuntary body language or eye contact. I will be seated behind the camera and they will engage in discussion with me about the content of the photograph, through the photograph.
The audio recordings will be analysed in detail to make an inventory of elements that can be modelled or incorporated within the VR recomposition as a visual or auditory cue or element, either interactive or passively present.

If there are any further activities, please continue and append to this form.

ACTIVITY 3: (e.g. questionnaire, focus group, interview etc),

Virtual Reality Simulations

Purpose
To experiment with the recomposition of archive photographs and oral history interviews in Virtual Reality.
Direct correlation to research outcomes
This research seeks to enhance VR experiences of the past to create a rich emotional connection, and perhaps foster alternative narratives of present-day Iraq. The outcomes intend to demonstrate innovative ways to combine archive photography and audio-visual oral history within VR. The works aim to set a methodological and technological framework to empower artists, researchers, and historians to creatively explore and represent the past in order to add new historical perspectives and raise awareness of issues among wider audiences.
How analysis will be performed
The Virtual Reality experiences will be available in a public exhibition, where viewers will put on a wireless VR headset to enter the virtual experience. Attendees to the exhibition will be invited to complete a questionnaire upon experiencing all the elements of the exhibition in order to evaluate the impact of the immersive simulation on viewers in comparison to the photographs and oral history narratives.

c) State how harm, distress or anxiety to the participants will be minimised during the study

The oral history interviews involve discussion of personal photographs, descriptions of the photographs, and memories surrounding the context of the image, which could depict deceased relatives or friends, or places of exile, and as such, have the potential to be triggering.

Should a participant appear distressed during an interview, I will stop the interview immediately and ask the participant if they wish to continue. Ethics is about balancing benefit with risk and if a participant wishes to continue and have their story recorded despite the distress I will continue. Should a participant appear to be under undue distress, I will stop the interview immediately and provide a link to NHS information on counselling services and the Samaritans. It could be difficult to ascertain or anticipate if an image will be distressing to a participant (the focus of the research is seeking images that do not portray violence, conflict or trauma), but if there is a potential of the risk of distress based on an image, I may seek ask an unbiased observer from GSA to sit in on the interviews who can advise if I should stop the interview.

UK & Northern Ireland
Scotland: https://www.nhs24.scot/our-services/living-life
England: https://beta.nhs.uk/find-a-psychological-therapies-service/
Wales: Community Advice & Listening Line, Offering a confidential listening and support service.
http://www.callhelpline.org.uk
Freephone: 0800 132 737
Or text help to: 81066
Samaritans: http://www.samaritans.org/
Ph: Helpline: 116 123 (free from landlines and mobiles - Monday to Sunday 24 hours a day)

Northern Ireland: Samaritans: http://www.samaritans.org/
Ph: Helpline: 116 123 (free from landlines and mobiles - Monday to Sunday 24 hours a day)

ROI: Samaritans: http://www.samaritans.org/
Ph: Helpline: 116 123 (free from landlines and mobiles - Monday to Sunday 24 hours a day)

d) Please state the time commitment of the participants and whether you plan repetitive testing as part of the study

> The length of time taken to scan and submit a photograph is up to the participants. Taking into account the time taken to scan a photograph, or several photographs, read the instructions, and complete the submission form, it could take anywhere from 5-30 minutes. Oral history interviews will take approximately 30 -60 minutes.

e) What is the statistical power of the study:

> This research is not geared towards the creation of statistics, but rather is focused on participatory design and the interaction of artist and community as well as outlining a methodological approach for the convergence of archive photos, oral history interviews and Virtual Reality.

If you plan to leave participants with information at the close of the study (e.g. leaflets with further information, details of support groups etc), please append to this form.

7. PARTICIPANT DATA

All researchers must abide by the Data Protection Act 1998 and the GSA Data Protection Policy – it is the responsibility of the researcher to familiarise themselves with each.

Here we make the distinction between personal data (anything that identifies a participant such as name, address, phone number) and research data generated by that participant (interview, photos of etc) as each requires a different for handling and storage.

	Personal Data	Research Data
Who is the custodian of the data:	Researcher	Researcher
Where will the data be stored:	Encrypted back-end database of website.	Encrypted back-end database of website. Plus on password-protected folders on hard drive on researcher's computer plus 2 back-up copies on password protected external hard drives.
Who has access to the data:	Researcher only	Researcher only
Will permission to identify the participants be sought as part of informed consent	YES / NO	
What methods will be undertaken to guarantee anonymity (e.g. coding, ID numbers, use of pseudonyms)	No names or contact information will be published on the online archive. Participants will be informed and empowered to choose whether or not to use their real names or a pseudonym when taking part in oral history interviews. Participants will be instructed to only use first names when recollecting or mentioning people who haven't fully consented. Any full names used can be edited out afterwards.	
How will the link be broken between participant details and information given as part of study?	Personal data submitted as part of the online archive has to be accurate in order to	Only participants who have consented to be filmed for oral history interviews will

	confirm submission of photograph and to establish contact with submitter if they consent to it.	be. They will be allowed to choose whether or not to use a pseudonym.
How long will the data be stored for? (Participants must be made aware of this at point of consent).	For the duration of the PhD research project. Upon completion, a new terms and conditions will be drawn up to establish consent going forward, depending on who the custodian of the archive will be.	The photographs will remain on the website for the duration of the PhD. The oral history interviews and the simulations will form part of the final exhibition. This exhibition may be commissioned beyond the term of the PhD. Consent for this will be asked for at the time of participation.
How will the security of the dataset in its entirety be secured?	Encrypted back-end database of website.	Using encrypted password-protected folders on computer and encrypted password-protected back-up external hard drives
How will the data generated by analysed and used?	Personal data will be only used to contact participants, if they consented to be contacted, about further stages of the research.	Archive photographs will populate the website and a selection will be used as references for the construction of 3D simulations. Oral history interviews will be incorporated into the simulations.
Who will have access to the data beyond the project (if the data is being retained, not destroyed)	The researcher only, unless a custodian for the archive is found, in which case, permission must be sought from contributors for handing over this data.	The researcher only with regard to the VR outputs. The archive may be transferred to a suitable custodian who will manage it going forward. In which case, permission must be sought from contributors for handing over this data.
Does the research funder require the participant data generated be lodged with them upon conclusion? If yes, give details	Unsure	It is not required but could be an important benefit of the research.

8. SAFETY

All researchers must abide by the GSA Health and Safety Policy
(http://www.gsa.ac.uk/about-gsa/key-information/occupational-health-and-safety/) –
it is the responsibility of the researcher to familiarise themselves with this.

a) How will the safety of the participants be ensured during this study?

A detailed risk assessment will be carried out before filming oral history interviews.

b) If your work requires participants belonging to vulnerable groups (children under 16, adults unable to give consent, prisoners, individuals in dual relationships), what additional steps will be taken to ensure their safety:

c) If the study involves work on non-GSA premises, how will the safety of researchers working off site be ensured?

A detailed risk assessment will be carried out before filming oral history interviews at non-GSA premises.

9. DECLARATION

Please ensure you have answered all the questions herein and have appended the following documents:

Consent form YES / NO   Participant Information Sheet YES / NO

Follow up information YES / NO   Any other relevant documentation (please state):
Web submission form

Links to prototype website
Homepage: https://iraq-photo-archive-test.netlify.com
About: https://iraq-photo-archive-test.netlify.com/about.html
Submission form : https://iraq-photo-archive-test.netlify.com/submit-photo.html

I certify that the information contained in this application is accurate. I understand that should I commence research work in absence of ethical approval, such behaviour may be subject to disciplinary procedures.	
Name of Principal Investigator:	Basil Al-Rawi
Signed:	
Date:	1/5/19

Please email the completed form and associated documents to the Research Developer (a.hay@gsa.ac.uk).

Appendix B-7   Oral History Participant Information Sheet

Title of Study

Recomposing the Archive: remediating memories of Iraqi diaspora using archive photography, oral history, and Virtual Reality.

Invitation Paragraph

This practice-led research project utilises a participatory design approach which aims to produce a series of immersive visual artworks. Collaborating with Iraqi diaspora across the world, specifically 1st generation Iraqis who emigrated since the 1950s and their descendants, the researcher is curating an online archive of personal photographs (www.iraqphotoarchive.com) and audio-visual recordings of memories surrounding those photographic moments. This archive seeks photographs taken in Iraq generally before 1980. They can be images of landscapes, monuments, buildings, or people. This archive is interested in images of daily life, both on the street and in the home. The audio-visual recordings are concerned with the stories and memories surrounding these images. These interviews will help to reconstruct the past through capturing the voices that are normally left out of historical accounts. The project is designed for Iraqi diaspora to share and narrate their experiences; to be the authors of their own stories.

What is the purpose of the study?

The purpose of this research study is to explore the re-composition of historical photographs and stories from Iraqi diaspora into Virtual Reality simulations. The simulations will aim to convey the memories of Iraqi diaspora surrounding their photographs through immersive technology. The outcomes intend to demonstrate innovative ways to combine archive photography and audio-visual oral history within VR. This research seeks to enhance Virtual Reality experiences of the past to create a rich emotional connection, and foster broader understanding of Iraqi narratives across communities. The works aim to set a methodological and technological framework to empower artists, researchers, and historians to creatively explore and represent the past in order to add new historical perspectives and raise awareness of issues among wider audiences.

Why have I been invited to take part?

You have been contacted as you took part in the first stage of this research by submitting a photograph to www.iraqphotoarchive.com and consented to be contacted about this oral history stage of the research. I am asking you to take part in the research because of your participation in the Iraq Photo Archive project and I believe that recording your memories and stories surrounding the photograph(s) is an important aspect of preserving intangible Iraqi heritage. Your contributions will form a valuable archive of hitherto unrecorded narratives, and will hopefully have the potential to attract further interest amongst Iraqi diaspora internationally to grow the archive further.

Do I have to take part?

Your participation is voluntary. I would like you to consent to participate in this study as I believe that you can make an important contribution to the research. I believe the research will also be of benefit to you, to help share stories and new perspectives on Iraq. If you do not wish to participate, you do not have to do anything in response to this request. Furthermore, you may skip any questions or tasks that make you uncomfortable and you may discontinue your participation at any time without penalty or loss of benefits. In addition, the researcher has the right to withdraw you from participation in the study at any time.

What will happen if I take part?

If you are happy to participate in the research, you are asked to read this information sheet and sign and submit the consent form. When I receive this, I will contact you to discuss and arrange your participation in a filmed oral history interview. At that point I can confirm your participation

and make arrangements to conduct the filming at a suitable time. Filming should take no longer than 60 minutes and will be conducted remotely using the online video conferencing application 'Zoom'. You will be free to stop the interview at any time you wish. Some of the audio from the recording may be used as part of a narration in a Virtual Reality experience.

What are the possible benefits and risks of taking part?

Whilst there may be no specific personal benefits to your participation in this study, the interview you provide will help to contribute narratives and memories about Iraq (in the context of your photograph), to this research, and to the wider community.

I do not anticipate any risks or discomforts to you from participating in this research. If you wish, you may choose to withdraw your consent and discontinue your participation at any time during the study without penalty.

The oral history interviews however do involve discussion of personal photographs, descriptions of the photographs, and memories surrounding the context of the image, which could depict deceased relatives or friends, or places of exile, and as such, have the potential to be triggering or distressing.

Should you become distressed during an interview, I will stop the interview immediately.

Will my taking part be kept confidential?

Your name will be kept anonymous in any report I publish. I will not include information that will make it possible to identify you or any individual participant by name. Participants will be able to pick their own synonym names for protection of their identity, if they wish. Only the researcher will have access to the real identities, and it will not be shared to anyone else. As the oral history interviews are filmed, your image will be recorded and can be displayed in the publication of the research, as well as in the exhibition of the project.

How is the project being funded?

This PhD research is funded by scholarship from The Glasgow School of Art.

What will happen to the results of the study?

This research will manifest in a public exhibition of artworks, including a curated selection of archive photographs, oral history films, and immersive VR experiences. An online digital archive, www.iraqphotoarchive.com, will be a repository for photographs submitted by contributors. A detailed written thesis will introduce and contextualise the aims and objectives, describe and evaluate the methodology and analyse the final results.

Who should I contact for further information?

If you have any questions or require more information about this study, please contact me using the following contact details:

Basil Al-Rawi, PhD Student Researcher, School of Simulation and Visualisation, The Glasgow School of Art

b.al-rawi1@student.gsa.ac.uk

What if I have further questions, or if something goes wrong?

If this study has harmed you in any way or if you wish to make a complaint about the conduct of the study you can contact GSA using the details below for further advice and information:

Thank you for reading this information sheet and for considering taking part in this research.

You can download a PDF copy of this Participant Information Sheet for future reference here:

Appendix B-8   Oral History Research Consent Form

Research Consent Form

You have been asked to participate in a research study conducted by Basil Al-Rawi, a PhD student researcher at the School of Simulation and Visualisation at the Glasgow School of Art. The faculty supervisors for this study are Dr. Matthieu Poyade and Ronan Breslin. You should read this <u>participant information sheet</u> and answer the questions below carefully.

If you agree to participate, you will sign in the space provided to indicate that you have read and understand the information on the participant information sheet and this consent form. You are entitled to and will receive a digital copy of this form after you complete it.

Research Project Title:

Recomposing the archive: remediating memories of Iraqi diaspora using archive photography, oral history and Virtual Reality.

Lead Researcher: Basil Al-Rawi

*Consent

1. I confirm that I have read and understand the participant information sheet for this study;

2. I have had an opportunity to consider the information, ask questions and have had these answered satisfactorily;

3. I agree to being video recorded as part of the research and understand that these will be kept anonymous with regard to full names;

4. I agree to video recordings being made publicly available in publications, presentations, exhibitions, reports or examinable format (dissertation or thesis) for the purposes of research and teaching – I understand that these will remain anonymous;

5. I agree that part of the audio contents of the video recording may be used as part of a narration in a Virtual Reality experience.

6. I understand that my rights are protected under GDPR and Glasgow School of Art's Data Protection Policy;

7. I agree to take part in the above study.

*First Name

*Second Name

*Email

*Date

*Signature

Complaints about the conduct of this research should be raised with:

Appendix B-9   IPA Submission Form - Consent and T's & C's

Consent and Terms and Conditions

Consent

- I confirm that I have read and understand the nature of the research project as outlined above.

- I understand that my participation in submitting photograph(s) to this online archive (iraqphotoarchive.com) is voluntary and that I am free to withdraw my submission at any time, without giving a reason.

- By submitting photograph(s) to this archive, I agree to grant permission for the researcher (Basil Al-Rawi) to publish the photograph(s) on this website (iraqphotoarchive.com) and for it to become part of the online archive.

- I understand that my contact information will not be made public, but is necessary for the researcher to establish contact for more information about the photo submitted.

- I understand that by not providing accurate contact information, the researcher will not be able to make contact and my photograph(s) may not be included in the archive.

- I understand that by providing my contact information that the researcher may contact me, but I am not obliged to respond or take any further part in the research project if I choose not to.

- I understand that if the researcher contacts me about taking part in the oral history project, I am free to refuse participation in this part of the research, but this will not affect the inclusion of my photo(s) submission in the archive.

Terms and Conditions

I accept the following terms and conditions:

1. I have permission from the copyright holder to submit this/these photograph(s).

2. I agree that if I submit a photograph to this archive, I must not submit any material that is:

    ◦ Defamatory, malicious, threatening, false, misleading, offensive, abusive, discriminatory, harassing, blasphemous or racist

    ◦ a breach of confidentiality or somebody's privacy

    ◦ Indecent, obscene or of a sexual nature

3. I agree that if I submit a photograph to this archive, I must not submit any material that is likely to:

    ◦ Cause someone alarm, anxiety or distress

    ◦ Encourage violence or racial or religious hatred

- Infringes any intellectual property rights, such as copyright and trademarks. This means generally that you must own the rights in everything you submit (e.g. photos and comments/descriptions) or must obtain permission from the rights owner to submit the material.

- Advertises any products or services

- Impersonates anyone else or otherwise misrepresents your identity, affiliation or status

- Could prejudice any active legal proceedings of which you are aware

- Is technically harmful (including, without limitation, computer viruses, logic bombs, Trojan horses, worms, corrupted data or other malicious or harmful software, data, components or conduct)

- Is in breach of these Terms and conditions

- Is, encourages or teaches conduct that is a criminal offence, gives rise to civil liability, or is otherwise unlawful

4. You must not include links on iraqphotoarchive.com to any websites or webpages.

5. You must not try to circumvent (i.e. get around) any protections we put in place for the security and operation of iraqphotoarchive.com

6. You must not re-submit content that you are aware has been removed.

Appendix B-10   Iraq Photo Archive Photo Submission Process
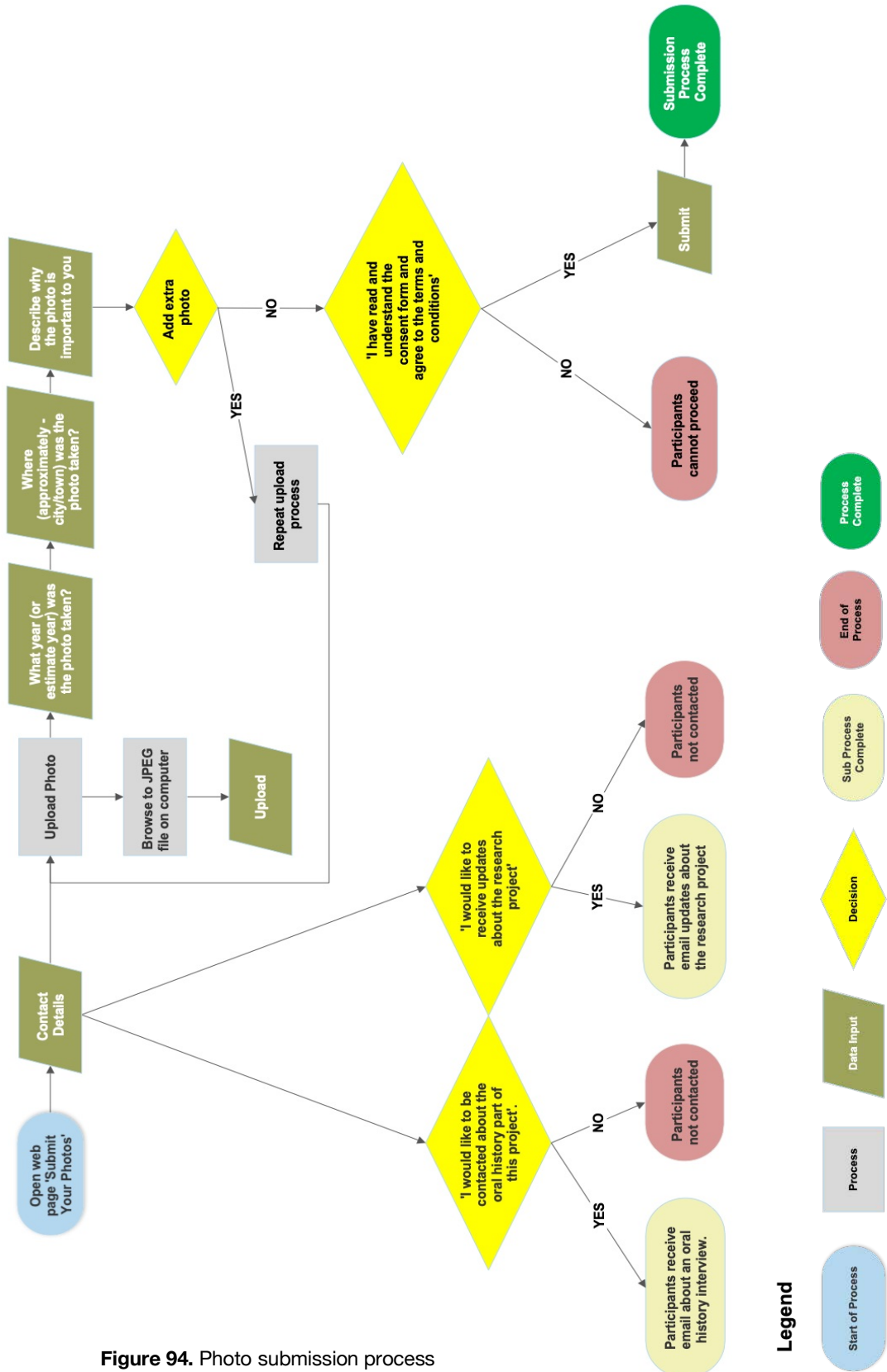
Figure 94. Photo submission process

Appendix B-11   Iraq Photo Archive - Submission acknowledgment email

Dear _____,

Many thanks for taking the time to submit your wonderful photos to the Iraq Photo Archive. Your contribution to the creation of the archive is hugely appreciated. Your photographs are now live, and you can view them here: www.iraqphotoarchive.com

I will send information regarding the oral history part of this research project in a follow up email.

Please feel free to share the archive with anybody else you think might be interested, either to just to view or to contribute.

Thanks again _____.

Kind regards

Basil

Appendix B-12　　Iraq Photo Archive - Denotational Inventory
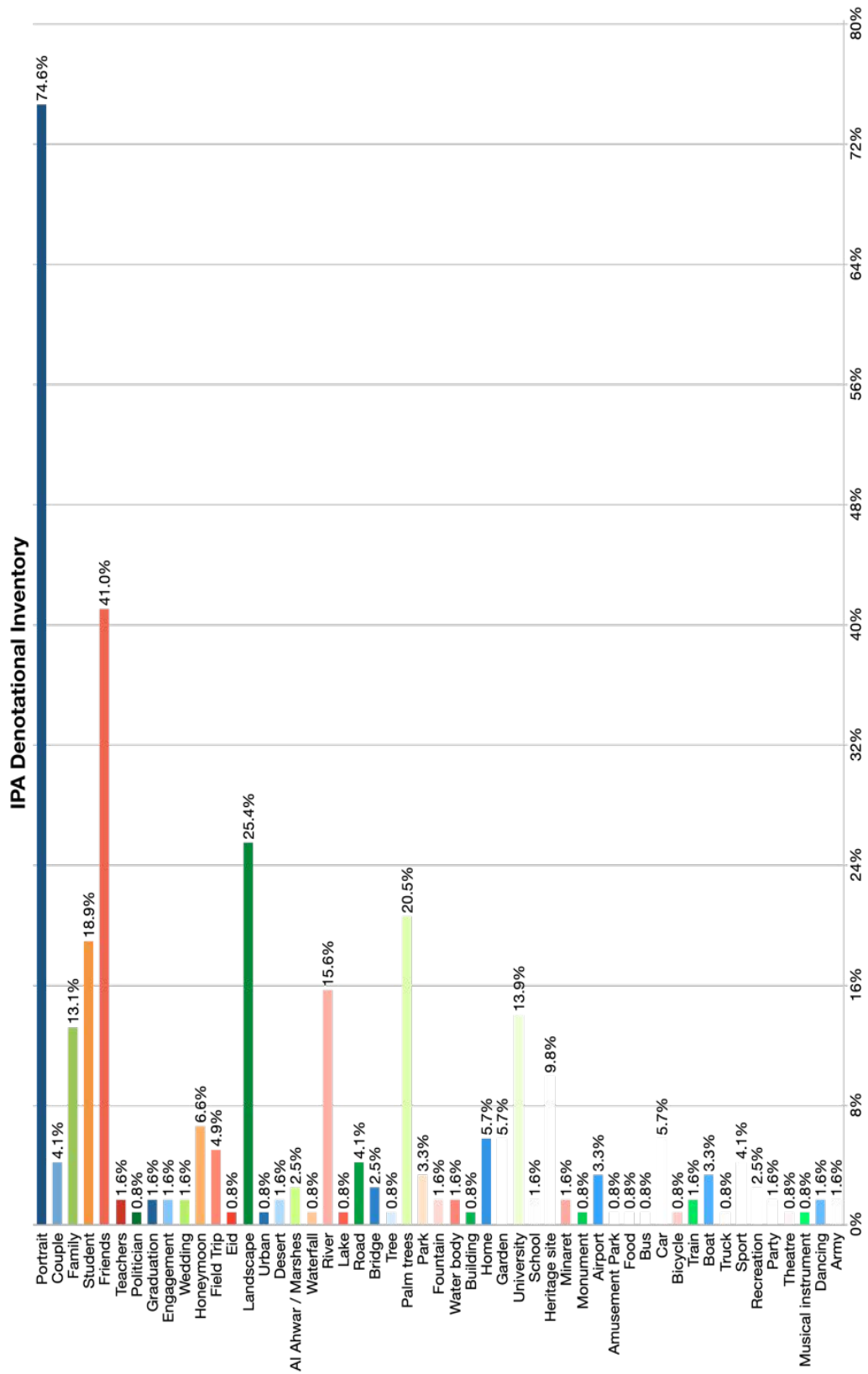
Figure 95. Frequency of codes (%) applied to images submitted to the IPA

Appendix B-13   Iraq Photo Archive - Code relations table

Table 9. Code relations table illustrating the intersection of codes in the IPA

Appendix B-14　　Participant information - Preparing for the interview

Dear participant,

Thank you for agreeing to take part in the oral history part of this research project. Your contribution to this research project helps to record the narratives of Iraqi diaspora and share these stories with the wider community and generations to come. This project aims to build wider understanding and knowledge of Iraqi stories beyond those of conflict.

Due to the global pandemic, the interview will be conducted remotely using video meeting software Zoom. It would be best to use to desktop or laptop computer for this interview. However if you do not have one, it is ok to use a tablet or a phone. In order to prepare for this, here is some guidance:

Installing Zoom on your PC, Mac, iPhone/iPad or Android:

For Mac: https://zoom.us/client/latest/Zoom.pkg

For PC: https://zoom.us/client/latest/ZoomInstaller.exe

For iOS: https://itunes.apple.com/us/app/id546505307

For Android:
https://play.google.com/store/apps/details?id=us.zoom.videomeetings

Positioning your computer, tablet or phone:

1. Try to have your webcam at eye level.
2. Use a neutral background. For example, avoid having a bright window behind.
3. Turn up your screen brightness.

Your photograph

We will be discussing a photograph(s) that you submitted to the archive. I will have this photograph on the call for you to view.

If you have any questions, please feel free to contact me:

Iᒣᗩᑫ PᕼOᒪO ᗩᒣᑕᕼIᐯᕮ

Preparing for the interview

Setting up the microphone:

1. Open the case using the latches on the side of the case.

Press here
and lift latch to open

2. Remove the microphone (A) and the tripod (B).

A   Microphone
B   Tripod
C   SD Card
D   Windshield
E   2 x AA Batteries
F   USB Cable
G   AC Adaptor

IRAQ PHOTO ARCHIVE

3. Attach the microphone to the tripod by screwing the thread on the tripod into the tripod mounting socket on the bottom of the microphone.

Bottom

Tripod mounting socket
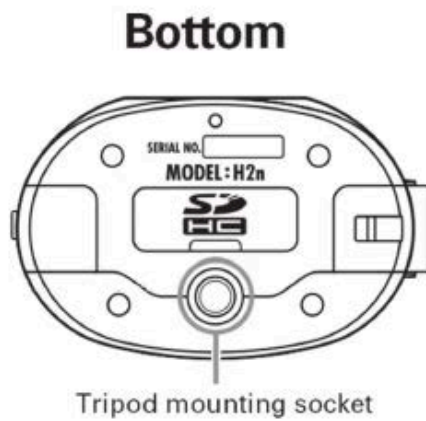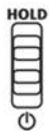
4. Open the the legs of the tripod.and place the microphone on the table in front of you.

ırag photo archive

5. Turn the microphone on by sliding the power switch down.

Turning the power ON

HOLD

Slide ▯ down.

Slide down
to turn on   HOLD

6. When instructed, press the record button on the front of the microphone to start recording.The recording indicator turns red when recording.

Front

Recording
indicator

Record button

Press here
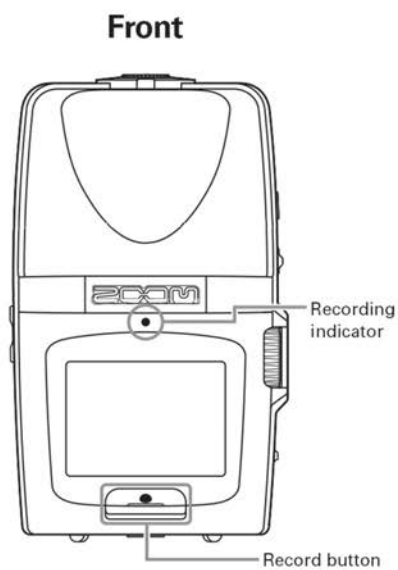
7. When instructed, press the record button to stop recording.
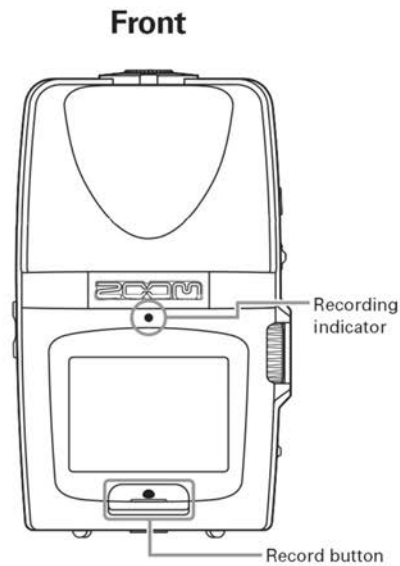
6. Turn the microphone off by sliding the power switch down and holding until "Goodbye see you!" appears on the screen.

IRAQ PHOTO ARCHIVE

Interview instructions and Questions

1. Introduce myself
2. Reminder to participants - you are ok with interview being recorded?
3. Confirm participant has read participant information sheet and ask if they have any questions before the interview begins.
4. Outline what will happen during the interview
5. Reminder to participants - You are free to stop the interview at any time you wish.
6. View your photograph on your screen in full screen mode
7. Can you tell me your name?

The audio-visual recordings are concerned with the stories and memories surrounding these images. These interviews will help to reconstruct the past through capturing the voices that are normally left out of historical accounts. The project is also designed to give agency to Iraqi diaspora to share and narrate their experiences; to be the authors of their own stories.

1. Describe this photograph
   (a) Where was this photograph taken?
   (b) When was this photography taken?
   (c) Who is in the photograph?
   (d) Can you tell me the memory you have of this moment?

2.
   (a) Tell me the story of this photograph
      1. Can you describe how you felt at the time of this photograph?
      2. Can you describe what you could hear?
      3. Can you describe what this place smelled like?
   (b) (Those not in the photograph) Can you describe why this photograph is important to you?
   (c) Can you describe how this photograph makes you feel?
   (d) What is your relationship to the people in the photograph

3. Can you describe the interior/exterior landscape/environment that we can't see in this photograph?
4. Is there anything else you would like to mention that is related to this photograph?

Figure 96. Oral history interview instructions and questions

IPA Interview 03

Interview conducted 14th November 2020 @ 14:00pm / Duration: 01:10:59

Excerpt 1 – Image IPA_012_Baghdad_early_1950s

English translation

Figure 97. IPA_012_Baghdad_early_1950s

Adhamiyah
Creative Pass – Timestamp Colour Coding and Memos

Memories of youth and interests

01:30
This is a photo that I really love. It was [taken] during my adolescence, before I started to mature [into a woman]. I tried to imitate the actresses, and I loved fashion and dressing up. I used to make sketches of the dresses these actresses would wear.

You see the jacket that I'm wearing is buttoned up. I liked this decollete [shawl?] style, and I draped it over my body, and I posed for photographs wearing it like this. I couldn't have been older than 15 or 16 years. This [was taken] in the garden of our home. It was a beautiful garden. It was a very big garden. It [our house] was in Al-Adhamiyah in Baghdad, an area known for its beauty. I really loved it.

Description of photo and context - location

05:40
As I was saying before, I liked to mimic [the style of] female film stars. I would have become an actress if I didn't become a painter. I acted a little in the theater before going to art school. After that I acted in a few television serials. I would sketch by hand different fashion designs, and when I didn't become an actress I enrolled at the infamous Iraqi House of Fashion [Dar al-Azyaa] and made my own designs.
I would even tailor clothes for dolls, and as I got older I started making dresses. I would buy the fabric and draw the pattern by hand first, before tailoring it, and eventually wear it. It always surprised my friends how quickly I was able to make these dresses [laughter].

Recalling the year, location, and memories about the photographer

08:58
Right now I feel although we've travelled back in time, to the year 1950 or 1952, I can't be exact. It was definitely the 50s.

Our garden at our home in Al-Adhamiyah. It was very big.
My paternal uncle was a photographer, a reconnaissance photographer. It was also his favorite hobby and he loved taking photos, particularly of me. He would always say I was photogenic. He liked taking my photograph. Whenever he came to visit he brought his camera, and I liked to strike different poses as he captured my photo.

09:52
This is one of the one's he took. It was taken at our family home [in Al-Adhamiyah] during one of his visits. It was during the fifties.

Remembering the moment

10:09
I was focused on the trees in front of me. I've been the kind of person, ever since I was a child, who loves trees and all their interesting detail. I've painted a lot of trees in my time, forests and gardens, especially since I arrived in London which influenced me during my walks and strolls [in the city].

Remembering the details of what she was wearing

12:45
I used to really love this [jacket]. It was a bright green.
12:47
and a skirt with a multicolored chiffon petticoat underneath, and my waist back then was tiny.
13:54
The chiffon [petticoat] was a mix of pink, green and hand underneath what we called gorme (?) which you could adjust [could be describing the adjustable metal wiring of a skirt girdle?]
14:55
Wow, I remember everything.

Descriptive recollection of scent and sounds

15:02
I used to smell the fragrant white Qadah flowers that citrus trees bloom, and the fragrance of the Qadah flower was citrusy, [I could smell] lemon and orange. The sounds I could hear, the beautiful chirping of the birds, the Bulbul warbling. It was marvellous. It took me back sixty years, wow. That was a lovely question.

17:11
The sound of the Bulbul singing in Iraq is beautiful.

17:22

I think especially in Baghdad, because I live in Baghdad, in Adhamiyah, yeah,

17:43

Yeah yeah, I remember everything. And the window of our [dining]room, would let in the aromas of the food cooking.

19:54

It's a tiny picture but has a lot of detail.

Reflection on how she felt at the time and her interests / love of her father and connection with the physical environment of the photo	**21:43** During this period I was really happy with myself, and I remember having ideas and ambitions. I used to plan and I would buy magazines. My brother was studying medicine in Turkey and he would always send me magazines because he knew that I loved to draw fashion sketches. He'd send them all the way from Turkey. I remember feeling really satisfied and proud with myself during this time. I was at peace. My father used to really love me and he always had his own garden chair which he used to let me sit in. Next to the chair was a table where he would read and write, because he was a writer and a judge, and wrote publications. I was the only one, he would only let me make his coffee in the morning. He didn't like anyone else making his coffee. I would make it for him especially. Even when my mother offered, he'd say no, **** is making it. I'd bring out his coffee with a glass of water, put it on the table, next to the chair which I was photographed in.
Reflection on love of her father	**24:39** I think it's fundamental to care for a child in this way because it shapes them to be special [gifted]. The attention [you got made me feel special, that's how I saw myself. I felt my Dad loved me more than the rest [of my siblings]. This encourages you to give more.
Everyday memories prompted by photo / detailed descriptions of breakfast in garden	**25:30** One of the things this picture reminds me of is that every day we would have breakfast outdoors, particularly on the hottest summer days. I remember we would also have breakfast in the garden in the shaded area beneath the trees. I would lay everything out on the ground on a tablecloth. But my Dad would be the only one sitting in his chair. We'd all gather on the floor with my Mum for breakfast, and eat geymar [Iraqi clotted cream made from buffalo milk], jam and Chai, and warm Iraqi samoon [traditional bread native to Iraq].

26:38

There are pictures of us all sitting on the ground having breakfast.

27:30
Thank you so much. Thank you so much.
There's a whole history behind it
Only this picture, I think can be a book. Yeah

Relating chair in photo to memory of father	27:52 Yeah. This was in fact my late father's chair, God bless his soul. He was a writer, a judge, and author. He used to write a lot while sitting in it. And I took his position afterwards.

28:11
Now ****** will take his place.

Memories of father	28:44 He was a writer in the famous Iraqi newspaper Al-Qabas and Al-Karkh with Mulla Aboud al-Karkhi [a famous Iraqi poet and politician].He was a journalist writing for these different papers, and now **** also works in the same field. It runs in the family.

Creative Pass – Colour coded narrative sequence

01:30
This is a photo that I really love. It was [taken] during my adolescence, before I started to mature [into a woman]. I tried to imitate the actresses, and I loved fashion and dressing up. I used to make sketches of the dresses these actresses would wear.

You see the jacket that I'm wearing is buttoned up. I liked this decollete [shawl?] style, and I draped it over my body, and I posed for photographs wearing it like this. I couldn't have been older than 15 or 16 years. This [was taken] in the garden of our home. It was a beautiful garden. It was a very big garden. It [our house] was in Al-Adhamiyah in Baghdad, an area known for its beauty. I really loved it.

10:09
I was focused on the trees in front of me. I've been the kind of person, ever since I was a child, who loves trees and all their interesting detail. I've painted a lot of trees in my time, forests and gardens, especially since I arrived in London which influenced me during my walks and strolls [in the city].

15:02
I used to smell the fragrant white Qadah flowers that citrus trees bloom, and the fragrance of the Qadah flower was citrusy, [I could smell] lemon and orange. The sounds I could hear, the beautiful chirping of the birds, the Bulbul warbling. It was marvellous.

25:30

One of the things this picture reminds me of is that every day we would have breakfast outdoors, particularly on the hottest summer days. I remember we would also have breakfast in the garden in the shaded area beneath the trees. I would lay everything out on the ground on a tablecloth. But my Dad would be the only one sitting in his chair. We'd all gather on the floor with my Mum for breakfast, and eat geymar [Iraqi clotted cream made from buffalo milk], jam and Chai, and warm Iraqi samoon [traditional bread native to Iraq].

21:43

During this period I was really happy with myself, and I remember having ideas and ambitions. I used to plan and I would buy magazines. My brother was studying medicine in Turkey and he would always send me magazines because he knew that I loved to draw fashion sketches. He'd send them all the way from Turkey. I remember feeling really satisfied and proud with myself during this time. I was at peace. My father used to really love me and he always had his own garden chair which he used to let me sit in. Next to the chair was a table where he would read and write, because he was a writer and a judge, and wrote publications. I was the only one, he would only let me make his coffee in the morning. He didn't like anyone else making his coffee. I would make it for him especially. Even when my mother offered, he'd say no, **** is making it. I'd bring out his coffee with a glass of water, put it on the table, next to the chair which I was photographed in.

24:39

I think it's fundamental to care for a child in this way because it shapes them to be special [gifted]. The attention [you got made me feel special, that's how I saw myself. I felt my Dad loved me more than the rest [of my siblings]. This encourages you to give more.

IPA Interview 06
Interview conducted 25th March 2021 @ 20:30 / Duration 1:40:11

Excerpt 5 – Image: IPA_003_Baghdad_1978_07

Figure 98. IPA_003_Baghdad_1978_07

Tarmiyah
Creative Pass – Timestamp Colour Coding and Memos

Reflecting on period of life the photo was taken during. Descriptions of other subject / everyday life / political activity

I7 59:00
Is my my best lovely time in my life. This about about to finish my education. I was active in in. I was a member of Communist Party. I was since, I was 17 years old. And this my comrade, in behind. The picture, the picture is behind these one of my comrade. And the one who took pictures also. We was in, we call it cell, is a group. But in this we are not in the party. We are in an organisation called the youth organisation, but it is underground, and we are active and and we was, is a part, is is under cover of the Communist Party. This guy he was working during the day in, in government place, I don't know where exactly, twas I think, it's a commercial ministry or somewhere, and and he was a study law in afternoon in the coll in a university. This car, I told you the period I was with my aunt two two years when she, I she and her husband Basra and the car is belonged to her. So she can't drive but I took her to the school. She is a teacher I bring here from the school. I am afraid, it is under my, only what I do, where she needs me, I do. take her shopping and then I free. I took the car, I took my friends, this area close to where we live, where also we are active control. We I I was member of the youth Bureau, they call it Bureau. And we control a big area, living area. I don't know how much you know about Baghdad. But it is, I, it is it is big area, living area, is like the we have a Cairo One, Cairo Two, we have the call (Hai el Benoog), it mean (unsure), they give names to the cities or where they live, you know, like, like in Wembley or somewhere, you know, areas of London

I7 1:01:40

Yeah district. Yeah. So it is it's about 123456 six district. I was a leader of two of them, and some other or and and they are all together in one bureau they call us. And sometimes, after we finish the meeting, it's always secret this, nobody knows of about us. And this guy, he's the last guy, and the only guy when I made, I was in military after that I went to the military. I was working in this period. And I went to the military. And then after a year I managed to escape, I make a fake passport. And he's the guy, I went to see him I say 'bye, farewell' and I show him my passport, and I told him I'm leaving, I can't stay, because it became very tight the situation. And I run, I run, imagine is a crocodile he's about to smash your head and you managed to to get your head out of his mouth, it's exactly like this. This is another story the guy told me later, another time. So and this picture in an area called Al-Tarmiyah, it's close, about a 15 minutes drive from where we are. It is on Diyala river is is and it is very famous in the in the grow the orange, limes, orange, is a lovely area, is a very fresh air and especially in spring and summer. And we used to go there, enjoy our time like this. So this picture from this period. Yeah, but it was after that, this blooming situation start decline and this is about the end of it. And I believe I couldn't see this guy since that time is now about over 35 years or something, is since 1979. I I try to find out where he is, I went to Iraq after the invasion. I didn't, some they told me is he killed or died. He is, and some they say 'no, still alive' and he died later. But I don't know. So I wish I can't see him again. He's a lovely nice guy. And very very courageful person and strong. Yeah.

I7 1:04:35

And this the car, by the way the car. The car it is it is a Russian, it's called Miscovitch. That's maybe because the relationship between Iraq and and Soviet Union that times closely. And the funny things Iraq used producing shoes. We have a franchise of Bata, you know Bata, it's a chic chic name, it's a chic brand. And after the, before the second war, or after, he escaped to America and is still Bata in America and a few countries, but Iraq they are independent, but they have the name Bata, they produce shoes and, and they, government, they exchange every 380 pair shoes with one car and they sell it plenty to the people. I know his story

I7 1:05:42

Yeah, that's that's part of Soviet Union that time to support other countries who they call it developed countries and yeah,

195

I7 1:06:22

We was 20, 23/22 between 22 and 23 years old. Is youngs, we was full with dreams is nothing to do with a regime and change and everything. We just want and we want getting a life like other people around the world. We want to develop our country. We want to see the happiness. It's a small dreams, to finish education, to married, to have a children, to get a nice life, to get your cars. By the way. This is a special. It's not usual you get a people in my age, they got a car and driving car. And even myself, when I finish the education and start the first year, I wasn't working in this one. I remember now. Because after all, maybe it start the working. After after, when I finished my education, and I start my my work, after about a year, I got my own car. And I got my own car, I used to go to the work, by my own car, but it is maybe one of, one of each 1000 young person he got, because the economy situation and I managed to get it. And it's we have a car ourselves, my family, but it's my aunt, and you know I used to have car and and therefore I always have a group of people. We are all close to each other. We know each other. We are in some ideology also, and that's one of the bad things to know about ourselves. We was isolate ourselves. The Ba'ath with their people, the communists with their people, and that's not good to be honest. I learned later these things. But as I told you yeah, I I had only a smal group of people, we are close to each other. And the funny things is one day my brother, the one you see him in the picture I told you now he's a grandfather, he called my family and suddenly answer him one of my friend, you know him, he say what are you doing in our house? He say I am I am your sister husband now, so now I am uncle of his sons.

I7 1:09:19

This is this is is a high area, they make it it's a country road and it's asphalt, but it's not a regular way. But so we we it is it's allowed two cars to move in same time so we just parked into a site. By the way, this area Tarmiyah, it became the most sectarian and dangerous area where ISIS they are hiding because the people, they are basically, they are first of all sunni. We don't think about these at that time. We are not in our tension. Myself I am very mixed. My mother shiite, my father sunni, my grandfather shiite, my my grandmother sunni - we don't care about this. But this area sorry, it is sunni, and they are, they used to be part of the regime and the Ba'ath party. And therefore, it was a good nursing area for these secterians and they call them the resistance for the American. And it's been, is became so danger is just to be in an area there, very danger. But we used to go on enjoy our time there.

Reflecting metaphorically on the present

I7 1:10:52
Yeah, is everything is declined. Yeah, it's like, our situation is like, you see these movies, American, when is is a car is jumping from, from a motorway or or a hill or like a cliff, or they go down and explosion....We are in the air now. We don't know where we are going.

I7 1:11:17
We don't know we still not landing

I7 1:11:23
We are failing

Reflecting on social life in Iraq from his youth

I7 1:12:09
We use also, sorry, is not only we got, we used to go we have bars, we have clubs, we used to go these groups, we are together, I have a few groups, we used to go to the bars, we drink, we have, and Iraq used to produce very nice alcohol drink, like they call it arak, it's like raki. And we have a few kind of beer we produced, a wine, and, and by the way, is the one of the favourite beer for me, there, it's it is the female name of my name. So I am Farid, it is Farida, it is funny. So... anything you want to ask me about this picture?

Descriptions of trees in environment

I7 1:14:50
Yeah, it's actually the date palm tree, it is, it is, this is the environment you need it for or grow up the trees of orange and this. You see in Diyala, like in Baquba the other cities, where is a popular area for the grow the orange and limes and it is always under the palm trees, yeah

Descriptions of sounds of the environment

I7 1:15:24
Wonderful is you are you are isolated from the city, is 15 minutes driving away from the city and noisy things on suddenly you are a beautiful quiet nature, atmosphere is birds singing, you call it a twitter now, and yeah and just hear the wind sometimes, the tree moving ... it's a lovely ... the music of this water running you know in these small rivers and small canals.Yeah.

Creative Pass – Colour coded narrative sequence

Wonderful, you are you are isolated from the city, is 15 minutes driving away from the city and noisy things and suddenly you are in beautiful quiet nature, atmosphere is birds singing, yeah and just hear the wind sometimes, the tree moving ... it's a lovely ... the music of this water running you know in these small rivers and small canals.Yeah.

And this picture in an area called Al-Tarmiyah, it's close, about a 15 minutes drive from where we are. It is on Diyala river and it is very famous in grow the limes, orange, is a lovely area, is a very fresh air and especially in spring and summer. And we used to go there, enjoy our time like this. So this picture from this period.

My best lovely time in my life, about to finish my education. I was a member of Communist Party. The picture is behind me is one of my comrade. We are in an organisation called the youth organisation, but it is underground, and we was under cover of the Communist Party. I was member of the youth Bureau, And we control a big area, living area. I was working in this period. And I went to the military. And then after a year I managed to escape, I make a fake passport. And he's the guy, I went to see him I say 'bye, farewell' and I show him my passport, and I told him I'm leaving, I can't stay, because it became very tight the situation. And I run, I run, imagine is a crocodile he's about to smash your head and you managed to to get your head out of his mouth, it's exactly like this. Yeah, but it was after that, this blooming situation start decline and this is about the end of it. And I believe I couldn't see this guy since that time, since 1979. I try to find out where he is, I went to Iraq after the invasion. I didn't, some they told me is he killed or died, and some they say 'no, still alive' and he died later. But I don't know. So I wish I can see him again, he's a lovely nice guy.

We was between 22 and 23 years old. Is youngs, we was full with dreams is nothing to do with a regime and change and everything. We just want getting a life like other people all around the world. We want to develop our country. We want to see the happiness. It's a small dreams, to finish education, to married, to have a children, to get a nice life, to get your cars.

our situation is like, you see these movies, the American, when is is a car is jumping from, from a motorway or or a hill or like a cliff, or they go down and explosion....We are in the air now. We don't know where we are going.

Creative Pass – Final Narrative

This is a photo that I really love. It was taken during my adolescence, before I started to mature. I tried to imitate the actresses, and I loved fashion and dressing up. I used to make sketches of the dresses these actresses would wear.

You see the jacket that I'm wearing is buttoned up. I liked this decollete style, and I draped it over my body, and I posed for photographs wearing it like this. I couldn't have been older than 15 or 16 years. This in the garden of our home. It was a beautiful garden. It was a very big garden. It was in Al-Adhamiyah in Baghdad, an area known for its beauty. I really loved it.

I used to smell the fragrant white Qadah flowers that citrus trees bloom, and the fragrance of the Qadah flower was citrusy, I could smell lemon and orange. The sounds I could hear, the beautiful chirping of the birds, the Bulbul warbling. It was marvellous.

One of the things this picture reminds me of is that every day we would have breakfast outdoors, particularly on the hottest summer days. I remember we would also have breakfast in the garden in the shaded area beneath the trees. I would lay everything out on the ground on a tablecloth. But my Dad would be the only one sitting in his chair. We'd all gather on the floor with my Mum for breakfast, and eat geymar, jam and chai, and warm Iraqi samoon.

During this period I was really happy with myself, and I remember having ideas and ambitions. I used to plan and I would buy magazines. My brother was studying medicine in Turkey and he would always send me magazines because he knew that I loved to draw fashion sketches. He'd send them all the way from Turkey. I remember feeling really satisfied and proud with myself during this time. I was at peace. My father used to really love me and he always had his own garden chair which he used to let me sit in. Next to the chair was a table where he would read and write, because he was a writer and a judge, and wrote publications. I was the only one, he would only let me make his coffee in the morning. He didn't like anyone else making his coffee. I would make it for him especially. Even when my mother offered, he'd say no, **** is making it. I'd bring out his coffee with a glass of water, put it on the table, next to the chair which I was photographed in.

I think it's fundamental to care for a child in this way because it shapes them to be special. The attention made me feel special, that's how I saw myself. I felt my Dad loved me more than the rest of my siblings.

*Tarmiyah***: Creative Pass – Final Narrative**

Wonderful, you are you are isolated from the city, is 15 minutes driving away from the city and noisy things and suddenly you are in beautiful quiet nature, atmosphere is birds singing, yeah and you just hear the wind sometimes, the tree moving ... it's a lovely ... the music of this water running you know in these small rivers and small canals.

And this picture in an area called Al-Tarmiyah, it's close, about a 15 minutes drive from where we are. It is on Diyala river and it is very famous in grow the limes, orange, is a lovely area, is a very fresh air and especially in spring and summer. And we used to go there, enjoy our time like this. So this picture from this period.

My best lovely time in my life, about to finish my education. I was a member of Communist Party. The picture, behind me is one of my comrades. We are in an organisation called the youth organisation, but it is underground, and we were under cover of the Communist Party. I was member of the youth Bureau, the called it Bureau, and we controlled a big area, a living area. I was working in this period. And I went to the military. And then after a year I managed to escape, I make a fake passport. And he's the guy, I went to see him, I say 'bye, farewell' and I show him my passport, and I told him I'm leaving, I can't stay, because it became very tight the situation. And I run, I run … imagine a crocodile he's about to smash your head and you managed to get your head out of his mouth, it's exactly like this. But it was after that, this blooming situation started to decline and this is about the end of it. And I believe I couldn't see this guy since that time, since 1979. I tried to find out where he is, I went to Iraq after the invasion. I didn't, some they told me he was killed or died, and some they say 'no, still alive' and he died later. But I don't know. So I wish I can see him again, he's a lovely nice guy.

We were between 22 and 23 years old. Young, we were full with dreams, it's nothing to do with a regime change and everything. We just want to get a life like other people all around the world. We want to develop our country. We want to see the happiness. It's small dreams, to finish education, to married, to have a children, to get a nice life, to get your cars.

Our situation is like, you see these movies, the American, when a car is jumping from a motorway or a hill or a cliff, and they go down and explosion....We are in the air now. We don't know where we are going.

Figure 99. *House of Memory* - Visual references of hosh (courtyard space)

Appendix B-22   List of Acquired 3D Assets

Acquired Assets

Asset name	Asset Image	Asset Pack / Collection	Description	Map Usage	Source link	Credit	License	Notes
ArchElements_20_Cube_096		50 Architecture Elements KitBash	50 Architecture Elements. Inspired by western Asian architecture	House of Memory VR	https://www.artstation.com/marketplace/p/r05Nz/50-architecture-elements-kitbash	Saleh Afkhami	Artstation Standard Commercial License (https://www.artstation.com/marketplace-product-eula)	Assets used in modelling modular architectural elements in Maya
ArchElements_20_Cylinder_002		50 Architecture Elements KitBash	50 Architecture Elements. Inspired by western Asian architecture	House of Memory VR	https://www.artstation.com/marketplace/p/r05Nz/50-architecture-elements-kitbash	Saleh Afkhami	Artstation Standard Commercial License (https://www.artstation.com/marketplace-product-eula)	Assets used in modelling modular architectural elements in Maya
ArchElements_28_Plane_084		50 Architecture Elements KitBash	50 Architecture Elements. Inspired by western Asian architecture	House of Memory VR	https://www.artstation.com/marketplace/p/r05Nz/50-architecture-elements-kitbash	Saleh Afkhami	Artstation Standard Commercial License (https://www.artstation.com/marketplace-product-eula)	Assets used in modelling modular architectural elements in Maya
F_Citrus_Aurantifolia			Key lime	Adhamiya	https://www.turbosquid.com/3d-models/xfrogplants-keylime-citrus-aurantifolia-3d-model-1727986	xfrog	TurboSquid 3d Model license: Standard. (https://blog.turbosquid.com/turbosquid-3d-model-license/)	Asset used within map environments
F_Citrus_Sinensis			PBR Sweet Orange	Adhamiya	https://www.turbosquid.com/3d-models/3d-2021-pbr-sweet-orange-collection-citrus-sinensis-model-1784188	xfrog	TurboSquid 3d Model license: Standard (Editorial use only) https://blog.turbosquid.com/turbosquid-3d-model-license/	Asset used within map environments
F_Date_Palm_Tree			SpeedTree Asset	Tarmiyah	https://store.speedtree.com/store/date-palm-ue4/		https://store.speedtree.com/downloads/Licensed%20Model%20Library%20Components%20EULA.pdf	Assets used as foliage within map environments
F_Grass_clumps		Quixel Megascans	PBR calibrated 3D scanned assets	Adhamiya Tarmiyah	https://quixel.com/megascans/home	Quixel / Epic Games	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
F_Orange_Tree_Bare			SpeedTree Asset	Adhamiya	https://store.speedtree.com/store/orange-tree-ue4/	SpeedTree	https://store.speedtree.com/downloads/Licensed%20Model%20Library%20Components%20EULA.pdf	Assets used as foliage within map environments
F_Orange_Tree_fruit			SpeedTree Asset	Adhamiya Tarmiyah	https://store.speedtree.com/store/orange-tree-ue4/	SpeedTree	https://store.speedtree.com/downloads/Licensed%20Model%20Library%20Components%20EULA.pdf	Assets used as foliage within map environments
F_Reed_Grass		Quixel Megascans	PBR calibrated 3D scanned assets	Tarmiyah	https://quixel.com/megascans/home	Quixel / Epic Games	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
S_Blue_Book		Quixel Megascans	PBR calibrated 3D scanned assets	Adhamiya	https://quixel.com/megascans/home	Quixel / Epic Games	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
S_Boxwood		Quixel Megascans	PBR calibrated 3D scanned assets	Adhamiya	https://quixel.com/megascans/home	Quixel / Epic Games	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments

Table 10. List of acquired assets.

Asset name	Asset Image	Asset Pack / Collection	Description	Map Usage	Source link	Credit	License	Notes
S_Bread_Roll		Quixel Megascans	PBR calibrated 3D scanned assets	Adhamiya	https://quixel.com/megascans/home	Quixel / Epic Games	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
S_Cucumber		Quixel Megascans	PBR calibrated 3D scanned assets	Adhamiya	https://quixel.com/megascans/home	Quixel / Epic Games	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
S_Old_Blue_Book		Quixel Megascans	PBR calibrated 3D scanned assets	Adhamiya	https://quixel.com/megascans/home	Quixel / Epic Games	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
S_Old_Wooden_Window		Quixel Megascans	PBR calibrated 3D scanned assets	Adhamiya	https://quixel.com/megascans/home	Quixel / Epic Games	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
S_Pomegranate		Quixel Megascans	PBR calibrated 3D scanned assets	Adhamiya	https://quixel.com/megascans/home	Quixel / Epic Games	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
S_Red_Book		Quixel Megascans	PBR calibrated 3D scanned assets	Adhamiya	https://quixel.com/megascans/home	Quixel / Epic Games	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
S_Watermelon		Quixel Megascans	PBR calibrated 3D scanned assets	Adhamiya	https://quixel.com/megascans/home	Quixel / Epic Games	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
S_Wooden_Bowls_Pack		Quixel Megascans	PBR calibrated 3D scanned assets	Adhamiya	https://quixel.com/megascans/home	Quixel / Epic Games	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
S_wooden_plate		Quixel Megascans	PBR calibrated 3D scanned assets	Adhamiya	https://quixel.com/megascans/home	Quixel / Epic Games	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
SM_Basket		Modular Military Operation Urban Training	This collection of high-quality assets empowers users to create realistic virtual Military Operations Urban Training (MOUT) scenarios with ease	Adhamiya	https://www.unrealengine.com/marketplace/en-US/product/modular-military-operation-urban-training-environment-arabian-pack	CGHero	https://www.unrealengine.com/en-US/eula/content	
SM_Basket_Walnut		Modular Military Operation Urban Training	This collection of high-quality assets empowers users to create realistic virtual Military Operations Urban Training (MOUT) scenarios with ease	Adhamiya	https://www.unrealengine.com/marketplace/en-US/product/modular-military-operation-urban-training-environment-arabian-pack	CGHero	https://www.unrealengine.com/en-US/eula/content	
SM_Bench_Wooden		Modular Military Operation Urban Training	This collection of high-quality assets empowers users to create realistic virtual Military Operations Urban Training (MOUT) scenarios with ease	House of Memory VR	https://www.unrealengine.com/marketplace/en-US/product/modular-military-operation-urban-training-environment-arabian-pack	CGHero	https://www.unrealengine.com/en-US/eula/content	

Table 11. List of acquired assets - cont.
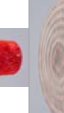
Asset name	Asset Image	Asset Pack / Collection	Description	Map Usage	Source link	Credit	License	Notes
SM_CeramicPot_01		Modular Military Operation Urban Training	This collection of high-quality assets empowers users to create realistic virtual Military Operations Urban Training (MOUT) scenarios with ease	House of Memory VR	https://www.unrealengine.com/marketplace/en-US/product/modular-military-operation-urban-training-environment-arabian-pack	CGHero	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
SM_CeramicPot_04		Modular Military Operation Urban Training	This collection of high-quality assets empowers users to create realistic virtual Military Operations Urban Training (MOUT) scenarios with ease	House of Memory VR	https://www.unrealengine.com/marketplace/en-US/product/modular-military-operation-urban-training-environment-arabian-pack	CGHero	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
SM_Coffee_cup			Finjan coffee pot set	Adhamiya	https://www.turbosquid.com/3d-models/arabic-coffee-pot-finjan-obj/877487	Tophateffects	TurboSquid 3d Model license: Standard. (https://blog.turbosquid.com/turbosquid-3d-model-license/)	Coffee cup and tray used within map environments
SM_Dallah		Arabic Coffee Pack	Dallah pot	Adhamiya	https://sketchfab.com/3d-models/arabic-coffee-pack-game-ready-assets-0eecf555488e4adfb57cbb0afe7836d6	Omar Alqarni	CC Attribution (https://creativecommons.org/licenses/by/4.0/)	Dallah and dates used within map environment
SM_Dates		Arabic Coffee Pack	Date	Adhamiya	https://sketchfab.com/3d-models/arabic-coffee-pack-game-ready-assets-0eecf555488e4adfb57cbb0afe7836d6	Omar Alqarni	CC Attribution (https://creativecommons.org/licenses/by/4.0/)	Assets used within map environments
SM_Decorative_Pots_Plates_Object 004		Modular Military Operation Urban Training	This collection of high-quality assets empowers users to create realistic virtual Military Operations Urban Training (MOUT) scenarios with ease	House of Memory VR	https://www.unrealengine.com/marketplace/en-US/product/modular-military-operation-urban-training-environment-arabian-pack	CGHero	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
SM_Desert_Shrub_04		Modular Military Operation Urban Training	This collection of high-quality assets empowers users to create realistic virtual Military Operations Urban Training (MOUT) scenarios with ease	Tarmiyah	https://www.unrealengine.com/marketplace/en-US/product/modular-military-operation-urban-training-environment-arabian-pack	CGHero	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
SM_Glass			Low poly glass	Adhamiya	https://sketchfab.com/3d-models/glass-27c73eabfff14bdb912f4673741 19dc8	RED2000	CC Attribution (https://creativecommons.org/licenses/by/4.0/)	Asset used within map environments
SM_Hanging_Lantern		Modular Military Operation Urban Training	This collection of high-quality assets empowers users to create realistic virtual Military Operations Urban Training (MOUT) scenarios with ease	House of Memory VR	https://www.unrealengine.com/marketplace/en-US/product/modular-military-operation-urban-training-environment-arabian-pack	CGHero	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
SM_JamJar			Low poly jam preserve jar	Adhamiya	https://sketchfab.com/3d-models/preservatives-jam-jar-dc8ea33732f41708856c6162b5c2ffdf	m31odyr	CC Attribution (https://creativecommons.org/licenses/by/4.0/)	Asset used within map environments
SM_Mat		Arabic Coffee Pack	Circular mat	Adhamiya	https://sketchfab.com/3d-models/arabic-coffee-pack-game-ready-assets-0eecf555488e4adfb57cbb0afe7836d6	Omar Alqarni	CC Attribution (https://creativecommons.org/licenses/by/4.0/)	Assets used within map environments
SM_Moskvitch			AZLK Moskvitch-412lE 1972, USSR export version.	Tarmiyah	https://www.turbosquid.com/3d-models/3d-azlk-moskvitch-412ie-1972-model-1574990	Nailgun3d	TurboSquid 3d Model license: Standard (Editorial use only) https://blog.turbosquid.com/turbosquid-3d-model-license/	Asset used within map environments
SM_Plate_02B		Log Cabin	A small but atmospheric winter environment piece, featuring a cozy log cabin with its interior, fully furnished.	Adhamiya	https://www.unrealengine.com/marketplace/en-US/product/log-cabin	Gabro Media	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments

Table 12. List of acquired assets - cont.

Asset name	Asset Image	Asset Pack / Collection	Description	Map Usage	Source link	Credit	License	Notes
SM_Plate_03C		Log Cabin	A small but atmospheric winter environment piece, featuring a cozy log cabin with its interior, fully furnished.	Adhamiya	https://www.unrealengine.com/marketplace/en-US/product/log-cabin	Gabro Media	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
SM_Shrub_A		Modular Military Operation Urban Training	This collection of high-quality assets empowers users to create realistic virtual Military Operations Urban Training (MOUT) scenarios with ease	Tarmiyah	https://www.unrealengine.com/marketplace/en-US/product/modular-military-operation-urban-training-environment-arabian-pack	CGHero	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
SM_Tablecloth_02		Log Cabin	A small but atmospheric winter environment piece, featuring a cozy log cabin with its interior, fully furnished.	Adhamiya	https://www.unrealengine.com/marketplace/en-US/product/log-cabin	Gabro Media	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
SM_Tea_Cup			This is a model of a Turkish tea cup with 2 different 4K textures on gold white and one blue white. This model has 2 different parts : the cup, the saucer.	Adhamiya	https://www.turbosquid.com/3d-models/turkish-tea-cup-model-1484314	sepandj	TurboSquid 3d Model license: Standard. (https://blog.turbosquid.com/turbosquid-3d-model-license/)	Asset used within map environments
SM_Tomatoe			Low poly tomato	Adhamiya	https://sketchfab.com/3d-models/tomato-a201548833ce422aa70d468516403e2d	Businessuse	CC Attribution (https://creativecommons.org/licenses/by/4.0/)	Assets used within map environments
SM_Tray			Finjan coffee pot set	Adhamiya	https://www.turbosquid.com/3d-models/arabic-coffee-pot-finjan-obj/877487	Tophateffects	TurboSquid 3d Model license: Standard. (https://blog.turbosquid.com/turbosquid-3d-model-license/)	Coffee cup and tray used within map environments
SM_VillageKit_2x1		Modular Military Operation Urban Training	This collection of high-quality assets empowers users to create realistic virtual Military Operations Urban Training (MOUT) scenarios with ease	Adhamiya	https://www.unrealengine.com/marketplace/en-US/product/modular-military-operation-urban-training-environment-arabian-pack	CGHero	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
SM_VillageKit_2x2		Modular Military Operation Urban Training	This collection of high-quality assets empowers users to create realistic virtual Military Operations Urban Training (MOUT) scenarios with ease	Adhamiya	https://www.unrealengine.com/marketplace/en-US/product/modular-military-operation-urban-training-environment-arabian-pack	CGHero	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
SM_VillageKit_Window_02a_2x2		Modular Military Operation Urban Training	This collection of high-quality assets empowers users to create realistic virtual Military Operations Urban Training (MOUT) scenarios with ease	Adhamiya	https://www.unrealengine.com/marketplace/en-US/product/modular-military-operation-urban-training-environment-arabian-pack	CGHero	https://www.unrealengine.com/en-US/eula/content	Asset used within map environments
SM_Wooden_Chair			Old wooden chair Art Nouveau Chair, 1900s	Adhamiya	https://sketchfab.com/3d-models/chair-old-wooden-f50ea79ea2584a36becb2df47c8248a6	Domingos Studios	Sketchfab Standard license (https://sketchfab.com/licenses)	Asset used within map environments
T_Dirt_Road		Quixel Megascans	PBR calibrated 3D scanned assets	Adhamiya	https://quixel.com/megascans/home	Quixel / Epic Games	https://www.unrealengine.com/en-US/eula/content	Asset used to texture landscapes
T_Grass_Dried		Quixel Megascans	PBR calibrated 3D scanned assets	Adhamiya	https://quixel.com/megascans/home	Quixel / Epic Games	https://www.unrealengine.com/en-US/eula/content	Asset used to texture landscapes

Table 13. List of acquired assets - cont.

Asset name	Asset Image	Asset Pack / Collection	Description	Map Usage	Source link	Credit	License	Notes
T_Old_Brick_Wall		Quixel Megascans	PBR calibrated 3D scanned assets	Adhamiya	https://quixel.com/megascans/home	Quixel / Epic Games	https://www.unrealengine.com/en-US/eula/content	Asset used to texture 3D assets
T_Patterned_Floor_Tiles		Quixel Megascans	PBR calibrated 3D scanned assets	Adhamiya	https://quixel.com/megascans/home	Quixel / Epic Games	https://www.unrealengine.com/en-US/eula/content	Asset used to texture 3D assets
T_Patterned_Marble_Tiles		Quixel Megascans	PBR calibrated 3D scanned assets	Adhamiya	https://quixel.com/megascans/home	Quixel / Epic Games	https://www.unrealengine.com/en-US/eula/content	Asset used to texture 3D assets
T_Rough_Concrete_Floor		Quixel Megascans	PBR calibrated 3D scanned assets	Adhamiya	https://quixel.com/megascans/home	Quixel / Epic Games	https://www.unrealengine.com/en-US/eula/content	Asset used to texture 3D assets
T_Soil_Sandy		Quixel Megascans	PBR calibrated 3D scanned assets	Adhamiya	https://quixel.com/megascans/home	Quixel / Epic Games	https://www.unrealengine.com/en-US/eula/content	Asset used to texture landscapes
T_Wooden_Planks		Quixel Megascans	PBR calibrated 3D scanned assets	Adhamiya	https://quixel.com/megascans/home	Quixel / Epic Games	https://www.unrealengine.com/en-US/eula/content	Asset used to texture 3D assets

Table 14. List of acquired assets - cont.

Appendix B-23   **List of Acquired Audio Assets**

Asset name	Description	Map Usage	Source link	Credit	License
Ambience	Large empty studio	House of Memory	https://freesound.org/people/Sheyvan/sounds/540222/	Sheyvan	Creative Commons 0 License - https://creativecommons.org/publicdomain/zero/1.0/
Bulbul	Song from a white-eared Bulbul	Adhamiyah, Tarmiyah	https://xeno-canto.org/405187	Patrik Åberg	Creative Commons Attribution-NonCommercial-ShareAlike 4.0 - https://creativecommons.org/licenses/by-nc-sa/4.0/
Gentle Wind	Very gentle countryside wind	Adhamiyah, Tarmiyah	https://freesound.org/people/fthgurdy/sounds/528944/	fthgurdy	Creative Commons 0 License - https://creativecommons.org/publicdomain/zero/1.0/
Water	Soft stream flowing water	Tarmiyah	https://freesound.org/people/jackthemurray/sounds/433589/	jackthemurray	Creative Commons 0 License - https://creativecommons.org/publicdomain/zero/1.0/

Table 15. List of acquired audio assets

House of Memory VR - Blueprint design brief

Project: House of Memory VR (Beta)
Platform: Quest 2

Project File name: House_of_Memory_VR2

Name

- Binaries
- Build
- Config
- Content
- DerivedDataCache
- Intermediate
- Saved
- House_of_Memory_VR2.uproject
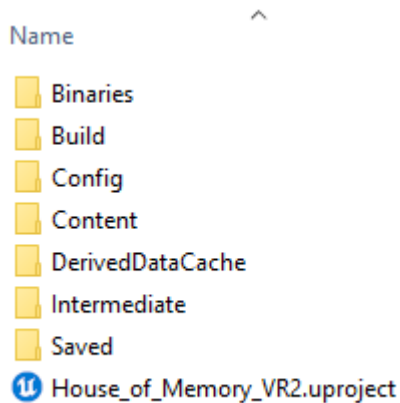
Overview
The experience is designed around 3 levels: one main map, and 2 side maps.

After the splash screens, the user should be able to navigate the space using teleportation and interact with the two photographs.

Interaction with the photograph will open up the assigned level where an audio recording will play.

When the recording ends, the user will be prompted to return to the main level.

After the user has experienced both recordings, a prompt to "Exit" should appear in the main level.

Task: Create Blueprints for the VR functionality and sequence of events in each map, as outlined below.

<u>Sequence of Experience</u>

Press Simulate

Fade out/In

Splash Screen 1: Health and Safety Warning
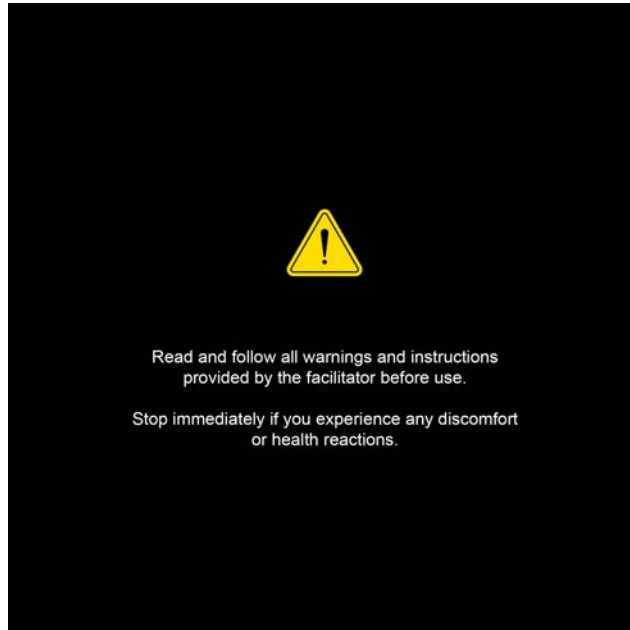
Fade out/In

Splash Screen 2: School of Simulation and Visualisation Logo

Fade out/In

Title Card: House of Memory VR (Beta)
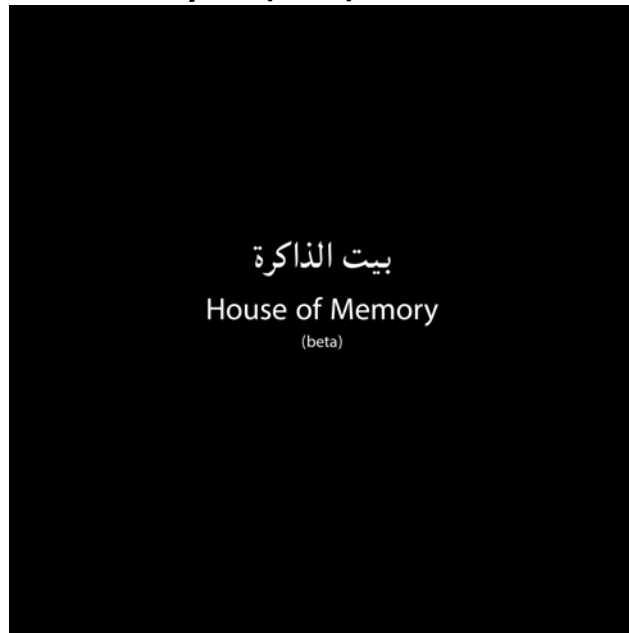
- **Add Interaction: "Press any key to begin"**

Main Level: House_of_Memory_VR

The experience begins in the "House_of_Memory_VR" Map.

I have put a PlayerStart indicating the start location.

This is the view:
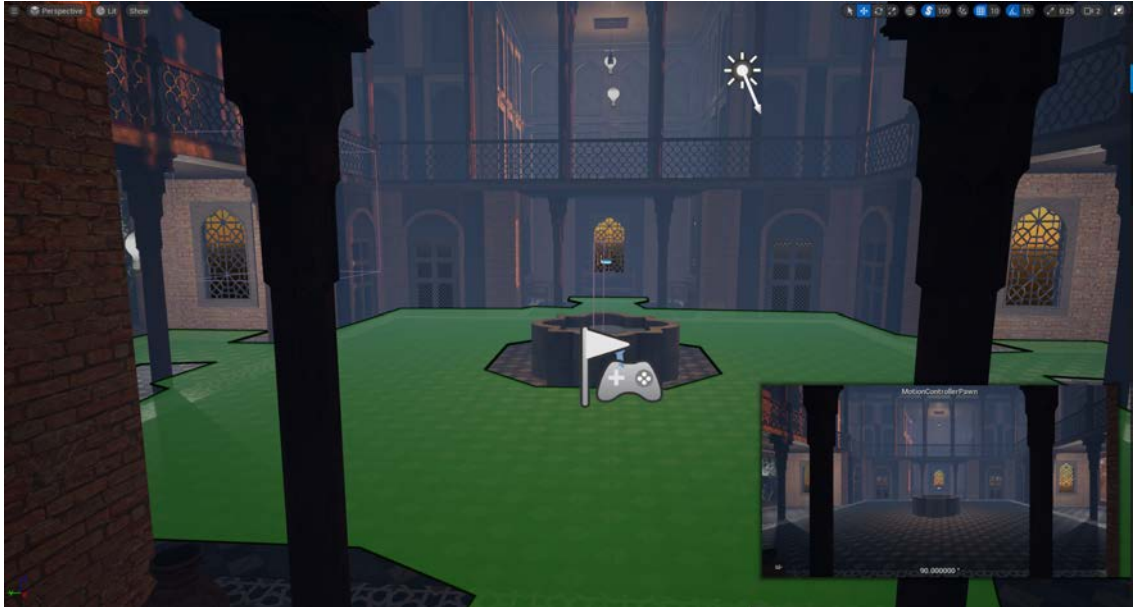
Navigation

There is a NavMeshBoundsVolume setup already.

- I want the user to be able to teleport around the space.
- A basic Line Trace teleport mechanic will be ok for this.

- Can we bind some text to the controller with a simple instruction, e.g. "Press the trigger to move" at the beginning?

Interaction

- I want the user to be able to interact with the two photographs in the space.
- When they are close to one of the photographs, can the photograph be highlighted with a LineTrace from the controller and some text: "Press to enter"

Side Level 1: Adhamiyah

When the user interacts/clicks with the photo (see below), the "Adhamiyah" map opens.
Transition: long fade out and fade in.

When the Adamiya map opens, I want the scene to fade in slowly (10seconds) to show only these assets at first:
- Landscape
- Adhamiyah_Photo

Begin playing the "Adhamiyah_Interview" audio asset after 10seconds

From 00:00 - 01:06 of the interview, only show the following assets:
- Landscape
- Adhamiyah_Photo

At 01:07, fade in:
- Walls (folder, all assets)
- Foliage (folder, all assets)

At 02:07, start playing these audio assets:
- BulBul
- BulBul2

At 02:14, fade in:
- Breakfast_props(folder, all assets)

At 03:01, fade in:
- Table+Chair+Books (folder, all assets)

I would like this asset to be interactive. When clicked, it will bring user back to the main map: House_of_Memory_VR

Side Level 2: Tarmiyah

When the user interacts/clicks with the photo (see below), the "Tarmiyah" map opens.
Transition: long fade out and fade in.

When the "Tarmiyah" map opens, I want the scene to fade in slowly (10seconds) to show and hear only these assets at first:
- Landscape1
- Canal
- Audio: Palm-trees-in-the-wind
- Audio: Water
- Audio: Water2
- Audio: Bulbul

Begin playing the "Tarmiyah_Interview" audio asset after 10seconds

From 00:00 - 0:34 of the interview, only show the following assets:
- Landscape1
- Canal

At 1:03, fade in:
- Tarmiyah_Photo
- Moskvitch_04

At 2:30, fade out:
- Lighting (folder, all assets) - if possible? See desired effect below

At 3:00, fade out:
- All Foliage (if possible?)

At 3:28, fade out:
- Landscape1
- Tarmiyah_Photo
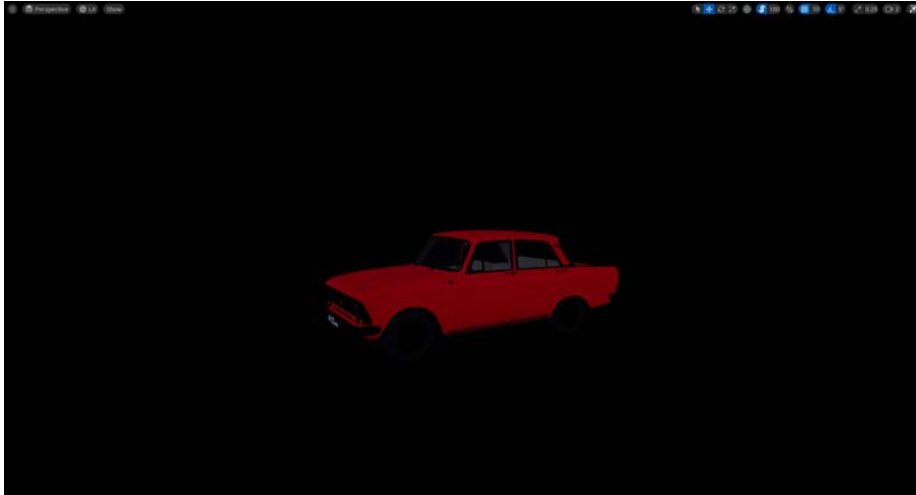
When the interview audio ends at 03:44, fade out:
- Moskvitch_04

Fade in:
- Fountain_portal (folder, all assets)

I would like this asset to be interactive. When clicked, it will bring user back to the main map: House_of_Memory_VR

End Experience

After users have experienced both side maps, the word "Exit" appears over the fountain.
When clicked, this will exit the game.

APPENDIX C

Appendix C-1   Evaluation – approved ethical assessment form

Please complete all sections unless advised otherwise by Research and Enterprise. Questions highlighted in **bold** and *italicised* are particularly important and answers must be detailed or there will be a delay in obtaining ethical approval.

Upon completion, please email to research@gsa.ac.uk. Your application will then be sent for review by members of the GSA Research Ethics Sub Committee.

1. APPLICANT DETAILS

Name of researcher (Applicant):	Basil Al-Rawi
School:	Simulation & Visualisation
Project Title:	Recomposing the archive: remediating memories of Iraqi diaspora using archive photography, oral history and Virtual Reality.
Funder:	GSA
Date work is scheduled to begin:[12]	1st August 2022

2. RECRUITMENT
a)

Number of participants required:	Minimum of 20
Will recruitment be direct (led by the researcher) or indirect (led by an organisation / third party)?	DIRECT

b) If your study involves INDIRECT recruitment, please detail the recruitment plan covering: i) organisation / institution / individual in charge of identifying possible participants; ii) how they will recruit individuals (letters, phone calls etc); iii) any individual who has direct contact with participants; iv) any ethical protocols the third party has in place; v) level of permission that third party has to disseminate information on behalf of the participants (append any documents if necessary)

c) If your study involves DIRECT recruitment (i.e led by the applicant / research team):

---

[12] We will endeavor to return a speedy response to applicants but you are advised to send us your application as soon as possible to ensure your research timetable is not compromised

Who is in charge of recruitment:

Recruitment will be led by me, Basil Al-Rawi, the applicant and researcher.

What is the method of identifying participants:

Participants will be identified in the following ways:

  a) If they submitted a photograph to the archive and consented to further contact about the research project;
  b) If they took part in oral history interviews and consented to further contact about the project;
  c) If they expressed an interest in taking part by attending the exhibition space where the task will take place.

How will participants be invited to take part: (e.g. letters, phonecalls, door to door):

Participants who interacted previously with the research project will be invited through email. Members of the wider public will be recruited through announcements on the Iraq Photo Archive Instagram page (2500+ followers), GSA student announcements, Iraqi diaspora organisations and other Arab organisations (such as Iraqi Association, British Institute for the Study of Iraq, Arab British Centre, ShakoMako.net), local community members, family, and friends.
Expressions of interest in taking part will be invited via email. This way, the participant information sheet can be shared in advance of their participation and the consent form can be signed digitally, assisting with recording and documentation of consent.

d) Regardless of method of recruitment, what is your exclusion / inclusion criteria for this study:

The study is interested in getting feedback from the following participants:
  a) Those who submitted images to the archive
  b) Those who submitted images and took part in oral history interviews
  c) Iraqi diaspora in general
  d) Members of the public

People under the age of 18 will not be included in this study.

In all cases, append a copy of i) information sheet for participants; ii) consent form; iii) copies of any other documents distributed to participants

3. CONSENT

a) Give a detailed account of the steps taken by the researcher to obtain informed consent from the participants (regardless of method of recruitment):

Participants who express an interest in taking part in the study by emailing the researcher will receive a link to view the participant information sheet on the Iraq Photo Archive website. They will also receive a link to the consent form, also on the Iraq Photo Archive website. This allows participants to complete informed consent in advance of the task and assists with recording and documentation of consent.

Participant information sheets and consent forms will also be available in hard copy at the workspace for reference.

b) How will researchers ensure the participant has capacity to consent:

Participants must read and complete a detailed consent form in advance of the study. The targeted participants are likely to have fluent English-language skills.
If the consent form is not completed or understood, participants will not be able to take part in the study.

c) If your work requires participants belonging to vulnerable groups (children under 16, adults unable to give consent, prisoners, individuals in dual relationships), what additional steps will be taken to gain consent:

d) If your work requires the consent of a gatekeeper, please detail the steps you will take to ensure participants are not coerced by their gatekeeper. State also whether you plan to obtain additional signatures from participants and if not, why

e)

How much time will be given for the participant to decide whether or not to take part:	Participants who took part in previous stages of the process will have at least one month notice during which to decide whether or not to take part. Other members of the public will also have at least one month notice, although this depends on when they see an announcement about the study, which could be anytime up to its commencement.
By what method will you seek to obtain consent (written, oral, video etc) and why: NB: please be aware of any Data Protection issues here	Consent will be obtained via an online written form created with Jotform, which participants must read and sign before they can take part. Privacy settings for this form have been adjusted so that form data will be stored on EU Servers in Germany and Jotform is compliant with GDPR.
Will copies of consent be given to participants:	Yes, if requested.
For how long will the copies of consent be retained by the researcher and where will the consent form be stored:	Copies of the consent form will be stored in the researchers Jotform account and retained for the duration of the research project.

4. LOCATION
a) If the research activities take place in a third party location (i.e. not on GSA premises), please explain the choice with reference to the study. Append confirmation of permission to use location given by the owner and confirm that all researchers have been made aware of any local rules and regulations (append if necessary).

The majority of this study will take place at the Incubation Space at the LAB Gallery in Dublin, Ireland. This is due to the researcher being currently resident in Ireland, as well as having been awarded a month-long residency at this space from the Museum of Everyone. The one-month duration of this residency will facilitate the researcher to record the feedback from a sufficient number of participants for the study. The study will also be carried out over 1 day in London at the Arab British Centre to facilitate participation by previous contributors who are based in London, as well as to record feedback from other participants, especially members of the large Iraqi diaspora community in London. The study will also be carried out over 1 day in Glasgow, at GSA, to facilitate participation by previous contributors and any other interested parties.

One activity will take place entirely remotely, that is the online survey to evaluate the Iraq Photo Archive platform.

b) If the research activities take place in the participants' home, please CLEARLY explain the choice with reference to the study and why no other location is possible. Detail all

measures taken to minimise the risk to both participants and researchers entering the home.

5. INCENTIVES

a) Reasonable reimbursements for time and travel compensation are acceptable as incentives to participate in a research study. An acceptable level of reimbursement would be no more than £50 (approximately).

Do you plan any of the following:

Travel reimbursement only	~~YES~~ / NO
Small incentive only (e.g. gift voucher)	~~YES~~ / NO
Travel and small incentive	~~YES~~ / NO

b) If the incentive exceeds £50, please state the reasons why (note a large financial incentive, whilst appearing generous, could be deemed unethical on the grounds of coercion. See also, the Bribery Act 2010):

6. METHODOLOGY AND ACTIVITIES

a) Please state the methodology employed within the study and give references (literature or any previous work by the researcher) to support their use:

The design of this research methodology is motivated and informed by my visual arts practice and my frame of reference as an Irish-Iraqi. It uses a qualitative participatory process with a group of contributors from the Iraqi diaspora community, inviting people to voluntarily submit their personal photographs to an online collection, and to take part in oral history interviews to discuss their memories of the photographic moment. The memory materials generated through this process are presented in an online platform, and creative praxis involves the remediation of this memory material within immersive VR experiences.

This approach attempts to facilitate a space where representation can occur, that is led by the experiences of those underrepresented. The VR simulations aim to transcend physical representations of objects, foregrounding personal memory and narrative to extend the memory sites into immersive temporal environments where the personal narratives and can resonate within a digital materiality.

Employing an arts-based methodology is appropriate in this research context, not only due to the embodied knowledge present through my own practice and methods, but because of the capacity for art as an inquiry to be 'emotionally and/or politically evocative for diverse audiences (Chilton & Leavy, 2014, p403); to provoke us into seeing and thinking differently, (Leavy, 2017, p.207-208); to assist in illuminating untold stories (Cole & Knowles, 2001, p. 211), and as Bochner and Ellis contend, art-based research practice produces unique forms of knowledge by providing an opportunity to:
'examine ourselves, investigate and express the worlds of others, transgress stifling conventions and boundaries, resist oppressions, grieve and heal, produce intersubjectiveknowledge, review the hidden meaning of memory work, and come to terms with multiple and contradictory identities' (Bochner & Ellis, 2003, p. 510)

As this motivation for this inquiry is inherently personal and subjective, this visual-arts-based research project forefronts the creation of tacit or situated knowledge and commits to creating impact on a personal, emotional, and cultural level through a relational, reflexive, collaborative, and interdisciplinary process. Barrett argues that the generation of personally situated knowledge is where the innovative and critical potential of practice-based research lies and that 'the generative capacity of

creative arts research is derived from the alternative approaches it employs—those *subjective*, *emergent* and *interdisciplinary* approaches' (Barrett, 2010, p.2-3). Bochner and Riggs describe situated knowledge as operating in 'relation to established knowledge and thus has the capacity to extend or alter what is known' (2014, p.206). The production of this kind of knowledge is a core aim of this research methodology, by creating space for representations of Iraqi diaspora narratives hitherto unknown.

The design of this research methodology is informed by a holistic approach, one that is process-oriented and embraces transdisciplinary methods by using a custom-built web platform for community engagement, social media platform for dissemination, video conferencing application and microphones for recording interviews, video editing software to edit films, AI transcription, translation and transcription from community member, 3D modelling and game engine. This approach could be viewed as a form of bricolage, which Stewart defines as a hybrid praxis where:

'the bricoleur appropriates aspects of research methodologies which best suit the task at hand, travelling between various research disciplines in an attempt to build the most appropriate bridge between aesthetics and experience through processes of production, documentation and interpretation. The bricoleur is seeking to explore, reveal, inform and perhaps inspire by illuminating aspects of insider praxis within their field.' (Stewart, 2010, p128)

The use of dialogic and participatory methods such as crowd-sourcing photographs and oral history interviews, together with the privileging of the values and knowledge of the researcher and participants and their potential to affect change, locates the methodology within a critical paradigm (Spencer, Pryce, & Walsh, 2014, p90-91). In this theoretical model, 'the relationship between researcher and participant is transactional, subjective, and dialectic' and a goal of critical research is to 'empower participants to transform the status quo' (ibid. p.91). Bhaynani, Chua and Collins argue that 'the critical research approach is generative of narratives and knowledges' and that this knowledge is created, not merely captured (2014, p.172). They contend that critical qualitative research 'insists on the interplay of reflexivity, process, and practice' and suggest that 'critical research can agitate against the homogeneity of ethnographic representation, allowing for the realities of people's lives to come into view' (ibid. p.176). Conducting research as an embodied subject and embracing research that offers situated knowledge to counter dominant interests and advance well-being, are key components of a critical research practice (ibid. p.176-177).
Embodied knowledge is embraced in this methodology through participatory methods such as crowd-sourced vernacular photographs, oral history interviews, and exhibition presentation. The use of transdisciplinarity, employing methods and techniques from multiple disciplines, to holistically address a real-world issue is, according to Leavy, a social justice-oriented approach to research (Boyd, 2014, p.504). This critical arts-based participatory approach aims to address lack of representation and explore the impact of the empowerment of participants to present and share personal narratives in a creative process, and as such, this process promotes social justice goals.

Oral history is a participatory method which harnesses the power of storytelling to forefront the subjective knowledge and experiences of participants. Janesick contends that a post-modern approach to oral history which highlights stories from persons on the outside or periphery of society allows us to view oral history practice as a social justice project (2007, p.300). She characterises postmodern oral history as: an interpretive approach that may include the participant in the project; technology being used enhance the power of the story being told; transparent and diligent approach to ethical issues throughout the project; an approach which proudly validates and celebrates the subjectivity of participants in order to promote new understanding of an individuals lived experience; the inclusion of narratives from marginalised or disenfranchised members of society, thereby allowing oral history to be viewed as a social justice project (ibid, p.304-305).

Oral history is being used here in combination with a photovoice method, whereby the interview is structured around a participants response to a photograph they submitted to the archive. This approach is designed to focus the discussion to the photographic moment depicted in order to forefront narratives of the everyday by recording memories associated to this one temporal event (small stories), rather than grander or broader narratives. The photograph functions here as an anchor point in the interview, which uses semi-structured interview questions to prompt discussion and guide the conversation back to the narratives related to the image where necessary. This approach is informed by the creative remediation of the photograph and audio from the interviews into a Virtual Reality experience. Focusing the discussion on the photograph allows for the creation of visual elements within the virtual environment, either abstract or denotational, which can be coherent, concise, and relational.

The approach of analysing the interviews and remediating elements of narrative into a presentation in Virtual Reality, adopts an element of the neonarrative process, 'a qualitative method that offers an interpretive reconstruction of an aspect of a person's life' (Stewart, 2010, p130). Neonarrative method gives voice to experience derived from direct experience, and Stewart outlines five phases involved in the process: 'identification of the research method, the establishment of the collaborative process, the collection, transcription and review of data, analysis of the data and synthesis into neonarratives' (ibid. p.131). This research process aligns with this structure however regarding the final phase, whereby neonarrative can involve the creation of new narratives based upon recorded material, the process used in this research does not seek to interpret or rewrite the authentic voice of participants narratives. Rather it seeks to construct an immersive visually engaging environment in which to present the narratives, in order to attempt to harness the aesthetic power of the reconstruction of the photograph as an immersive virtual environment combined with the audio narrations from the participants.

The intention is rather than the recorded interviews and stories be treated as data for analysis, the standpoint of the storyteller is instead privileged through an experiential encounter with the story, whereby the audience can interact with the stories in a relational way, and think with the participants stories in order to understand them (Bochner & Riggs, 2014, p.205). The presentation of these stories also offers the potential for the creation of counterstories, a concept Nelson describes as a means or resistance for individuals to neutralise oppressive master narratives which construct image and identities based on race (ibid. p.215)
In an interpretive practice such as this which involves working creatively with authentic narratives and images from community participants, ethical questions must be considered at all stages of the process, from material gathering all the way through creating works for presentation and evaluation. Informed consent is sought from participants at every stage of the process, together with clear information regarding the use and ownership of material. Crucially, all material remains in the ownership of participants, who retain the right of removal of their images at any point during the research process. One must also guard against any 'othering' of participants in the creation of works during this kind of process; a central mitigation for this is my personal frame of reference as being a member of the Iraqi diaspora community. Furthermore, active dialogue between researcher and participants is key from the start to the end of process, ensuring their input into the research process and giving opportunity for feedback and learning.

The credibility and impact of this kind of arts-based approach can be dependent on the aesthetic power of the work produced and its capacity to create 'evocative, provocative, illuminating and sensory representations of findings' (Leavy, 2011, p. 121) which connects or stimulates its audience (Barone & Eisner, 2012). The arts-based approach taken in this research champions public engagement with the outcomes and presents opportunities to measure the impact of the resulting representations with central participants and audiences.

- Barone, T. and Eisner, E., 2012. Arts Based Research. Thousand Oaks, CA: SAGE Publications.

- Barrett, E., 2010. Introduction. In: E. Barrett and B. Bolt, ed., Practice as Research: Approaches to Creative Arts Enquiry. New York: Macmillan, pp.2-3.

- Bhavnani, K., Chua, P. and Collins, D., 2014. Critical Approaches to Qualitative Research. In: P. Leavy, ed., The Oxford Handbook of Qualitative Research. New York: Oxford University Press, pp.172-177.

- Bochner, A. P. and Ellis, C., 2003. An Introduction to the Arts and Narrative Research: Art as Inquiry, Qualitative Inquiry, Vol. 9,4, pp. 510. doi: 10.1177/1077800403254394.

- Bochner, A. and Riggs, N., 2014. Practicing Narrative Inquiry. In: P. Leavy, ed., The Oxford Handbook of Qualitative Research. New York: Oxford University Press, pp.205-215.

- Boyd, M., 2014. Community-Based Research: Understanding the Principles, Practices, Challenges, and Rationale. In: P. Leavy, ed., The Oxford Handbook of Qualitative Research. New York: Oxford University Press, p.504.

- Chilton, G. and Leavy, P., 2014. Arts-Based Research Practice: Merging Social Research and the Creative Arts. In: P. Leavy, ed., The Oxford Handbook of Qualitative Research. Oxford: Oxford University Press, pp.403-416.

- Cole, A. L. and Knowles, J. G., 2001. Qualities of Inquiry: Process, Form, and "Goodness." In L. Nielsen, A. L. Cole, and J. G. Knowles, (Eds.), The Art of Writing Inquiry. Halifax: Backalong Books, p.211

- Janesick, V., 2007. Oral History as a Social Justice Project: Issues for the Qualitative Researcher. The Qualitative Report. Vol. 12, 1.https://doi.org/10.46743/2160-3715/2007.1648

- Janesick, V., 2014. Oral History Interviewing: Issues and Possibilities. In: P. Leavy, ed., The Oxford Handbook of Qualitative Research. New York: Oxford University Press, pp.304-305.

- Leavy, P., 2009. Method meets art: Arts-based research practice. New York: The Guilford Press.

- Leavy, P., 2011. Essentials of Transdisciplinary Research. Walnut Creek, CA: Left Coast Press,

- Leavy, P., 2017. Research design: Quantitative, Qualitative, Mixed Methods, Arts-Based, and Community-Based Participatory Research Approaches. New York: Guilford Press, pp.207-208.

- Spencer, R., Pryce, J. and Walsh, J., 2014. Philosophical Approaches to Qualitative Research. In: P. Leavy, ed., The Oxford Handbook of Qualitative Research. New York: Oxford University Press, pp.90-91.

- Stewart, R., 2010. Creating New Stories for Praxis: Navigations, Narrations, Neonarratives. In: E. Barrett and B. Bolt, ed., *Practice as Research: Approaches to Creative Arts Enquiry*. New York: Palgrave Macmillan, p.128-131.

- Tracy, S. J., 2010. *Qualitative Quality: Eight "Big-Tent" Criteria for Excellent Qualitative Research*, Qualitative Inquiry, 16(10), pp. 837–851. doi: 10.1177/1077800410383121.

b) For each activity employed please detail: i) its purpose; ii) direct correlation to the research outcomes; iii) how any analysis will be performed. **Copies of all material given to participants must be appended to this form wherever possible.**

ACTIVITY 1: (e.g. questionnaire, focus group, interview etc),

Evaluating the online platform: www.iraqphotoarchive.com

i) Purpose
To evaluate the impact of the platform with contributors and audiences

ii) Direct correlation to research outcomes
The research is concerned with understanding the impact of presenting a crowd-sourced collection of vernacular photographs from Iraqi diaspora has on representations and perceptions of Iraqi narratives within and outside of the community

iii) How analysis will be performed
Feedback will be gathered through an online questionnaire, the results from which will be analysed using MAXQDA qualitative data analysis software and a narrative reflection on findings will be written as part of the discussion chapter in my thesis.

ACTIVITY 2: (e.g. questionnaire, focus group, interview etc),

Evaluating the VR Experience

i)   Purpose
To evaluate the impact of the VR Experience with contributors and audiences

ii) Direct correlation to research outcomes
The purpose of this research is to explore the remediation of this memory material (historical photographs and stories) within immersive Virtual Reality experiences, to understand the impact this kind of presentation has on representation and perception of Iraqi narratives, both within and outside of the Iraqi diaspora community.

iii) How analysis will be performed
Feedback will be gathered through questionnaires before and after the experience, the results from which will be analysed using MAXQDA qualitative data analysis software as well as the ITC-SOPI scoring rubric.
A narrative reflection on findings will be written as part of the discussion chapter in my thesis.

ACTIVITY 3: (e.g. questionnaire, focus group, interview etc),

Evaluating the overall process with interview participants

i)   Purpose
To evaluate the overall impact of the participatory research process with participants

ii) Direct correlation to research outcomes
The purpose of this research is to explore the remediation of this memory material (historical photographs and stories) within immersive Virtual Reality experiences, to understand the impact this kind of presentation has on representation and perception of Iraqi narratives, both within and outside of the Iraqi diaspora community. This activity will try to evaluate the overall resonance of the research with core participants and capture feedback on methods used.

iii) How analysis will be performed

> Feedback will be gathered through a semi-structured interview conducted remotely with participants. The interviews will be transcribed and analysed using MAXQDA qualitative data analysis software and a narrative reflection on findings will be written as part of the discussion chapter in my thesis.

If there are any further activities, please continue and append to this form.

c) State how harm, distress or anxiety to the participants will be minimised during the study

See refer to Safety section 8 below.

d) Please state the time commitment of the participants and whether you plan repetitive testing as part of the study

Activity 1 – the survey should take between 5-10mins approximately.
Activity 2 - The time in the experience itself should take approximately 15mins. Factoring in 10mins before and after for questionnaires, so anywhere from 45mins - 1 hour in total (excluding travel time to venue)
Activity 3 – The feedback interviews should last no longer than 30mins per interview

e) What is the statistical power of the study:

This research adopts a qualitative critical arts-based participatory methodology and thus is not geared towards the creation of statistics, but rather is focused on the creation of situated and embodied knowledge arising from the interaction of artist and community in the presentation of their archive photos and narratives in Virtual Reality.

If you plan to leave participants with information at the close of the study (e.g. leaflets with further information, details of support groups etc), please append to this form.

7. PARTICIPANT DATA

All researchers must abide by the Data Protection Act 1998 and the GSA Data Protection Policy – it is the responsibility of the researcher to familiarise themselves with each.

Here we make the distinction between personal data (anything that identifies a participant such as name, address, phone number) and research data generated by that participant (interview, photos of etc) as each requires a different for handling and storage.

	Personal Data	**Research Data**
Who is the custodian of the data:	Researcher & GSA supervisors	Researcher & GSA supervisors
Where will the data be stored:	Encrypted back-end database of website.	Encrypted back-end database of website. Plus on password-protected folders on hard drive on researcher's computer plus 2 back-up copies on password protected external hard drives.
Who has access to the data:	Researcher & GSA supervisors	Researcher & GSA supervisors
Will permission to identify the participants be sought as part of informed consent	~~YES~~ / NO	
What methods will be undertaken to guarantee anonymity (e.g. coding, ID numbers, use of pseudonyms)	**VR Experience** • Participants will complete a consent form to participate in the experience. This online consent form is created in Jotform	

	• Participants will complete a questionnaire pre and post experience. These questionnaires are created in JISC • The consent form will collect and a name and signature from the participant • The questionnaires will collect participants names soley for the purposes of matching their consent with the research data acquired through the questionnaires • This personal data(names) will be only be accessible to the researcher and GSA supervisors. • Once this purpose of verifying consent is filled, the researcher will separate the consent form from the questionnaires and the researcher will only use the questionnaire data for analysis. To do this, the researcher will use a numerical coding system to ensure anoymisation of the questionnaire and consent data. • The questionnaire will be the processed research data which will be fully anonymised. This data will be accessible to future researchers and retained for 10 years as per GSA policy. **Evaluation Interviews** • Participants will complete a consent form to participate in the experience. This online consent form is created in Jotform • This form will seek consent to retain contact details of these participants specifically for the purposes of getting fresh consent should I wish to discuss using the material in future outputs (presentations, publications, exhibitions etc.) • Participants will be instructed not to use their full names during the interview. • Any personal date inadverntantly revealed during these interviews will be edited out of the processes research data (transcripts) • Participants will be instructed to only use first names when recollecting or mentioning people who haven't fully consented. Any full names used can be edited out afterwards.	
How will the link be broken between participant details and information given as part of study?	**VR Experience** Personal data(names) captured in consent forms and questionnaires will be used solely for the purposes of linking consent to their participation and the questionnaires. Once data is exported for analysis, names will be replaced by numerical code.	**VR Experience** Processed research data will not include any personal data. Personal data(names) captured in consent forms and questionnaires will be used solely for the purposes of linking consent to their participation and the questionnaires. Once data is exported for analysis, names will be

	Personal data will not be included in processed research data. Images captured during documentation of the experience will not be linked to any participant name. **Evaluation Interviews** Consent forms which include contact information for interviewees (names and emails) to organise follow up activities and to obtain fresh consent for use of the material in future outputs, will be retained by the researcher.	replaced by numerical code. Aggregated data from the questionnaires will be analysed in the thesis and included in appendices **Evaluation Interviews** Processed research data will be in the form of transcriptions of the interviews. All personal data will be edited out of these interviews.
How long will the data be stored for? (Participants must be made aware of this at point of consent).	**VR Experience** Personal data(names) captured in consent forms and questionnaires to link consent to their participation and the questionnaires will be stored for the duration of the PhD research project. **Evaluation Interviews** Personal data captured in consent forms will be stored for the duration of the PhD and for 2 years following the project, for the purposes of making contact to obtain fresh consent for use of the material in future outputs. Fresh consent to retain contact details will be sought after 2 years. This information is detailed on the consent form.	**VR Experience** Research data from these questionnaires will be stored for 10 years after the project as per GSA research data policy. **Evaluation Interviews** Research data from these interviews in the form of transcriptions will be stored for 10 years after the project as per GSA research data policy. Participants will be made aware of this fact on the consent form.
How will the security of the dataset in its entirety be secured?	All digital files will be stored on a password-protected folder on the researcher's hard drive.	All digital files will be stored on a password-protected folder on the researcher's hard drive. GSA supervisor will have an encrypted back up on a network drive.
How will the data generated by analysed and used?	**VR Experience** Personal data will be only be used to establish the link between consent given and the questionnaires, after	**VR Experience** Questionnaire data will be aggregated and analysed using MAXQDA and reflected on in the thesis.

	which it will be anonymised. Images captured during the experience will only be used as visual documentation of the experience, and not linked to any participant name. **Evaluation Interviews** Personal data will only be used for the purposes of making contact to obtain fresh consent for use of the material in future outputs.	**Evaluation Interviews** Evaluation interviews will be transcribed, analysed using MAXQDA and reflected on in the thesis.
Who will have access to the data beyond the project (if the data is being retained, not destroyed)	**VR Experience** The personal data related to these activities will be destroyed at the end of the project. **Evaluation Interviews** The researcher will have access to contact information with interview participants beyond the project solely for the purposes of making contact to obtain fresh consent for use of the material in future outputs.	As per GSA research data policy, research data will be retained for 10 years and be accessible by the researcher and GSA supervisors
Does the research funder require the participant data generated be lodged with them upon conclusion? If yes, give details	No	As per GSA research data policy, research data will be retained for 10 years and be accessible by the researcher and GSA supervisors.

8. SAFETY

All researchers must abide by the GSA Health and Safety Policy (http://www.gsa.ac.uk/about-gsa/key-information/occupational-health-and-safety/) – it is the responsibility of the researcher to familiarise themselves with this.

a) How will the safety of the participants be ensured during this study?

Prior to taking part in the VR experience, participants must read a detailed Virtual Reality Health and Safety User Guide.

Regarding COVID-19, in order to mitigate potential harm to the researcher, participants, and members of the public, the following measures will be taken:

1. All activities within the space will conform with Government guidelines at the time on safe numbers of people within an enclosed space, mask wearing, and social distancing;
2.. All equipment, including iPad, VR Headset, Controllers, pens etc., will be sanitised with antibacterial wipes prior to and after every single use.

b) If your work requires participants belonging to vulnerable groups (children under 16, adults unable to give consent, prisoners, individuals in dual relationships), what additional steps will be taken to ensure their safety:

c) If the study involves work on non-GSA premises, how will the safety of researchers working off site be ensured?

I will carry out a risk assessment as well as a visit to the relevant sites in advance of the study for a health and safety induction.
I have details of the venues Health and Safety arrangements.
I will abide by GSA's Health and Safety Offsite Work and Study Policy and GSA Lone Work and Study Guidance, as well as all local health regulations in place at the time.
COVID-19 infection mitigation measures will be carried out, to include provision of masks and antibacterial gel.

9. DECLARATION

Please ensure you have answered all the questions herein and have appended the following documents:

Consent form YES / ~~NO~~   Participant Information Sheet YES / ~~NO~~

Follow up information YES / NO   Any other relevant documentation (please state):

Iraq Photo Archive – Evaluation questionnaire
VR Experience - Before/ After Evaluation questionnaire
VR Experience – Participant Information Sheet
VR Experience – Consent form
ITC – SOPI QuestionnaireIraq Photo Archive – Participant Feedback Interview Questions
GSA Offsite Work and Study Health Declaration Form
GSA Offsite Work and Study Risk Assessment - Low risk
GSA Offsite Work and Study Risk Assessment – medium risk
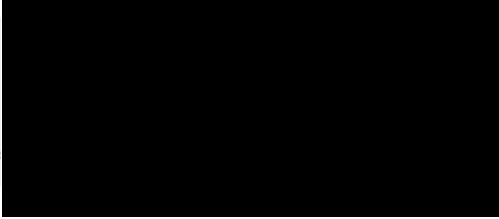
I certify that the information contained in this application is accurate. I understand that should I commence research work in absence of ethical approval, such behaviour may be subject to disciplinary procedures.	
Name of Principal Investigator:	Basil Al-Rawi
Signed:	
Date:	29/6/22

Please email the completed form and associated documents to Research and Enterprise (research@gsa.ac.uk).

Approved (Convenor of GSA Research Ethics Committee) YES / NO	Declined (Convenor of GSA Research Ethics Committee) YES / NO
Signature: 16 August 2022 	
Comments? I am pleased to confirm that ethical approval has been granted for the planned research activities, and we hope that the sessions and interviews go well, and generate good research data for analysis.	

Approved (Member of GSA Research Ethics Committee) YES / NO	Declined (Member of GSA Research Ethics Committee) YES / NO
Signature: 	
Comments? 	

Appendix C-2 Oral history participant evaluation interview consent form

You have been asked to participate in a research study conducted by Basil Al-Rawi, a PhD student researcher at the School of Simulation and Visualisation at the Glasgow School of Art. This study is trying to understand the impact of presenting archive material (photographs and oral history interviews) in Virtual Reality on representations and perceptions of Iraqi diaspora narratives. The faculty supervisors for this study are Dr. Matthieu Poyade and Ronan Breslin.You should read the accompanying participant information sheet and the questions below carefully.

If you agree to participate, you will sign in the space provided to indicate that you have read and understand the information on the participant information sheet and this consent form.

Your name is recorded here soley for the purposes of verifying your consent in participating in the experience and will not be visible in any research outputs.

Your contact details (email address) are recorded here solely for the purpose of making contact with you in the future to discuss obtaining fresh consent for use of any of the material recorded as well as to provide you with a copy of the interview recording and transcript.

Research Project Title:

Recomposing the archive: remediating memories of Iraqi diaspora using archive photography, oral history, and Virtual Reality.

Lead Researcher: Basil Al-Rawi

Contact Details: b.al-rawi1@student.gsa.ac.uk

o   I confirm that I have read and understand the participant information sheet for this study;

o   I have had an opportunity to consider the information, ask questions and have had these answered satisfactorily;

o   I agree to being video recorded as part of the research and understand that this recording will be kept anonymous with regard to full names;

o   I agree to this recording potentially being made publicly available in publications, presentations, exhibitions, reports or examinable format (dissertation or thesis) for the purposes of research and teaching – I understand that this will remain anonymous with regard to full names;

o   I agree that responses I give in the recording may be made publicly available in publications, presentations, exhibitions, reports or examinable format (dissertation or thesis) for the purposes of research and teaching – I understand that these will remain anonymous with regard to full names;

o   I understand that my personal data will be stored confidentially and securely and that my contact details (email address) are recorded here solely for the purpose of the researcher making contact in the future to discuss obtaining fresh consent for use of any of the material recorded. My details will not be used for any other purpose, and any other information I provide will be presented anonymously;

o   I agree to take part in this study.

Name of participant	Date	Signature

Name of person taking consent (if different from researcher)	Date	Signature

Researcher	Date	Signature

Appendix C-3   Oral history participant evaluation survey consent form

You have been asked to participate in a research study conducted by Basil Al-Rawi, a PhD student researcher at the School of Simulation and Visualisation at the Glasgow School of Art. This study is trying to understand the impact of presenting archive material (photographs and oral history interviews) in Virtual Reality on representations and perceptions of Iraqi diaspora narratives. The faculty supervisors for this study are Dr. Matthieu Poyade and Ronan Breslin.You should read the accompanying participant information sheet and the questions below carefully.

If you agree to participate, you will sign in the space provided to indicate that you have read and understand the information on the participant information sheet and this consent form.

Your name is recorded here soley for the purposes of verifying your consent in participating in the experience and will not be visible in any research outputs.

Your contact details (email address) are recorded here solely for the purpose of making contact with you in the future to discuss obtaining fresh consent for use of any of the material recorded as well as to provide you with a copy of the interview recording and transcript.

Research Project Title:
Recomposing the archive: remediating memories of Iraqi diaspora using archive photography, oral history, and Virtual Reality.

Lead Researcher: Basil Al-Rawi
Contact Details: b.al-rawi1@student.gsa.ac.uk

o   I confirm that I have read and understand the participant information sheet for this study;

o   I have had an opportunity to consider the information, ask questions and have had these answered satisfactorily;

o   I agree that responses I give in the survey may be made publicly available in publications, presentations, exhibitions, reports or examinable format (dissertation or thesis) for the purposes of research and teaching – I understand that these will remain anonymous with regard to full names;

o   I understand that my personal data will be stored confidentially and securely and that my contact details (email address) are recorded here solely for the purpose of the researcher making contact in the future to discuss obtaining fresh consent for use of any of the material recorded. My details will not be used for any other purpose, and any other information I provide will be presented anonymously;

o   I agree to take part in this study.

Appendix C-4   Oral History Evaluation Interview Participant Information Sheet

Title of Study
Recomposing the Archive: remediating memories of Iraqi diaspora[13] with archive photography, oral history, and Virtual Reality.

Activity: Iraq Photo Archive – Participant Evaluation Interview

Introduction

This practice-led research uses an arts-based participatory process with a group of contributors from the Iraqi diaspora community, who voluntarily submitted their personal photographs to an online platform created by the researcher: www.iraqphotoarchive.com You kindly voluntarily took part in an oral history interview to discuss your memories of the photographic moments you shared with the platform. Some of the memory material generated through this process were creatively re-presented by the researcher in the *House of Memory VR* experience. The research methodology has been designed for Iraqi diaspora to share and narrate their experiences; to be the authors of their own stories.
About the researcher: Basil Al-Rawi is an Irish-Iraqi visual artist whose practice explores themes of memory, identity, and the politics of representation, through archive photographs, narration, and digital simulation.

What is the purpose of the study?

The purpose of this research project as a whole is to explore the remediation of memory material (historical photographs and stories) within an immersive Virtual Reality experience, to understand the impact this kind of presentation has on representation and perception of Iraqi narratives, both within and outside of the Iraqi diaspora community.

The researcher would like to interview you to evaluate the overall impact of the research project on you, and to gain valuable feedback on the design and methods used in the research project from those that participated all stages of the process.

Why have I been invited to take part?

You have been invited to take part as you:
a) submitted a photograph to the archive and consented to further contact about the research project;
b) took part in oral history interviews and consented to further contact about the project;

Taking part and giving feedback on your experience of participating in the research project will provide valuable information to allow the effectiveness of this research to be evaluated

Do I have to take part?

Your participation is voluntary. I would like you to consent to participate in this study as I believe that you can make an important contribution to the research. If you do not wish to participate, you do not have to proceed any further. If you do consent to participate, you may skip any questions or tasks that make you uncomfortable and you may discontinue your participation at any time without penalty or loss of benefits. In addition, the researcher has the right to withdraw you or your contributions from participation in the study at any time.

What will happen if I take part?

If you are happy to participate in the research, you are asked to read this information sheet and sign and submit the consent form provided by the researcher. When I receive this, I will contact you to discuss and arrange your participation in a filmed interview which will be conducted online using the video conferencing app Zoom. Filming will take no longer than 30 minutes and will be conducted
in a relaxed and informal manner. You will be free to stop the interview at any time you wish.

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[13] Iraqi diaspora in this context refers to anyone who identifies as Iraqi but is living outside of Iraq, regardless of race, religion or native language.

What are the possible benefits and risks of taking part?

Whilst there may be no specific personal benefits to your participation in this study, the interview and your feedback will provide valuable information through which the effectiveness of the research methodology can be evaluated.

I do not anticipate any risks or discomforts to you from participating in this interview. If you wish, you may choose to withdraw your consent and discontinue your participation at any time during the study without penalty.

Should you become distressed in any way during the interveiw, I will stop the interview immediately.

Will my taking part be kept confidential?

Your contact details (email address) are recorded on the consent form solely for the purpose of making contact with you in the future to discuss obtaining fresh consent for use of any of the material recorded, as well as to provide you with a copy of the filmed interview and a transcript. This personal data (names and emails) captured in the consent form will only be accessible by the researcher and will be stored for 2 years following the end of the project. Your name will be kept anonymous in the thesis and all processed research data. No information will be included that will make it possible to identify you or any individual participant by name in the research data.

Research data from the interview will be in the form of a transcript and this will be included in the thesis. Research data will be stored for 10 years and will be accessible by the researcher and their GSA supervisors, as per GSA research data policy. Personal data is stored on a password protected folder on the researcher's hard drive, and research data will be stored on a password protected folder on the researcher's hard drive as well as encrypted back-up on a network drive accessible by GSA supervisors.

As the interviews is filmed, your image will be recorded and could be displayed in the publication of the research, as well as in subsequent presentations or exhibitions of the project.

How is the project being funded?

This PhD research is funded by scholarship from The Glasgow School of Art.

What will happen to the results of the study?

Your responses in the interview will be transcribed and analysed as part of an evaluation in the written thesis which accompanies this project that will be submitted for the award of Doctor of Philosophy by the researcher at the Glasgow School of Art. Your responses may be made publicly available in publications, presentations, exhibitions, reports or examinable format (dissertation or thesis) for the purposes of research and teaching, and they will remain anonymous.

Who should I contact for further information?

If you have any questions or require more information about this study, please contact me using the following contact details:

What if I have further questions, or if something goes wrong?

If this study has harmed you in any way or if you wish to make a complaint about the conduct of the study you can contact GSA using the details below for further advice and information:

Thank you for reading this information sheet and for considering taking part in this research.

Please keep this document for future reference.

Basil Al-Rawi

PhD Student Researcher

School of Simulation and Visualisation

The Glasgow School of Art

Appendix C-5   Oral History Evaluation Survey Participant Information Sheet

Title of Study

Recomposing the Archive: remediating memories of Iraqi diaspora [14] with archive photography, oral history, and Virtual Reality.

Activity: Iraq Photo Archive – Participant Evaluation Surveys

Introduction

This practice-led research uses an arts-based participatory process with a group of contributors from the Iraqi diaspora community, who voluntarily submitted their personal photographs to an online platform created by the researcher: www.iraqphotoarchive.com The research methodology has been designed for Iraqi diaspora to share and narrate their experiences; to be the authors of their own stories. You kindly voluntarily took part in an oral history interview to discuss your memories of the photographic moments you shared with the platform. To assess the value of this participatory process on you, I'm conducting a short evaluation.

About the researcher: Basil Al-Rawi is an Irish-Iraqi visual artist whose practice explores themes of memory, identity, and the politics of representation, through archive photographs, narration, and digital simulation.

What is the purpose of the study?

The purpose of this research project is to explore the remediation of memory material (historical photographs and stories) within an immersive Virtual Reality experience, to understand the impact this kind of presentation has on representation and perception of Iraqi narratives, both within and outside of the Iraqi diaspora community.

The researcher would like to evaluate the overall impact of the research project on you, to gain valuable feedback on the design and methods used. This evaluation will assess the value of the participatory process from the interviewees perspective.

Why have I been invited to take part?

You have been invited to take part as you:
    a) submitted a photograph to the archive and consented to further contact about the research project;
    b) took part in oral history interviews and consented to further contact about the project;

Taking part and giving feedback on your experience of participating in the research project will provide valuable information to assess the design and impact of the participatory process on you.

Do I have to take part?

Your participation is voluntary. I would like you to consent to participate in this study as I believe that you can make an important contribution to the research. If you do not wish to participate, you do not have to proceed any further. If you do consent to participate, you may skip any questions or tasks that make you uncomfortable and you may discontinue your participation at any time without penalty or loss of benefits. In addition, the researcher has the right to withdraw you or your contributions from participation in the study at any time.

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[14] Iraqi diaspora in this context refers to anyone who identifies as Iraqi but is living outside of Iraq, regardless of race, religion or native language.

What will happen if I take part?

If you are happy to participate in the research, you are asked to read this information sheet and sign and submit the consent form provided. When I receive this, I will send you the link to the survey which you can complete in your own time. The survey is short and should take no longer than 10 minutes. Your responses in the survey may be made publicly available in publications, presentations, exhibitions, reports, or examinable format (dissertation or thesis) for the purposes of research and teaching and these will remain completely anonymous with regard to your name.

What are the possible benefits and risks of taking part?

Whilst there may be no specific personal benefits to your participation in this study, your feedback will provide valuable information through which the effectiveness of the research methodology can be evaluated.

I do not anticipate any risks or discomforts to you from participating. If you wish, you may choose to withdraw your consent and your survey responses will not be included in the study.

Will my taking part be kept confidential?

This personal data (name) captured in the consent form will only be accessible by the researcher and will be stored for 2 years following the end of the project. Your name will be kept anonymous in the thesis and all processed research data. No information will be included that will make it possible to identify you or any individual participant by name in the research data.

Research data from the survey will be in the form of anonymized answers in a table and this will be included in the thesis. Research data will be stored for 10 years and will be accessible by the researcher and their GSA supervisors, as per GSA research data policy. Personal data is stored on a password protected folder on the researcher's hard drive, and research data will be stored on a password protected folder on the researcher's hard drive as well as encrypted back-up on a network drive accessible by GSA supervisors.

How is the project being funded?

This PhD research is funded by scholarship from The Glasgow School of Art.

What will happen to the results of the study?

Your responses in the survey will be analysed as part of an evaluation in the written thesis which accompanies this project that will be submitted for the award of Doctor of Philosophy by the researcher at the Glasgow School of Art. Your responses may be made publicly available in publications, presentations, exhibitions, reports or examinable format (dissertation or thesis) for the purposes of research and teaching, and they will remain completely anonymous.

Who should I contact for further information?

If you have any questions or require more information about this study, please contact me using the following contact details:

What if I have further questions, or if something goes wrong?

If this study has harmed you in any way or if you wish to make a complaint about the conduct of the study you can contact GSA using the details below for further advice and information.Thank you for reading this information sheet and for considering taking part in this research.

Please keep this document for future reference.

Appendix C-6   VR Experience Evaluation Consent Form

You have been asked to participate in a research study conducted by Basil Al-Rawi, a PhD student researcher at the School of Simulation and Visualisation at the Glasgow School of Art. This study is trying to understand the impact of presenting archive material (photographs and oral history interviews) in Virtual Reality on representations and perceptions of Iraqi diaspora narratives. The faculty supervisors for this study are Dr. Matthieu Poyade and Ronan Breslin. You should read the accompanying participant information sheet and the questions below carefully. If you agree to participate, you will sign in the space provided to indicate that you have read and understand the information on the participant information sheet and this consent form.

Your name is recorded here solely for the purposes of verifying your consent in participating in the experience and will not be visible in any research outputs.

Research Project Title:
Recomposing the archive: remediating memories of Iraqi diaspora using archive photography, oral history, and Virtual Reality.

Lead Researcher: Basil Al-Rawi
Contact Details: b.al-rawi1@student.gsa.ac.uk

Please initial boxes

1. I confirm that I have read and understand the participant information sheet for this study; ☐

2. I confirm that I have read and understand the VR Health and Safety guide; ☐

3. I have had an opportunity to consider the information, ask questions and have had these answered satisfactorily; ☐

4. I agree that my interaction with the VR experience will be screen recorded and understand that this recording is anonymous, my image will not be recorded; ☐

5. I agree to these screen recordings being made publicly available in publications, presentations, exhibitions, reports or examinable format (dissertation or thesis) for the purposes of research and teaching – I understand that these will remain anonymous; ☐

6. I agree that photographs and video recordings may be made while I am wearing the headset and interacting with the VR experience. I agree that these photos or videos may be made publicly available in publications, presentations, exhibitions, reports, or examinable format (dissertation or thesis) for the purposes of research and teaching – I understand that these will remain anonymous with regard to names. ☐

7. I agree that responses I give in the questionnaire may be made publicly available in publications, presentations, exhibitions, reports or examinable format (dissertation or thesis) for the purposes of research and teaching – I understand that these will remain anonymous; ☐

8. I understand that my personal data will be stored confidentially and securely, will not be used for any other purpose, and will be destroyed at the end of the project, and that any other information I provide will be presented anonymously; ☐

9. I agree to take part in this study. ☐

Appendix C-7　　　　VR Experience Participant information Sheet

Title of Study

Recomposing the Archive: remediating memories of Iraqi diaspora [15] with archive photography, oral history, and Virtual Reality.

Activity: Iraq Photo Archive – House of Memory VR Experience

Introduction

This practice-led research uses an arts-based participatory process with a group of contributors from the Iraqi diaspora community, who voluntarily submitted their personal photographs to an online platform created by the researcher: www.iraqphotoarchive.com Some contributors voluntarily took part in oral history interviews to discuss their memories of the photographic moments they shared with the platform. Some of the memory material generated through this process were creatively re-presented by the researcher in the *House of Memory VR* experience. The research methodology has been designed for Iraqi diaspora to share and narrate their experiences; to be the authors of their own stories.
About the researcher: Basil Al-Rawi is an Irish-Iraqi visual artist whose practice explores themes of memory, identity, and the politics of representation, through archive photographs, narration, and digital simulation.

What is the purpose of the study?

The purpose of this research is to explore the remediation of this memory material (historical photographs and stories) within an immersive Virtual Reality experience, to understand the impact this kind of presentation has on representation and perception of Iraqi narratives, both within and outside of the Iraqi diaspora community. The simulation aims to convey the memories of Iraqi diaspora surrounding their photographs through immersive technology, as well as provide representations of Iraqi people and places in digital environments that are led by Iraqis themselves. This research seeks to enhance Virtual Reality experiences of the past to create a rich emotional connection, and foster broader understanding of Iraqi narratives across communities. The outcomes intend to demonstrate innovative ways to combine archive photography and audio-visual oral history within VR. The work aims to provide a methodological and technological framework to empower artists, researchers, and historians with approaches to creatively explore and represent the past in order to add new perspectives. This project also aims to build wider understanding and knowledge of Iraqi stories beyond media representations of conflict. Furthermore, recording these stories contributes to building wider collective histories within the Iraqi diaspora community as well as works towards decolonisation of historic narratives.

Why have I been invited to take part?

You have been invited to take part as you either:
  a) submitted a photograph to the archive and consented to further contact about the research project;
  b) took part in oral history interviews and consented to further contact about the project;
  c) expressed an interest in taking part by attending the exhibition space

Taking part and providing feedback on your interaction with the VR experience will provide valuable contributions to allow the effectiveness of this research to be evaluated

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[15] Iraqi diaspora in this context refers to anyone who identifies as Iraqi but is living outside of Iraq, regardless of race, religion or native language.

Do I have to take part?

Your participation is voluntary. I would like you to consent to participate in this study as I believe that you can make an important contribution to the research. If you do not wish to participate, you do not have to proceed any further. If you do consent to participate, you may skip any questions or tasks that make you uncomfortable and you may discontinue your participation at any time without penalty or loss of benefits. In addition, the researcher has the right to withdraw you or your contributions from participation in the study at any time.

What will happen if I take part?

If you are happy to participate in the research, you are asked to read this information sheet and sign and submit the consent form provided by the researcher. The experience will take place either at the Incubation Space at the LAB Gallery in Dublin, The Arab British Centre in London, or the Reid Building at the Glasgow School of Art. Before we proceed with the VR experience, you will fill out a brief survey on a tablet. You will be given instructions by the researcher on health and safety guidelines while being in VR and will be guided with putting on an Oculus Quest 2 Virtual Reality headset. At the end of the experience, you will fill out another 2 brief surveys on a tablet and the process will then be complete. If you are a participant who contributed an oral history interview, you will also be invited to take part in a final short interview to provide feedback on the whole process and you will be asked for your consent to participate in this interview.

What are the possible benefits and risks of taking part?

Whilst there may be no specific personal benefits to your participation in this study, it is anticipated that you will find the experience to be interesting and enjoyable. Your feedback will provide valuable metrics by which the effectiveness of the presentation can be evaluated.

As this is a face-to-face experience, COVID-19 transmission is an acknowledged risk, and an appropriate risk assessment has been undertaken. Local health guidelines are being followed and face-masks and antibacterial gel are provided in the space. All VR hardware that you will come in contact with is appropriately cleaned before and after each participants use.

Prior to the VR experience, you will be issued with a VR Health and Safety outlining potential risks. Those unfamiliar with Virtual Reality may experience disorientation or discomfort, in which case we will stop the process immediately at your request. However, I do not anticipate any risks or discomforts to you from participating in this research. If you wish, you may choose to withdraw your consent and discontinue your participation at any time during the study without penalty.

The narrations do include descriptions of photographs and memories surrounding the context of the image, which could refer to deceased relatives or friends, conflict, or places of displacement or exile, and as such, have the potential to be triggering or distressing.

Should you become distressed during the experience, I will stop the experience immediately at your request.

Will my taking part be kept confidential?

Your name is recorded on the consent form and questionnaire solely for the purposes of validating the link between your consent and the research data. This data will not be used to identify you from the questionnaire. Your identification will subsequently be anonymised in the research data which will be presented in the thesis which accompanies this study. No information will be included that will make it possible to identify you or any individual participant by name in the research data. Personal data (names) captured in the consent form and questionnaires will only be stored for the duration of the research project and is only accessible by the researcher. Research data from the analysis of the questionnaires will be stored for 10 years and will be

accessible by the researcher and their GSA supervisors, as per GSA research data policy. Personal data is stored on a password protected folder on the researcher's hard drive, and research data will be stored on a password protected folder on the researcher's hard drive as well as encrypted back-up on a network drive accessible by GSA supervisors.

Your interaction within the VR experience will be screen-recorded to provide information on the design and effectiveness of the experience.

With your consent, photographs and video recordings may be made while you are wearing the headset and interacting with the VR experience. These photos or videos may be made publicly available in publications, presentations, exhibitions, reports, or examinable format (dissertation or thesis) for the purposes of research and teaching. These images and recordings will remain anonymous with regard to names.

How is the project being funded?

This PhD research is funded by scholarship from The Glasgow School of Art.

What will happen to the results of the study?

Your responses in the questionnaires will be analysed and the outcomes will be evaluated as part of a written thesis submitted for the award of Doctor of Philosophy by the researcher at the Glasgow School of Art. Your responses may be made publicly available in publications, presentations, exhibitions, reports or examinable format (dissertation or thesis) for the purposes of research and teaching, and they will remain anonymous.

Who should I contact for further information?

If you have any questions or require more information about this study, please contact me using the following contact details:

What if I have further questions, or if something goes wrong?

If this study has harmed you in any way or if you wish to make a complaint about the conduct of the study you can contact GSA using the details below for further advice and information:

Thank you for reading this information sheet and for considering taking part in this research.

Please keep this document for future reference.

Basil Al-Rawi

PhD Student Researcher

School of Simulation and Visualisation

The Glasgow School of Art

Appendix C-8   VR Health and Safety Usage Guide

Virtual Reality Health & Safety Usage Guide

HEALTH & SAFETY WARNINGS: TO REDUCE THE RISK OF PERSONAL INJURY, DISCOMFORT OR PROPERTY DAMAGE, PLEASE ENSURE THAT YOU READ THE WARNINGS BELOW CAREFULLY BEFORE USING THE HEADSET.

Before Using the Headset:

• Read and follow all setup and operating instructions provided by the facilitator.
• A comfortable virtual reality experience requires an unimpaired sense of motion and balance. Do not use the headset when you are: Tired; need sleep; under emotional stress or anxiety; or when suffering from cold, flu, headaches, migraines, or earaches, as this can increase your susceptibility to adverse symptoms.
• We recommend seeing a doctor before using the headset if you are pregnant, elderly, have pre-existing binocular vision abnormalities or other serious medical conditions.
• To charge the headsets, carefully ensure they are placed within their supplied case, with the USB cable connected to each headset. When the case is connected to the mains using the supplied power cable, the light on each headset should illuminate to show that it is charging. When the headsets are fully charged, we recommend switching the power supply off at the mains.

Seizures:

Some people (about 1 in 4000) may have severe dizziness, seizures, eye or muscle twitching or blackouts triggered by light flashes or patterns, and this may occur while they are watching TV, playing video games or experiencing virtual reality, even if they have never had a seizure or blackout before or have no history of seizures or epilepsy. Such seizures are more common in children and young people under the age of 20. Anyone who experiences any of these symptoms should discontinue use of the headset and see a doctor. Anyone who previously has had a seizure, loss of awareness, or other symptom linked to an epileptic condition should see a doctor before using the headset.

General Precautions:

To reduce the risk of injury or discomfort you should always follow these instructions and observe these precautions while using the headset:

Use Only In A Safe Environment: The headset produces an immersive virtual reality experience that distracts you from and completely blocks your view of your actual surroundings.

Always be aware of your surroundings before beginning use and while using the headset. Use caution to avoid injury and remain seated unless your content experience requires standing.

- Use of the headset may cause loss of balance.
- Remember that the objects you see in the virtual environment do not exist in the real environment, so don't sit or stand on them or use them for support.
- Serious injuries can occur from tripping, running into or striking walls, furniture or other objects, so clear an area for safe use before using the headset.
- Take special care to ensure that you are not near other people, objects, stairs, balconies, open doorways, windows, furniture, open flames, ceiling fans or light fixtures or other items that you can bump into or knock down when using—or immediately after using—the headset.
- Remove any tripping hazards from the area before using the headset.
- Remember that while using the headset you may be unaware that people may enter your immediate area.
- Do not handle sharp or otherwise dangerous objects while using the headset.
- Make sure the headset is level and secured comfortably on your head, and that you see a single, clear image.
- Ease into the use of the headset to allow your body to adjust; use for only a few minutes at a time at first, and only increase the amount of time using the headset gradually as you grow accustomed to virtual reality. Looking around when first entering virtual reality can help you adjust to any small differences between your real-world movements and the resulting virtual reality experience.
- Take at least a 10 to 15 minute break every 30 minutes, even if you don't think you need it. Each person is different, so take more frequent and longer breaks if you feel discomfort. You should decide what works best for you.
- If using headphones, listening to sound at high volumes can cause irreparable damage to your hearing. Background noise, as well as continued exposure to high volume levels, can make sounds seem quieter than they actually are. Due to the immersive nature of the virtual reality experience, do not use the headset with the sound at a high volume so that you can maintain awareness of your surroundings and reduce the risk of hearing damage.

Discomfort :

Immediately discontinue using the headset if any of the following symptoms are experienced: seizures; loss of awareness; eye strain; eye or muscle twitching; involuntary movements; altered, blurred, or double vision or othe visual abnormalities; dizziness; disorientation; impaired balance; impaired hand-eye coordination; excessive sweating; increased salivation; nausea; lightheadedness; discomfort or pain in the head or eyes; drowsiness; fatigue; or any symptoms similar to motion sickness.

Just as with the symptoms people can experience after they disembark a cruise ship, symptoms of virtual reality exposure can persist and become more apparent hours after use. These post-use symptoms can include the symptoms above, as well as excessive drowsiness and decreased ability to multi-task. These symptoms may put you at an increased risk of injury when engaging in normal activities in the real world.

- Do not drive, operate machinery, or engage in other visually or physically demanding activities that have potentially serious consequences (i.e., activities in which experiencing any symptoms could lead to death, personal injury, or damage to property), or other activities that require unimpaired balance and hand-eye coordination (such as playing sports or riding a bicycle, etc.) until you have fully recovered from any symptoms.
- Do not use the headset until all symptoms have completely subsided for several hours. Make sure you have properly configured the headset before resuming use.
- Be mindful of the type of content that you were using prior to the onset of any symptoms because you may be more prone to symptoms based upon the content being used.
- See a doctor if you have serious and/or persistent symptoms.

Repetitive Stress Injury:

Using the device may make your muscles, joints or skin hurt. If any part of your body becomes tired or sore while using the headset or its components, or if you feel symptoms such as tingling, numbness, burning or stiffness, stop and rest for several hours before using it again. If you continue to have any of the above symptoms or other discomfort during or after use, stop use and see a doctor.

Electrical Shock:

To reduce risk of electric shock:

- Do not modify or open any of the components provided.
- Do not use the product if any cable is damaged or any wires are exposed.

Contagious Conditions

To avoid transferring contagious conditions like conjunctivitis (pink eye), do not share the headset with persons with contagious conditions, infections or diseases, particularly of the eyes, skin or scalp. **The headset will be cleaned between each use with skin-friendly non-alcoholic antibacterial wipes and with a dry microfiber cloth for the lenses.**

Skin Irritation

The headset is worn next to your skin and scalp. Stop using the headset if you notice swelling, itchiness, skin irritation or other skin reactions. If symptoms persist, contact a doctor.

Appendix C-9   IPA Evaluation demographic data
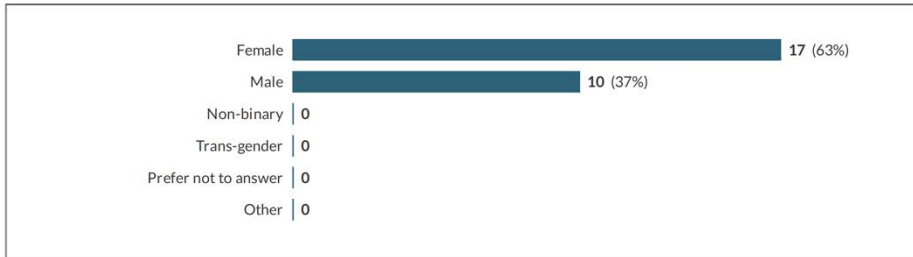
Figure 100. IPA Evaluation - Gender demographics

Do you identify as Iraqi in any way?	What gender do you identify as?						No answer	Totals
	Female	Male	Non-binary	Trans-gender	Prefer not to answer	Other		
Yes	11	4	0	0	0	0	0	15
No	6	6	0	0	0	0	0	12
No answer	0	0	0	0	0	0	0	0
Totals	17	10	0	0	0	0	0	27

Table 16. IPA Evaluation gender identity cross tabulated with Iraqi identity
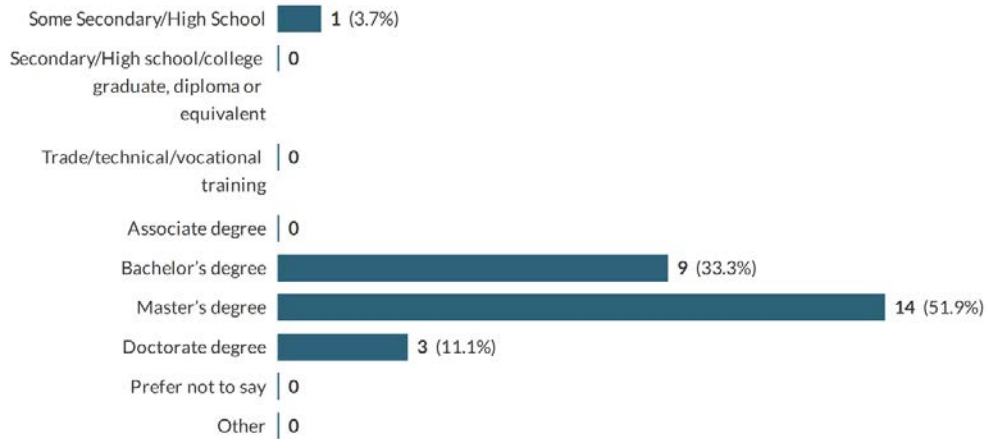
Figure 101. IPA Evaluation education level demographics

Do you identify as Iraqi in any way?	Please select the highest level of education that you have attained?									No answer	Totals
	Some Secondary/High School	Secondary/High school/college graduate, diploma or equivalent	Trade/technical/vocational training	Associate degree	Bachelor's degree	Master's degree	Doctorate degree	Prefer not to say	Other		
Yes	1	0	0	0	5	6	3	0	0	0	15
No	0	0	0	0	4	8	0	0	0	0	12
No answer	0	0	0	0	0	0	0	0	0	0	0
Totals	1	0	0	0	9	14	3	0	0	0	27

Table 17. IPA Evaluation education level cross tabulated with Iraqi identity

Appendix C-10 IPA Evaluation survey

IRAQ PHOTO ARCHIVE ارشيف صور العراق

Introduction

I would like to ask you a few questions about your experience of interacting with the Iraq Photo Archive, an online platform of photographs and memories from Iraqi diaspora. Your responses are confidential and you will not be identified in the survey results. Please be open and honest with your feedback as this will help with understanding the impact of this research project.

Questions

1. How did you first hear about the Iraq Photo Archive?

☐ Internet search
☐ Social media
☐ Newspaper
☐ E-newsletter
☐ E-magazine
☐ Word of mouth
☐ Other (please specify: ______________________________________)

2. Have you ever visited any other archives (online or in person) to look at photographs from Iraq?
☐ Yes
☐ No
☐ If Yes, please specify

3. Prior to visiting the Iraq Photo Archive website, please describe the content of photographs you generally associate with Iraq?

4. Prior to visiting the Iraq Photo Archive website, through which mediums have you seen photographs or representations of Iraq or Iraqi stories? Tick all that apply

☐ TV News
☐ Online news
☐ Print news
☐ Social media
☐ Art exhibition
☐ Photo Book
☐ History Book
☐ Films
☐ Video games
☐ T-shirts
☐ Other (please specify: ______________________________________)

5. Following your experience of the Iraq Photo Archive website, please indicate the extent to which you agree or disagree with the following statements:

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
It was easy to know what the website was about					
The photographs met my expectations of photos from Iraq					
The descriptions made me think more about the content of the photographs					
I felt moved or inspired					
I felt represented					
I was exposed to new points of view or ways of thinking about Iraqi stories					
It made me want to see/hear more stories from Iraq told by Iraqis					
It made me want to know more about Iraqi culture and society					
It made me want to share my photos and stories with the platform					

6. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly disagree 1	2	3	4	Strongly agree 5
I think that I would like to use this website frequently.					
I found the website unnecessarily complex.					
I thought the website was easy to use.					
I think that I would need the support of a technical person to be able to use this website.					
I found the various functions in this website were well integrated.					
I thought there was too much inconsistency in this website.					
I would imagine that most people would learn to use this website very quickly.					
I found the website very cumbersome to use.					
I felt very confident using the website.					
I needed to learn a lot of things before I could get going with this website.					

7. What did you like most about the platform?

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8. What did you dislike?

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9. What would you change?

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10. What age range group do you fit into from the following?

- ☐ 18 – 24
- ☐ 25 – 34
- ☐ 35 – 44
- ☐ 45 – 54
- ☐ 55 – 64
- ☐ Above 65

11. What gender do you identify as?

- ☐ Male
- ☐ Female
- ☐ Trans-gender
- ☐ Non-binary
- ☐ Prefer not to answer
- ☐ Other_____

12. Where do you live?

- ☐ UK
- ☐ Ireland
- ☐ Rest of Europe, please specify _____
- ☐ Iraq
- ☐ Rest of Middle East, please specify _____
- ☐ Asia, please specify
- ☐ Americas, please specify _____
- ☐ Oceania, please specify _____
- ☐ Prefer not to answer
- ☐ Other_____

13. Do you identify as Iraqi?

☐ Yes
☐ No

(a) If yes, please indicate if you are:

☐ Iraqi living in Iraq
☐ Iraqi living in the diaspora
☐ Iraqi with mixed ethnicity

(b) Do you identify as any of the following:

☐ Assyrian
☐ Chaldean
☐ Christian
☐ Jew
☐ Kurd
☐ Marsh Arab
☐ Muslim Shia
☐ Muslim Sunni
☐ Muslim
☐ Shabak
☐ Turkmen
☐ Yazidi
☐ Prefer not to disclose
☐ Other not listed, please specify:
_____

14. What is your ethnic group or background? Which category describes you?
Choose from all that apply:

☐ Black/African/Caribbean
☐ East Asian
☐ Hispanic/Latinx
☐ Indigenous American/First NationsMiddle Eastern
☐ North African
☐ South Asian
☐ Southeast Asian
☐ White / Caucasian
☐ Multiethnic
☐ Prefer not to disclose
☐ Other not listed, please specify: _____

15. Please select the highest level of education that you have attained?

☐ Doctorate degree
☐ Master's degree
☐ Bachelor's degree
☐ Associate degree
☐ Trade/technical/vocational training
☐ High school/college graduate, diploma or equivalent
☐ Some high school
☐ Other
☐ Prefer not to say

Thank You

Appendix C-11   IPA Evaluation Q2 - Other archives visited

If Yes, please specify
Middle east archive. Levantine stories both on instagram.
Israeli and Sephardi Jewish Archives
On internet and in Amman (family archives)
Pinterest
Pinterest, Gertude Bell Archive, …
Gertrude bell archive, british library, royal geographic society
Iraqi Museum in Baghdad Family photos
Facebook groups of Basra

Table 18. IPA Evaluation Q2 - Archives with Iraqi images visited by respondents

Appendix C-12   IPA Evaluation Q3 – Word Cloud Visualisations & Cross Tab Analysis

All Participants

Figure 102. *"Describe the content of photos you generally associate with Iraq".*
Word Cloud visualisation of responses from <u>All respondents.</u> (50 words, use frequency = 1)

Iraqi Participants

Figure 103. *"Describe the content of photos you generally associate with Iraq"*
Word Cloud visualisation of responses from <u>Iraqi respondents.</u> (50 words, use frequency = 1)

Non-Iraqi Participants

Figure 104. *"Describe the content of photos you generally associate with Iraq"*
Word Cloud visualisation of responses from <u>non-Iraqi respondents.</u> (50 words, use frequency = 1)

	Iraqi identity = Yes	Iraqi identity = No
⌄ ▣ IPA Evaluation Questions		
⌄ ▣ Content of Iraq photos	15	12
▣ WAR	8	9
▣ NEWS MEDIA	3	8
▣ FAMILY	8	
▣ ENVIRONMENT	4	1
▣ HISTORY & CULTURE	3	1
▣ PAST BEAUTY	4	
▣ RUINS	2	
▣ DESERT	1	1

Table 19. IPA Evaluation Q3 - Cross Tab analysis of coded responses

Appendix C-13   IPA Evaluation Q3 - Interactive Quote Matrix

Table 20. IPA Evaluation Q3 - Interactive Quote Matrix

IPA Evaluation Questions	Iraqi identity = Yes	Iraqi identity = No
Content of Iraq photos	Warzone on tv, searching for picture of iraqi women to see what my family may have looked like to find only burqas. A couple of family photograohs.	Photos of war, conflict, U.S. troops.
	Mostly people and nature	War mostly, very little every day life or glamour
	These are exactly the images I personally associate with Iraq!	News print coverage relating to US invasion of Iraq.
	Either personal family photos from older generations, which can be quite rare but always very meaningful. I think from media I mainly associate photos of Iraq with war, sadly!	Images of war
	The ones I grew up with from my parents. Beautiful photos of the country before any wars.	Pictures/footage from Gulf War and Iraq War.
	Family, history of Iraq's grandeur	Most pictures I've seen of Iraq were on the news.
	I lived my best years in Iraq between 1964-1979 and I would love to see pictures of Iraqis and views of my homeland Iraq during the refered era.	War, children, poverty, men
	Not sure	Historical and modern photos of every day life in Iraq
	Either family photos of the glamorous past, or post-war photos of a ruined present that's trying to come back from the dead.	I suppose something I might see on the news
		War photos from news and media
		Deserts landscapes; War journalistic photos
		War photography. The very first image that springs to mind is the one of soldiers bringing down the statue of Saddam Hussein.

IPA Evaluation Questions	Iraqi identity = Yes	Iraqi identity = No
Content of Iraq photos	War - Desert - Babylon - Ruins - Palm trees - Islamic architecture	
	Historic sites, landscapes and family photos	
	Mostly war torn	
	Family photos and American or British news media like BBC, especially during the American's invasion	
	Beautiful culture, environment, respectful life's of happy people	
	Mostly photos from my parents personal archives, as well photos of post war Iraq that you find online	

Appendix C-14   IPA Evaluation Q4 - Representations of Iraq in media

Do you identify as Iraqi in any way?	Prior to visiting the Iraq Photo Archive website, through which mediums have you seen photographs or representations of Iraq or Iraqi stories? Tick all that apply												No answer	Totals
	TV News	Online news	Print news	Social media	Blog	Art exhibition	Photo Book	History Book	Films	Video games	T-shirts	Other		
Yes	11	10	7	14	5	4	9	6	7	0	1	3	0	77
No	12	11	10	6	1	1	0	3	7	4	0	0	0	55
No answer	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	23	21	17	20	6	5	9	9	14	4	1	3	0	132

Table 21. IPA Evaluation Q4 – Representations of Iraq in media

If you selected Other, please specify:
My own family archive of images.
Documentaries
Family

Table 22. IPA Evaluation Q4 – other mediums

All

Figure 105. IPA Evaluation Q7 - *"What did you like most about the website?"* (All)
Word Cloud visualisation of responses from <u>all respondents.</u> (22 words, use frequency = 2)

Iraqi

Figure 106. IPA Evaluation Q7 - *"What did you like most about the website?"* (Iraqis)
Word Cloud visualisation of responses from <u>Iraqi respondents.</u> (9 words, use frequency = 2)

Non-Iraqi

Figure 107. IPA Evaluation Q7 - *"What did you like most about the website?"* (non-Iraqis)
Word Cloud visualisation of responses from <u>non-Iraqi respondents.</u> (9 words, use frequency = 2)

	Iraqi identity = Yes	Iraqi identity = No
⌄ ◎ IPA Evaluation Questions		
⌄ ◎ IPA Like Most	12	10
◎ WEBSITE DESIGN	4	4
◎ NEW PERSPECTIVES		5
◎ DESCRIPTIONS	3	2
◎ EASE OF USE		4
◎ HERITAGE & HISTORY	4	
◎ REPRESENTATIONS OF IRAQ	3	
◎ PERSONAL PHOTOS		2
◎ THE PHOTOS	3	
◎ VARIETY		2
◎ FLOW OF IMAGES	2	
◎ AUTHENTICITY	1	

Table 23. IPA Evaluation Q7 – Cross Tab analysis of coded responses

Appendix C-16   IPA Evaluation Q7 - Interactive Quote Matrix

Table 24. IPA Evaluation Q7 - Interactive Quote Matrix

IPA Evaluation Questions		Iraqi identity = Yes	Iraqi identity = No
	IPA Like Most	The continuous flow	The opportunity to gain a different perspective of Iraq through photographs - to see everyday Iraqi life through personal photos of Iraqi people.
		The images! The history and seeing Iraqi people from my parents' generation represented.	It look totally different than how I expect Iraq to look - an eye opener
		The photos with the short descriptions were really meaningful and made me feel nostalgic for a world I haven't really experienced for myself, being part of the diaspora (my family moved from Iraq when I was just 6 months). I shared the website with various family members and it sparked conversations (we thought someone in the photos looked identical to my great aunt but turns out it wasn't her). I also shared it with a few close friends (non-Iraqi) as I felt it gives a good representation of the country and peoples stories there. This website is a really great initiative.	New perspectives gained as a non Iraqi person
			The descriptions gave context to the people in the pictures and also often gave a wider idea of events at the time as well connecting them with subsequent events, although I'd have liked to know more about some.
		The layout of the photographs was beautiful	The mixture of people, landscapes and buildings in the photos.
		Its authenticity and its will to make Iraqis interact with their heritage and history.	The images represented are varied and each one after another was different in theme. This drew me in as a viewer The homepage is clear and easy to navigate
		pictures of my homeland Iraq	I liked that it got to the point right away and it was easy to view the pictures
		Seeing pictures from 80s	
		- the format and display of the photographs	

	Iraqi identity = Yes	Iraqi identity = No
IPA Evaluation Questions	First hand accounts of the captions	It's very easy to use and gets to the point right away. The descriptions were very interesting!
	I liked that on the mobile version at least all of the pictures flowed together	To be able to view representations of life in Iraq unknown to me previously and the personal nature of these photos
	Old history and memories	
	The descriptions that come once you click on the picture	I enjoyed the simplicity of the website. It is easy to navigate and the content is displayed in an appealing manner.

Appendix C-17   IPA Evaluation Q8 - Word Cloud Visualisations & Cross Tab Analysis

All Participants

Figure 108. IPA Evaluation Q8 - *"What did you dislike most about the website?"* (All)
Word Cloud visualisation of responses from <u>all respondents.</u> (6 words, use frequency = 2)

Figure 109. IPA Evaluation Q8 - *"What did you dislike most about the website?"*
Word Cloud visualisation of responses from L: Iraqi respondents R: non-Iraqi respondents (3 words, use frequency = 2)

	Iraqi identity = Yes	Iraqi identity = No
IPA Evaluation Questions		
IPA Dislike Most	10	9
Nothing	3	5
No Catalogue	2	1
Usability Problems	1	2
Not Enough Photos	1	
Website Design	1	2
Lack of Caption Information	1	

Table 25. IPA Evaluation Q8 – Cross Tab analysis of coded responses

Appendix C-18   IPA Evaluation Q8 - Interactive Quote Matrix

IPA Evaluation Questions	Iraqi identity = Yes (N=45)	Iraqi identity = No (N=87)
IPA Dislike Most	No search option	Nothing
	Nothing really	Difficult to see descriptions of the photos
	N/A	Nothing particularly jumps out
	nothing	When I changed from portrait to landscape and back to portrait on mobile, it took me back to the first picture, and then the x wouldn't let me close the image, meaning I had to refresh the page.
	I had difficulty using the website	
	I hoped to see more pictures	There was nothing to dislike.
	- lack of information on some captions for photographs	I think depending on the browser the photos are a bit bigger to see the full image so you have to scroll around unless you click into it
	Nothing	Nothing
	It just felt like a photo dump in some ways. I would love if the photos were categorized by year range and province. Also if the photo had some sort of caption on it before clicking it, like 'Teens playing football in Baghdad, 1979'	Nothing of note
		The photographs are all displayed as one on the main page. They do not seem to be ordered or catalogued.

Table 26. IPA Evaluation Q8 - Interactive Quote Matrix

Appendix C-19   IPA Evaluation Q9 - Word Cloud Visualisations & Cross Tab Analysis

All
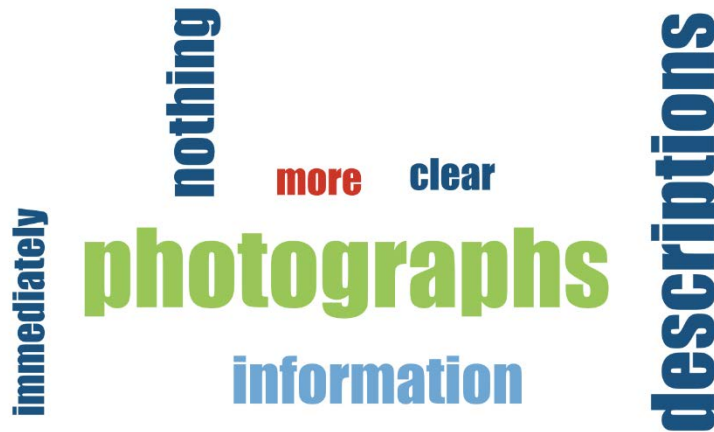
Figure 110. IPA Evaluation Q9 *"What would you change about the website?"*
Word Cloud visualisation of responses from all respondents. (7 words, use frequency = 2)

Figure 111. IPA Evaluation Q9 - *"What would you change about the website?"*
Word Cloud visualisation of responses from L: <u>Iraqi respondents</u> (10 words, use frequency = 1)
R: <u>Non-Iraqi respondents</u> (10 words, use frequency = 1)

	Iraqi identity = Yes	Iraqi identity = No
⌄ 🔲 IPA Evaluation Questions		
⌄ 🔲 IPA Change	5	8
🔲 Nothing	2	3
🔲 DESCRIPTIONS		4
🔲 Search Function	2	

Table 27. IPA Evaluation Q9 – Cross Tab analysis of coded responses

Appendix C-20   IPA Evaluation Q9 – Categorised Survey Data

Document	Responses	Codes	Iraqi identity
IPA27,	Same as above- would add some filters to find photos by province, year, and maybe a sort function.	Search Function	Yes
IPA23,	Searchable categories	Search Function	Yes
IPA19,	I prefer not answer		Yes
IPA17,	nothing	Nothing	Yes
IPA16,	N/A.	Nothing	Yes
IPA12,	Not too much!	Nothing	No
IPA01,	Nothing, it's a wonderful platform.	Nothing	No
IPA15,	I would like more information about each photograph. Many photographs have plenty of detail but some photographs have limited information.	DESCRIPTIONS, More descriptive information	No
IPA08,	Looking forward ro the narratives and virtual reality aspects of the project.		No
IPA07,	It wasn't immediately clear, on mobile at least, that the pictures were clickable and revealed the descriptions. Something to make this a little more intuitive could help.	DESCRIPTIONS, Description Visibility	No
IPA05,	Nothing	Nothing	No
IPA03,	Place descriptions underneath photo	DESCRIPTIONS, Description Visibility	No
IPA13,	It wasn't immediately clear to me that there was a description attached to each photo until I read the survey. Some photos have no description at all. I don't know if the information is available but it would be great if there was a similar amount of context for each photo.	DESCRIPTIONS, More descriptive information, Description Visibility	No

Table 28. IPA Evaluation Q9 – Categorised Survey Data

Appendix C-21   Oral History Interview Participant Survey

Oral History Interview Participant Survey

Introduction

I would like to extend my deep gratitude for all your participation in the Iraq Photo Archive research project to date, from submitting a photograph(s) to taking part in the oral history interview. I would really appreciate your feedback on the whole process. Your response to this questionnaire will help me understand the impact of the process on you and give valuable insights into what could be done differently or better.

1. Can you tell me why you decided to share a photograph with the Iraq Photo Archive?
2. Did you share the photo yourself or did a relative or friend do it on your behalf?
3. How did you feel about having your photograph included in this online public archive?
4. Can you tell me how you felt about taking part in the oral history interview?
5. How did you feel before and after taking part?
6. What did you like/dislike about the process?
7. Is there something I could have done differently?
8. Are you satisfied with your participation in the process as a whole?
9. Is there anything else you would like to mention about your participation in this project?

Many thanks again for all your contributions to this research project. Your feedback today will help with understanding the impact of the participatory process on you, the core participants. The project as a whole is concerned with building collective community histories and counter narratives, forming wider understanding of Iraqi stories beyond media representations of conflict, and challenging the dominant representation of Iraqi environments and culture within simulated media such as video games.

Appendix C-22   Oral History Interview Participant Survey Responses

Table 29. Oral history interview participant survey responses

ID	Why Share Photo with IPA?	Did you or someone else share photo?	How do you feel about your photo in IPA?	Feelings about taking part	Feelings before/after interview	Like or Dislike about process?
OH01	It was a good opportunity to showcase what Iraq was like in the past and show people that it's not a scary place like on news to change perceptions	Relatives	I'm happy they are out and have been viewed and seen	It was great to hear stories of my family and what life was like back then	Good would like to see the final products	During Covid so much of it was virtual and yeah want to see final product
OH02	To help show part of the true nature of the social life within the University of Baghdad in the seventy last century	I shared the photos myself	Don't mine	enjoyed talking about some dear memories	OK	What is disliked while I am helping a young Iraqi doing his PhD
OH03	The photo represented the diversity of culture that Iraq offers by showing Assyrians at a party in their traditional outfits. It shows how all these minorities (along with the majority) make the country as beautiful as it is.	I shared it myself.	I felt very good about having it included in this online public archive.	It felt very nice because I got a chance to explain more about the photo and I hope you do this again in the future!	I felt excited before and after. I think this was a great project	nothing

ID	Why Share Photo with IPA?	Did you or someone else share photo?	How do you feel about your photo in IPA?	Feelings about taking part	Feelings before/after interview	Like or Dislike about process?
OH04	Relative: I was participating in a workshop for Iraqi women on memories (by Rand Abdul Jabbar) and the Iraqi Photo Archive was discussed and Basil spoke in one of the sessions about the project. At the time my uncle was posting old family photographs on Facebook, and I asked him if I could upload the photos. I liked the idea of preserving and documenting life in Iraq pre1980s, growing up I had always enjoyed going through my parent's photo albums so I found looking at other peoples' family photographs really interesting too Participant: I thought sharing photographs of my father and myself in the photo archive was a way to honour him and present life in Iraq prior to the state it is now. The archive is a way for people to get a second look into Iraqi culture, other than what the media portrays	Relative: I shared a photo of my mother and her siblings, on their behalf	Relative: I feel included within the Iraqi disapora community, that I've often not felt connected to before. Participant: I feel I can keep my father alive, by keeping even just one of his photos in this archive, as well as the photo of myself. It feels like I am participating in history, or documenting history	Relative: Hearing my mother go into details on specific memories of her childhood made me feel more connected to her Alia: I felt like I was revisiting my childhood home, a very nice feeling, very warm feeling of thinking about my life in Iraq. But it also made me sad, to think of my family and their situation in Iraq, what happened after these photographs, what happened to my father and brother during Saddam, during the sanctions in the 90s, the US invasion, etc...	Participant: Before: I didn't know what to expect, I didn't know what questions there would be, or which photo I would be asked about After: I want to go look at the rest of my family photographs again, I want to find my own way to record and document my memories of my family, and things my father would say	Participant: I liked the process of thinking about the people in the photos and the lives of these people. But I think I would have liked to discuss with other people who have submitted their photographs, and see these people also document their own photos and listen to their memories too

ID	Why Share Photo with IPA?	Did you or someone else share photo?	How do you feel about your photo in IPA?	Feelings about taking part	Feelings before/after interview	Like or Dislike about process?
OH05	It is an editing project of gathering old archived pictures and it is nice to upload them onto platform hoping for long distance relatives or people to find each other and connect	I shared myself on behalf of my dad	It's a photo of my dad with 2 friends in a picnic trip to Al habbania Lake District	It was interesting to see what basil is trying to achieve and his plan of achieving it, also will be looking forward to see the outcome	Wasn't entirely sure of what basil was trying to achieve at first but after explaination it was clear and think it's a cool	I felt it was a bit lengthy and he wanted way too much detail yet not sure how he would express it. Like smell of conditions

Appendix C-23   VR experience appointment booking form

You are invited to take part in testing **_House of Memory /_** بيت الذاكرة , a Virtual Reality experience created by me, Basil Al-Rawi, in collaboration with contributors to the Iraq Photo Archive. This participatory project is part of my practice-based PhD research at the School of Simulation and Visualisation at the Glasgow School of Art. It explores the creative remediation of vernacular photographs and associated oral histories in VR.
Testing will involve putting on a VR headset and interacting with the experience, which takes around 15mins. You will also be asked to complete a consent form and 3 short surveys. Total time will take 45mins approximately

Your participation and feedback will make a valuable contribution to understanding the impact of this research project.

The LAB Gallery Incubation Space,

Unit 4, James Joyce Street

Dublin 1

Map: https://goo.gl/maps/e9bX9qmhZYUCheBdA

 Further information here: Participant Information Sheet

Questions or enquires:

Thank You

Basil Al-Rawi

Artist & PhD candidate at the School of Simulation and Visualisation at the Glasgow School of Art

Name:

Email:

Appointment time:

Appendix C-24   VR Evaluation demographic data

Figure 112. VR Evaluation - Gender demographics

Do you identify as Iraqi?	What gender do you identify as?						No answer	Totals
	Female	Male	Non-binary	Trans-gender	Prefer not to answer	Other		
Yes	5	5	0	0	0	0	0	10
No	13	12	0	0	0	0	0	25
No answer	0	0	0	0	0	0	0	0
Totals	18	17	0	0	0	0	0	35

Table 30. VR evaluation gender identity cross tabulated with Iraqi identity
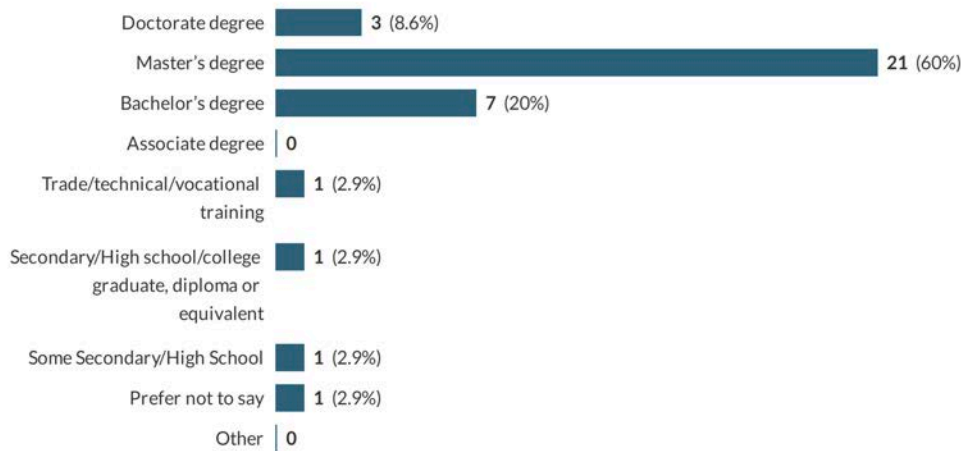
Figure 113. VR survey education level demographics

Do you identify as Iraqi?	Please select the highest level of education that you have attained?									No answer	Totals
	Doctorate degree	Master's degree	Bachelor's degree	Associate degree	Trade/technical/vocational training	Secondary/High school/college graduate, diploma or equivalent	Some Secondary/High School	Prefer not to say	Other		
Yes	1	5	3	0	0	1	0	0	0	0	10
No	2	16	4	0	1	0	1	1	0	0	25
No answer	0	0	0	0	0	0	0	0	0	0	0
Totals	3	21	7	0	1	1	1	1	0	0	35

Table 31. VR evaluation education level cross tabulated with Iraqi identity

Appendix C-25   Before VR Experience Survey

IRAQ PHOTO ARCHIVE ارشیف صور العراق

Introduction

I'm interested in finding out how you feel about the Virtual Reality experience you are about to have, both before and after you experience it. Your responses will help with understanding the impact of viewing narratives from Iraqi diaspora* in Virtual Reality on perceptions of representation.

Please be open and honest with your feedback in these questionnaires.

*Iraqi diaspora in this context refers to anyone who identifies as Iraqi but is living outside of Iraq, regardless of race, religion, citizenship, or native language.

Before the Experience

1. You are about to experience a Virtual Reality environment which will contain first person narratives from Iraqi diaspora.

    a) What are your expectations of the type of stories you are about to hear?

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    b) What are your expectations of the kind of visual environment you will see?

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    ```

2. Have you ever experienced a simulated representation of Iraq before? E.g. an Iraqi location used as a setting in a video game, a heritage visualisation in a museum/online, a simulated character in a video game etc.?

    ☐ Yes
    ☐ No

If yes, please describe in as much detail as possible your memory of this representation:

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3. Prior to this VR experience, please list any words you generally associate with Iraq:

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4. What age range group do you fit into from the following?

☐ 18 – 24
☐ 25 – 34
☐ 35 – 44
☐ 45 – 54
☐ 55 – 64
☐ Above 65

5. What gender do you identify as?

☐ Male
☐ Female
☐ Trans-gender
☐ Non-binary
☐ Prefer not to answer
☐ Other_____

6. Where do you live?

☐ UK
☐ Ireland
☐ Rest of Europe, please specify _____
☐ Iraq
☐ Rest of Middle East, please specify _____
☐ Asia, please specify
☐ Americas, please specify _____
☐ Oceania, please specify _____
☐ Prefer not to answer
☐ Other_____

7. Do you identify as Iraqi?

☐ Yes
☐ No

(a) If yes, please indicate if you are (choose all that apply):

☐ Iraqi living in Iraq
☐ Iraqi living in the diaspora
☐ Iraqi with mixed ethnicity

(b) Do you identify as any of the following:

☐ Assyrian
☐ Chaldean
☐ Christian
☐ Jew
☐ Kurd
☐ Marsh Arab
☐ Muslim Shia
☐ Muslim Sunni
☐ Muslim
☐ Shabak
☐ Turkmen
☐ Yazidi
☐ Prefer not to disclose
☐ Other not listed, please specify:
_____

8. What is your ethnic group or background? Which category describes you?
Choose from all that apply:

- ☐ Black/African/Caribbean
- ☐ East Asian
- ☐ Hispanic/Latinx
- ☐ Indigenous American/First NationsMiddle Eastern
- ☐ North African
- ☐ South Asian
- ☐ Southeast Asian
- ☐ White / Caucasian
- ☐ Multiethnic
- ☐ Prefer not to disclose
- ☐ Other not listed, please specify: _____

9. Please select the highest level of education that you have attained?

- ☐ Doctorate degree
- ☐ Master's degree
- ☐ Bachelor's degree
- ☐ Associate degree
- ☐ Trade/technical/vocational training
- ☐ High school/college graduate, diploma or equivalent
- ☐ Some high school
- ☐ Other
- ☐ Prefer not to say

Thank You

IᴿᴀQ PHOTO AᴿCHIVE اᴿسق صوᴿ العᴿاقي .فق

Introduction

I'm interested in finding out how you feel about the Virtual Reality experience you are about to have, both before and after you experience it. Your responses will help with understanding the impact of viewing narratives from Iraqi diaspora* in Virtual Reality on perceptions of representation.

Please be open and honest with your feedback in these questionnaires.

*Iraqi diaspora in this context refers to anyone who identifies as Iraqi but is living outside of Iraq, regardless of race, religion, citizenship, or native language.

After the Experience

1. You just experienced a Virtual Reality environment which contained first person narratives from Iraqi diaspora.

    a)   Did the stories you heard meet your expectations? Please explain why/why not?

    b)   Did the visual environment you saw meet your expectations? Please explain why/why not?

2. Following your experience, please indicate the extent to which you agree or disagree with the following statements:

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
It was easy to know what the experience was about					
The experience met my expectations of stories from Iraq					
The narrations made me think more about the content of the photographs					
Hearing the voices of those who were in the photographs was engaging					
The experience brought the photographs and stories to life					
I would prefer to just look at the photograph and hear the audio narration					
I was exposed to new points of view or ways of thinking about Iraqi stories					
It made me want to see/hear more stories from Iraq told by Iraqis					
It made me want to know more about Iraqi culture and society					
I felt represented					

3.

	Strongly disagree				Strongly agree
	1	2	3	4	5
I think that I would like to use this VR experience frequently.					
I found the VR experience unnecessarily complex.					
I thought the VR experience was easy to use.					
I think that I would need the support of a technical person to be able to use this VR experience.					
I found the various functions in this VR experience were well integrated.					
I thought there was too much inconsistency in this VR experience.					
I would imagine that most people would learn to use this VR experience very quickly.					
I found the VR experience very cumbersome to use.					
I felt very confident using the VR experience.					
I needed to learn a lot of things before I could get going with this VR experience.					

4. What did you like most about the platform?

5. What did you dislike?

6. What would you change?

7. What value, if any, do you think there is in reconstructing archive material and presenting it in Virtual Reality?

Thank You

Appendix C-27   VR Before Survey Q1 - Word Cloud Visualisations & Cross Tab Analysis

All

Figure 114. VR Before survey Q1 - *"What are your expectations of the type of stories you are about to hear?"* (All)
Word Cloud visualisation of responses from all participants. (50 words, use frequency = 2)

Iraqi

Figure 115. VR Before survey Q1 - *What are your expectations of the type of stories you are about to hear? (Iraqis)*
Word Cloud visualisation of responses from Iraqi participants. (8 words, use frequency = 2)

Non-Iraqi
Participants

Figure 116. VR Before survey Q1 – *"What are your expectations of the type of stories you are about to hear?"* (Non-Iraqis)
Word Cloud visualisation of responses from <u>non-Iraqi participants.</u> (36words, use frequency = 2)

Appendix C-28   VR Before Survey Q1 - Interactive Quote Matrix

Table 32. VR Before Survey Q1 - Interactive Quote Matrix

		Iraqi identity = Yes	Iraqi identity = No
House of Memory BEFORE	VR Before - Story Expectations	My expectations are that stories will showcase family, heritage and culture of Iraq. Memories of people who have been forced out of their home country Iraq Good background story of old Iraq which I did remember before I came to Ireland, 43 years old. I expect to see and hear stories of family life in Iraq, told through the eyes of Iraqis. I expect the stories to be told by people in the pictures or their relatives. - Stories of family - Stories depicting the natural landscape of Iraq - Stories of family in the context of the political climate at the time of the photograph Retro mostly black and white slightly posed shots rather than documentary style of an Iraq that we may wish to still experience? I'm expecting heart wrenching melancholy. I am from the Iraqi diaspora myself. I expect to hear nostalgic stories about a different kind of Iraq that once existed as well as sad and painful stories of loss of that Iraq.	Stories about cultural differences between Iraq and diaspora. I am expecting to hear stories about about shared culture that exists outside of borders and stories of loss. I'm expecting to hear stories that will shift my understanding of coming from and growing up in a country like Iraq. My limited outside knowledge and understanding of this country has come primarily from mass media, computer games, and newspaper articles. I'm expecting some of the stories might be difficult to hear but hope they help shed light and expand my knowledge of what it is like to be Iraqi. The lives and memories of the grandparents or even the lives of individuals who lived there or children who have visited Iraq and their memory of it. I feel like it'll be a time travel experience where i get to relive these images. Stories about art and music, stories about remedies for all kinds of illnesses, tinctures and herbs etc. Stories about how daily life was during the reign of the kingdom. Stories about family. Stories about village life and travel. I dont have any expectations i have come with an openness to this Real life, everyday experience. Stories counteracting negative media portrayals

	Iraqi identity = Yes	Iraqi identity = No
House of Memory BEFORE		
VR Before - Story Expectations	I think i'll probably hear about how Iraqi's, particularly middle and upper class Iraqi's used to live in Iraq in the so called 'golden era' of the 40s-70s. I'm sure that i'll hear lots of positive and nostalgic memories of how good life used to be there, rather than the difficulties potentially. Maybe also mostly from Baghdad and Basra given those are the families who had access to cameras. Looking at the images that were presented physically, I am expecting to see personal photos of iraqi individuals doing everyday activities.	I expect personal stories related to memories from Iraq I expect to hear stories about displacement and loss, conflict, war and hardship. Overall I expect to hear about the difficult situations Iraqi people has had to endure. That it will be an academic study, visually compelling with real humanity and a touching connection to the Iraqi diaspora Personal stories from the subjects past. Real life stories from everyday people To see what Iraq was during the good times. I have no expectations specifically other than I hope they are of interest Having heard a little from Basil about the project I am interested in how the stories presented will differ from predominant iraqi narratives in mainstream medias. My instinct suggests they will be personal stories rather than generalised stereotypes which often present Iraqi identities as ones underpinned by conflict and trauma and centred through a western gaze. It feels a bit to me like this could be a form of decolonising and owning the lens of these stories. I expect personal memories of people and places from the past I have an expectation that many of these narratives may be linked to experiences of conflict or prejudice.

	Iraqi identity = Yes	Iraqi identity = No
House of Memory BEFORE		
VR Before - Story Expectations		I'm looking forward to hearing more about a place I have never been but want to know more about
		A look into normal, day-to-day life that's different than whats portrayed in the media. It would be interesting to see life in Iraq pre-war and compare it to how its changed
		I expect to hear nostalgic stories about a lost time. I am presuming that those that have submitted stories have fond memories tinged with sadness about a world in which they left and which no longer exists.
		Well, i do not really have any expectations at the moment. I am just really interest in hearing individual authentic stories about Iraq. I am not very familiar with Iraq apart from all that i have read and heard, which could be massive propaganda, I do not know. Thus, i would like to hear from the Iraqi people themselves.
		Some history of Iraq as well as some stories about their family.
		I'm thinking how the visual story will be approached with the first narratives. Expecting some resonance though I don't have much knowledge of the culture of Iraqis.
		Answering intuitively, stories of displacement, migration and nostalgia. Family testimony, oral history.

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Appendix C-29   VR Before Survey Q2 - Word Cloud Visualisations

All

Figure 117. VR Before Survey Q2 - *"What are your expectations of the kind of visual environment you will see?"* (All)
Word Cloud visualisation of responses from <u>all participants.</u> (50 words, use frequency = 2)

Iraqi

Figure 118. VR Before Survey Q2 - *"What are your expectations of the kind of visual environment you will see?"* (Iraqi)
 Word Cloud visualisation of responses from <u>Iraqi participants.</u> (13 words, use frequency = 2)

Non-Iraqi Participants

Figure 119. VR Before Survey Q2 - *"What are your expectations of the kind of visual environment you will see?"* (Non-Iraqi)
Word Cloud visualisation of responses from non-Iraqi participants. (13 words, use frequency = 2)

Appendix C-30 VR Before Survey Q2 - Cross Tab showing full code system

	Iraqi identity = Yes	Iraqi identity = No
House of Memory BEFORE		
VR Before – Visual Expectations	10	25
ENVIRONMENT	4	11
URBAN SCENES		3
PALM TREES	1	2
DOMESTIC SPACES		3
LANDSCAPE		3
DESERT		2
DESTROYED BUILDINGS		1
RIVERS	1	
MARKETS		1
BAGHDAD		1
OLD BUILDINGS		1
VR	1	9
SIMULATED PHOTOS	1	4
IMMERSIVE		5
VIRTUAL ENVIRONMENT		3
INTERACTIVE		2
ANTICIPATION	1	
APPREHENSION		1
DIGITAL PRESERVATION		1
PHOTOS	4	3
FAMILY PHOTOS	4	1
UNIVERSITY PHOTOS	2	
OLD PHOTOS	1	1
BLACK & WHITE PHOTOS	1	
OCCASSIONS	1	
PEOPLE	3	
CLOTHING	2	
APPEARANCE	3	
VISUALLY APPEALING	4	1
BEAUTY	2	
COLOUR		1
TONE	1	1
No Expectations		3
WAR		3
ENGAGING		2
HISTORICAL	1	1
AUTHENTIC	1	1
INFORMATIVE		1
EVERYDAY LIFE		1
ALTERNATIVE PERSPECTIVE		1

Table 33. VR Before Survey Q2 - Cross Tab showing full code system

Appendix C-31   VR Before Survey Q3 – Simulations of Iraq

Document	Responses	Iraqi identity
VR4	Only a few times playing Desert Strike as a child. Rescuing hostages, blowing up missiles and fighting in the desert. Can't recall too much detail!	No
VR19	Beige, dusty, windswept scenes	No
VR20	Computer game environment, a war situation. Desert or war torn city	No
VR22	Video games represent Iraq in a negative way, terrorism, backward where as I know it is a place of culture and beauty	No
VR23	I saw many representations of Iraqi scenes of daily life in The Baghdad Museum in Iraq.	Yes
VR28	Yes, I've experienced both visual regenerations of ancient Babylonian architecture and locations but also through my work in video games experienced it as a scorched desert hellscape. Both experiences were in foreign spaces and induced this feeling of contradictory melancholia	Yes
VR32	In video games, I have seen references to Iraq (mostly Baghdad)	Yes

Table 34. VR Before Survey Q3 – prior simulations of Iraq experienced

Appendix C-32   VR Before Survey Q4 - Word Cloud Visualisations & Cross Tab Analysis

All Participants

Figure 120. VR Before Survey Q4 – *"Prior to this VR experience, please list any words you generally associate with Iraq."* (All)
Word Cloud visualisation of responses from all participants. (42 words, use frequency = 2)

Iraqi Participants

Figure 121. VR Before Survey Q4 – *"Prior to this VR experience, please list any words you generally associate with Iraq."* (Iraqi)
Word Cloud visualisation of responses from Iraqi participants. (15 words, use frequency = 2)

Non-Iraqi Participants

Figure 122. VR Before Survey Q4 – *"Prior to this VR experience, please list any words you generally associate with Iraq". (Non-Iraqi)*
Word Cloud visualisation of responses from non-Iraqi participants. (15 words, use frequency = 2)

	Iraqi identity = Yes	Iraqi identity = No
House of Memory BEFORE		
Words prior VR	10	25
WAR	4	21
OIL	1	7
CIVILISATION	3	5
FAMILY	6	1
EDUCATION	1	5
CULTURE	2	4
HISTORY	2	4
HERITAGE	1	5
FOOD	4	2
AMERICA		5
DESERT		4
ENVIRONMENT	2	2
PALM TREES	2	2
SADDAM	1	3
LOVE	3	
LOSS	2	1
HOME	3	
DISPLACEMENT	1	1
BEAUTY	1	1
HOPE	2	
SADNESS		2
EXPLOITED		1

Table 35. VR Before Survey Q4 - Cross tab analysis

Appendix C-33   VR Before Survey Q4 – Categorised Survey Data

Table 36. VR Before Survey Q4 - Categorised Survey Data

Document	Responses	Codes	Iraqi identity
VR32	War Corruption Civilisation	WAR, CIVILISATION	Yes
VR30	I think I would associate Iraq with: Political instability Suffering and mourning Displacement and movement Environmental degradation A lost generation A lost agricultural heritage But also Pride in the nation and heritage The cradle of civilisation and writing The land between two rivers Love of dates, bamya, bagila and the most incredible food Love of family and tribal bonds	CIVILISATION, FAMILY, HERITAGE, FOOD, ENVIRONMENT, LOVE, LOSS, DISPLACEMENT	Yes
VR3	Beauty, educational, deep in culture and history.	EDUCATION, CULTURE, HISTORY, BEAUTY	Yes
VR29	history, war, love, potential, hope, disappointment.	WAR, HISTORY, LOVE, HOPE	Yes
VR28	Family, love, food, home, heat, roots, belonging, health, hardship, disappearance, melancholy, friends, art, revolution, Amber, children, alliances, intelligence, loss, pain, hope.	FAMILY, FOOD, LOVE, LOSS, HOME, HOPE	Yes
VR27	Palms Dates Family Societal-norms Music Riversides Breaking bread together	FAMILY, FOOD, ENVIRONMENT, PALM TREES	Yes
VR7	Civilisation Culture Wealth Abbasid empire Sassanid empire Oil War Saddam Occupation Looting Civil war	WAR, OIL, CIVILISATION, CULTURE, SADDAM	Yes
VR26	- Heat - Distant family - Conflict - Palm trees	WAR, FAMILY, PALM TREES	Yes
VR23	Family Home Amazing food Islam Coffee Markets Rivers Boat rides Excitement	FAMILY, FOOD, HOME	Yes
VR16	Nice country to live in it. Good memories of my birth county . To remember all my family members.	FAMILY, HOME	Yes
VR11	War, dictatorship, exploitation, oppression,	WAR	No
VR12	War, conflict, sadness, loss, displacement, death.	WAR, LOSS, DISPLACEMENT, SADNESS	No
VR13	Academic, intellectual, historically culturally advanced	EDUCATION, CULTURE	No

VR14	War, dates, palm trees, a few years of my childhood.	WAR, PALM TREES	No
VR15	War, bombings, terrorist	WAR	No
VR10	Positive - Early area of agriculture, urbanisation, economics, language and architecture. Negatively - Former European colony exploited for resources. Still exploited for resources and media stories.	CIVILISATION, EXPLOITED	No
VR17	Ancient civilization, great food and warm hospitality.	CIVILISATION, FOOD	No
VR18	War Desert Babylon Gardens Education History	WAR, EDUCATION, HISTORY, HERITAGE, DESERT, ENVIRONMENT	No
VR19	People, sun, sun colours, sand colours, Middle East, American war	WAR, AMERICA, ENVIRONMENT	No
VR20	War, Oil, Desert Storm	WAR, OIL, DESERT	No
VR21	Conflict Warfare America Territory Killed	WAR, AMERICA	No
VR22	War, Oil, Saddam	WAR, OIL, SADDAM	No
VR9	Culture History Heritage War Baghdad Basra Shooting	WAR, CULTURE, HISTORY, HERITAGE	No
VR24	Sadam Hussein War Kuwait American soldiers	WAR, AMERICA, SADDAM	No
VR25	War torn, destroyed, sectarian, oil, desert. Ancient, diverse.	WAR, OIL, HERITAGE, DESERT	No
VR8	Sunshine, luscious and exotic fruits. Date palms, an abundance of grilled fish. Swimming, desert, camels, sheep, chickens, boats, beautiful gardens, perfumes, traditional clothing. Traditional music. Wakes and funerals, weddings,education, social gatherings, family, fashion, food, cooking.	FAMILY, EDUCATION, CULTURE, FOOD, DESERT, PALM TREES	No
VR6	Education, civilisation, history but also war	WAR, CIVILISATION, EDUCATION, HISTORY	No
VR5	Education, Historical treasure, friendship Story, War, destruction, and sadness	WAR, EDUCATION, HERITAGE, SADNESS	No
VR4	Heritage, trade, tourism, Oil, war, strife, America, history,	WAR, OIL, HISTORY, HERITAGE, AMERICA	No

VR2	War. Division. Oil. Secular. Better times. Iran. Saddam. Potential. Caliphate.	WAR, OIL, SADDAM	No
VR31	War, pain, misunderstandings	WAR	No
VR1	Occupation, oil, early science discoveries.	WAR, OIL, CIVILISATION	No
VR33	War, children,	WAR	No
VR34	Battles, mysterious motifs, beautiful patterns in design.	WAR, CULTURE, BEAUTY	No
VR35	Oil, war, western/US aggression, Kurdistan, ancient civilisation.	WAR, OIL, CIVILISATION, AMERICA	No

Appendix C-34   ITC-SOPI Participant Comments

'If there is anything else you would like to add, please use the space below:'

Table 37. ITC-SOPI Participant Comments

Document	Responses	Codes	Iraqi identity
VR4	I felt that if I could step around the space, I could have even more of an attachment to the experience. The feeling of standing still limited my 'interaction' of the VR experience but otherwise it was incredibly immersive. I'd love to hear more stories and travel through people's spaces!	Immersive	No
VR5	Although I almost felt the smell of the citrus trees, it would have been great to actually smell them. Love, loved the stories.	Scent	No
VR7	More funding could have helped equipping Basil with more representative rendering.	Better visual fidelity	Yes
VR12	It was a beautiful interaction - felt very human, real and respectful.	Empathy	No
VR16	None. Everything was good.	Postive Feedback	Yes
VR18	I feel the experience heightened my sense of the "moment in time" in the photos.	Immersive	No
VR19	I felt the environment so strongly I felt I was searching for smells and even had a visceral reaction worrying about bugs. The choice of how the text is displayed was clever, clear and captivating too. I felt it fully utilised the medium of virtual reality in its storytelling. Loved it.	Strong Emotional Response, Immersive, Scent	No
VR20	The combination of seeing the image, hearing the memory and being in the space gave a fuller experience than just the image/text on its own would. It helped me understand the character better, understand them/know them more as a person than if I had to imagine it myself.	Remediation	No
VR21	I would have liked the experience to continue, to elaborate on the narratives	More narratives	No
VR24	Really lovely experience, please continue to make more!	More narratives	No
VR26	Maybe I was so consumed by the landscape but I actually felt the room get hotter when I was in the garden, and under the palm trees - really liked the second one under the palm trees	Immersive	Yes
VR27	Super awesome. Highly recommend to others if you end up having a VR exhibition.	Postive Feedback	Yes

VR28	Scents. An actual curation of scents triggered in the room by playback points would've destroyed me and put me in my grandmother's garden. I really think having that as an element alongside more sound design (water elements, wind in the palm trees etc.) would take this project to insane frontiers.	Scent	Yes
VR29	This experience really brought about a huge emotional response from me. At times I felt like crying, at others I felt like sitting and eating the food on the picnic blanket. I almost just wanted to be there at that time, in real life, forever!	Strong Emotional Response, Immersive	Yes
VR31	The experience was very real for me. I was there with the narrators listening to their stories vividly. The inclusion of natural environmental components such as trees with fruits was great.	Immersive	No
VR33	The environment is amazing. I really enjoy the experience, and the photo with the storytelling. The only thing I'd like to add is if I can interactive with the objects in the scene, such as grab the cup, book or food, that would be much fun. Thanks	More interactivity	No
VR34	It'd be better if the scenes can swift more smoothly. Although the displayed environment presents a game-like experience, which is intriguing as well.	Better visual fidelity	No
VR35	This was a fascinating experience of being able to access an otherwise inaccessible site. The idea of constructing a three dimensional location of someone's memory, particularly in the context of diaspora, promotes empathy and personal human understanding where it wouldn't otherwise exist.	Empathy	No

Appendix C-35　　VR After Survey Q1 - Word Cloud Visualisations & Cross Tab Analysis

All Participants

Figure 123. VR After Survey Q1- *"Did the stories you heard meet your expectations? Please explain why/why not?"* (All)
Word Cloud visualisation of responses from all participants. (50 words, use frequency = 3)

Iraqi Participants

Figure 124. VR After Survey Q1- *"Did the stories you heard meet your expectations? Please explain why/why not?"* (Iraqi)
Word Cloud visualisation of responses from Iraqi participants. (18 words, use frequency = 3)

Non-Iraqi Participants

Figure 125. VR After Survey Q1 – *"Did the stories you heard meet your expectations? Please explain why/why not?"* (Non-Iraqi)
Word Cloud visualisation of responses from <u>non-Iraqi participants.</u> (18 words, use frequency = 3)

	Iraqi identity = Yes	Iraqi identity = No
House of Memory AFTER		
Story Expectations - After	10	25
EXCEEDED EXPECTATIONS	2	6
MET EXPECTATIONS	8	17
DIDN'T MEET EXPECTATIONS	1	4
No Expectations		1
PERSONAL STORIES	5	9
IMMERSIVE	1	6
BEAUTIFUL	3	4
DEPTH OF FEELING	1	5
NOSTALGIA	2	3
RELATABLE	2	2
POLITICAL STORY	2	2
GENUINE	2	2
UNIVERSAL THEMES		3
EVERYDAY LIFE		3
INTIMATE		2
PROSTHETIC MEMORIES		2

Table 38. VR After Survey Q1 - Cross tab analysis

Appendix C-36   VR After Survey Q2 – Word Cloud Visualisations & Cross Tab Analysis

All Participants

Figure 126. VR After Survey Q2 – *"Did the visual environment you saw meet your expectations? Please explain why/why not?"* (All)
Word Cloud visualisation of responses from <u>all participants.</u> (50 words, use frequency = 3)

Iraqi Participants

Figure 127. VR After Survey Q2 – *"Did the visual environment you saw meet your expectations? Please explain why/why not?"* (Iraqi)
Word Cloud visualisation of responses from <u>Iraqi participants.</u> (32 words, use frequency = 2)

Non-Iraqi Participants

Figure 128. VR After Survey Q2 – *"Did the visual environment you saw meet your expectations? Please explain why/why not?"* (Non-Iraqi)
Word Cloud visualisation of responses from <u>non-Iraqi participants.</u> (32 words, use frequency = 2)

	Iraqi identity = Yes	Iraqi identity = No
House of Memory AFTER		
Visual Expectations - After	10	25
MET EXPECTATIONS	5	15
EXCEEDED EXPECTATIONS	2	7
DIDN'T MEET EXPECTATIONS	1	3
NO EXPECTATIONS	2	
VISUAL IMPACT	6	16
IMMERSIVE	3	8
NARRATION	3	8
VISUAL SEQUENCING	2	8
SHANASHEEL HOUSE	1	8
REAL	2	6
BEAUTIFUL	1	5
EMOTIONAL IMPACT	1	5
SOUND DESIGN		4
RELATABLE	2	1
CALM		3
GENUINE	1	1
VR FOR STORYTELLING		1

Table 39. VR After Survey Q2 - Cross Tab Analysis

**Appendix C-37   VR After Survey Q5 - Word Cloud Visualisations &
Cross Tab Analysis**

All Participants

Figure 129. VR After Survey Q5 – *"What did you like most about this VR experience?"* (All)
Word Cloud visualisation of responses from all participants. (50 words, use frequency = 2)

Iraqi Participants

Figure 130. VR After Survey Q5 – *"What did you like most about this VR experience?"* (Iraqi)
Word Cloud visualisation of responses from Iraqi participants. (12 words, use frequency = 2)

Non-Iraqi Participants

Figure 131. VR After Survey Q5 – *"What did you like most about this VR experience?"* (Non-Iraqi) Word Cloud visualisation of responses from <u>non-Iraqi participants.</u> (32 words, use frequency = 2)

Appendix C-38 VR After Survey Q5 – Categorised Survey data

Table 40. VR After Survey Q5 – Categorised Survey data

Document	Responses	Codes	Iraqi identity
VR31	I enjoyed how the VR experience isolated me from my surrounding and took me on an interrupted journey.	IMMERSIVE, TRANSPORTED TO A NEW PLACE	Yes
VR30	It created an immersive experience which brought the photos and audio to life.	IMMERSIVE, STORIES BROUGHT TO LIFE, AUDIO	Yes
VR3	The experience as a whole. It really did relate to me in many ways.	RELATABLE	Yes
VR29	What I loved most was feeling like i was in my grandma's actual really garden in Baghdad at that moment in time, feeling safe, happy and just emotional. I've never been, so to be able to experience just 5 minutes of that was magical. The picnic blanket with the pomegranates, the Kahi and the coffee was just so beautiful and brought to life what I've been told verbally. I also loved being able to look up at the palm trees.	STORIES BROUGHT TO LIFE, 'Being in the Photo', EMOTION	Yes
VR28	The escapist element. Internalising stories and their connections with the photo. The rush of feelings, places, faces, scents and people as these stories were told while I wandered around this space that is literally arising in realtime.	IMMERSIVE, STORIES BROUGHT TO LIFE, EMOTION	Yes
VR27	Was great fun.	FUN	Yes
VR7	Environment emersion	IMMERSIVE	Yes
VR26	The audio element	AUDIO	Yes
VR23	I loved the entire experience of being able to transport into the photos. It was really enjoyable and really brought these memories to life.	STORIES BROUGHT TO LIFE, 'Being in the Photo'	Yes
VR16	The images of the house, gardens, furnitures and places.	VISUAL ENVIRONMENT	Yes

Document	Responses	Codes	Iraqi identity
VR11	Being present in the simulated building and inspecting it in detail. Also enjoyed how the stories were told using, the photographs, narration for the stories and the spatial and temporal experience it offered in the building and the two locations.	VR FOR STORYTELLING, NEW PERSPECTIVE ON PHOTOS, SHANASHEEL HOUSE, PERSONAL NARRATION	No
VR12	The immersive nature of it. It feels like you are in the photograph as opposed to just looking at it. I also really liked being able to interact with the experience at my own pace and take the time to sit with each experience before interacting with the next.	IMMERSIVE, NEW PERSPECTIVE ON PHOTOS, 'Being in the Photo', INTERACTIVE	No
VR13	It gave me a more inclusive insight to the narrative of the participants without in any way taking from the inherent beauty/romance almost of the images. I really liked the humanity of the experience-it was not jarring or tech. It felt respectful to the participants and allowed me to understand and feel their memories.	VR FOR STORYTELLING, RELATABLE	No
VR14	The stories coming to life through the imagery evolving.	STORIES BROUGHT TO LIFE, VISUAL SEQUENCING	No
VR15	It was very simple and there weren't too many functions to learn in order to get the full experience	USABILITY	No
VR10	It expanded on the photographs in a new way. It was relaxing. Being in VR encouraged attention to the storyteller.	VR FOR STORYTELLING, NEW PERSPECTIVE ON PHOTOS, FOCUS ON NARRATIVE	No
VR17	The layout of the building, the ornaments, the colours, the two photographs that gave different stories. The fountain was really interesting. I also liked the garden an the date palm trees. The experience wanted me to explore the next level of the building.	VISUAL ENVIRONMENT	No

Document	Responses	Codes	Iraqi identity
VR18	I felt it added a dimension to how I viewed the photos and thought about them	NEW PERSPECTIVE ON PHOTOS	No
VR19	I liked how immersive it felt and how much I felt I was in another world without it being a replica of the real world. I liked the simple navigation. I like the home space as a space for play/reflection between stories. I loved the way the photographs environment came to live and more was revealed to you in each landscape. I liked how it properly used virtual reality as a storytelling tool rather than just the spectacle of the technology itself.	IMMERSIVE, VR FOR STORYTELLING, VISUAL SEQUENCING, TRANSPORTED TO A NEW PLACE, USABILITY, SHANASHEEL HOUSE	No
VR20	Engaging and immersive, I felt like I could explore and that there were lots of interesting possibilities	IMMERSIVE, INTERACTIVE	No
VR21	The immersive nature. I almost felt I should be able to smell the fruit on the trees.	IMMERSIVE	No
VR22	It's totally immersive nature really added to the story telling, great, really brought me to a completely different place emotionally	IMMERSIVE, VR FOR STORYTELLING, TRANSPORTED TO A NEW PLACE, EMOTION	No
VR9	The feeling of being immersed and transported somewhere else	IMMERSIVE, TRANSPORTED TO A NEW PLACE	No
VR24	The ability to walk around/ look up and down and see and hear different things.	INTERACTIVE	No
VR25	The immersive nature of it.	IMMERSIVE	No
VR8	It brings back lots of memories and brings the stories to life, for example sitting in the garden, the smells of the flowers, the trees laden with fruit.	STORIES BROUGHT TO LIFE	No
VR6	Being embedded within the images and stories	IMMERSIVE, 'Being in the Photo'	No

Document	Responses	Codes	Iraqi identity
VR5	I loved loved hearing the stories about the individuals in their own environments and to be a part of that. That fact it was also in their voices made it even more real to me. I loved how as the story would progress different elements would be added to the environment. Still want to have that breakfast.	IMMERSIVE, VISUAL SEQUENCING, PERSONAL NARRATION	No
VR4	The ease of use, and total immersion in the world.	IMMERSIVE, USABILITY	No
VR2	I liked how it made me focus and reflect on the topic.	VR FOR STORYTELLING, FOCUS ON NARRATIVE	No
VR1	Emotional charge, simplicity of the location that experience was taking place, details that added to the narrative but did not over power the subject of the experience.	EMOTION, VISUAL ENVIRONMENT	No
VR32	The interactive way to view the photo and know the story of it.	NEW PERSPECTIVE ON PHOTOS, INTERACTIVE	No
VR33	The scenes gradually change along with the narrations. I enjoyed the moment when trees appeared surrounding me in the little garden. And also the moment in the second scene that the sky turned dark and empty as the story ended in sadness.	VISUAL SEQUENCING, VISUAL ENVIRONMENT	No
VR34	As said, the construction of a virtual space from someone's description of a photographic memory is fascinating.	VR FOR STORYTELLING, NEW PERSPECTIVE ON PHOTOS	No
VR35	I liked how the different objects popped into the environment as the narrators told their stories. When they talked about birds, then birds chipped and they talked about food or a chair then it was embedded into the environment. I also liked the size of the images.	VR FOR STORYTELLING, VISUAL SEQUENCING	No

Appendix C-39 VR After Survey Q6 – Categorised Survey data

Table 41. VR After Survey Q6 – Categorised Survey data

Document	Responses	Codes	Iraqi identity
VR31	Making the environment less animated would enhance the experience.	VR TECH LIMITATIONS	Yes
VR30	Nothing	NOTHING	Yes
VR3	Nothing.	NOTHING	Yes
VR29	That it was over! I didn't dislike anything.	NOTHING, THAT IT ENDED	Yes
VR28	How soon it ended and the technological limitations on Quality of photos and renders in the space. I wanted the impossible. For it to be real.	VR TECH LIMITATIONS, THAT IT ENDED	Yes
VR27	I think my eyesight is slightly compromised but that's my own issue!	HEALTH ISSUE	Yes
VR7	Lack of directions	LACK OF DIRECTIONS	Yes
VR26	The lack of physical space to move around	VR TECH LIMITATIONS	Yes
VR23	I disliked that there were only two photos, I wish there were more!	MORE STORIES	Yes
VR16	I like everything were used.	NOTHING	Yes
VR11	I Wollstonecraft of like to explore more	MORE STORIES	No
VR12	As someone with issues with vertigo, I felt a little motion sickness after the experience but that is purely due to my personal circumstance.	HEALTH ISSUE	No
VR13	I did not dislike anything. I Would have liked more stories I suppose, or ideally a continuation of the narratives.	NOTHING, MORE STORIES	No
VR14	I didn't understand that I needed to go into the rooms to access the stories.	LACK OF DIRECTIONS	No
VR15	Nothing	NOTHING	No
VR10	VR in general still fells a little clunky, but you can still forget about the headset. The short duration of this piece helps.	VR TECH LIMITATIONS	No
VR17	I did not dislike anything about the VR experience.	NOTHING	No

Document	Responses	Codes	Iraqi identity
VR18	Nothing of note	NOTHING	No
VR19	I didn't dislike it. It took me a minute to realise how much I could explore in the individual stories, I think this is possibly because you accidentally go into the mode of feeling you're being told a story and so just stand and watch. In the second story I went into (the car photo) I wasn't sure where my best vantage point would be for looking at the photo and exploring the environment / car and so was standing very close to the photo it felt. I would have liked more time in this environment but the resting space at the end of the story is a blacked out environment and not the starting environment with trees and road and car etc.	NOTHING, LACK OF DIRECTIONS, THAT IT ENDED	No
VR20	I would like more stories to explore	MORE STORIES	No
VR21	Na	NOTHING	No
VR22	Nothing, I really enjoyed the experience	NOTHING	No
VR9	That it would take a me a while to adjust to use it with ease	LEARNING CURVE	No
VR24	I would like to see more stories!	MORE STORIES	No
VR25	I would have liked to experience more.	MORE STORIES	No
VR8	Nothing, I thought it was very good.	NOTHING	No
VR6	Nothing	NOTHING	No
VR5	That it ended	THAT IT ENDED	No
VR4	The headset was quite heavy, and limited my movement due to the headset being wired.	VR TECH LIMITATIONS	No
VR2	The weight of the head piece.	VR TECH LIMITATIONS	No

Document	Responses	Codes	Iraqi identity
VR1	There was only one thing. I only discovered that photographs were portal to the further levels of experience by coincidence. I must have missed the instruction to do so by not being too familiar with VR controls.	LACK OF DIRECTIONS	No
VR32	Nothing, just wish to see more photos with more stories in the environment.	NOTHING, MORE STORIES	No
VR33	At the start of the VR experience, I didn't manage to interact with the scenes and was lost on the ground floor of the building. Another matter is I reckon it would be better if the scenes can shift more smoothly.	VR TECH LIMITATIONS, LACK OF DIRECTIONS	No
VR34	I felt limited i how much I could explore the environment physically, that is I felt I needed to rely on the controllers to move around.	VR TECH LIMITATIONS	No
VR35	I did not dislike anything	NOTHING	No

Appendix C-40　　　VR After Survey Q7 – Categorised Survey data

Table 42. VR After Survey Q7 – Categorised Survey data

Document	Responses	Codes	Iraqi identity
VR31	I would change the setting from night time to daylight for the story of the woman as she speaks about serving breakfast in the garden. I also would enable the audience to engage with the objects on the picnic floor to involve them with the environment.	MORE INTERACTION, VISUAL DETAILS	Yes
VR30	More stories :-)	MORE PHOTOS/STORIES	Yes
VR3	More photo realism.	MORE PHOTO REALISM	Yes
VR29	I think i would have liked a sky in the garden to be able to look up.　For the communist story - I think i would have liked to be closer to the car and be able to really investigate it, but to be honest I just didn't do that at the time, i should have!	VISUAL DETAILS	Yes
VR28	Not so much change. But a growth point/Factor. I would've loved to have the option for the storytellers to be in the space with me. Particularly for Batoul. It would've been an incredible experience to have her in that vacant chair, or at least the option to. The fact it was vacant was still a strong statement nonetheless. It made me think about the people who are no longer with us that would've been when the picture was originally taken. Her father in particular who she spoke about so lovingly, who couldn't be there to hear it or to see what would become of this daily spread generations later.	CONTENT	Yes
VR27	More time, more pics and stories.	MORE PHOTOS/STORIES, MORE TIME	Yes
VR7	Add indication of directions	CLEARER INSTRUCTIONS	Yes
VR26	Have a larger space for people to move around, make use of the functions of the VR more	MORE INTERACTION, LARGER SPACE	Yes
VR23	I think it would be nice to possibly introduce natural sounds where applicable and maybe even scents, to create an all encompassing feeling of being transported into the photograph.	SCENT, SOUND DESIGN	Yes
VR16	Just change the cup of tea to the cup of coffee.	VISUAL DETAILS	Yes
VR11	I would add at least 3 more images to explore	MORE PHOTOS/STORIES	No

Document	Responses	Codes	Iraqi identity
VR12	I wouldn't change anything about this experience. It was an absolute privilege to be allowed to share in the immersive recollection of these personal memories and to hear the real voices of those who experienced these memories.	NOTHING	No
VR13	Nothing of the existing experience though ideally more.	NOTHING, MORE PHOTOS/STORIES	No
VR14	A way for the viewer to know that they are to enter the room.	CLEARER INSTRUCTIONS	No
VR15	Nothing	NOTHING	No
VR10	More photographs	MORE PHOTOS/STORIES	No
VR17	Nothing really, except that it would be great to see the next floor and potentially outside the building.	NOTHING, LARGER SPACE	No
VR18	I would like to experience it with more photos	MORE PHOTOS/STORIES	No
VR19	I don't think I'd change anything at the moment. Perhaps review the car photo as mentioned above, the end space so that people can explore a little after while digesting the story. It may also be worth considering the length in relation to how much there is to take in in the environment/ photograph. For example for the photo of the woman in the dress can be take in after a few viewings but there is more going on in the photo of the car so it requires more time. Having done the experience once I'd also be interested to experience it without the text. It's easy to default to reading rather than listening. I'm also interested in the choice of how the text enters and exits.	MORE TIME, INTERFACE OPTIONS	No
VR20	I would add more sound design	SOUND DESIGN	No
VR21	Na	NOTHING	No
VR22	I wouldn't really change anything except I would like more!	MORE PHOTOS/STORIES	No
VR9	N/a	NOTHING	No
VR24	Nothing	NOTHING	No

Document	Responses	Codes	Iraqi identity
VR25	Nothing occurs.	NOTHING	No
VR8	Nothing	NOTHING	No
VR6	Just more photos and access to the second floor	MORE PHOTOS/STORIES, LARGER SPACE	No
VR5	Nothing but would add the smell of the citrus tress	NOTHING, SCENT	No
VR4	More experience and stories!	MORE PHOTOS/STORIES	No
VR2	Before starting the VR experience, it would help if it was clearer that the trigger interaction should occur with the photograph.	CLEARER INSTRUCTIONS	No
VR1	I would maybe include some instruction that photographs are portal to the next level, although that would probably affect the beauty that simplicity of the experience gives.	CLEARER INSTRUCTIONS	No
VR32	Maybe have more interactive with the environment?	MORE INTERACTION	No
VR33	I would like to add a door to the building, though I know the importance is the pictures, visual experience and the immersive narrations, in that I feel a wee bit encaged in the thick building. OR this is specially designed to be matched with the history of Iraq. Also, again, I hope the scenes can shift more smoothly.	MORE INTERACTION, LARGER SPACE	No
VR34	Longer cable, larger are to move around in.	VR TECH	No
VR35	I would not change anything. The VR environment and instructions were straightforward. Maybe just deactivate the buttons that are not in use on the joysticks because when I first entered the environment, I clicked on the wrong button, and it took me to another page and I was lost for a bit. Though we sorted it out fast.	VR TECH	No

Appendix C-41   VR After Survey Q8 – Categorised Survey data

Table 43. VR After Survey Q8 – Categorised Survey data

Document	Responses	Codes	Iraqi identity
VR31	Not only would undergoing this experience almost engage you in conversation with persons from a different place on the globe, it also recreate the setting for you and almost makes you time travel.	CONNECTING WITH THE PAST	Yes
VR30	I think this is of great value, particularly to those unfamiliar with Iraq and it would allow them to experience a side of Iraq that they probably don't get to see very often.	DIFFERENT PERSPECTIVES	Yes
VR3	Gives the audience different perspectives, and possibly change their minds for the better, in terms of culture and its people.	DIFFERENT PERSPECTIVES, ENCOURAGE EMPATHY	Yes
VR29	I think this has such a huge impact for Iraqi's living in the diaspora who have never been to Iraq, to just be able to experience what it could have been like for a little bit - given this was robbed of us due to the war. For those who might not know much about Iraq apart from what they see online, this is such a fantastic, engaging and exciting opportunity and experience to be able to learn more about personal experiences that have come out of Iraq and provide a different perspective to the one they might have grown up with. It's a great way of challenging political ideas too through the creative medium.	DIFFERENT PERSPECTIVES, VALUABLE FOR IRAQIS, ENGAGING	Yes
VR28	I think there's immense value in any medium that allows us to effectively tell our own stories and let people in without allowing for exploitation. Often in Iraq, allowing outsiders in is often grounds for exploitation. Be that as tourists, saviours or foreign business. The world has learned to take take take from Iraq. And this format presents a way for them to take with no chance to exploit. They cant take pictures, they cant buy shit. They can just experience it and be present. They can't show it to their friends or their funding institutions. They cant sell it to Hollywood They can just be present and experience it firsthand.	AUTHENTIC VOICE, VALUABLE FOR IRAQIS	Yes
VR27	Massively valuable but could also gain from the oral recordings interspersed with close ups of the pics if VR is not available.	VALUABLE	Yes
VR7	The descriptive immersion in the story of the storyteller is very helpful to live their nostalgic experience.	IMMERSION	Yes

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Document	Responses	Codes	Iraqi identity
VR26	Offering a way to relive stories, and to allow other people to feel and understand a story that has been told by a loved one	DEEPER UNDERSTANDING, ENCOURAGE EMPATHY, BRINGS STORIES TO LIFE	Yes
VR23	I think this experience could really shape the western view of Iraq in a positive way. This experience not only takes old Iraqi photos and memories and transports you into them, but it also shows the real reality of life in Iraq - the everyday things that people experience, their thoughts with the audio, many things that make Iraq and Iraqis much more relatable, and make the view of Iraq much more realistic, as opposed to people just viewing it as a war zone.	DEEPER UNDERSTANDING, DIFFERENT PERSPECTIVES, AUTHENTIC VOICE, ENCOURAGE EMPATHY, BRINGS STORIES TO LIFE	Yes
VR16	It is very valuable for the Iraqi.	VALUABLE FOR IRAQIS	Yes
VR11	I find it to be a really engaging way to experience the complexities and interpretative qualities of a single image in tree dimensional space simulations.	NEW PERSPECTIVES ON PHOTOS, ENGAGING	No
VR12	As someone who is not Iraqi, the value I can see is the potential to open up narrow perceptions of Iraq. These images, stories and VR of every day Iraqi people experiencing their day to day lives are not widely available. I am much more exposed to news in relation to war and conflict in Iraq and this colours my view of Iraq. There is something very powerful in a VR experience compared to simply viewing a photo or listening to stories in isolation. You feel part of the experience, the recollection, the emotion, the memory. This is not often achieved using these other mediums. The use of VR for reconstruction of archive photos offers a unique and poignant experience for the participant.	DIFFERENT PERSPECTIVES, IMMERSION, AUTHENTIC VOICE, EMOTIONAL EXPERIENCE	No

Document	Responses	Codes	Iraqi identity
VR13	It brings the narrative to life, without compromising the integrity of the archive photographs. I do not feel I am inaccurately presuming the lives or narratives as it is explained in the participants voice. This is really wonderful. I think the huge value of presenting in virtual reality is that I have a 360 view of what the participants experience. I understand their happiness, their memory, I am in it, part of it. It extends my understanding and appreciation of their chosen archive.	DEEPER UNDERSTANDING, IMMERSION, AUTHENTIC VOICE, ENCOURAGE EMPATHY, BRINGS STORIES TO LIFE	No
VR14	The immersive nature makes it feel almost physical as if you are experiencing their story. This makes it more likely to connect with and remember the image and story.	IMMERSION, ENCOURAGE EMPATHY	No
VR15	In a world where media and news passes by so quickly and can be so hyped it's amazing to stop and be immersed in something educational but also experiential.	IMMERSION	No
VR10	It offers a dynamic and subtract way to expand on old photographs. It also offers a good mixed media platform, especially for the audio.	NEW PERSPECTIVES ON PHOTOS	No
VR17	There is enormous potential in reconstructing archive photographs and presenting them in Virtual Reality especially for Iraqi as it is still regrettably an unstable country but has a great history from the early days of civilisation and to the good days in Iraq. Through this Virtual Reality experience, it will encourage people to one day visit Iraq as tourists to see the rich history it has when it becomes a stable and safe country.	VALUABLE FOR IRAQIS, CULTURAL KNOWLEDGE, ENCOURAGE TOURISM	No
VR18	It very much heightens the sense of history/story specific to the phots in question. Looking at a photo evokes one thing but to listen to the narrative and view through VR allowed me to really sense the photos on another level. It allowed me to pick up on things in the photos I would not have necessarily noticed	NEW PERSPECTIVES ON PHOTOS, BRINGS STORIES TO LIFE	No
VR19	You get a much more rounded story and more context than a piece of text on a gallery wall could ever give you. It truly allows you to preserve the story and photograph from the individuals perspective.	DEEPER UNDERSTANDING, AUTHENTIC VOICE, NEW PERSPECTIVES ON PHOTOS	No

Document	Responses	Codes	Iraqi identity
VR20	Massive, it gives you much more context, you can really experience the photograph much more than what you can imagine from simply looking at a photograph. You understand that it's a real moment with a wider context and part of someone's life. I suppose it's a more full medium with more possibilities for the viewer than what a photo can offer	DEEPER UNDERSTANDING, AUTHENTIC VOICE, NEW PERSPECTIVES ON PHOTOS	No
VR21	It develops a bridge between historic and contemporary technologies. It offers a terrain for intergenerational exchange. A space to learn about heritage, and humanise experiences.	DIFFERENT PERSPECTIVES, CONNECTING WITH THE PAST, CULTURAL KNOWLEDGE	No
VR22	It's great to hear people own stories told by them, it gives you a better understanding of different places and people	DEEPER UNDERSTANDING, AUTHENTIC VOICE	No
VR9	It provokes greater interest for people and therefore greater memories and understanding.	DEEPER UNDERSTANDING	No
VR24	Much better way of story-telling behind just a simple portrait of a person	BRINGS STORIES TO LIFE	No
VR25	I felt it was very informative and a positive means by which to allow people to experience a place or people that they otherwise would never have the opportunity to.	DEEPER UNDERSTANDING, DIFFERENT PERSPECTIVES	No

Document	Responses	Codes	Iraqi identity
VR8	A lot of value, an importance for present and future generations to have a deeper insight and knowledge into the culture of their ancestors and the Iraqi way of life, and the VR allows you to experience that in a way that was not possible before. VR brings the story to life and you are there in it, flooded with memories.	DEEPER UNDERSTANDING, DIFFERENT PERSPECTIVES, IMMERSION, CONNECTING WITH THE PAST, BRINGS STORIES TO LIFE, VALUABLE FOR IRAQIS, CULTURAL KNOWLEDGE	No
VR6	I think you did well with ethics and you can see with the how comfortable with the people in the story speak about the moments		No
VR5	Essential value and so so important	VALUABLE	No
VR4	Huge value. This can allow people who not only cannot travel to see archives and exhibitions of work and stories, but also allows them to be totally immersed in the story. It can shut off other senses that can distract and interfere with becoming immersed in experiences like this.	IMMERSION, ACCESSIBILITY	No
VR2	It encourages the participant to focus on the experience and potentially identify with the Issues that the archive brings up.	ENCOURAGE EMPATHY	No
VR1	I think it has a great value in reconstructing the past and pass the experiences to future generations in such a immersive way. I believe that the immersive aspect of the VR experience would definitely make it easier to empathise with past generation or unfamiliar cultures.	IMMERSION, ENCOURAGE EMPATHY, CONNECTING WITH THE PAST	No
VR32	It can make the audience get closer to the photo, understand the story of the photo, and become a collective memory. It is more engaging and impresses the audience.	DEEPER UNDERSTANDING, NEW PERSPECTIVES ON PHOTOS, ENGAGING	No

Document	Responses	Codes	Iraqi identity
VR33	The reconstruction helps people to view the past in different perspectives, because the whole process includes ideas and manipulation in a different time, and also the viewers are from a different age or time. It is valuable itself being reconstructing archive photographs and presenting them in VR. In many sensual aspects, VR provides the opportunity for memorising people in a new way. VR does help the younger generation approach and remember the past, as much as possible.	DIFFERENT PERSPECTIVES, CONNECTING WITH THE PAST	No
VR34	As said, I think it really promotes empathy and understanding that otherwise wouldn't happen, and this is most effectively done through reconstructing a location.	DEEPER UNDERSTANDING, ENCOURAGE EMPATHY	No
VR35	I think there is a lot of value in letting people hear the real authentic stories of Iraqi people from the people themselves. Their experiences, the perceptions they have, their journeys and the lessons learned. VR allows people to share their experiences with others and gives a platform to see, hear, feel and be a part of it. This VR experience reminded me of the days in the village when we would sit by the fire listening to stories told by our elders.	IMMERSION, AUTHENTIC VOICE, CONNECTING WITH THE PAST, EMOTIONAL EXPERIENCE	No

Appendix C-42   VR After Survey Q8 - Interactive Quote Matrix

Table 44. VR After Survey Q8 – Interactive Quote Matrix

House of Memory AFTER	Iraqi identity = Yes	Iraqi identity = No
Value of reconstructing photos	Gives the audience different perspectives, and possibly change their minds for the better, in terms of culture and its people. The descriptive immersion in the story of the storyteller is very helpful to live their nostalgic experience. It is very valuable for the Iraqi. I think this experience could really shape the western view of Iraq in a positive way. This experience not only takes old Iraqi photos and memories and transports you into them, but it also shows the real reality of life in Iraq - the everyday things that people experience, their thoughts with the audio, many things that make Iraq and Iraqis much more relatable, and make the view of Iraq much more realistic, as opposed to people just viewing it as a war zone. Offering a way to relive stories, and to allow other people to feel and understand a story that has been told by a loved one Massively valuable but could also gain from the oral recordings interspersed with close ups of the pics if VR is not available.	I think it has a great value in reconstructing the past and pass the experiences to future generations in such a immersive way. I believe that the immersive aspect of the VR experience would definitely make it easier to empathise with past generation or unfamiliar cultures. It encourages the participant to focus on the experience and potentially identify with the Issues that the archive brings up. Huge value. This can allow people who not only cannot travel to see archives and exhibitions of work and stories, but also allows them to be totally immersed in the story. It can shut off other senses that can distract and interfere with becoming immersed in experiences like this. Essential value and so so so important I think you did well with ethics and you can see with the how comfortable with the people in the story speak about the moments A lot of value, an importance for present and future generations to have a deeper insight and knowledge into the culture of their ancestors and the Iraqi way of life, and the VR allows you to experience that in a way that was not possible before. VR brings the story to life and you are there in it, flooded with memories.

	Iraqi identity = Yes	Iraqi identity = No
House of Memory AFTER		
Value of reconstructing photos	I think there's immense value in any medium that allows us to effectively tell our own stories and let people in without allowing for exploitation. Often in Iraq, allowing outsiders in is often grounds for exploitation. Be that as tourists, saviours or foreign business. The world has learned to take take take from Iraq. And this format presents a way for them to take with no chance to exploit. They cant take pictures, they cant buy shit. They can just experience it and be present. They can't show it to their friends or their funding institutions. They cant sell it to Hollywood They can just be present and experience it firsthand. I think this has such a huge impact for Iraqi's living in the diaspora who have never been to Iraq, to just be able to experience what it could have been like for a little bit - given this was robbed of us due to the war. For those who might not know much about Iraq apart from what they see online, this is such a fantastic, engaging and exciting opportunity and experience to be able to learn more about personal experiences that have come out of Iraq and provide a different perspective to the one they might have grown up with. It's a great way of challenging political ideas too through the creative medium.	It provokes greater interest for people and therefore greater memories and understanding. It offers a dynamic and subtract way to expand on old photographs. It also offers a good mixed media platform, especially for the audio. I find it to be a really engaging way to experience the complexities and interpretative qualities of a single image in tree dimensional space simulations. As someone who is not Iraqi, the value I can see is the potential to open up narrow perceptions of Iraq. These images, stories and VR of every day Iraqi people experiencing their day to day lives are not widely available. I am much more exposed to news in relation to war and conflict in Iraq and this colours my view of Iraq. There is something very powerful in a VR experience compared to simply viewing a photo or listening to stories in isolation. You feel part of the experience, the recollection, the emotion, the memory. This is not often achieved using these other mediums. The use of VR for reconstruction of archive photos offers a unique and poignant experience for the participant.

	Iraqi identity = Yes	Iraqi identity = No
House of Memory AFTER		
Value of reconstructing photos	I think this is of great value, particularly to those unfamiliar with Iraq and it would allow them to experience a side of Iraq that they probably don't get to see very often. Not only would undergoing this experience almost engage you in conversation with persons from a different place on the globe, it also recreate the setting for you and almost makes you time travel.	It brings the narrative to life, without compromising the integrity of the archive photographs. I do not feel I am inaccurately presuming the lives or narratives as it is explained in the participants voice. This is really wonderful. I think the huge value of presenting in virtual reality is that I have a 360 view of what the participants experience. I understand their happiness, their memory, I am in it, part of it. It extends my understanding and appreciation of their chosen archive. The immersive nature makes it feel almost physical as if you are experiencing their story. This makes it more likely to connect with and remember the image and story. In a world where media and news passes by so quickly and can be so hyped it's amazing to stop and be immersed in something educational but also experiential. There is enormous potential in reconstructing archive photographs and presenting them in Virtual Reality especially for Iraqi as it is still regrettably an unstable country but has a great history from the early days of civilisation and to the good days in Iraq. Through this Virtual Reality experience, it will encourage people to one day visit Iraq as tourists to see the rich history it has when it becomes a stable and safe country.

Iraqi identity = Yes	Iraqi identity = No
House of Memory AFTER	
Value of reconstructing photos	It very much heightens the sense of history/story specific to the photos in question. Looking at a photo evokes one thing but to listen to the narrative and view through VR allowed me to really sense the photos on another level. It allowed me to pick up on things in the photos I would not have necessarily noticed
	You get a much more rounded story and more context than a piece of text on a gallery wall could ever give you. It truly allows you to preserve the story and photograph from the individuals perspective.
	Massive, it gives you much more context, you can really experience the photograph much more than what you can imagine from simply looking at a photograph. You understand that it's a real moment with a wider context and part of someone's life. I suppose it's a more full medium with more possibilities for the viewer than what a photo can offer
	It develops a bridge between historic and contemporary technologies. It offers a terrain for intergenerational exchange. A space to learn about heritage, and humanise experiences.
	It's great to hear people own stories told by them, it gives you a better understanding of different places and people
	Much better way of story-telling behind just a simple portrait of a person

House of Memory AFTER	Iraqi identity = Yes	Iraqi identity = No
Value of reconstructing photos		I felt it was very informative and a positive means by which to allow people to experience a place or people that they otherwise would never have the opportunity to.
		It can make the audience get closer to the photo, understand the story of the photo, and become a collective memory. It is more engaging and impresses the audience.
		The reconstruction helps people to view the past in different perspectives, because the whole process includes ideas and manipulation in a different time, and also the viewers are from a different age or time. It is valuable itself being reconstructing archive photographs and presenting them in VR. In many sensual aspects, VR provides the opportunity for memorising people in a new way. VR does help the younger generation approach and remember the past, as much as possible.
		As said, I think it really promotes empathy and understanding that otherwise wouldn't happen, and this is most effectively done through reconstructing a location.
		I think there is a lot of value in letting people hear the real authentic stories of Iraqi people from the people themselves. Their experiences, the perceptions they have, their journeys and the lessons learned. VR allows people to share their experiences with others and gives a platform to see, hear, feel and be a part of it. This VR experience reminded me of the days in the village when we would sit by the fire listening to stories told by our elders.

Appendix C-43 IPA Participant 04 Evaluation Interview –transcript

Q: Can you tell me why you decided to share the photograph with the archive?

Relative 2

I mean, for so many reasons. I mean, I guess to put it really simply to share the beauty that I saw my family share with me when they were talking about Iraq and the stories from Iraq. Like you, I didn't relate to the image of Iraq that I was seeing in the media around me, that people were telling me it was their version of Iraq. It didn't resonate with me. So seeing the archives, from my family, from my parents from my grandma, especially in hearing her stories, which are like the most beautiful, incredible stories, some of you know, tragedy and heartbreak, but mostly just like joy and beauty, and like, mundane, everyday things. Made me so passionate about sharing what I was seeing, and I was experiencing through with with the rest of the world. So yeah, when I, when I saw her images, and I saw your call out. I was thrilled. I was so excited to show people what Iraq was really like. And it's not just told through the eyes of the BBC News.

IPA Participant 04 (I4)

From the first glance, when I first saw my picture, I felt proud. You selected my image from among many more, and spoke to me and photographed me. This means that you were drawn in by something that you felt could generate a broader discussion. I also really had fun. I felt proud of myself to have my photographs chosen for this project which is amazing.

Q: How did you feel about that experience? Did you like it? Did you, anything you didn't like? How did you feel before? How did you feel after? And did you feel happy to talk about everything?

I4

Exactly. I'm very happy because I make with me this interview. Why? The first because he chose me and decided to do an interview

The truth is, as an artist and due to my age, I've given multiple interviews in the past. This interview was different, very personal. It was the first interview I gave after the Covid-19 pandemic, and the first time an interview focused on my past life, my childhood, my youth and memories of life in Baghdad.

This is very important (English).

I'd never done an interview like this before, with such a personal focus.

The interviews I gave in the past were very different.

Q: Is there anything, thinking about the interview, anything I could do differently or anything more that you wanted to say?

4

The truth is that I had no idea what to expect from the interview.

Then when he started to ask me questions about the photographs I felt encouraged to talk and to share everything. I've been cut-off from Iraq for many years, very disconnected, but the interview took me back to the happiest days we lived in Iraq. Because Iraq is now living through one of its worst phases. I felt an urge to share more, beyond the questions he asked. Our life in Iraq back then was very beautiful.

Q: How did you feel about taking part in this virtual reality experience? And how did it feel to experience your story in the VR? Is it what you expected beforehand? Does it feel, do you feel I shared or created your story truthfully?

I4

I think amazing, amazing. I was amazing because everything, I had no idea about the outcome, any idea about this environment. I was expecting to attend a photographic exhibition and to see images of me displayed. I did not anticipate that I would be part of Basil's creative and artistic process. I appeared in the film, as though I were acting out and reliving the role, and the physical environment of the garden, the house, my family and the moments we spent together, sitting with my father and my mother. It was amzing, amazing, fabulous.

If I knew it would have been like this, I'd have given many more pictures.

Thank you very much. Thank you very much. Really, really. You know I'm proud of him, and honoured that he also has Iraqi genes.

In Iraq, back when I was a young girl, during that era, we valued the Iraqi Monarchy, and the way life was then. When we were immensely happy, and everything functioned. We also liked the English because they are part of Iraq's past and involved in it [nation building].

Today, I feel that … I wish that life in Iraq would go back to the way it was when we were kids.

For our grandchildren and for them to enjoy the same life. Iraq of the past.

Q: Are you happy, are you satisfied with your participation in this whole project from start to the finish like today? And is there anything else you want to share?

I4

Very much. I would add that, does he have the capacity to add to the project? Is Basil happy with what he has, or does he want any additions? I'm happy to provide anything he needs.

Yeah, yeah. Because it makes me proud. It is something exceptional, so I am happy to assist him in any way possible. Very famous. He puts forward beautiful work.

He can reach out anytime he needs something. I'm ready and I do not mind at all. Thank you so much. And congratulations about everything. I congratulate him from the bottom of my heart for everything he's accomplished.

Appendix C-44   IPA Participant 07 Evaluation Interview –transcript

Q: How do you feel about having your photograph and your photographs in this archive?

I7

Firstly, I'd like to mention that ****** surprised me with the project and it made me very happy. Firstly because my daughter was curious about my background and personal history. Secondly, because I was able to relive the past, anew. Especially in this life it's easy to lose oneself. These memories came back to me. I found it soothing and I feel proud to have been chosen for your project. I'm also happy to see these images displayed here.

I was so impressed and surprised me as well. First of all, when ******, I discovered ****** she passed all these pictures for you. The first thing, I was happy for it, and it made me really, I don't know, maybe you could say glad to see my daughter she's interested in my history, our background, her background. I know I done a lot to make her to be close to our culture. And I was so happy she's proud of me. The other thing is also it's refreshing my memory, it put me back again, to my youth, what's happening. After all this, we are sinking in everyday life. And the moment is hard. It's like, it's like, well, it's a deep sea we are, in deep sea down. So you feel your head come out of the water, gets a breath. So thank you very much, I'm so impressed. And I like to see my picture in your project. Thank you, I'm honoured to have it in the project.

Q: how did you feel about this interview? How did you feel before the interview? And then how did you feel after? Did you feel like you could talk about everything you wanted to talk about? And is there something I could have done differently with this interview?

I7

So it's like when a river flooded and it's broken the bank and all the water coming out, your understand me? So I felt like this, even I felt like I want to empty all this river water through this whole, this big place, you understand? So I was at the start, as I remember I started to talk a lot, and sometimes I feel, I was feeling, I am going too much out of a subject and maybe you don't - I'm using your time as well. But it was happy, is nice to talk about yourself sometimes and your experience, especially I met many people before and when they, is like Danish people where I used to be and also here, they think I should write a book, for what I've been through. So therefore, when you asked me, and you question me, it was this feeling I am writing a book. So I want to put everything. So this my feeling, and I am, I'm happy. I felt happy after the interview as well. And relaxed, to be honest. And thank you very much.

Q: Can you tell me how you felt about taking part in this virtual reality experience? How did it feel to experience your story in this way? Is it what you expected? And did this experience present your story truthfully? Do you think?

I7

First of all, I like what you've done. It's because of my background, I like technique. I was I was interested in the technique more than my story! And I'm impressed in the job you've done, it's great, it's nice. I didn't expect it to see this. Even I don't know what I going to do today when I, you asked me for a meeting, and I, and then I was wondering

why he wanted me for two hours! From 10 to 1. So I said okay, let me go and see what's happening. And then you surprise me and as I told you, I am a man of, I like technology, I like, and I like artwork. So to be honest, I was interested in what you're building and this virtual reality. I like it very much. Presenting my story, you hold all this water coming from the river and you just use a few drops. But it is a story, a real thing. And it is what you write me and send it to me. And I like it very much before I see it in this virtual and to be honest, I share it with my friends on the WhatsApp, because really talk about part of me, part of the story. And there is a very concentrated things in it, talking about what we wanted from our life. And our dreams is not something over, I mean it's not too much for us, it's a dream of any normal person. You want to live and do and here is a same, what they want, is this, just to live their life, the way they like it, and that's all. And it was, and I want to say that in this talk as well and interview, we've been, they've been still our these small dreams from us. And I want to show also, the picture, this is important for me, to show we are living, we are not looking from these in the beginning of the 19th or 20 century boys stopping in front of camera looking miserable. We are just in 70s. We followed the western style, the life, we just copy the Beatles style, we call it 'knafus', the hair, the Charleston that time. We're not different, not different from all the people. And actually therefore I think the story in this, is very, very concentrated, it is, it is a point of what's happening exactly. And it's also because it's part of it. It talks about the political background. There's all this because the political background, when it is normal to have your opinion, your idea, your belief, the way you want the society, you are not against anybody, but you have a different method, an idea how to do for your, what do you want to do for you society, for your country? That's all. So I like this part. And thank you again.

Q: How do you feel about the whole process of taking part in this project? And are you satisfied with the way I have handled it and how do you feel about taking part in a project like this?

I7

It's because of my experience, I know if you demand something, and the reality something else, and opportunity to do things, I think you you've done a lot and very good. But I believe the pictures, there is now, you can find more programmes they can edit the picture to make it more clear, to give a life again to the pictures. I think you miss this. You put the picture like the RAW picture when you got it. You didn't work on it. That's all what I think

Q: okay, so you would like to have seen the picture enhanced
I7
Enhanced yes, that's right.

Q: Interesting. And, but from a personal feeling about participating in, sharing the picture, sharing your story, and then seeing your story, and it being shared with other people

I7
And the timing of words is plenty time, that's really appreciated it. You done a good job

Q: Okay, so you're kind of satisfied happy with how everything has been done
I7
I give you 95 [laughter]