

housing, mental health, mobility, and respite. For military charities that support veterans and aim to ensure that the memories do not fade, it is increasingly challenging to engage with young people and the wider under-35 demographic. There are specific challenges ranging from the impact of austerity, a perceived lack of awareness of conflicts post-1945, and the perception of remembrance as a tool to promote militarism, nationalism, and war (Snowdon 2015). One potential way of engaging with this audience was through using game design and game technology to access the stories of veterans that Poppyscotland support. The core aim of *Their Memory* was therefore to consider how commemoration is changing.

Background

The two most significant conflicts of the twentieth century have almost faded from living memory. Their impact has shaped commemoration and memorialization activities for the past century. We are, however, at a juncture where both the existing historical narratives and remembrance activities of conflict are now being shaped by generations that have far less direct experience of war (Keren & Herwig 2009). At the same time, these generations have more access to the visual imagery of conflict than at any previous point in history. From news and propaganda presented via print and screen media, through to the virtual playgrounds of *Battlefield* (EA DICE 2002-2018) and *Call of Duty* (Infinity Ward *et al.* 2003-2019), young people and society in general are surrounded by war. Yet, we often know little of the impact it has upon those that served.

The relationship between games and war remains blurred. Games have been utilized by the military for recruitment and training, and game developers both reflect the political machinations of the period in which the games are made and extend those to fictional scenarios where fact and fiction merge (Dyer-Witheyford & de Peuter 2009; Lenoir & Caldwell 2018). Yet, unlike literature and film, games have not proven to be fertile ground for anti-war themes. Games typically do not treat the conflict, participants, or victims with any degree of reverence (though there are notable exceptions such as *This War of Mine*, 11 bit studios 2014; *Liyla and the Shadows of War*, Rasheed Abueideh 2016; and *Valiant Hearts: The Great War*, Ubisoft Montpellier 2014). Gameplay is generally prioritized over historical accuracy and military games have tended to focus on clear good versus evil narratives and empowerment mechanics. Though there are games such as the *ARMA* series (Bohemia Interactive 2006-2013) or various flight simulators that do focus more on realism, they also tend to be the exception rather than the rule. When it comes to loss and commemoration, games are notorious for the unsubtle way in which these complex emotions are dealt with. A scene from *Call of Duty: Advanced Warfare* where the player character, at the funeral of his dead comrade, is prompted to “Press F to Pay Respects” has developed into a meme poking fun at the forced element of interactivity that contrasts with the solemnity of a memorial service. It is not that games cannot do this, just to do it well is difficult. In 1993 *Cannon Fodder* (Sensible Software 1993) created controversy for its use of the poppy in its advertising, but in the game each of your squad of soldiers are simply replaced by a white cross on the hill of the main menu screen when they die. New recruits then march past these gravestones to potentially

repeat the cycle (Smith 2017). The message to the players was clear, war inevitably had consequences. In *Battlefield 1* the disempowerment of the individual (Muncy 2016) was demonstrated in the opening mission where the player is told that they are not expected to survive. When they die a name and dates of birth and death briefly appear as they respawn in another body. The message ties the brief epitaph and commemoration directly to the death and loss. Undoubtedly, there is an inherent challenge for games to provide appropriate interactivity to retain player interest and balance that with enough reverence for the stories that are being told of war and conflict. *Their Memory* sought to explore how Virtual Reality could be used to engage young people with the memories of veterans and raise awareness of their needs. The project developed a short thought-provoking, narrative-driven prototype that enables players to experience the memories of Scottish veterans, exploring the different conflicts and situations they have experienced. It was hoped that in doing so each player would walk away from the experience with a deeper understanding of veteran issues and sense of empathy.

Concept Development

We began *Their Memory* with a view to creating a project based on visualizing the stories of veterans. The initial concept was to use existing oral histories that are often languishing in museums, archives, and library collections and put a modern spin on them. The pitch was to take an audio interview of a veteran talking about a key event in World War One, such as the eve of first day of the Somme, and place the user in that person's story. The initial concept was focused around the big moments and historical significance of key events. The reasoning was that the more historically significant the event, the more likely there would be corresponding collected oral histories. The alternative was to find oral histories, analyze and then reimagine them for VR. From early discussions with Poppyscotland it became clear that the focus on the centennial of the Armistice was understandably dominated by the conflict that preceded it. Although the roots of many veterans' charities can be traced to the First World War, the challenges that they face in the present were just as important. The concept therefore shifted from doing a project based around the First World War to exploring the many conflicts that had occurred since the end of the Second World War and whose veterans Poppyscotland was more likely to be supporting. The message was shaped partly by a desire to ensure that younger audiences recognized both the historical significance of remembrance but also the continuing need to provide support. In looking for suitable stories we explored the checkered history of British conflicts post-1945. Whilst there were many conflicts to research, it quickly became apparent that oral histories for many of these campaigns and conflicts were going to be more limited and less accessible. These conflicts had fewer participants and surviving testimony was not always available. With that in mind the project began conducting co-design sessions to try and figure out what sort of experience could be developed.

The project was shaped by co-design sessions with veterans and young people. In these we brought together the target audience, veterans, and the project team. The project team consisted of a core of three people with assistance from up to six others at various points. We used several co-design techniques to support

idea generation and facilitate self-reflection with the aim of developing a good understanding of what each group expected from an immersive experience and brought additional insights and opinions to the creative process (Sanders & Stappers 2008). The opinions that we gathered from these were fundamental in shaping the VR experience. We ran two co-design sessions, the first with 29 participants and the second with 17. Each session took 2-3 hours. The first session was run with prospective audience members in the 21-35 age bracket and from that emerged the initial concept that would become part of the final, built product. The second session focused more directly on the harder to reach audience of 14 to 16 year-olds and helped to shape the nuances of the user experience. In both sessions we invited veterans from across the Armed Services to discuss their experiences and the project with the audiences. Together these sessions demonstrated the value that co-design can have upon developing an experience but also the importance of allowing veterans a place to discuss their service. The stories they told were typically engaging and funny but often with just an underlying expression of luck. Take for example the veteran from the Fleet Air Arm who had travelled to the Falklands on a hastily recommissioned civilian ship. His abiding memories of that trip being the general lack of preparedness and the need to just get on with it, but also how he seemed to always be in the shower when the air raid siren went off. In recounting his story, his only concern was whether if we made that in VR we would agree only to show him from the waist up!

For the veterans, the VR technology was interesting but almost superfluous, it was far more about the stories. Always enthusiastic, they shaped the nature of the content by the way in which they interacted with young people and the project team. Some stories were regaled without issue, others with thoughtful questions and prompting. Some stories simply remained off-limits. It became clear during these sessions that for many veterans the focus was not to be purely on the harder aspects of service. After all, the experience of war and conflict was minimal in contrast to the time that they had served. They also regarded the more harrowing memories as deeply personal and not all could be shared. In contrast, the expectation amongst the project team was that younger people would want to hear more about those specific conflict-related memories but instead noted that they were more interested in addressing stories of why they signed up, where they served, what countries they visited, what friendships they had made, and the impact of service on relationships with friends, families, and partners. We were fortunate to have veterans who had served across the armed forces. The co-design sessions became integral in shaping the experience because they shifted the focus away from conflict and the more obvious stories and places.

Memory and Place

*...the memory of places we experience is fundamental to a sense of self.
Trigg 2012: abstract*

Lady Haig's Poppy Factory in Warriston, Edinburgh should not be a special place, but it is. The original Lady Haig's Poppy Factory was opened in March 1926, employing men who had been disabled during World War 1 to make poppies for Scotland. The factory moved to the Warriston site in 1965 and ultimately has served as the primary location for the Scottish Poppy for 54 years. The building has no particular architectural or historical significance and the decision to undertake a major renovation of the factory in December 2018 was purely for practical grounds. What makes Lady Haig's Poppy Factory special is that it has a work force of ex-service personnel, the large majority of whom are registered disabled, and has hosted countless school children and other visitors to explain the importance of the poppy and remembrance. The result is that the factory is both a functional workplace but also has many aspects that make it look and feel like a museum. In addition, as many of the workers are ex-armed forces and have been with Poppyscotland for many years, there is a palpable feeling of the military about the place that provides a comfortable and secure atmosphere, for both visitors and workers alike. The factory produces approximately five million handmade poppies each year and produces somewhere in the region of 12,000 wreaths to order. They also produce Remembrance Crosses, Long Stemmed Poppies, and Dress Poppies. They create and dispatch orders to Poppy Appeal area organizers all over Scotland and process over 25,000 collection tins. This is all achieved in a workspace that focuses on those that have served. The memorabilia on display throughout the factory are not only visually interesting but filled with history that has an emotional connection to the people working there. It was not just a place of work for them. For some of the veterans the factory saved their life, for others it provided them an environment in which they could talk about their experiences with people who would understand.

The initial concept had been to create a virtual space that brought players to a conflict zone. That concept was challenged in the first co-design session, but the idea to recreate Lady Haig's Poppy Factory as a virtual space did not actually occur until after visiting and taking the factory tour. It was during this process that the project team discovered that the factory was being refurbished and as a result it might be interesting to take a snapshot of how it was since it would potentially never look the same. This was further supported by visitors who, when visiting the factory, were asked what their favorite part of the tour was. Many would answer with creating their own poppy or speaking to the veterans who work there. Poppyscotland had managed to obtain funding for a touring exhibition that would allow them to take the Poppyscotland message across the whole of Scotland. They had already planned and developed an experience for visitors to build their own poppy. Taking veterans with them on tour was far more of a challenge and that constraint directly inspired the project. The prospect of building a virtual representation of the factory was daunting. The environment itself was large and

the factory had so much history and clutter within its confines that there were significant concerns about whether it could be achieved. This was confirmed in the first block out of the environment which, when created to the real-life scale, felt far too large in Virtual Reality. Although a 1:1 replica was considered, once tested the environment scale was reduced for both aesthetic and performance reasons. A smaller environment was perhaps the first creative license that was taken with the aim shifting from accuracy to authenticity.

One of the core problems that the project had to consider was that the experience was designed to be used in a museum setting with limited physical space, potentially exuberant audiences (schoolchildren age 14-16), across a potentially time limited (less than 2 minutes) experience. Yet at the same time it was required to convey real-life stories of veterans and carry forward an understanding of commemoration and memorialization. For those reasons, the VR experience was designed as a seated one where players would spawn in the Lady Haig's Poppy Factory at a veteran's desk. Players could then interact with objects on the desk or look up and move to another desk. Players could identify which desks they could move to via a Poppy icon that floated above any desk that the player could teleport to. Although teleportation jars with an immersive experience, this was the simplest method of allowing movement within the virtual space. Whilst creating a desk-based VR experience does not necessarily sound like the most innovative use of the technology, the idea worked well for a narrative-driven project and took inspiration from sources as diverse as *Job Simulator* (Owlchemy Labs 2016), *Stories Untold* (No Code 2017) and *Oculus First Contact* (Oculus 2016).

A desk is a place where people need to be productive, but also healthy and comfortable. People will spend many hours at a desk each day, day in day out during the working week, for months and years. It is therefore understandable that desks become a natural extension of ourselves. Whilst some people will prefer a sparse desk with minimalist clutter, others prefer ones crowded with mementoes and memorabilia. In an environment like Lady Haig's Poppy Factory which regularly hosts visits from schools a busy desk reflects both the nature of a working factory but also helps to create a more informal and less intimidating environment for younger visitors. Each item of memorabilia helps to generate conversation points to talk about challenging topics such as loss, conflict, remembrance, and commemoration. The player therefore came to embody the veterans that produce the poppies in the factory and each item of personal memorabilia when interacted with played an audio clip of dialogue. The veteran would, in their own voice, explain the memory associated with the object. Allowing the player to move to another desk would let them experience a different story. This modular approach allowed for further extensions to the prototype, adding more stories if the opportunity arose. The intricacies of the Warriston site can be viewed in Figure 3.1.

The replication of the factory can be seen in Figure 3.2 with one of the desk spaces visible on the right. Videos of the application can be viewed on YouTube (Houghton 2018a; Houghton 2018b).



Figure 3.1: Lady Haig's Poppy Factory, 2018 (photo by: Emma Houghton).



Figure 3.2: Screenshot: Their Memory and the virtual Lady Haig's Poppy Factory.

Memory and Objects

The 'items' that veterans incorporate in their storytelling can be a privileged channel to their experiences and memories.

De Nardi 2014: 458

The visits to Lady Haig's Poppy Factory affirmed that linking the veterans' memories to specific objects would provide a clear link within the virtual factory. The design for players to interact with any object was made overtly simple. When an object is picked up the corresponding dialogue clip would play. Objects that

could be picked up had a clear outline when looked at. That outline would disappear once picked up and reappear once the object was dropped. For picking up any object the motion controller had to overlap the object and when the trigger button was pressed the object would snap to the motion controller. The player had to keep pressing the trigger down to continue holding an object. There was debate about whether players should be allowed to throw objects, especially as they were representative of veterans' memories. Although we opted to allow this, we decided to force the object to re-spawn at the original location as soon as the player released the trigger (whether an object was dropped or thrown) to ensure that the audio clip still played. We also designed the interaction to only allow one audio clip to play at a time and to disable movement. This meant the player could still look around or pick up other objects but that the story had to complete before a new audio interaction could be introduced.

As each desk was a functional workstation we utilized common objects in the virtual environment to convey the purpose of Lady Haig's Factory and Poppyscotland. One key aspect was that on each desk we included a framed image of each veteran's name. In the real factory these were used so that visitors could easily identify who they were speaking to. The virtual factory mimicked this and picking up the picture frame would play an audio clip that relayed the name, regiment, and service number for the veteran to introduce themselves. The poppy was always placed in the center of the virtual desk and for each veteran was used to describe how they came to start working at Poppyscotland. This provided an important connection between the functional form of the desk and the journey of each veteran to seek out support. Although the reasons for joining Poppyscotland were individual, key themes emerged about a sense of belonging and camaraderie, but also a need to be doing something meaningful.

The personal objects that each veteran kept on their desk were unique to them and they reflected many different aspects of their time in service and throughout their life. These objects became central to the storytelling and were something that a wide range of people could relate to (Auslander & Zahra 2018; Miller 2008). One of the main reasons we all keep certain objects is the sentimental value they have and the personal link they hold to other people, specific events, or time periods. The association with a specific object is important to us but can also be hidden. For the veterans in Lady Haig's Poppy Factory these objects ranged from the unique to the innocuous, yet each provided a link to the past from the present. Each object also connected to memories, whether positive or negative, and thus they helped to remember specific times, people, and events. Photographs and writing were some of the most evocative items of all. *Their Memory* incorporated a range of personal objects from chrome-plated mortar shells, to NATO flags, coffee cups, and images that veterans had of themselves in uniform, along with written items that many had framed on their desk.

One difficult issue was the representation of licensed products in a virtual environment. Given the limited development time and budget (approximately 9 months and £60k), *Their Memory* was never going to be able to deal with lengthy legal processes or pay any potential licensing fees. Yet, by not engaging with licensed products we created historical and archival anomalies. Many of us have

licensed products on our desks and Poppyscotland's veterans were no different. From Airfix military vehicle models to the iconic animated Minion characters and even Cadbury's chocolate boxes, each had to be identified and considered with a view to the creation of virtual assets. Whilst ultimately we opted not to include these, it is an issue that is going to become increasingly common as we seek to record environments for reuse in virtual worlds. As developers and historians, we need to consider what the potential terms and conditions of use could look like.

Connecting common and personal objects to memories helped explore individual journeys. The memorabilia and minutiae associated with each memory demonstrated how these possessions connected to important moments in each veteran's life, connecting people, places, and events. In the real factory they provided prompts to help veterans remember specific times or events, in the virtual world they became the link between the storyteller and the player.

Memory and Voice

War stories become just that – stories. Just as time distances the storyteller from the events themselves, so do the repeated tellings. Gradually the stories are embellished in places, honed down in others until they are perfect little tales, even if they bear little resemblance to what actually happened.

Hackworth & Sherman 1990: 9

Their Memory played with place and objects to help tell the stories, but a key element to this going beyond a virtual space was the recorded oral histories of veterans and relating these to the objects that they saw as important. The audio aspect of the game was critical in making the experience authentic. Each audio clip is voiced by a veteran. Early in the project we had discussed the possibility of using voice actors. This was predominantly over concerns regarding identity and data protection. We also had to consider what stories could be told both in considering a younger audience and what topics the veterans themselves were comfortable talking about. In hindsight, letting the veterans tell their story in their own voice was one of the best decisions. After all, it was these stories told by veterans to visitors which had inspired the idea of *Their Memory*, and for Poppyscotland the veterans who work at the factory are more important than the physical building. The decision to use the veterans shifted the project from using archival sources to creating them. One of the key objectives at the outset of *Their Memory* was to make accessible the personal accounts of Scottish veterans so that future generations could hear from them directly and better understand the realities of service. The project had not anticipated that it would add to that archive. Yet there are clear benefits, from adding to the existing historical archive and being able to tailor experiences around the elements that veterans had in common and make more of the memories that were unique to them. In total, six veterans' stories were recorded, with three being included in the final game referring to eighteen objects.

One aspect that became obvious was that when people think of the service undertaken by members of the Armed Forces, they inevitably associate them with war and conflict. Whilst there are undoubtedly harrowing and potentially traumatic

experiences, one of the overwhelming sentiments that evolved from talking with the veterans was that serving was about significantly more than that. From the places that they were stationed at such as Belize, Cyprus, or Germany through to the places they visited for training or through duty, such as Kenya or Brussels, each veteran was able to recount stories which brought back positive memories. For many, travel was an important aspect with several stating that had it not been for the military they would never have had the opportunity to visit the places they had or to experience different cultures. Whilst there are multiple narratives of colonial hegemony rooted in serving in the British Armed Forces (from conflicts such as the Malayan Emergency, Aden, the Falklands etc.), we tend to forget that the military has historically provided an opportunity for people to escape limited options at home. That military personnel and families can prefer a life that comes with frequent deployments and redeployments contrasts with the challenges that may be faced economically if they had stayed.

Many veterans described their service as career forming or even career defining. There was the Black Watch veteran who joined up to play music as a cadet and then chose to sign up and serve with the regiment that he wanted to, rather than face the lottery of national service. Leaving to play in a band in the early 1960s, he credited his service as defining his future career. This was similar to those that had gained a trade or trained in specific fields whilst serving that they then moved into after leaving.

One other element that was frequently cited was the importance of the camaraderie. Some veterans cited multiple stints of service, as when they left they found themselves wanting to come back. There were others who found their careers followed each other, for example the two veterans who served together for twenty years in the Royal Highland Fusiliers, left and served in the Police for another twenty, and then found themselves working alongside each other again at Lady Haig's Poppy Factory.

The veterans were often pragmatic about their service. It was one of those veterans of the Royal Highland Fusiliers who, in discussing a picture of them serving, demonstrated pragmatism when asked to describe the scariest experience they had. What is remarkable is that what is remembered as scary is placed in the context of other arguably more traumatic events:

In 1988 whilst serving in Redford Barracks in Edinburgh, terrorists blew up a Pan-Am jet over Lockerbie. My regiment was tasked with deploying to Lockerbie to recover the casualties of that terrorist incident. We were there 'til Christmas Eve and despite the things I seen [sic] during that five days and my seven tours in Belfast and South Armagh, the scariest thing I've ever done was deliver a baby in the back of an ambulance during one of the ambulance strikes.

Their Memory 2018

Most veterans acknowledged that they had seen things that were hard to carry. One story was described by a veteran of the Intelligence Corps, who connected the everyday object of a coffee cup to an incident experienced whilst serving in Bosnia and Kosovo:

I think probably the worst experience I've had in my time in the Army was in Bosnia ... we'd got news of a weapon cache in the mountains and just outside the camp there was a village there and they were very pro-forces. They liked us because we were there protecting them and as we were going out to the mountains in the morning, we went past them and were greeted by them all and they brought out coffee, and pastries, and gave us cigarettes and we had a nice little chat with them and what have you, seeing the kids off to school and things like that. We went up into the mountains, we found the cache, and about three or four hours later on ... and we came down and ... it was deathly quiet in the village there was nobody present at all. And then we came up to the village hall and we witnessed the devastation of Kosovo at full blast and it was awful, it was horrible to see.
Their Memory 2018

What was striking about this memory was how the mundane details weaved with the underlying horror, without what was witnessed ever being detailed. That memory was one amongst several that demonstrated the importance of connecting events and empathizing with those that had witnessed them.

Connecting the Past, Present, and Future

What sticks to memory, often, are those odd little fragments that have no beginning and no end.
O'Brien 1990: 34

During the twentieth century, many nations witnessed not just the development of commemorative traditions, but the evolution of these. The horrendous losses of the First World War were followed up less than a generation later in the Second. It is understandable that the scale of those two wars resulted in significant commemoration, memorialization, and remembrance activities and these became embedded traditions. The scale also ensured that most families were impacted in same way. The numbers of those lost, though, were considerably smaller than those who survived. Whilst we need new generations to remember the losses in an attempt to not repeat them, we need to acknowledge that for many of them these great conflicts are now several generations removed. Whilst they are far more likely to be aware of these wars and more recent conflicts, they are far less likely to know anyone that has direct experience of war or conflict. Connecting present and future generations to the past and those that have served is increasingly challenging. 2019 was the 75th anniversary of the Normandy landings, which would place the youngest veterans of that campaign in their early nineties. Those that served in Korea are in their mid-eighties. One certainty is that veterans of even more recent conflicts are also getting older and, compared to the generations that faced conscription on national service, there are fewer of them to tell their stories. We therefore need new and engaging ways to hear them. Virtual Reality and *Their Memory* provide one possible avenue.

It is worth noting that as an interactive past one of the hidden benefits of the project has been the unplanned generation of further archival material. The photographs and videos that we created as reference material have now become their own archive of how Lady Haig's Poppy Factory looked before refurbishment. Additionally, the project shifted from using existing archival material to generating new material that could potentially be used by future historians. We also discovered the importance of maintaining a wide range of sources. For example, the project supported the reference pictures with sources such as old Argos (a catalogue retailer) catalogues. These were excellent for supplying the approximate measurements for specific objects and furnishings, as well as providing snapshots of specific eras which could be found in the real factory and demonstrate the importance of undertaking wide archival research.

The immediate future for *Their Memory* is its inclusion in 'Bud,' an 18-tonne truck that transforms into an interactive learning space and will travel to schools and events across Scotland in the coming years whilst Lady Haig's Poppy Factory is refurbished. 'Bud' will not only interpret the heritage of the poppy but will host activities for groups to explore and share a contemporary understanding of remembrance, the nature of conflict, and the poppy's role in modern Scottish society as a symbol of unity and hope. It was always intended that *Their Memory* would complement the workshop activities undertaken by Poppyscotland's Learning & Outreach team rather than as a standalone download via Steam or the Oculus Store. Longer term making *Their Memory* available via a digital store or archive is important if it is to serve as a snapshot for understanding the changing face of commemoration. Though with the speed that technology and VR is moving, it is very possible that the stories of veterans as told through VR will sit neatly with the more traditional historical artifacts currently on show as a reflection of old technology!

Conclusion

It is striking when looking back at the final version of *Their Memory* how different it was from what was originally envisioned. The original idea was to place people in an environment that only a veteran could have seen. The inspirations were varied, combining the interviews in the *Band of Brothers* TV series (2001) with the visual imagery of games like *Verdun* (M2H & Blackmill Games 2015) or *Battlefield 1*. One of the potential ideas was to create a prototype that was like a virtual battlefield tourism application. These lofty ambitions seem so far removed. After all, an elevator pitch of a 1960s factory desk simulator does not have the same resonance. Yet, what we have made is so much more than a factory, it is a multi-layered experience. An archive of an archive that attempts to navigate the complex relationship that exists between history, memory, and the stories that people tell about their experiences. The project has notable design successes in that it can provide a short but powerful immersive experience. It allows people to play with the virtual artifacts but does not prevent the story from being heard or allow it to be cut short. Most importantly, it provides an opportunity for the veterans that we support in the present to tell their stories for future generations to understand the past.

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