

PLAYING WITH PERFORMANCE /

PERFORMING PLAY

Creating hybrid experiences at the fringes of video
games and performance



A thesis submitted for the degree of Doctor of Philosophy
(PhD)

by

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Inchcolm Project
Inchcolm Island, 16th October, 2016



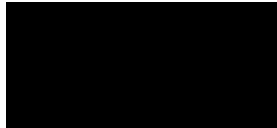
Generation ZX(X)
Timex Factory, 4th May, 2018

Declaration

Candidate's declarations:

I, Mona Bozdog, hereby certify that this thesis submitted in partial fulfilment of the requirements for the award of Doctor of Philosophy (PhD), Abertay University, is wholly my own work unless otherwise referenced or acknowledged. This work has not been submitted for any other qualification at any other academic institution.

Signed Mona Bozdog

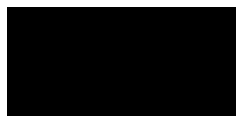


Date 18 June 2019

Supervisor's declaration:

I, Dayna Galloway, hereby certify that the candidate has fulfilled the conditions of the Resolution and Regulations appropriate for the degree of Doctor of Philosophy (PhD) in Abertay University and that the candidate is qualified to submit this thesis in application for that degree.

Signed Dayna Galloway



Date 18 June 2019

Certificate of Approval

I certify that this is a true and accurate version of the thesis approved by the examiners, and that all relevant ordinance regulations have been fulfilled.

Supervisor: Dayna Galloway



Date: 18 June 2019

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Dedication

To my grandparents, Bozdog Ionel and Dorina, who raised me with love and laughter and never gave up on me. Tata, thank you for the English lessons and for always finding time to play. Wherever you are, I hope you are looking down with pride and smile.

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Abstract

This thesis is an exploration of the intersections between performance and video games. Using a practice as research methodology, it aims to address the question of how game design and contemporary performance practice can both inform and contribute to the development of new and hybrid experiences and explores through making and subsequent reflection two of these potential forms.

The practice drew from the theoretical landscape, current aesthetic practices, as well as the design processes of mixed-reality performance, immersive theatres, site-specific performance, augmented reality, pervasive games, promenade performance and walking simulators. The design methods or dramaturgies employed when designing hybrid narrative, sensory and semiotic experiences for the moving body, informed the design, development and critical reflection on two large scale, interdisciplinary and mixed reality artistic projects: *Inchcolm Project* (2016) and *Generation ZX(X)* (2017-2018). The thesis thus maps this process of designing for the moving, sensing, meaning-making body in and across virtual and physical environments, while exploring different types of design: site-specific and site-responsive design, game responsive design, adaptation, environmental storytelling, and transmedia storytelling.

Both projects explored various narrative, spatial and temporal configurations with the aim of facilitating an experience continuum for the audience/player: she journeys through both physical and virtual environments in search of meaning. This is a design technique that I have called *storywalking* which I put forward as an innovative way of making in an area which is becoming increasingly important for contemporary artists: mixed-reality. Storywalking is a design process that can be applied to work that is structurally hybrid (with mixed-media and mixed-reality components) and inter-disciplinary in its design (video game design and site-specific performance practice). It facilitates a search for meaning (assembling narrative 'puzzle' pieces) performed by the walking body of the audience/players as they journey through complex, sensory and story-rich environments, both physical and digital. These environments are layered (the aesthetic of the palimpsest) and incomplete (the aesthetic of the ruin) thus

inviting the audience/player to complete the work by adopting different modes of engagement in the process of making-meaning: reading, writing, walking, playing, sensing and interpreting. Exploration becomes a dramaturgical device of assemblage which operates at two levels: of production, in the process of designing for the moving body and all its senses, and of reception in the process of performing the work.

The written reflection emphasises the opportunities and challenges of designing for a moving body across media and draws attention to the possibilities that the interdisciplinary research in the fields of performance and game design opens for makers in both fields. Furthermore, in both projects I engaged with charged sites and living memory furthering the applicability of the research findings to makers or organisers of community and heritage events, curators and anthropologists.

The critical reflection on the projects and the design processes which underpin them will contribute to the understanding of these types of hybrid practices and argue that interdisciplinary approaches to design can enrich the fields of game design and contemporary performance by opening new areas for practice and by proposing new strategies, techniques, skills and toolkits to practitioners in both fields. The written reflection is accompanied by a practice research portfolio which captures the traces of outcomes and processes inherent in the making of the work. This companion website is part of this thesis and should be consulted ahead and throughout the reading: <https://www.performingplay.co.uk/>

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INTRODUCTION

The Researcher

“Am I supposed to talk back?” (Ann-Christine, dramaturg, personal communication, 2014)

I am looking over a room-sized hopscotch court, marked on the floor with fluorescent orange duct tape, in the Glasgow venue, The Arches. This is where my journey begins. Ann-Christine’s question ringing in my ear, painfully troubling. Are they, my audience, supposed to talk back? Certainly, the intimate and confessional nature of the setting would imply so: the performer shares a square and a story with each of them. And so would the setting itself: a hopscotch court is a playground and playgrounds ask to be played in, interacted with. The question is troubling because I have managed to create all the conditions for play, encourage it even, without ever allowing it to happen. Now I am terrified as a second question starts buzzing in my ear: what if they do talk back? The horror of unplanned and uncontrolled interaction is insignificant when compared to the realisation that I have missed an opportunity for genuine dialogue and exchange between the performer and the audience. As a theatre maker, I was caught up in controlling every possible emerging situation rather than embracing it.

This episode and the memory of that missed opportunity haunted me until 2015, when a research scholarship was advertised: *Connecting Performance and Play. Establishing interdisciplinary design methods for the development of video games and performance*. This was an Applied Research Collaborative Studentship (ARCS), offered by Abertay University, The Royal Conservatoire of Scotland (RCS) and The National Theatre of Scotland (NTS), through the Scottish Graduate School for Arts and Humanities (SGSAH). It seemed that my creative practice was inherently pointing to this direction, so much so that looking back at my artistic practice, through-lines became acutely visible.

In 2011 I was commissioned to work together with director Ioana Paun to devise a text for Teatrul Foarte Mic (The Very Little Theatre) in Bucharest. We worked with the deaf community in Bucharest and investigated the urban soundscapes, the assault of noise on our daily life in the city, the powerlessness that arises when confronted with the absence of sound and the incapability of national institutions to cater and care for hearing-impaired communities. The resulting production, *Zero dB* played with sound and its absence, its volume and ability to fill, shape and invoke places. In 2012, I worked again with Ioana Paun on a commission for The National Theatre in Iasi. The performance was called *TV for Dummies. A Performance for 100 Remote Controls* and aimed to discuss some of Iasi's most prominent players in forming public opinion: The Orthodox Church and television. The audience were given a remote control upon entering in the auditorium and asked to tele-vote at certain moments during the performance. Their votes were then counted and the option with most votes would be later incorporated in the news footage that they were seeing throughout the performance. By incorporating their choices into the performance, and confronting them with the consequences, we were trying to interrogate the abdication of responsibility of some of Romania's media channels who hide behind the motto: we only give them what they want. The remote controls and the tele-voting system had, of course, no impact on the unravelling of events, there were no systems in place for registering and counting the votes, and the remote controls were mere props. The audience were left to debate their choices by themselves or with each other.

In 2013, as part of my Glasgow University MLitt dissertation, I wrote a Verbatim play based on interviews with Romanian students in the UK about their experiences with The UK Border Agency, called *HeteROgeny or The Mathematics of Immigration*. I was particularly interested in strategies for making mediation transparent in Verbatim and Documentary Theatre, positing that autobiography can function as a distancing device. I was arguing for ways of writing the researcher in, in order to avoid claims of ultimate truth and authorial-authoritative voice. In Verbatim theatre, the playwright is the editor and focusing lens, therefore their bias needs to be made transparent. At the time, I was myself a Romanian student living in the UK and struggling to obtain the

right to work. That was the angle from which I was approaching the story, therefore the play became a play about me writing a Verbatim play.

This brings me to the epiphany of the hopscotch moment described at the beginning of this introduction. *Lost in Transition* was produced as part of Arches Live in 2014. It is a series of autobiographical stories, scattered around the hopscotch court. As the performer, Nikoletta Thoma, makes her way through the hopscotch court, she entrusts a different story to the audience member who is seated in each square area. When working on *Lost in Transition* I started asking myself some difficult dramaturgical questions: do I want the participants to talk back? And if so how do I communicate this? The intimate space, and the confessional form of the piece would imply an exchange, but I had no idea how to orchestrate potential ensuing interaction. And it is here that I reach game-design territory. If I had possessed a minimum of game design knowledge, I would have had better skills for orchestrating interaction, conditioning spatial and narrative progression, or creating meaningful and gradual patterns of movement. At the time, of course, I had only a hunch that video games might offer solutions to my creative crisis, so I was left dissatisfied with the piece, and these questions, and lack of time to pursue them, further frustrated me. It was this hunch nonetheless that motivated me to apply for the scholarship.

I have discussed my artistic background at some length because my artistic lines of inquiry underpin this research, and to a certain degree have shaped it. Therefore, I cannot write myself out of this research, as I am wary of the consequences that such claims of authority can have on artistic research. My interests are in forms of performance and play that explore agency and responsibility, hybrid storytelling, designing for the sensing, feeling, moving and thinking body, both physical and virtual. I want to explore forms which challenge the traditional ways of spectating and performing, and that intentionally muddy the distinctions between the roles of performer, spectator, player, avatar and character. I am also interested in troubled or charged sites, their ghosts, the stories they tell about themselves when we are watching, and about us when we are gone, as well as the stories we tell about them. My interests could then be summarised as the coming together of places and people, an encounter that shapes them both. These interests shape how and what I make, and implicitly

how I question and understand through making. To question how the interdisciplinary study of performance and video games can help me design new forms of storytelling that draw on both performance and game design methods, I needed to test them in practice, to understand and critically reflect on the processes that underpin this development and the stages or iterations that the work undergoes. The process of making opens new ways of making, and new avenues that are worth investigating.

Being offered such a massive canvas (the title of the research scholarship is a testimony to the vastness of scope: *Connecting Performance and Play*) I had the freedom to steer the research into a direction of my choosing. But having this much freedom can sometimes also be daunting. I struggled with open-endedness and breadth of the terms play and performance. My background is important in understanding the focus of this research, where it sits, and why it has taken the direction and shape that it has. This research project has given me the time and support to pursue these questions further and to think about how my artistic practice and my research can benefit from the interdisciplinary study of performance and video games. I am hopeful that the findings of this research can offer some answers to the maker who, standing puzzled in front of a game of hopscotch asks: "What if they talked back?".

The Research

This thesis is an exploration of the intersections between performance and video games. The studentship brief stated that the candidate would "undertake research into the conception, design and production of live/real-time multi-media performance that explore the links between performance and play both as creative practices and modes of expression".

Initially this research was to be undertaken within productions of the NTS. Unfortunately, at the time when this research project was starting to take shape, the NTS was in the midst of changing artistic directors and moving into new headquarters. This prompted me to conceive, design and produce the performances that are the object of this research myself. Using a practice as research methodology, I addressed the question of how game design and performance practice can both inform and contribute to the development of new

and hybrid experiences and explored through making and subsequent reflection two of these potential forms.

The first was called *Inchcolm Project*, and it consisted of a two-hour experience on Inchcolm island, in the Firth of Forth. As part of this project, I adapted a walking simulator, *Dear Esther* (The Chinese Room, 2012), to a live promenade performance and brought the performance and game together. The design posed two adaptation challenges: responding to the site, and to the game. Initially I wanted to design an immersive and interactive story that spanned over a video game and a performance, to pilot a set of working methodologies. I quickly realised that it would be impossible to design both a video game and a performance within the timeframe. Therefore, I chose to work with an existing game and develop a performance around it, or better yet, in response to it. This is what I have called *game-responsive design*. *Inchcolm Project* was structured as a three-part experience: the promenade performance (*Dear Rachel*), the gameplay projection (*Dear Esther* played live and projected onto a wall in Inchcolm Abbey), and the final musical performance (Mantra Collective performing the game's soundtrack). The project was showcased on Inchcolm as work in progress, for an invited audience of 50 guests from both games and performance backgrounds. The design methods, findings and reflection on the processes that underpin it are covered in depth in the chapter dedicated to the critical reflection on *Inchcolm Project*.

For the second project, *Generation ZX(X)*, I worked with third year Games and Art students and staff from Abertay University to develop a series of video games, augmented walks, projections and a musical performance, all exploring narrative configurations in and across physical and virtual environments. The project engaged with the living memory and heritage of the Timex factory in Dundee, and its aim was to reclaim and rewrite the history of the charged site on Harrison Road and to challenge the 'official' history of the local games industry. Two of the games: *She-Town* and *Assembly* were developed by the student team under the supervision of Dr. Dayna Galloway and myself, whereas for the third, *Breaking out of the Frame*, I worked with fellow Abertay GameLab members Niall Moody and Kayleigh MacLeod. The ZX Spectrum computers were manufactured in the Timex factory by a skilled female workforce. The ZX

Spectrum has been highly influential on the careers of many developers across the UK while the labour behind it has remained mostly invisible. Like *Inchcolm Project*, *Generation ZX(X)* took the form of a public event which invited the audience/players to explore the site and its history through different modes of engagement. The audience/players discovered the designed and natural sensory-scapes of Camperdown Park by exploring the park together. They engaged with the oral histories of the women who worked in the factory, performed conviviality and community as they played together the three games installed at the factory, witnessed the gender politics of Timex by watching an archival projection of women working on the assembly line under the scrutiny of men in positions of power, and they listened as some of the UK's leading game developers acknowledged the women's labour and its impact on their careers and the industry. The final musical performance brought back to the factory women's singing as three women's choirs led by Alice Marra performed *Women o Dundee* by Sheena Wellington (1990).

The written reflection contextualises the practice and emphasises the opportunities and challenges of designing for a moving body across media, drawing attention to the possibilities that interdisciplinary research in the fields of performance and game design offer to makers in both fields.

By creating two pieces of work which require that the audience/players journey through physical and virtual environments and engage with the potential of both their physical and virtual bodies, this research is positioned at the confluence of performance and play, namely immersive theatres, site-specific theatre, walking performance, participatory and installation art, mixed-reality performance and mixed-methods design, game design, game and play studies, theatre studies, and dramaturgy.

This research comes at a point in time when virtual reality seems to be the future of entertainment, a future which focuses on virtual experiences and bodies instead of seeing the potential of merging the virtual with the physical. In this sense, this research is not of its time, but rather against it, which makes it

equally timely. On the other hand, the popularity of immersive theatres¹, Secret Cinema², Escape the Room, *Pokemon Go* (Niantic, 2016), *Ingress* (Niantic, 2013) etc, seems to testify to audiences' inclination towards an entertainment experience that fully engages the body. With the increase in these hybrid forms of performance and the upsurge of first-person games and immersive performance practices, it is hard to ignore audiences' underlying desire for participation and for experiencing an alternative (story)world from within.

The overlaps between performance and video games seem to be the new direction for contemporary practices as well, as evidenced by increased interest from research funding bodies, practitioners and academic institutions.

In June 2017 The Arts and Humanities Research Council (AHRC) in partnership with the Engineering and Physical Sciences Research Council (EPSRC) launched a £2m Research and Partnership Development call for the Next Generation of Immersive Experiences which supported 32 research projects. This was then followed by the £33m Audiences of the Future programme. The Knowledge Transfer Network (KTN) and Innovate UK launched Immerse UK as a network for professionals working across the immersive tech sector and commissioned the *Immersive Economy in the UK* Report which found that the immersive technologies sector is growing, with 1000 specialist companies across the UK, employing 4500 people and generating £660 million in sales³. The Immersive Design Summit launched in 2018 in San Francisco, CA as a forum and knowledge exchange platform for leading practitioners in immersive arts⁴. In 2016 the leading software and game developers Media Molecule partnered with the leading immersive theatre producers Punchdrunk to merge the “breadth of experience in gaming and performing arts respectively ... [and

¹Punchdrunk is one of the most established and most popular immersive theatre companies in the world. *Sleep no More*, their adaptation of *Macbeth*, started in 2003 in London, and has been staged in London, Boston, New York and Hong Kong.

² <https://www.secretcinema.org/>

³ <https://ktn-uk.co.uk/news/immersive-economy-in-the-uk-report-launches>

⁴ <https://immersivedesignsummit.com/>

to] explore the crossover between digital and theatrical performance”⁵. In a recent interview, Punchdrunk founder Felix Barrett expressed his belief that “playable shows are the future”⁶. Whilst in December 2018 Abertay University advertised UK’s first ever position of ‘Lecturer in Immersive Experience Design’. These seem to suggest increased interest and enthusiasm for these interdisciplinary practices, and I hope that this research project will contribute to and further the fervent discussions in this area.

Through this research project, I argue that designing for the moving body in mixed reality environments can lead to new hybrid forms of storytelling, and challenge artists to engage with and design for both the sensory abilities of the physical body, as well as the invulnerability and endless reach of the virtual one. This transition is made possible by a strong fictional world that incorporates both physical and virtual environments. In turn, these environments ground and enrich the fictional world and contribute their own aesthetics and design opportunities.

I started this research by exploring forms that make the connections between performance and play apparent. I focused on participatory forms of performance, particularly on site specific, immersive and promenade performance, and walking simulators. This was motivated by an initial ‘hunch’ that the interplay between interaction, narrative and immersion will provide a common ground where performance and video games meet. These forms are discussed at depth in the Context chapter.

Video games and participatory performances in which the audience is invited to explore and walk share the aim of designing structures that facilitate meaningful experiences through interaction with and within a fictional world. In short, both design experiences for a moving body. Therefore, the design process is focused simultaneously on two directions: designing fictional worlds and designing ways of engaging with those worlds, each addressing the sensing

⁵https://www.mediamolecule.com/blog/article/punchdrunk_and_media_molecule_where_dreams_collide

⁶ <https://www.theguardian.com/games/2019/feb/08/playable-shows-are-the-future-what-punchdrunk-theatre-learned-from-video-games>

and moving body. This experience is immersive (the audience/player is surrounded by the world), interactive (the audience/player can move within the world and interact with its objects, environments and inhabitants), and narrative (the world is fictionalised to varying degrees). Walking simulators and participatory performance offer a promising starting point for drawing connections between the fields of performance and video games due to their numerous similarities: they capitalize on the pleasure of exploration, the gratification of desire and voyeuristic pleasures (Alston, 2016a; Alston, 2016b; Maples, 2016; Shearing, 2015), endowing the player/audience with agency that takes the form of spatial navigation and manipulation of objects (Nitsche, 2008; Murray, 1997; Machon, 2013; White, 2012; White, 2013), they allow for anticipatory and interpretative play (Upton, 2015), they create a sensory and story-rich world that can be interiorized through spatial and kinaesthetic involvement (Laurel, 2014; Calleja, 2011; Machon, 2013; Murray, 1997), and they prioritize player experience through careful experience design. I argue that by further studying these connections we can design experiences that reconcile interaction with immersive storytelling and advance towards what Marie-Laure Ryan calls a “total art-form”: “an art experience that is not only immersive and interactive, like our relation to the life-world, but that, in contrast to the randomness of life, also offers the design and meaningfulness of narrative.” (Ryan, 2015, p. 259).

Throughout this thesis I refer to the participants of both projects as ‘audience/players’. This is because different components of the events facilitated different forms of engagement with the work. At times they were performing a spectating role with varying degrees of interaction, and at other times they were engaging in gameplay. The work demanded that they constantly adapted to these new roles, the skills that they required and the opportunities for meaning and sense-making that they supported. I believe that the term ‘audience/players’ captures the shifting mode of engagement with the work. Although it does not capture all the roles that the participants could undertake (walkers, witnesses and so forth), the pairing audience/players foregrounds the two fields of study: performance and video games, and their respective primary modes of reception.

The first chapter introduces the practice as research methodology that underpins this research, and the methods deployed in the development, design, production and subsequent critical reflection on the two projects which embody it. I propose two types of interdisciplinary design strategies, one based on adaptation and the other on transmedia storytelling, both shaped by my skills, my curiosity and my practice. These are working methods, developed in and through practice.

The body of the thesis is composed of two chapters dedicated to the projects that constitute the applied part of my research. The design methods or dramaturgies employed when designing for the moving physical body (originating in site-specific and walking performance practice) and the moving virtual body (originating in video game design) are brought together when designing for the moving body across hybrid environments. These partially informed and were partially shaped by the design, development and critical reflection on two large scale, interdisciplinary and mixed reality artistic projects: *Inchcolm Project* (2016) and *Generation ZX(X)* (2017-2018). The thesis thus maps the process of designing for the moving, sensing, meaning-making body across virtual and physical environments, while exploring different design strategies and techniques: devising, site-specific and site-responsive design, game responsive design, adaptation, environmental storytelling, storywalking, Verbatim and transmedia storytelling. Both projects explored various narrative, spatial and temporal configurations with the aim of facilitating an experience continuum for the audience/player: she journeyed through both physical and virtual environments in search for meaning. Furthermore, each environment invited the interpretative skill-set of the audience/player and added new ways of meaning- and sense-making thus contributing to the overall dramaturgy of the experience. Motivating exploration and designing moments of encounter and discovery thus become dramaturgical devices in the process of designing for the moving body and all its senses.

The *Inchcolm Project* chapter is a critical reflection on the processes involved in its design and implementation. I start by describing the conceptual thinking and the research questions which led to its development. I then offer a critical breakdown of the gameplay experience of *Dear Esther*, and a justification for

the selection of a game and of a site which could complement and enhance each other. As a playwright I considered the game's poetic text a challenge, as a dramaturg I was intrigued by the openness of the text and by how walking is designed as an aesthetic and dramaturgic practice, and as a theatre-maker I was fascinated by the narrative, symbolic and sensory opportunities afforded by an island space. I then explain why I chose to focus on this particular type of games, called walking simulators. Walking simulators, or walking sims are a first-person video game genre in which the player discovers the story by walking and exploring a virtual environment. Because the only allowed in-game action is walking (with the occasional opening of doors and drawers, switching lights on and off, or focusing attention on objects of interest for example by zooming in) they have a low barrier to entry – they are accessible to a large and diverse player community. Additionally, this constraint to one game mechanics⁷ forces them to creatively deploy all the other tools in the game design toolbox (music, sound, animation, environmental and character art, voice over narration, text) for generating atmosphere and conveying the narrative: if the player only walks, which requires a minimum of attention, she is free to focus on the aesthetic experience provided by the game (Calleja, 2011; Pinchbeck, 2012a; 2012b; 2017; Upton, 2015). Because they foreground the aesthetic experience afforded by performing an environment, I argue that walking sims are an ideal genre for adapting to live performance. A performance adapted from a video game can learn from its design, while in the same time contributing its own media-specific opportunities, particularly the 'transformative power' which resides in its experiential and embodied engagement (Fischer-Lichte, 2008; Machon, 2009; 2013). I therefore position *Inchcolm Project* in relation to the larger field of adaptation and outline some of the opportunities and challenges presented by the form. The process of adapting the game to a live event consisted of two design challenges: adapting the game to a live performance, and adapting to the sensory, symbolic and narrative identity of the site (Image 1). Both these design strategies foreground the aesthetic of the palimpsest: the "doubled

⁷ "Game mechanics are methods invoked by agents for interacting with the game world" (Sicart, 2008). Game mechanics are in general the actions afforded by the game.

pleasure” of adaptations which results from reading more than one text at once and tracing the connections between the ‘original’ and the adapted text (Hutcheon and O’Flynn, 2012, p. 116), and the pleasures of performing a simultaneous ‘reading’ and ‘writing’ of a layered environment by which “each occupation, or traversal, or transgression of space offers a reinterpretation of it, even a rewriting ... [where] space is often envisaged as an aggregation of layered writings – a palimpsest.” (Turner, 2004, p. 373).

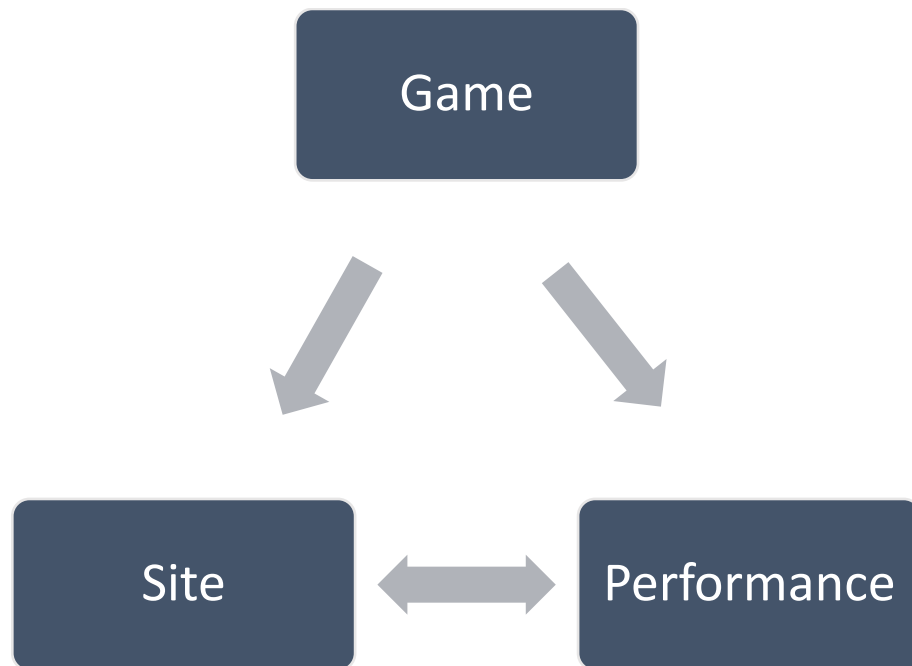


Image 1 Site and Game Responsive Design in Inchcolm Project

I then move on to reflect on the process of adapting *Dear Esther* which had four stages: familiarity with the game, filtering the game through a personal lens (selecting the game strategies and components to be adapted), deconstructing the game to understand its design, and implementing the design in practice which incorporated my responses to the site (Image 2). The process of adaptation was underpinned by a parallel process of dramaturgy which ensured the coherence of meaning across different types of environments (physical and virtual), and mixed-media components (promenade performance, projection, musical performance). This was a dramaturgy of assemblage (Pearson and Shanks, 2001) at the level of production, where different elements were assembled in the process of devising, but also at the level of reception where

the different components were assembled in performance by the moving bodies of the audience/players. I argue that this is best understood through (syn)aesthetics (Machon, 2009), a two-fold process of meaning and sense-making, simultaneously cognitive and sensory.

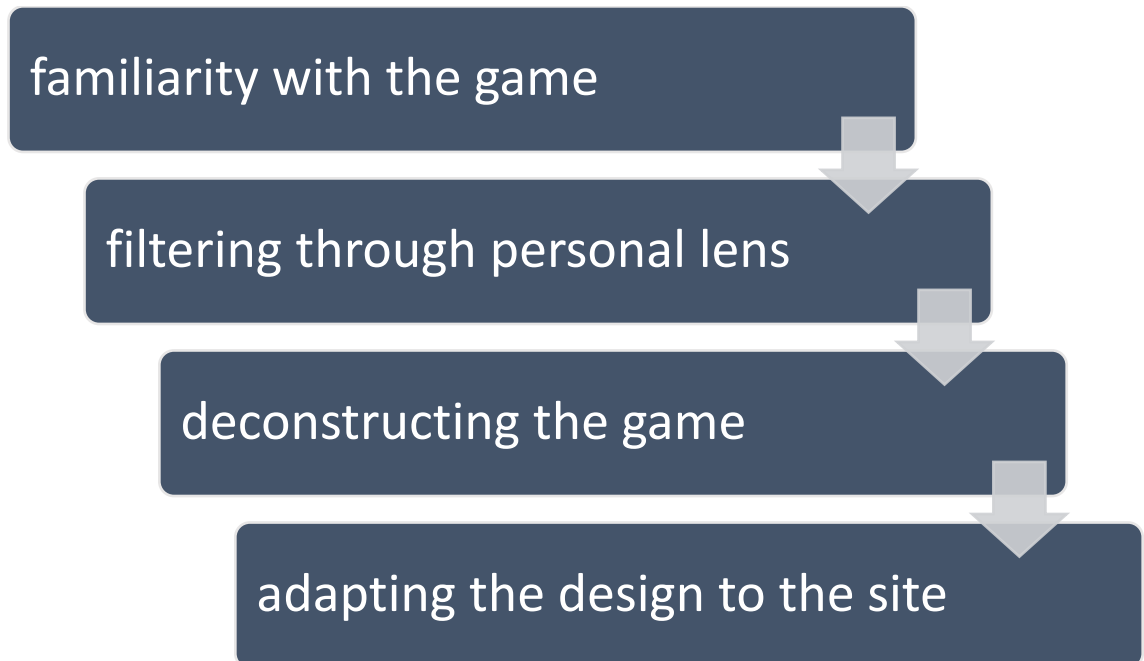


Image 2 Adaptation Process in Inchoalm Project

Inchoalm Project opened up new questions about adaptation, about the potential configurations of virtual and physical sites and how they sit in relation to hybrid forms of storytelling. In our “convergence culture” (Jenkins, 2006a), Hutcheon and O’Flynn (2012) and Jenkins (2006a; 2007) see the future of adaptation in transmedia storytelling. Unfortunately, they fail to notice the potential of using live-performance alongside video games which is why to me it seemed that the next natural step was to build on the design methods used in *Inchoalm Project* to design a transmedia story that spans over a video game and a performance. Designing *Generation ZX(X)* gave me the opportunity to observe and explore the processes of game design first-hand and reflect on the opportunities and challenges of creating transmedia content.

The *Generation ZX(X)* chapter starts by introducing the themes of the project and the context in which it was developed and received. The Timex factory is mostly remembered in Dundee for the strikes which marked the factory's eventual 'departure' from the city in 1993 after nearly five decades. The strikes are still a painful event in the city's collective memory, so much so that for 25 years it has overshadowed the living memory of the workers. The oral histories of the women who worked on the Timex assembly lines capture an important chapter in the town's history, in the video games and home computers history. They also give a flavour of the atmosphere inside the Timex factory and the conviviality, solidarity and 'sisterhood' of the assembly lines. The connection between the female labour on the Timex assembly lines and the video games industry has never been discussed at depth in games scholarship. The games and performance responded to the same documentation and the oral histories archives that I assembled during the research and documentation stages of the project. The development of the three games and the performance took place simultaneously in a parallel design process, constantly responding and adapting to one another. This ensured that the performance and the games have a thematic and aesthetic coherence (Image 3).

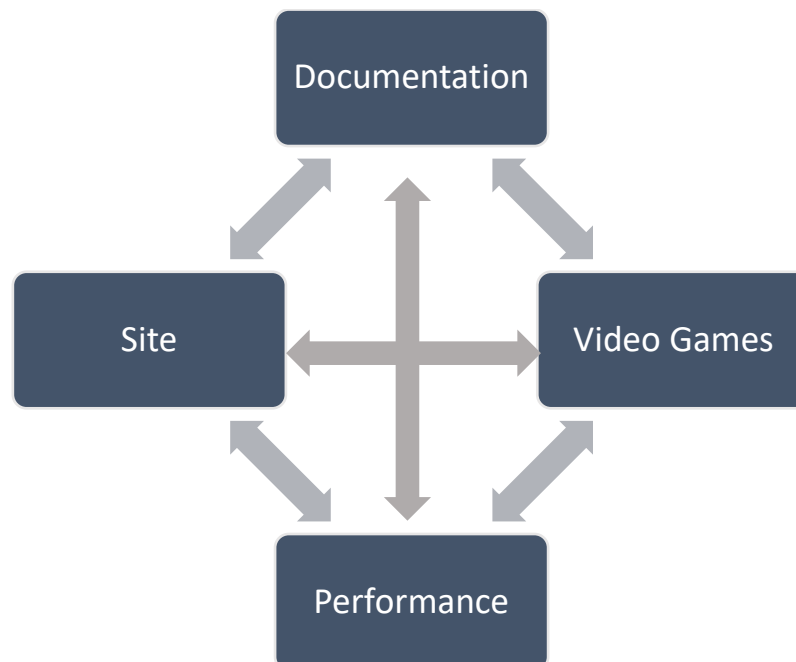


Image 3 Responsive design process in *Generation ZX(X)*

The design process aimed to foreground the affordances of both mediums and experiment with various ways of combining interaction with storytelling, Verbatim with convivial walking, and space with movement. This involved bringing forward the design heuristics developed during *Inchcolm Project* and adjusting them: developing new design methods and/or adapting some of the existing ones through the parallel development of the games and performance. Ideally the video games and the performance would complement, inspire and enhance each other. This reflection chapter is broken down into the design of the various components of the storywalk: the audiowalk, the games, the projection and the musical performance. I discuss each of them in relation to the overall dramaturgical process which ensured the coherence of the themes and aesthetics.

I conclude by discussing the impact of the research projects, their limitations and future directions for the research. I am hopeful that this way of making, namely storywalking, a game and site-responsive design method which uses adaptation and transmedia storytelling and brings together performance and video games by drawing on established methods of making in each field, will make its contribution to both contemporary performance practice and game design by providing new ways of designing and thinking about the design process. The term storywalking seemed apt in foregrounding the richness of walking as simultaneously discovering, living, performing, making, feeling, listening, remembering, and telling a story and an environment. The research proposes hybrid forms that can attract new audiences to video games and performance by providing multiple routes into the story. It can expand and diversify the scope of both fields to consider each other as potential platforms for expression and develop new forms of designing and presenting work in both fields. And finally, it can challenge the way we think about experience on a mixed-reality continuum by showcasing the potential of the body to experience and engage with both virtual and physical environments, their sensory-scapes and stories.

The Questions

The research questions developed throughout the project, growing and shifting along with the practice.

Some of the questions that the present research aims to address are: Can we design forms of storytelling that draw on both performance and game design methods? And if so could these forms provide a meaningful experience that reconciles the meaningful agency provided by video games with the meaningful sensory and narrative dimension of performance?

At the beginning of the research project I used the title of the studentship⁸ to focus my inquiry. I wanted to see how my background as a playwright, dramaturg and director can help me bridge between the two fields and develop those interdisciplinary design methods. I wanted to see how I can tell a story using the unique opportunities afforded by each medium and to explore what types of stories can benefit from such a 'telling'. In order to do so, I needed to understand the medium of video games and the design processes and techniques that underpin them but also to scope various hybrid forms of storytelling that combine participation and performance. I started with a literature and practice review as well as critically playing a variety of games. Through the latter I wanted to understand what I consider to be a 'good' game and what it is which makes it 'good'. Richard Rouse explains that this understanding is ultimately intuitive and experiential:

Understanding game design, as with any art form, is very much an internalized understanding, a "gut" reaction, a "feeling" you might have. It may be that you will not be able to form that answer into words, but you will need to understand what aspects of a game are strong and which are weak, and how the latter can be replaced with more of the former. Experience plays a big part in understanding what makes a game fun, experience both as a game designer and as a game player. (Rouse III, 2001)

I realised that I was interested in games that offer complex sensory and narrative experiences, which are accessible (do not have overtly complicated

⁸ Connecting Performance and Play. Establishing Interdisciplinary Design Methods for the Development of Video Games and Performance.

control schemes) and which engage with meaningful human feelings and emotions. These are games which afford and foreground critical play:

Critical play means to create or occupy play environments and activities that represent one or more questions about aspects of human life [...] Criticality in play can be fostered in order to question an aspect of a game's 'content,' or an aspect of a play scenario's function that might otherwise be considered a given or necessary (Flanagan, 2009, p. 6)

Through critical play I wanted to really understand how some video games deliver an engaging and meaningful aesthetic experience. I noticed that most games do so through a combination of visual (environment and character design), narrative, sound and interaction design. A form of interaction that I was interested in was walking, as it links video games to forms of participatory performance (promenade performance, walking performance, immersive theatres) and facilitates complex experiences (as previously discussed). Walking is also a main mechanic in most games which means that their design is centred around the moving body. I wanted to explore how to create meaningful experiences (sensory, narrative and interpretive) which meant I was not interested in 'win' conditions, competitive mechanics or traditional goals like scoring points or gaining collectables, which is why I narrowed down the pool of potential games to only include first-person, non-competitive, narrative games. I played through a mix of walking simulators, art and serious games, exploration and puzzle games, and horror games. The game that stayed with the most was *Dear Esther*.

This is because *Dear Esther* blends the aspects from various genres that I find interesting: the joy of exploration and discovery found in exploration games, the ease of navigation and the intricate environmental storytelling found in walking simulators, the haunting atmosphere and evocative sound found in horror games, a visual and poetic language and an emphasis on player-driven meaning found in art and serious games, and the cryptic and abstract narratives found in puzzle games.

I wanted to deconstruct *Dear Esther* to understand how its design elements collaborated to create a strong and lasting emotional experience. I decided to see whether I can use adaptation to develop interdisciplinary design methods

which blend game design strategies with performance practice and how these design strategies 'translate' to live performance. I believed that implementing elements of game design into a live performance would allow me to distil a hybrid interdisciplinary working method rooted and tested in practice. I was exploring how I can apply some of the design lessons learned from *Dear Esther* in performance, particularly ambiguity in design and storytelling (Pinchbeck, 2012), symbolic environment design, creating emotional landscapes through dramatic visual style, use of detail for sewing the narrative to the world, subliminal signposting (Brisoe, 2012), embedded and emergent storytelling, non-linearity (see Rouse III, 2001), anticipatory and interpretive play (Upton, 2015), anticipatory design (Rouse III, 2001). At the same time, I was 'listening' to the site and exploring design strategies and techniques used in participatory and site-specific performance, namely responding to the site as 'host' by creating narrative and sensory 'see-through' overlays – work as 'ghost' (Pearson, 2010, p. 35), using site and work as co-creators which combine to create a palimpsestic aesthetic (Turner, 2004), engaging with walking as an aesthetic practice through walkscapes (Careri, 2017), smell-walks (Henshaw, 2014), smellscapes (Drobnick, 2002; 2005; Hill and Paris, 2014; Howes, 2005; Porteous, 1985), seascapes (Pungetti, 2012), using sound to augment/complement/highlight the site – soundscapes (Murray Schafer, 1994; Smalley, 2007; Voegelin, 2014), in-situ creative writing, sound and visual installation design, exploring the aesthetic and narrative potential of the 'ruin' (Arnold-De Simone, 2015; Beswick, 2015; Dillon, 2011; Edensor, 2008; Lorimer and Murray, 2015; Smith, 2015).

I also decided to bring the adapted 'text' and the 'original' text together, to stage *Dear Esther* and *Dear Rachel* on Inchcolm because I was curious to explore how I could create moments of overlap between the two (by re-creating sounds and images from *Dear Esther* in *Dear Rachel*) and moments of 'contagion' where Inchcolm's sensory information attaches itself to the gameplay experience (during the gameplay projection). This is one consequence of the intrinsic liminality of hybrid spaces, as Giannachi notes:

Because the hypersurface is a liminal space, the viewer can double their presence and be in both the real and the virtual environment

simultaneously. In other words, the viewer may be part of both the realm of image and the sphere of the real, and may modify one through the other (2004, p. 95).

If the hypersurface has such powers than the potential of these types of experiences for 'attaching' long-elusive sensory information (temperature, smell, taste) to gameplay is vast. I wanted to explore how I can create opportunities for these types of 'bleedings' and 'slippages' of sense-making and making-sense between the virtual and the physical body and environment to happen.

Throughout *Inchcolm Project* I was trying to investigate how I could capitalize on these fuzzy areas where the virtual and the lived merge, and where the fictional world bleeds into the real world.

Going into *Inchcolm Project* I had a series of overarching questions and directions for the inquiry:

- How can game design and contemporary performance practices inform and contribute to the development of new and hybrid experiences?
- What forms could these experiences take?
- How can I use adaptation and mixed-media storytelling to create an experience continuum across hybrid environments?
- What can I learn as a theatre maker from game design and how can I apply those findings?
- How can I design for a moving body across hybrid physical and virtual environments?
- What performance and game design methods, strategies and techniques are the most suited and work best?
- How do I draw on these to design an aesthetic experience for the moving body?
- How can I use transmedia storytelling to bring the sensory and narrative immersion achieved in immersive performance to the immersive interaction achieved in games, through the unifying abilities of the fictional world? Can environmental storytelling be used to bridge between the two?

- How can I 'attach' the sensory memory of the lived experience to gameplay (through visual and aural stimuli/triggers)?

As I will discuss in the reflection chapters of the thesis these lines of inquiry guided my research process and shaped the practice.

Coming out of *Inchcolm Project* I had a working methodology (storywalking) which had been applied to create an interdisciplinary and hybrid experience through use of adaptation. However, aside from wanting to develop a game and a performance which respond to one another, there were aspects that I wanted to develop further based on audience feedback and observation as well as emergent lines of development and inquiry which stemmed from my processes of developing and reflecting on the work. First, I wanted to see how I could develop storywalking to incorporate a purposefully designed gameplay experience. This ushered in a new set of questions:

- What parts of the story are better suited to be told through gameplay and which are better suited to be experienced live by a moving, sensing, meaning-making body?
- What does gameplay offer to the experience?
- How does it sit in relation to the performance, and what does performance offer in terms of contextualising and extending the experience?
- Do the performance and gameplay support each other narratively and aesthetically, or on the contrary create moments of dissonance by questioning and challenging each other?
- What is the optimal spatial-temporal-narrative configuration for the chosen stories and spaces?
- Where should I position moments of gameplay and what do those locations offer?
- How do I balance the solitary experience of gameplay with moments of coming together?

These questions were answered through the design choices that I made, the strategies and techniques deployed in their implementation, and through the thematic, conceptual and aesthetic threads which run through the work.

Deciding to work with oral histories, I wanted to explore the potential of combining Verbatim and storywalk techniques to counter some of the challenges of the Verbatim method⁹ while taking advantage of the opportunities and affordances of both. Because I am particularly interested in working with oral histories and living memory I wanted to see how I can incorporate Verbatim techniques and strategies (of collecting, editing and structuring material) into the storywalk and to entrust the creative work of composing the material¹⁰ to the moving bodies of the audience/players.

I was now not just exploring movement in a physical and digital environment, but also the impact of physical body movement on the digital space and the potential of physical controllers. I wanted to explore how to design for bodies moving and playing together, to develop a type of social and collaborative design which encourages dialogue, camaraderie, and conviviality and generates a feeling of community (see Pearce, 2009; Isbister, 2010; Márquez Segura and Isbister, 2015; Wilson, 2012; Love, 2018). I was gradually moving away from Inchcolm's romantic aesthetics of meditative walking in a dramatic landscape (developed as a response to *Dear Esther's* aesthetic), and towards a relational and social aesthetic of people walking (convivial walking, Lee and Ingold, 2006; Myers, 2010; Heddon, 2012; Heddon and Turner, 2012) and playing together (social play, Isbister, 2010; Love and Bozdog, 2018; Márquez Segura and Isbister, 2015) which better suited the project.

The research questions guided my process and reflection, growing and developing iteratively through practice. The questions underpin this thesis and are answered in the reflection chapters.

⁹ When artist mediation is hidden, which is often the case in Verbatim, the work risks to become manipulative by disguising itself as an accurate representation of 'reality'.

¹⁰ : "The process of selection, editing, organization, and presentation is where the creative work of documentary theatre gets done" (Martin, 2010, p. 18).

The Context

Due to the interdisciplinary nature of the research and the emerging nature of the methodology I was constantly investigating and drawing from a variety of practices to develop my practical (“know-how”, Nelson, 2013) and my theoretical and factual knowledge (“know-that”, Nelson, 2013).

In trying to find a vocabulary for my emerging practice I started to explore the work of practitioners who were experimenting with elements of performance and games, incorporating techniques and aesthetics from one another to develop hybrid experiences. Their efforts illustrate that we are slowly moving toward participatory experiences in which “the audience is the participant, the participant is the player, the player is the character” (Dixon, 2007, 601). The influence that video games had on recent theatre productions has been felt to such an extent that Thomas McMullan welcomed “A new era of theatre [which] is borrowing conventions from video games, making invigorating performances in which the viewer becomes a player” (2014), and Mark Lawson humorously remarked: “On a bad day at the Edinburgh or Manchester festivals, there were times when a critic felt dizzy nostalgia at the sight of a seat or a script” (2012).

My practice review was two-fold, looking at experiences which use gaming elements in a performance event, but also gaming experiences which use performative elements and theatrical techniques. The line between the two is not always clean-cut, as is often the case with hybrid practices, in which case I discuss the work using the artists’ preferred terminology and description. I have grouped these practices into three categories: immersive theatres, site-responsive and walking performance and mixed-reality practices. Some immersive theatre practitioners consider their work to be site-specific, some engage with technology to create mixed-reality work and most productions involve movement through the world which takes the form of walking however I discuss them separately. This is because immersive theatres foreground immersion, creating and submerging their audiences in a ‘different’ reality, whereas site-specific and walking performances do not necessarily aim for immersive experiences but to foreground the site and/or the walking body, and

mixed-reality experiences foreground the abilities of technology to create hybrid worlds and experiences (fiction/reality/virtual/physical).

Throughout the practice review, regardless of the forms or categories, I constantly focused on three aspects that I argue connect them and which were central to my inquiry: the relationship between audience/player agency and authorial control, designing for the sensing and moving body and the importance of site/space. These three aspects constitute the three components of designing for a moving, sense and meaning-making body through a sensory and narrative rich environment, what I have defined as 'storywalking'.

Immersive Theatre

In what follows I will discuss some of these practices to reflect on the development of my methods and to show how my practice is situated in relation to them.

The first large group of practices that I reviewed are immersive theatre productions. In order to gain a better understanding of immersive practices I have read interviews and reflections from leading companies like Punchdrunk and Punchdrunk Enrichment, Coney, Shunt, WildWorks, Nimble Fish, Lundahl & Seidl, dreamthinkspeak, Curious, and practitioners like Silvia Mercuriali, Louise Ann Wilson and Adrian Howells.

Immersive theatre is a movement in contemporary performance practice which foregrounds audience participation within a carefully staged, sensory and narrative rich world. Adam Alston defines it as "theatre that surrounds audiences within an aesthetic space in which they are frequently, but not always, free to move and/or participate" (Alston, 2013). Gareth White similarly notes that immersive theatres are "performances which use installation and expansive environments, which have mobile audiences, and which invite audience participation" (White, 2012). Josephine Machon adds the sensory and visceral dimensions to her definition: "a movement that is occurring in contemporary performance practice towards a visceral and participatory audience experience with an all-encompassing, sensual style of production aesthetic" (Machon, 2013, p. 66). All these definitions make clear that

immersive theatres prioritize the experience of the audience who is free to explore an immersive and sensory-rich environment across which the story unfolds. The participatory nature of engagement – the participatory aesthetic of immersive theatre (Breeel, 2015), the sensory-rich, visceral and even erotic world created through set-design (Maples, 2016), the ability of the production to establish “in-its-own-world’-ness where space, scenography, sound and duration are palpable forces that comprise this world” (Machon, 2016, p. 35) and the emphasis on space are key features of immersive theatre (Machon, 2013; 2016). Due to its emphasis on the visceral aspects of these theatres, they foreground an alternative aesthetics, what Josephine Machon calls (syn)aesthetics (2009). She introduces the concept of (syn)aesthetics to account for the sensory dimension of dramaturgy, a concept which foregrounds the two-fold aesthetic of performance: making-sense/sense-making (semantic and somatic) at both the level of production and the level of reception (2009). (Syn)aesthetics is defined as “an aesthetic potential within performance which embraces a fused sensory experience, in both the process and the means of production, as it consists of a blending of disciplines and techniques to create an interdisciplinary, intertextual and ‘intersensual’ work” (ibid., p. 14). At the level of making, (syn)aesthetics can be seen as both a style of production which embraces a semantic and sensory aesthetic, and the process of making the work, of designing this combined somatic/semantic experience through various design strategies (set and costume design, narrative design, sound design, interaction design, journey/route design). At the level of reception making-sense and sense-making are fused in the embodied experience of the work: “This fusing of sense (semantic ‘meaning making’) with *sense* (feeling, both sensation and emotion) establishes a double-edged rendering of making-sense/*sense*-making and foregrounds its fused somatic/semantic nature” (ibid., original emphasis).

It is the encounter between the audience and the environment that takes central stage as opposed to the traditional theatrical encounter of audience and performer. It is worth noting that none of the definitions above even mention the actor or performer. It is the environment and the audience that become the performers. This is not to be understood as an absence of performers all-

together, but a shift in focus from a witnessing audience to a participatory audience, where performers and audience populate the same fictional world. This fictional world is self-contained and self-sufficient, it functions according to its own rules and regulations that the audience accept before entering (what is called the contract of participation (Machon, 2013) or accepting the invitation (White, 2012)). Different companies adopt different aesthetics and prioritize different aspects of performance, from masking the audience to intimate confessions, from physical proximity to large scale mazes, from peeking to performing, but as Alston notes those differences are “of degree, not kind” (Alston, 2013, p. 129). All immersive performances centre around the production of experience as they appeal “to narcissistic and hedonistic desire” (Alston, 2013, p. 130). The pleasures that they have on offer are also varied, from a pampering of the senses, to navigation, exploration and discovery, to aesthetic and intellectual gratification. Alston notes that as products of an experience economy they cater to all tastes (2013).

For example, Punchdrunk productions have high production values which usually are reflected in the expensive ticket prices. The tickets are usually tiered, the highest ticket tier usually unlocks ‘secret’ rooms and offers the ticket holder special benefits and the promise of a one-of-a-kind experience. This promotes and exacerbates individualistic and competitive behaviours and neoliberal values (Alston, 2013; 2016; Wozniak, 2015). In Punchdrunk performances the audiences can adopt one of two strategies, they can freely explore the environment (what has been called ‘the Search’) or they can choose to follow the characters (‘the Tail’) (Flaherty, 2014) that will eventually lead them to a progression of the narrative. This desire is titillated by the space, that ‘undresses’ or gradually reveals its narrative, aesthetic, or sensory secrets to the explorer.

The invitation to explore freely an out-of-the-ordinary environment ignites a childlike excitement, curiosity and a sense of adventure in the participants, which can be transformative as Machon observes:

“Rediscovery is central to the experience; of space, narrative, character, theme and sometimes even of unknown depths, or hidden emotions and memories specific to that individual participant. This

rediscovery through active decision making is transformative, in terms of the way the individual audience member influences the shape of the show, and transformative like a rite of passage where one can be personally and positively changed through the thematic concerns of the event, communicated via its experiential form” (Machon, 2013, p. 28)

Similar to video games then, immersive theatres foreground exploration and walking as pleasurable in themselves (aesthetics), intrinsically connected to the pleasures of finding one’s way through the environment, its affordances and boundaries, its narrative, sensory and interpretive potential and of watching the environment respond to the audience/player’s presence and actions within the environment.

“What makes travel in virtual worlds appealing is not only the affective power of their aesthetic beauty, but also the performed practice of exploring their technical and topographical boundaries” (Calleja, 2011, p. 77)

These same pleasures of exploration, of not just the fictional world but also its boundaries, are encountered in immersive performance. Pushing the boundaries of what is allowed in immersive theatre as a result of the invitation to participate can generate extreme behaviours in the audience, see for example Alston’s comprehensive account of errant immersions (2016) or Maples’ accounts of sexual behaviours exhibited by audiences during Punchdrunk’s run of *The Drowned Man* (Maples, 2016). Alston sees errant immersion as a logical consequence of the invitation to participate and a result of interpreting all the signs in an immersive work as part of the world therefore accessible for exploration: “The errantly immersed spectator accepts but accidentally takes too far an invitation to explore, perceiving and folding a range of aesthetic stimuli that are unintended by a designer into their immersive experience of a theatre event.” (Alston, 2016). Alston’s amusing anecdote about reading a ‘Keep Out’ sign as an invitation in the context of an immersive event and ending up in a broom cupboard serves as a perfect illustration. Errant immersion therefore corresponds to what in narrative design is called emergent narrative, creating what Gordon Calleja called an alterbiography (2011) - the individual journey through a world, a negotiation between the world as intended by the artist and the world as experienced by the audience/player.

Immersive theatres and walking simulators both foreground a different aesthetic than what has been 'traditionally' expected from their respective forms in terms of engagement: spectatorship and imaginative participation, challenge-based gameplay and complex in-game mechanics. By thwarting audience/players expectations they reinvent their mediums, exploring their opportunities for creating different types of experiences and engagement and ushering in new aesthetics of participation.

Throughout the thesis I focus on three central features of immersive theatre and how these features were explored through my practice: the active role of the audience, sensory design and the significance of space and place. The latter includes "the specific venue used as the inspiration for the work, its architectural details and design as well as landscapes that are the site for the work. It can also incorporate a focus on geographical location, community and local culture, history and politics" (Machon, 2013, p. 70). All these aspects are captured in Fiona Wilkie's observation that site has three main functions in site-specific work: "site as symbol, site as story-teller, site as structure" (2002, p. 158).

In *Inchcolm Project*, I wanted to explore how immersive theatre design can be incorporated in my process of adapting a walking simulator into a site-specific promenade performance. I insist on *Inchcolm Project* in relation to immersive theatres because in *Generation ZX(X)* I wanted to explore the themes of conviviality and solidarity which emerged during the interviews through an aesthetic which emphasised shared, social and collective experience. In *Generation ZX(X)* I moved away from immersive theatre which I perceived as primarily focused on individual experience.

Inchcolm Project kept the focus on the performance, whereas in *Generation ZX(X)* the focus shifted, there were no performers, only the voices in the ear and the voices of their co-walkers as they exchanged stories, experiences and memories.

Some of the strategies that I adapted from immersive theatre into my own practice and inquiry were:

- audience/player-centric design which is visceral and sensory

- (syn)aesthetics, a two-fold dramaturgy that is present at both cognitive and sensory level, sense- and meaning-making
- creating anticipation and excitement for discovery through an invitation to explore
- capitalising on the pleasure of finding one's way through a performative environment
- creating a fictional world which possesses a 'in-its-own-world'¹¹ quality (it is a logical, comprehensive and self-sufficient fictional world, extraordinary and distinctly different than the everyday)¹²
- immersing the audience-player in the world: they are part of the fictionalised world and temporarily inhabit it
- endowing audiences with agency inviting them to co-create and co-author their experience (they can move through the world and interact with it)

These strategies can be grouped in the three overarching themes which guided the practice review (and the practice): audience/players (creating interesting experiences, meaningful agency, and modes of engagement for the moving body), sense design (creating or emphasising the embodied experience and the sense-making abilities of the moving body), and site (amplifying the narrative, sensory and semiotic abilities of the site).

Site-responsive and walking performance

In *Dear Esther* the island shapes the narrative and gameplay experience which is why I wanted to develop my understanding and knowledge of site-specific and site-responsive practices. I wanted to understand their design techniques and explore which of them could be applied in my own process of adapting the game to a live performance which emphasises the importance of site in a

¹¹ A term proposed by Josephine Machon to describe a quality of immersive theatre worlds that exist "within and outside of the time-frame, rules and relationships of the 'everyday' world. These are places that have their own rhythm and choreography" (2013, p. 93)

¹² This was only explored in *Inchcolm Project*.

similar manner. When I started developing *Generation ZX(X)* I discovered that the story of Timex is intrinsically connected to the park, to Harrison Road and to the Camperdown building which is why the storywalking methodology - which is site-sympathetic and site-responsive - was brought forward, adjusted to the new sites and implemented.

In what follows I will discuss some features of site-responsive and walking performance and some of the practitioners who have been inspirational and influential on my own practice and research processes. The insights are derived from my own practice as well as the work of Brith Gof and Mike Person, Curious, Forced Entertainment, Rotozaza, Gridiron, Poorboy, Adam Lyddiard, Wrights and Sites, Dee Heddon, Misha Myers, Cathy Turner, Minty Donald, Louise Ann Wilson, Simone Kenyon, Lois Weaver, Phil Smith, Lone Twin and Carl Lavery.

If immersive theatres are creating a new 'fictional' reality within our own 'reality', site-specific or site-responsive practices just add to the existing world, focusing the attention of the audience on what is already there. Many immersive performances are already site-specific (tailored to a site) or site-responsive (the performance is a response to the site's identity) but site-specific performances do not necessarily aim for or require immersion. Not all site-specific performances involve audience movement which is why I will first introduce some of the characteristic base features of site-specific performance and then focus on what walking performances add to the form.

Site specific performance "involves an activity, an audience and a place" (Pearson, 2010 p. 19). Similarly, Joanne Tompkins singles out three main factors which shape site-specific performance: "the host/ghost relationship, audience interactivity and the significance of affect. These factors influence not just the production of site-specific performance, but also its reception and interpretation, and even its place in cultural and social landscapes" (Tompkins, 2012, pp. 7-8). Through 'affect', Tompkins understands "a heightened experience of feeling" (idem, p. 10) which offers another layer of interpretation activated in the relationship between audience and the site-specific performance. I insist on affect here because it is directly connected to use of

sound and its potential to create its own site, its own ghostly presence haunting the site. Tompkins writes:

One aspect of affect that is particularly visceral in site-specific performance is the creation or augmentation of sound as 'place'; while seldom addressed critically, sound clearly changes with context, even creating its own location. Every 'site' has its own sound, and sound is increasingly forming a site in its own right in site-specific performance (2012, p. 11)

The affective power of sound, its ability to create its own space but also to act a coloured lens which impacts on the mood of a site was another central design direction which was explored through both projects. I experimented with various sound/site configurations and ways of enhancing sound's ability to change the familiar, to recontextualise sites.

The activity that Pearson refers to above is what I will be discussing throughout as a mode of engagement: the audience are either watching/listening to something unfold or taking part in the action/ performing: walking, responding, playing, interacting, triggering and leaving traces in the environment (visual - footsteps, audio - footsteps, breathing, heartbeat etc, olfactive: perfume, sweat so on). The engagement with the place is illustrated by the most useful metaphor of host/ghost put forward by Pearson and McLucas (Pearson, 2010). They define this relationship as the "co-existence and overlay" of the found, existent architecture of the site and the temporary, purposely designed one brought to the site by the artists (Pearson, 2010, p. 35). The host is already a complex palimpsest, layers upon layers of meanings, uncovered and activated in performance:

They rely, for their conception and their interpretation, upon the complex coexistence, superimposition and interpenetration of a number of narratives and architectures, historical and contemporary, of two basic orders: that which is of the site, its fixtures and fittings, and that which is brought to the site, the performance and its scenography; of that which pre-exists the work and that which is of the work; of the past and of the present.

The work and the site exist in a symbiotic relationship "The practice of site-specific performance has the potential to (re-)invigorate both 'place'/'site' and 'performance'" (Tompkins, 2012, pp. 7-8), drawing attention to one another and leading to the reinvention or rediscovery of both. Found sites bring their own

unique abilities to the experience (sensory, narrative, architectural, structural, semiotic, cultural, economic so on) and the work can draw attention to these while at the same time harnessing adding its own layers of meaning and teasing out the audience's own personal emotional responses, memories, associations or interpretations of that site.

They are inseparable from their sites, the only contexts within which they are intelligible. Performance recontextualizes such sites: it is the latest occupation of a location at which other occupations – their material traces and histories – are still apparent: site is not just an interesting, and disinterested, backdrop. [...] The multiple meanings and readings of performance and site intermingle, amending and compromising one another (Pearson and Shanks, 2001, p. 23).

The site contextualises the performance whose existence is intermingled with the site, it depends on it for meaning, just like the site depends on the performance to refocus the audience's attention and lead to it being rediscovered, seen anew through a rendering of the familiar unfamiliar. The site becomes through performance "an active component in the creation of performative meaning, rather than a neutral space of exposition" (2010, p. 36). Performance unearths the layers of meaning latent in the environment, activates its potential to perform, to contribute to the active process of meaning-making. But performance also activates the audience. By moving through the environment, the audience/players discover both the performance and the site performing, their moving body becoming a dramaturgical device, making but also ascribing meaning, reading and sensing the site but also writing onto it their own journeys, a palimpsest rewritten and revealed by each traversal: "Each occupation or traversal or transgression of space offers a reinterpretation of it, even a rewriting. Thus, space is often envisaged as an aggregation of layered writings - a palimpsest." (Turner, 2004, p. 373). The body moving through space is key to unlocking and accessing the layers of meaning (semiotic and sensory) hidden within. The audience in site-specific performance is not always mobile but when it is, it becomes an "active agent" or "actor substitute" (Tompkins, 2012, p. 10). Tompkins argues that this active participation "provides the opportunity to embody 'site'" (Tompkins, 2012, p. 10), to unlock those layers of meaning discussed above. The performance, the place

and the moving body of the audience are in a symbiotic, semiotic-sensory relationship, what was previously discussed as (syn)aesthetics. This complex relationship between audience, place and performance and the associated processes of making sense and meaning through movement in an environment is the central aesthetic of storywalking and will be discussed throughout this thesis.

Louise Ann Wilson defines site-specific performance through its specificity and walking is a part of it: "It has to be experienced in the place in which and for which it has been created, otherwise it becomes something else. It needs its whole context; the performance, the landscape, the natural soundscapes, the walking and the weather" (in Machon 2013, p. 234). Walking performances are intrinsically connected to the sites in which they unravel, as walking and environment are never distinct, which is why I argue that all walking performances are already site-responsive and participatory.

Keren Zaiontz argues that "ambulatory audiences" (2012) have three functions in site-specific and walking performance. Firstly, they are visibly making meaning, to any onlooker they are performing meaning-making. But, as collaborative participants, they also "often function as both the 'sight' of artistic attention and the physical 'site' of the performance... 'animate' *mise en scene*". This is an important aspect of the moving bodies of the audiences, as they contribute to each other's performance and generate moving patterns in the environment, as I will discuss later in the reflection chapters of this thesis. And finally, they are "facilitators or co-creators" (2012, p. 167), as they walk they create the piece just as much as they interpret it. Zaiontz thus argues that ambulatory audiences labour twice, as audiences and as performers, and in this "double duty", "their bodily encounters with things and strangers produce binding ethical relationships with the other" (ibid.). They create the work, they create meaning, and they create bonds with one another. The performance thus happens in these moments of encounter that it facilitates: the audience with the work, the audience with the site and the audience with each other. How to create these meaningful moments of encounter was another central design direction in my work.

Throughout this thesis I understand walking as an aesthetic and a dramaturgical practice. Aesthetic in that the walk is a performance, a series of encounters and dramaturgical, in that (syn)aesthetics are enabled and performed by the moving body who is constantly 'making-sense' and 'sense-making'.

I engaged with two aesthetics of walking, walking as pilgrimage (a solitary experience together, Wilson in Machon, 2013) and walking as a form of conviviality (Lee and Ingold, 2006; Myers, 2010; Heddon, 2012; Heddon and Turner, 2012), each of them suiting the theme, concept and overall aesthetics of each of my two projects.

As a pilgrimage walking is memory and meditation, it unlocks narratives, thoughts, emotions and memories and it allows space for meditation by setting up a slower pace; it allows us to slow down. As Rebecca Solnit observed "While walking, the body and the mind can work together, so that thinking becomes almost a physical, rhythmic act... is a state in which the mind, the body, and the world are aligned" (Solnit, 2002, p. xv). Furthermore "A rhythm of walking generates a kind of rhythm of thinking, and the passage through a landscape echoes or stimulates the passage through a series of thoughts" (ibid., p. 6). When walking through an environment we take it all in, and as the landscape unfolds so do thoughts, memories, images and recollections of places and walks past. Solnit emphasizes the role of walking as a visual activity which is made possible by the slow pace of walking, or as she calls it, a leisurely tour: "It is the movement as well as the sights going by that seems to make things happen in the mind, and this is what makes walking ambiguously fertile: it is both means and end, travel and destination" (ibid., p. 6). As Solnit observes, walking is pleasurable in and of itself, both a cognitive and aesthetic experience, a rhythm of movement which stimulates thinking, imagination and memory. These themes, the connections between self and memory, walking and environment, are explored by Dee Heddon, Carl Lavery and Phil Smith in *Walking, Writing & Performance*, an anthology of autobiographical texts and reflections edited by Roberta Mock (2009). Echoing Solnit, Lavery writes:

There were times, for instance, on the walk, when I had the impression that past and present had entirely collapsed, and that I had magically returned to other landscapes which, for some reason

or other, had, until that moment, remained hidden and out of reach
(2009, p. 50)

Walking then is a portal, a 'wormhole' of sorts which collapses time and space, present and past, here and there, memory and performance. The rhythm of walking facilitates a rhythm of thinking, introspection but also critical distance and detachment: 'When you're walking "alone" it's easier. [...] The landscape is a multiplicity of narratives and perceptions, and you can both lose and find yourself among this multitude' (Lorimer and Wylie 2010: 7). These aspects of walking performance will be discussed at depth in the reflection chapters of the thesis.

But I also wanted to engage with walking as a convivial activity, where the audience/players walk either in the company of the voice and/or each other. Walking with others impacts on the rhythm of walking, either speeding up or slowing down the individual player/audience to accommodate the rhythm of their co-walker. Lee and Ingold capture the essence of a 'shared walk'; walking alongside is a negotiation of rhythm as the walkers attune to each other and the environment (2006). The walkers share a rhythm and the sights as they make their way through the environment: "To participate is not to walk into but to walk with – where 'with' implies [...] sharing the same vistas, and perhaps retreating from the same threats behind" (Lee and Ingold, 2006, p. 67). Jo Lee and Tim Ingold argue that sharing or co-creating a rhythm with others can create a bond and closeness between walking companions: "A person walking generates a particular style of movement, pace and direction that can be understood as a 'rhythm' of walking. Sharing or creating a walking rhythm with other people can lead to a very particular closeness and bond between the people involved" (Lee and Ingold, 2006, p. 69). Similarly, Dee Heddon discusses the potential of these shared rhythms of walking to generate 'friendscapes', a merging of topography and autobiography achieved through the companionable walk (2012).

This suited the nature of *Generation ZX(X)* as it explored the cultural significance of memory sites, and the collective memories prompted by walking through them with others:

The vision of the walk as part of a web, rather than a single trajectory, suits a walking philosophy that values the familiar, local, temporal and socio-cultural, as well as the unknown, immediate, solitary, wild – and indeed, finds them entangled with one another (Heddon and Turner, 2012, p233).

This type of web of walks and moving bodies facilitates a type of convivial walking, what Misha Myers calls “conversive wayfinding” (2010, p. 59).

According to Myers there are various strategies to conduct a convivial interaction with place and walking:

- attunement through kinaesthetic, synesthetic and sonesthetic perception;
- sharing 'earpoints' and 'viewpoints' with another through intimate or conversational conviviality;
- use of present tense and the tension between the real-time present and a past present;
- and the use of particular rhythmic structures of narrative paces and paths to encourage experiential, creative and critical states of witness appropriate to the content and context of the walks.

I will discuss how all of these translated into my practice in the relevant reflection areas of the thesis. For now, I just want to emphasise that convivial walking performance holds the potential to investigate and capture people’s stories, perceptions and experiences of places (Myers, 2010) and to facilitate their exchange with fellow walkers. As Heddon notes “A feature of the companionable walk is its collaborative, inter-active nature, an activity of mutuality” (2012, p.71) in which walkers share the path, their memories and sometimes silence with one another: “There are walks that contain shared memories; walks that allow the sharing of one’s memory with another; and walks that prompt resonances and contrast, likenesses and differences” (ibid.). This ‘dialogue’ impacts on the materiality of the walk, its pace, and its rhythm as walkers adjust their rhythm to the geography of the walk and to each other.

The physicality required by the walk – the walk’s materiality – also prompts certain forms of companionship. The path is wide enough to accommodate us, side-by-side; or its narrowness forces us to walk one behind the other – which usually prompts silence; or the incline is so steep that talking and breathing become laboured – but at the same time, the incline prompts regular, shared breaks – time taken to

look back at the view, sometimes to share a warm flask of tea.
(Heddon, 2012, p. 71)

Walking with others shapes the walking performance, the route, the rhythm, the pace and the stories that the walkers share with each other prompted by the site and by the company.

This type of performance invites a particular mode of engagement, which is captured by Myers' term 'percipients', the active participants in site-specific work which make use of the full "range of perceptual, imaginative and bodily sensitivities and skills" (2010, p. 59) to 'perform' the work, the walk, and the site.

a particular kind of participant whose active, embodied and sensorial engagement alters and determines [an artistic] process and its outcomes [...] It is proposed that the percipient directs the process as they go along perceiving the encompassing environment from their bodily encounter within it; while doing so, they are making place' (Myers, 2008, pp. 172-173).

Although I will insist on each of these features at relevant point throughout the thesis I want to offer a break-down of some of the design strategies and techniques inspired by site-specific and walking practices that I wanted to explore through my own practice research:

- a design which focuses on emphasising the site and the moving body
- activating site through performance, experimenting and playing with the host/ghost relationship
- (syn)aesthetics, a two-fold dramaturgy that is present at both cognitive and sensory level, sense- and meaning-making
- capitalising on the pleasure of uncovering the layers of meaning activated in the environment through performance
- the audience is invited to participate, it is their moving bodies that are uncovering the layers of meaning activated in the environment through performance
- exploring the creative potential of the many audience/site/performance configurations
- exploring the rhythms, configurations and patterns of walking
- exploring the relationship between the site and the walkers

- exploring the potential of walking for facilitating community formation and knowledge exchange, for unlocking collective memory and memory sites, for performing conviviality and solidarity
- sound/site configurations; exploring the affective potential of sound
- audience/players as percipients

I consider *Inchcolm Project* to be a hybrid mixed-reality, multi-media, multi-sensory site-responsive performance but also a game-responsive performance. *Generation ZX(X)* is a site-responsive performance which incorporated a series of site-responsive games. In designing the games, I looked at mixed-reality practices both technologically-enabled and analogue.

Mixed-reality practices

This chapter covers some of the design influences which originate in Augmented and Mixed Reality experiences (AR and MR; see Webber and Griliopoulos, 2017; Benford and Giannachi, 2011), Alternate Reality Games (ARG; see McGonigal, 2010; 2012; 2015), Live Role Playing Games (LARP) and Tabletop Role Playing Games (TRPG) (see Salen and Zimmerman, 2004, pp. 571-586), Pervasive Games (see Giannachi and Kaye, 2011; Montola et al., 2009), Alternative Controllers and Performative Games (see Love and Bozdog, 2018; Love, 2018). I have been doing research on these types of hybrid experiences focusing on the ways in which they combine fiction with reality, technology with live action, physical controllers with digital space or the other way around, mobile phones in physical environments. I have been using critical play and critical reading to engage with the work of Blast Theory, Coney, Jane McGonigal, Brenda Romero, Niantic (*Pokemon Go* and *Ingress*), various LARP and TRPG experiences (*Vampire the Masquerade* and *Mind's Eye Theatre*, *Dungeons and Dragons*, *Monster of the Week*, *Blades in the Dark*, *Night Witches*), transmedia experiments like *The Beast*, alternative controllers (various play parties and festivals, GDC ALT+CTRL showcase, Feral Vector). At the same time, with my Game Jam team, we have been exploring some of these design strategies in practice in a game jam setting (2017, 2018, 2019).

Our game design practices have been formalised in a Design for Spectatorship Model (Love and Bozdog, 2018; Love, 2018; see Table 1), which addresses the overlaps between digital games, performance and spectacle.

Design Themes	Design Techniques
The Curation of Spectacle	Scale and conviviality to draw interest and create a space for spectatorship Ephemerality causes curiosity and invites participation Mimetic controls and performative presentation Satisfying Game feel to enhance embodied experience and promote positive play experiences Accessing Emotional Contagion through spectatorship, convivial themes and ridiculous design
The use of physical properties to heighten social potential	Play as performance Staging- invites spectators whilst anonymising players Using costume to create a sense of: anonymity, team/connectedness, enthusiasm and buy-in Physical contact to enhance awareness of other players / teamwork and camaraderie
Design for internal semi-spectatorship	Shared goals (camaraderie and collaboration) Dependency in scoring points Different workloads and game rhythm to allow strategizing
The widening of the magic circle through external semi-spectatorship	Space to learn the game (preparing for play or lowering barriers to play) Space for meta-narrative between spectators Space to support or distract active players Space for competitive observation Space for community to form through such exchange

Table 1 Design for Spectatorship Model, Love, 2018, p. 64

These will be discussed in depth in the chapter dedicated to the design of the games and *Generation ZX(X)* storywalk.

Performance artists have been engaging with gaming technologies (particularly VR) to explore the possibilities of such hybrids. In 2017 Laurie Anderson and Hsin-Chien Huang created *Chalkroom*¹³, a VR exhibition, and in 2018 both Marina Abramović¹⁴ and Anish Kapoor¹⁵ designed VR Experiences for HTC Vive's art initiative¹⁶. The National Theatre London opened its Immersive Storytelling Studio "to examine how virtual reality, 360° film, augmented reality and other emerging technologies can widen and enhance the NT's remit to be a pioneer of dramatic storytelling and enable audiences to stand in other people's shoes"¹⁷. In 2017 the Cannes Film Festival premiered Alejandro González Iñárritu's *Flesh and Sand* (Spanish *Carne y Arena*), the first ever VR project to be 'screened' at the festival.

In terms of technology I wanted to use the mobile phones because this is technology that the audience/players already have, and it is 'friendly' - less intimidating than controllers or headsets. Most of the audience/players have phones, are comfortable using them, and use them daily. Furthermore, I liked the aesthetic of sound in headphones which is layered over the environmental sound creating an aural palimpsest. During *Inchcolm Project*, I noticed how the phones generate groupings, the audience/players would circle the phone or walk side by side with the phone in the middle. I liked this aesthetic as it seemed that the phones are actually linking people (rather than the assumed alienating/solitary effect), facilitating community formation, and creating interesting shapes in the environment. I wanted to keep this in *Generation ZX(X)* and explore ways of developing and enhancing it further.

Steve Benford and Gabriella Giannachi define mixed reality performance as "the staging of theatrical performances in mixed reality environments" (2011, p. 2) that require that the participants constantly shift between roles and interfaces

¹³ <http://www.laurieanderson.com/?portfolio=chalkroom>

¹⁴ <https://acuteart.com/artist/marina-abramovic/>

¹⁵ <https://acuteart.com/anish-kapoor-in-virtual-reality/>

¹⁶ <https://www.ft.com/content/7f9d89d2-2c66-11e8-97ec-4bd3494d5f14>

¹⁷ <https://www.nationaltheatre.org.uk/immersive>

thus encouraging “multiple and shifting viewpoints” (idem, p. 4). These mixed-reality performances

are neither virtual reality nor ubiquitous, tangible, ambient, or embedded computing, or any single point on the virtuality continuum, but rather involve combinations and juxtapositions of all of these to create complex hybrid structures. In turn, they are also not simply traditional performances, conventional computer games, or even new forms of pervasive or alternate reality games, but rather mix all of these performance aspects into yet more hybrid structures that span diverse performance roles, time, and technologies (idem, p. 14)

This hybridity is evident in both projects, and, as I analyse the design process and strategies that underpin them, I emphasise how this hybridity was achieved, combining various design strategies and techniques described in this chapter.

Throughout both projects I was interested in the site, in its voice and what it could contribute to the performance which is why I liked Tassos’ Stevens concept of minimum fiction:

“what’s the least you need to do in order to transform something in people’s imagination. Creating uncertainty about what’s real and what’s not because you’ve used what’s ‘really there’ as part of the backdrop. It means that everything that’s already there supports the fiction, everything becomes part of it, becomes charged. People pay attention in a different way, notice things that they wouldn’t notice otherwise, make stories in their head about what’s happening here (Tassos Stevens of Coney in Machon, 2013, p. 202)

This echoes some of the aspects discussed earlier relating to emergent storytelling and errant immersion and is also an area that pervasive games usually capitalise on, playing with the fuzziness which exists at the borders between ‘play’ and ‘life’, where fiction contaminates reality, where the magic circle infiltrates reality. Pervasive games turn all the real world into an “invisible playground” (Salen and Zimmerman, 2004, p. 578). They are games that are played “among everyday people living their everyday lives” (Montola et al., 2009, p. xix). and which “exist in the intersection of phenomena such as city culture, mobile technology, network communication, reality fiction, and performing arts, combining bits and pieces from various contexts to produce new play experiences” (idem, p. 7). Turning the ‘real’ world into an invisible playground was appealing not only because it embraces the infinite imagination

of audience/players but also because it gives them permission to play and to explore.

Some of the design strategies that I wanted to explore (these are discussed at depth in the relevant thesis chapters) through my design practice were:

- Using technology that the audience/players are comfortable with to augment reality
- Exploring the notion of minimum fiction
- Creating moments of encounter and 'complicity' between audience/players
- Widening the magic circle
- Creating gaming experiences which support social play
- Creating accessible controllers
- Designing for spectatorship to diminish intimidation and create diverse communities of players
- Designing mixed-reality performance, exploring various configurations of performance/gaming components

Conclusions

My design practice drew from different practices to develop a complex and varied skillset which allows me to design mixed-media, mixed-reality and multi-sensory experiences for the moving body. In exploring what design techniques and strategies would be most suited I focused on three components: designing meaningful agency for the audience/players, creating an environment which invites playful exploration and which supports complex (syn)aesthetic processes, and creating varied and surprising moments of encounter and modes of engagement that invite the audience/players to rediscover their environment. Performance, site, and audience/players are the three main components of storywalking and the heart of the process of experience design (see Table 2).

Audience	Performance	Site
<p>Agency</p> <ul style="list-style-type: none"> • Movement/ Direction • Time Spent in Locations • Active Participation or Observation <p>Experience</p> <ul style="list-style-type: none"> • Solitary • Collective <p>Forms of Engagement</p> <ul style="list-style-type: none"> • Listening • Watching • Reading • Exploring • Peeking/Eavesdropping • Playing • Sensing • Performing • Interpreting <p>Terms</p> <ul style="list-style-type: none"> • Participants • Percipients • Audience • Players • Playing Audience • Attendant <p>“Activation, authorship, community”¹⁸ (Bishop, 2006, p. 12)</p>	<p>Responsive (site-responsive, game-responsive)</p> <p>Designing for the moving and sensing body:</p> <ul style="list-style-type: none"> • Creating, complex and layered sensory-scapes: combining the sensory work with the sensory presence of the site. • Increased attention to weather, textures (underfoot, contact surface, visual tactility – touching through sight) and skin sense. • Paying attention to, responding and amplifying the sensory-scapes: <ul style="list-style-type: none"> ○ Soundscape ○ Landscape ○ Shorescape ○ Seascape ○ Smellscape • Choreographing and curating movement <p>Strategies</p> <ul style="list-style-type: none"> • Making the familiar unfamiliar, exploring minimal fiction • Performing the environment, 	<p>Site as</p> <ul style="list-style-type: none"> • Structure • Symbol • Storyteller <p>Environmental Storytelling</p> <ul style="list-style-type: none"> • Engendered • Embedded • Emergent <p>Subliminal Signposting</p> <ul style="list-style-type: none"> • Literal • Symbolic <p>A world: in its own world aesthetic or a lens: refocusing by adding to the world</p> <p>Contributes: narratives, structures, textures, sounds, sights, smells</p> <p>Accessible, friendly, inviting even if unfamiliar</p> <p>Palimpsest: layers of meaning revealed through performance</p>

¹⁸ Claire Bishop lays the foundations of the aesthetic of participation through those three lenses: activation, authorship, community: “An aesthetic of participation therefore derives legitimacy from a (desired) casual relationship between the experience of a work of art and individual/collective agency...2. Collaborative creativity is therefore understood both to emerge from, and to produce, a more positive and non-hierarchical social model...3. A restoration of the social bond through a collective elaboration of meaning” (Bishop, 2006:12) in (Machon, 2013, p. 71)

<p>Hybrid imaginative/sensory/ lived experience</p>	<p>performing community, performing play</p> <ul style="list-style-type: none"> • Performance and Mixed-Reality: designing mixed-reality performance • Performance and Play: designing for spectatorship • Adaptation and Transmedia Storytelling: designing multi-media experiences • Storywalking 	
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Table 2 Design Strategies

RESEARCH METHODOLOGY

That is why we risk recommending an ironically paradoxical maxim as a possible principle of theatre and performance research methodologies: 'What are methods for, but to ruin our experiments?' (Kershaw, 2009, quoted in Kershaw and Nicholson, 2013, p. 9).

I start this chapter with Kershaw's provocative remark because I will discuss how the messy and spontaneous nature of practice and the rigorous nature of research complement and enrich each other through a Practice as Research (PaR) methodology.

The subtitle of the research studentship: "establishing interdisciplinary design methods for the development of video games and performance" already alluded to the necessity of taking a practice-centred approach. The research outcomes were two hybrid mixed-reality performance pieces which required both an application of my skills and abilities as a maker (tacit knowledge), and of my critical reflective abilities as a researcher. My reflection chapters both evidence this tacit knowledge as well as illustrate the new knowledge which resulted from the practice. Furthermore, the ephemeral nature of these outcomes and of their underlying processes required me to devise appropriate documentation methods in order to offer evidence to support the critical reflection. All of these aspects of the research demanded the multi-method model of a PaR methodology.

The complexities of the relationship between practice, theory, reflection and articulation (in writing) are captured by Nelson's praxis-centred, multi-method PaR model (2013). The emergent and dynamic nature of PaR is particularly suited to the interdisciplinary and hybrid nature of this project and the fluid nature of PaR allowed for my research questions to grow organically from my praxis (theory imbricated within practice) which yielded a richer "bricolage" of methods (Stewart, 2010).

Undertaking interdisciplinary research focused on and conducted through practice it quickly became apparent that I had to develop my own methods, that could incorporate my tacit knowledge as a theatre practitioner whilst at the same time remaining flexible enough to accommodate established and

emergent ways of making and inquiry originating in game design. My methodology needed to recognise the primacy of practice while at the same time responding to the requirements of academic rigour. As Haseman has observed in a PaR approach the practice is at the heart of the research:

Thus the researcher-composer asserts the primacy of the music; for the poet it is the sonnet, for the choreographer it is the dance, for the designer it is the material forms and for the 3-D interaction designer it is the computer code and the experience of playing the game which stands as the research outcome. (2010, p. 148)

My research project aligns with Nelson's model of knowledge generation in PaR which is formulated as a continued "process of negotiation between the various modes (know-how, know-what, know-that)" (2013, p. 58) which takes place in what Nelson calls praxis: "theory imbricated within practice" (2013, p. 5).

Nelson's observation that in praxis, theory does not necessarily precede the practice nor serves the sole purpose of informing it (ibid., p. 62) but rather the two inform each other in a symbiotic manner, is crucial in understanding PaR and is illustrated by my own processes of making, documenting, reflecting and articulating which generate whilst at the same time being firmly grounded in theory.

When the researcher is the artist, objectivity is no longer possible, nor desirable, which means that the approach is necessarily acknowledged as experiential, subjective and situated (Barrett, 2010a). This transparency of the subjective nature of the research is one characteristic that runs through all PaR projects and insures that claims of authority and absolute truths in artistic research are avoided. What my thesis proposes is one potential model of interdisciplinary practice research, shaped by my skills, my curiosity and my practice. The methods that it is based on are neither the only, nor necessarily the best, rather working methods, tested and implemented in practice. And, as Nelson argues, it is important to acknowledge that "Einsteins are few and far between. ... Fortunately for most of us, substantial insights are more readily attainable and this is in no way to demean them" (2013, p. 27).

The practice element of this research consisted of two large scale, collaborative and interdisciplinary projects which were showcased as work in progress:

Inchcolm Project (October, 2016) and *Generation ZX(X)* (May, 2018). *Inchcolm*

Project brought together an existing walking simulator (*Dear Esther*, The Chinese Room, 2012) and an adaptation of the walking simulator into live performance (*Dear Rachel*, Mona Bozdog, 2016) through use of a common setting: the island. *Generation ZX(X)*, took the design model a step further in the iterative process to include the development of a transmedia project which encompassed a live performance, a collection (and curation) of physical video games, a large-scale, site-responsive projection and a singing performance. Each project explored a different hybrid form of mixed-reality storytelling and design. *Inchcolm Project* focused on using adaptation in the creation of a fictional, hybrid and navigable storyworld built as a response to a game and a site. In *Generation ZX(X)* I used transmedia storytelling design strategies to create a navigable mixed-reality storyworld. The games, the performance, the projection and the singing performance which formed *Generation ZX(X)* responded to the same source material (Timex documentation and oral histories), to the site and to each other (see Image 3). In *Inchcolm Project*, this process of responsive design was inevitably unidirectional, as the video game existed irrespective of the performance (it had an existence prior to and after it, see Image 2). Although I had no creative input in the development of the game, I had access to insider knowledge by reviewing the numerous available conference talks, presentations and interviews with the creators (Pinchbeck, Curry and Briscoe) as well as the director's commentary on the landmark edition of *Dear Esther* (The Chinese Room, 2017). In *Generation ZX(X)* this process became bidirectional: the game development team responded to my briefs (see Appendix 2, Project Briefs) and we worked closely together to ensure that the games and the performance develop simultaneously and respond dynamically to one another.

The event form firmly grounded both experiences (*Inchcolm Project* and *Generation ZX(X)*) in time and space, emphasising the live and fleeting aspect of performance (something which video games lack as they are easily re-playable), adding a specific sensory dimension to the experience: the smells, landscapes, sounds, textures, rhythms, light and atmosphere of October on a Scottish island, or spring in Dundee. I argue that this is where the power of site-specific work resides: found sites bring their own unique abilities to the

experience and the work can draw attention to their sensory and storytelling potential while at the same time harnessing the audience's own personal emotional responses, memories, associations or interpretations of that site. The site becomes, as Pearson argues “an active component in the creation of performative meaning, rather than a neutral space of exposition” (2010, p. 36). The site is already a complex and layered environment, and the performance not only draws attention to and unearths these layers, but also activates its potential to perform, to contribute to the active process of meaning-making. Furthermore, by moving through that space the audience/players discover both the performance and the site performing, their moving body a dramaturgical device, making but also ascribing meaning, reading the site but also writing onto it their own journeys. Following de Certeau (1988), Cathy Turner draws attention to the palimpsest-like nature of the site, a palimpsest rewritten and revealed by each traversal: “Each occupation or traversal or transgression of space offers a reinterpretation of it, even a rewriting. Thus space is often envisaged as an aggregation of layered writings - a palimpsest.” (2004, p. 373). The body moving through space is key to unlocking and accessing the layers of meaning hidden within. Similarly, Gordon Calleja calls a player's personal experience with a game an “alterbiography”, which is neither solely a property of the game nor a sole result of a player's imagination, but rather a coming together of the two (2011, p. 124). Each traversal of a game space is an alterbiography, the player's journey through the game. The virtual body, in this case, is similarly central to unlocking the game-environment's meaning.

This is where the potential for true emergence lies, in the space where site, performance, game and the moving body merge in what I have defined as a storywalk. The performance in a site-specific context is a transparent overlay, what McLucas called a ‘ghost’ (quoted in Kaye, 2000, p.128; see also Pearson, 2010) which does not detract from the site but rather draws attention to it, combining in a complex relationship of co-habitation, sometimes enhancing each other, sometimes conflicting with one another.

Designing Inchcolm Project

Please consult <https://www.performingplay.co.uk/inchcolm-project> ahead of reading the chapter to get a flavour of the work.

For *Inchcolm Project* I wanted to pilot through practice a set of design methods informed by video game design and performance practice. The methodology combined theoretical knowledge about adaptation, mixed-reality performance, game design and site-specific, promenade performance with game analysis and practice-based methods: dramaturgy, devising, set and sound design, creative writing, plotting narrative, spatial and sensory routes, and geo-tagging. The process of adaptation consisted of four stages: selection of a game (*Dear Esther*) and a site (Inchcolm) which are evocative of and enhance one another, getting familiar with the source 'text' through repeated playthroughs of *Dear Esther*, a selection of elements from the text that would be interesting and stimulating to explore in practice, and deconstruction of *Dear Esther's* design followed by the implementation of these environmental, narrative, sonic and interactive design methods (distilled from the analysis) in the design of *Inchcolm Project*. The last stage was a dialogue of sorts between *Dear Esther*, Inchcolm island, and the work which equally responded to both. The process of devising the work was supported by a process of dramaturgy which ensured that the overall themes and aesthetics of the game and the work echo each other. Furthermore, at a dramaturgical level I wanted to engage the audience/players in a (syn)aesthetic (Machon, 2009) process which stimulates the body's dual meaning-making abilities: sensory and cognitive. This was achieved through sensory design and plotting sensory and narrative journeys which emphasised Inchcolm's sensory, symbolic, and narrative voice.

By creating a 'bricolage' of methods originating in both fields, I could investigate how 'real' a virtual world can become, and how various aesthetic configurations can be developed through video game and performance spaces: space/time/body, fictional/real/hybrid, physical/virtual/mixed-reality, immersive/narrative/interactive. These methods were focused on devising ways to design for a moving body in and through/across media and generate a navigable mixed-reality continuum. The audience/players journeyed seamlessly

from one medium into another, from the live performance environment to the virtual game environment, and back. These environments were purposefully designed to offer a meaningful experience for a moving, sensing and meaning-making body. In *Inchcolm Project* the audience/players experienced the performance, then the game, and finally a musical performance which brought the two worlds together. This continuum could be achieved if the two realities were evocative of one another, if the audience/players perceived the two worlds (the island in the game and Inchcolm) if not as one and the same, then at least as part of the same fictional world. On Inchcolm island, I designed a fictional world that incorporated both the video game (*Dear Esther*) and the performance (*Dear Rachel*). Although these worlds were spatially and temporally adjacent, some elements from the gameworld were designed into the performance: sounds and visual images from *Dear Esther* were re-created on the island. For example the musicians were performing instrumental solos from the game's soundtrack and elements from the game's environments were incorporated into the installations (candles, feathers, broken eggshells). Furthermore, Inchcolm island was already aesthetically evocative of Boreray, the island in the St Kilda archipelago which was used as inspiration for *Dear Esther*.

The performance expanded the world of *Dear Esther*, stretched it so that it could accommodate another story, parallel to it: *Dear Rachel*. The game served as an initial 'text' that has been reworked, reshaped and rewritten. As Hutcheon and O'Flynn's argue, adaptation is not only a process of transposing a work into another medium, frame or genre but is also an active process of re-interpretation, and re-creation (2012). *Dear Rachel* is evocative of *Dear Esther* while at the same time distinct. This process of adaptation and its interplay with original design is discussed in depth in the reflection chapter of the thesis where I elaborate on various components of the work: theme, plot, narrative style, point of view, navigation, sound design, music, environmental storytelling, staging/framing, lighting and how they were developed in response to the game and the site.

The most important factors in shaping and repeatedly re-structuring the event were not only creative constraints but also practical constraints arising from the site's specificity: Inchcolm is an island which enjoys a protected heritage status

and is administered by Historical Environment Scotland. Negotiating what is possible and allowed under this status ultimately shaped the event. Budget considerations were equally influential. All of the affordances and limitations implicit in the Inchcolm's double status as heritage site and an island impacted on my design choices. The island's physicality impacted on how the performance was structured, how I worked with sound, where the installations and the musicians were stationed, the routes and paths that could be explored, how I guided navigation and how I used the locations that were inaccessible. The island's sensory potential was also employed to the fullest: the smells, the sounds, the colours and the textures, the mood of some of its locations, the spaces that convey certain feelings like isolation, exposure, awe, wonder, or vertigo. Inchcolm's histories, tales, legends and superstitions made their way into the text. Inchcolm's symbolic significance, as a place for meditation and ritual, as a refuge for those who seek salvation was also brought to the fore. In addition, island spaces are paradoxically charged, drawing attention to a vast array of dualities: refuge-prison, isolated-connected (in archipelagos), insular-creative, heaven-purgatory (water, liminality), small-hidden. Islands fascinate and intimidate. In 2015/2016, when I was developing *Inchcolm Project*, the images of islands in the media were dominated by the islands in the Mediterranean which have turned from exotic paradises into traumatic refugee camps. Islands evoke other islands, whether 'real' or fictional. These functions of the site in site-specific work are summed by Wilkie's observation that "Site-specific performance engages with site as symbol, site as story-teller, site as structure" (2002, p. 158). These are discussed in depth in the reflection chapters of this thesis.

To achieve an aesthetic coherence between the game world and the site, my working methods constantly responded to both in an iterative (gradually developing and adapting) and cyclical process: the design of *Inchcolm Project* was developing as my knowledge of game design became deeper, and as I became more familiar (for lack of a better word) with the game and with the site. Repeated playthroughs interspersed with repeated site-visits, prompted further reading which in turn provoked further design ideas to be explored through making which brought me back to revisiting the site and the game. This cyclical

and iterative process can be mapped to the stages of the Action Research spiral of plan-act-observe-reflect (Lewin, 1946). When applied to artistic research these translate into an iterative process of “doing-reflecting-reading-articulating-doing” (Nelson, 2013, p. 32) which underlines my research process.

For *Inchcolm Project* the audience/players consisted of fifty invited guests, practitioners and academics from both video games and performance backgrounds. The audience responses to the experience were recorded immediately after the event through group-discussions prompted by six questions designed ahead of the event, which were handed to each group in a letter. The questions were designed to prompt discussion around the three overarching theoretical concepts which bridge the divide between video games and performance: immersion, narrative and interaction. Each group self-appointed a moderator to avoid potential biases caused by the presence of myself (the artist/researcher). The recorded discussions were then transcribed, and I performed a thematic analysis. This allowed me to adjust some of the design methods ahead of developing *Generation ZX(X)* by identifying the design strategies and heuristics that worked best as well as future directions to develop and investigate through the second project. Some of the former included the sensory, sound, narrative and environmental design, the evocative sound and landscapes, the contribution of the site particularly in creating atmosphere and mood and in complementing the narrative, the use of live music and the collective experience of the musical performance. Some of the aspects which responses identified as needing further exploration included increased participation and agency during gameplay and developing a more pronounced sense of emotional progression particularly coupled with the physical progression through the space. The responses also suggested areas and fields which could benefit from the research, in particular heritage or historical sites and environments, natural landmarks or parks, family attractions so on.

As previously discussed, *Inchcolm Project* brought the ‘original’ and the adapted text in close spatial and temporal proximity. The game served as an initial ‘text’ that has been reworked, reshaped and rewritten in order to see how real a virtual world could become. The intertextual relationship was heightened,

because I intended to draw attention to the similarities between the game and the performance and in so doing to blur the lines between the 'real' and the fictional, and between the physical and the virtual worlds and bodies. Hutcheon and O'Flynn argue that adaptation is also an active process of re-interpretation and re-creation, a "process of creation" (2012, p. 8). Seen as process, adaptation is a constant negotiation between the existing and the potential 'text'. Understood as such, adaptation is a form of play: "free movement within a system of constraints" (Upton, 2015, p.24), a tension between artistic freedom and the constraints of the adapted text. Furthermore, in *Inchcolm Project* the adaptation and the source 'text' were brought together. The temporal and spatial proximity thus diminished the distance between "the work we are watching and the work we are remembering" (Hutcheon and O'Flynn, 2012, xii) which generated a déjà-vu sensation between the mediated and the unmediated experience. Hutcheon and O'Flynn also include new forms of re-telling that are focused on interactions, as games and interactive media have grown in prominence. Therefore, showing and telling are not enough, a third form has emerged which is "interacting with" (ibidem). They argue that when it comes to video game adaptations the focus shifts from the story to the story world - what they call "heterocosm" (idem, xxv). In adapting a video game, the heterocosm (other cosmos) had to be flexible and large enough to accommodate the physical world, and the parallel story that sprouted from and was grafted onto it. The virtual story world had to bleed into the physical story world, the two had to merge. These bleedings and slippages were designed during the process of adapting the game. The double duality, real and fictional, physical and virtual can be seen as pieces of a patchwork, that can be turned over, switched around, folded and bent, and rearranged in multiple ways. The stitching between them can be seamless, or on the contrary, purposefully visible thus adding another layer that contributes to the overall aesthetic of the patchwork.

By bringing together the performance and the game that it was based on, *Inchcolm Project* can be described as a mixed-reality performance. Benford and Giannachi define mixed reality performance as "the staging of theatrical performances in mixed reality environments" (2011, p. 2) that require that the

participants constantly shift between roles and interfaces thus encouraging “multiple and shifting viewpoints” (Benford and Giannachi, 2011, p. 4).

Milgram and Kishino offer a useful list of possible elements for mixed-reality performance in their Mixed Reality Continuum (1994): reality, augmented reality, augmented virtuality and virtual reality. This way, virtual and real objects and elements can coexist and/or overlap. If the elements coexist but are independent from one another then the participant will navigate from one into another which entails that the interfaces are traversable (Koleva et al. 2000): they “establish the illusion that virtual and physical worlds are joined together and that users can physically cross from one to the other” (2000, p. 233). Keeping the environments separate while at the same time traversable allows for bleedings and slippages between them that create the illusion that the two worlds coexist. This hybridity and coexistence allows the body and all its sense-making abilities to journey through both physical and virtual environments. In *Inchcolm Project*, this physical crossing was doubled by a cognitive one as participants were required to switch between roles and modes of engagement during the event.

Designing Generation ZX(X)

Please consult <https://www.performingplay.co.uk/generation-zx-x> ahead of reading this chapter.

The creative processes which underpinned the development of *Inchcolm Project*, the constant reflection, sustained theoretical inquiry through critical reading and playing, alongside participant feedback have been instrumental in refining a working methodology: combining game design with site-responsive design to create sensory, narrative and interpretive experiences for the moving body of audience/players. This hybrid design technique, storywalking, was brought forward in *Generation ZX(X)*, where it was further developed to incorporate the design of the audiowalk, video games, projection and singing performance in response to the documentation and the site. These four aspects of the design project developed simultaneously and informed each other and

are analysed in the four subchapters that map the design process. Similar to *Inchcolm Project*, due to the devised nature of the project (an assemblage/archive of different and sometimes contradictory elements: archival footage and photographs, newspaper clippings, urban legends, oral histories, 'official' histories, game concepts, lived memories and personal and 'official' narratives) a continued and parallel process of dramaturgy was necessary to ensure the continuity and coherence of meaning across all the project's components.

The narrative arc was developed as a storywalk, a story which is performed by the walking body of audience/players as they assemble the narrative elements designed in the performance and the video games. I developed storywalking as a technique which draws from site-specific performance and game design to combine walking as an aesthetic, critical, and dramaturgical practice of reading and performing an environment, with designing interactive, complex, sensory and story-rich environments for a moving, meaning-making body. Storywalking encapsulates all of the elements that I wanted to explore further coming into the development of *Generation ZX(X)*:

- an open dramaturgy which accommodates and facilitates a multiplicity of 'readings'
- the aesthetic of the ruin and the aesthetic of the palimpsest in video games and performance, and how they invite the audience/player to complete the work by focusing their attention on what is missing, or has been erased or threatened by erasure or rewriting
- the complex relationship between the work and the site, the 'ghost' and the 'host' (McLucas in Kaye, 2000; Pearson, 2010)

Generation ZX(X) took the audience/players on a journey through Camperdown Park, where they encountered the voices of women who used to work in the Timex factory. These voices were audio snippets of interviews that I conducted with 11 women who worked in the Timex factory. They were then edited, thematically grouped and assigned to various locations around the park. I engaged with the Verbatim technique in selecting the material and arranging it thematically. To the women's voices I added my own, contextualising the

interviews, describing their context and offering additional information about the interviewees and the creative process. The audience/players arranged the material by moving through the park therefore a part of the creative editing inherent in the Verbatim form was delegated to them. As they explored together the memories of Timex they were invited to perform conviviality, solidarity and community thus enacting what Timex was (and still remained at the time of the performance) in the collective memory of those who lived through it. This was supported by the technology and the invitation to walk together. Sharing phones with the soundfiles pre-loaded onto them facilitated group formation and inter-generational exchange as audience/players gathered around them to listen. Convivial walking (Lee and Ingold, 2006; Heddon, 2012; Heddon and Turner, 2012; Myers, 2010) aimed to facilitate dialogue and bonding as the audience/players adjusted their pace, rhythm and direction to accommodate each other and to share their own memories and experiences of Dundee.

The games were designed for spectatorship (Love and Bozdog, 2018) facilitating community formation and conviviality through a performative design which supported spectatorship, and a co-located, collaborative and physical play experience. This type of design and curation which encourages semi-spectatorship not only enhances the game's potential for social play leading to bonding and community formation but also reduces the anxiety and intimidation of participation, making the games more inclusive, inviting and accessible (ibid.).

In designing the two mini-games, *Assembly* and *She-Town*, the student team worked with three major types of constraints captured in the brief (Appendix 2, Project Briefs): thematic, aesthetic, and technological. The games had to respond to the documentation materials, to adopt a ZX Spectrum aesthetic, and to be easily playable by a wide demographic therefore using intuitive controls. Each mini-game engaged with a different aspect of the documentation: *Assembly* was a three-player installation game, in which the audience/players had to work together to assemble a ZX Spectrum computer. The game was designed to facilitate teamwork and conviviality echoing the atmosphere in Timex. Its whimsical design aims to counteract the inhibiting and intimidating effect that technology can sometimes have. All these elements contributed to

the game's abilities to act as a catalyst for community formation (Love, 2018; Love and Bozdog, 2018), camaraderie, conviviality and togetherness, all in all a "festive occasion" (Wilson, 2012, p. 4).



Figure 1 Assembly

She-Town is a platformer game in which the audience/players controlled a 2D player character in a pink overall, guiding her through five levels/sections of the Timex factory. The player character was called 'Pinkie' in response to material in the documentation: all the women fondly remembered their first pink uniform and their collective nickname of 'Pinkies'. At the end of each level they collected one of the five letters which spell 'TIMEX'. Each letter rewarded them with text that told the story of She-Town, from its shipbuilding and whaling industries to the jute industry, the manufacturing industries (Timex and NCR) and finally to its most recent creative industries (video games, digital arts and the opening of the Victoria and Albert Museum of Design in Dundee) (see <https://www.performingplay.co.uk/text-she-town>). The game's nostalgic design and aesthetics paid homage to the heritage of the ZX Spectrum and was intended as a celebration of its influence and impact. If *Assembly* allowed the audience/players to briefly 'play' on a simplified simulation of an assembly line, and through this shared experience of gameplay to create a temporary

community, *She-Town* allowed them to reflect on the lacunary, incomplete therefore creative/interpretive nature of memory and history.



Figure 2 *She-Town*

The third game, *Breaking out of the Frame*, was a crowd-controlled game projected onto the factory building. The audience/players moved together in the same direction to control Pinkie and collect the ZX Spectrums which are falling from the sky (echoing the urban legend that the 'ZX Spectrums would fall off the back of the lorry'). Each ZX Spectrum collected reveals a third of a hidden background image, a visual representation of a chapter in the history of Dundee (*She-Town*). The audience/players thus uncover the shipbuilding industry, the whaling industry, the jute industry and the electronics manufacturing industry before uncovering an image of Dundee, welcoming them to 'She-Town'. *Breaking out of the Frame* was site-responsive not just thematically and narratively but also conceptually as it was projected onto the factory wall thus inviting the audience/players to literally uncover the hidden layers of history by moving 'on' it. The game's display size resulted from the dimensions of the wall onto which it was projected (mapped to the size of the window and the wall around it).



Figure 3 Breaking out of the Frame

Breaking out of the Frame brought all my lines of artistic research together. It is the epitome of convivial gameplay which generates togetherness and community; it is spectacular and accessible, inviting everyone to play along; it is performative and through its symbolic and expressive mechanics holds the potential for transformation; it transforms gameplay into an embodied narrative experience as the moving bodies of the players drive it forward; its design aimed to respond to a story but also to a site, constantly adapting to both; and finally it emphasised a truly collaborative, fluid and playful working process showcasing the potential of interdisciplinary design methods and creative communities.

In working across performance and video games I explored various models of experience design. The resulting event responded to a 'memory site' (Nora, 1996) by inviting the audience/players to engage with and uncover the lived collective memory repositied there through live performance and live gameplay. The audience/players performed an open dramaturgy by embracing different modes of engagement and meaning-making.

The methodology consisted of parallel but interconnected processes of assembling the archive, devising, game development and prototyping, and dramaturgy. The development and implementation of *Generation ZX(X)* was underpinned by a curiosity to explore how I can devise a hybrid form of storytelling which takes advantage of the affordances of both game design and performance practices. In making *Generation ZX(X)* I discovered that some aspects of the archive lend themselves better to gameplay (the monotony and repetitiveness of work, historical context, visual references, conviviality, unruliness and playfulness) whereas others could come to life through performance (the texture of voices and richness of dialect and speech, community, intimacy, confession, memory). The moments of gameplay aimed to support conviviality, camaraderie and social play through a design for spectatorship approach (Love and Bozdog, 2018). In turn, the performance created an overall framework for the experience launching an invitation to embodied interaction. Performance and gameplay thus supported, contextualised and expanded each other narratively and aesthetically. Developing the games and the performance in parallel allowed me to design elements of continuity: narrative (the many aspects related to Timex: work in Timex, the strikes, assembling the ZX Spectrum, the ZX Spectrum heritage and its impact on the games industry), visual (the character Pinkie, the picket-signs, the girly punk aesthetic, the ZX Spectrum aesthetic), conceptual (women's voices, memory sites, palimpsest, ruin, nostalgia, collective memory). In terms of working with (memory) sites (Camperdown Park, Harrison Road, Timex Camperdown factory building) I was constantly trying out configurations for the audiowalk, the pop-up arcade, the projection and the choral performance. I decided to follow the running order developed for *Inchcolm Project*: audiowalk, gameplay, projection, musical performance because it gave the experience a sense of progression from individual to collective experience, and it mapped to some of the site's past narratives: the women walking to work through the park, up Harrison Road, to the Timex factory; the solidarity march through the park up Harrison Road, to the factory. The factory thus became the final destination as a result of a combination between the previous working method, the site's voice and the oral history archive. I was trying to accommodate the sites as much as

possible, to reflect on the stories that the sites tell and to design moments of silence where those voices and stories of places can pierce through the designed experience. These aspects are discussed in relation to the design choices that I made, the strategies and techniques deployed in their implementation, and through the thematic, conceptual and aesthetic threads which run through the work. The resulting methodology blends the processes of making, critical composition or dramaturgy, and reflection foregrounding a way of designing hybrid stories which unfold over a mixed-reality space and are assembled by the moving body.

Documentation

Just as the performance events are narratives woven between an assemblage of moments (in both production and reception), documentation is also an assemblage of documents and narratives: “Performance and social practice, and their subsequent documentation or representation, through surviving traces and fragments, constitute heterogeneous assemblages” (Pearson and Shanks, 2001, p. 55). This subchapter aims to describe the heterogeneous assemblage of performance traces, in a way which, like performance, might encourage plural acts of interpretation. Just as the performance events were experienced differently, each audience/player assembling a narrative in performance, a multiplicity of documentation materials is archived, gathered and presented on the companion website. I chose a website because it allows for these traces to exist simultaneously and non-hierarchically, because it invites a non-linear navigation of material - a heterogeneous assemblage of traces, and because it exists online which facilitates open access.

A live performance unfolds uniquely in time and space which means that the documentation can only be regarded as a durable record of that event, but its purpose in the final thesis submission as standing in for the performance is problematic. Like Peggy Phelan (1993) and Angela Piccini and Caroline Rye (2009) I believe that the liveness of the performance moment cannot be captured without losing what it is which makes it live, its physical, experiential, embodied and shared ephemerality “those qualities of the live encounter and

the production of embodied knowledges which can not, by definition, be embedded, reproduced or demonstrated in any recorded document” (Rye, 2003, p. 115). As Phelan states: “performance’s being becomes itself through disappearance” (1993, p. 146). This is why documentation should always be reviewed and evaluated subsequently to attending the live event, and ideally prompts recall rather than illustrating the outcome. As far as performance research is concerned, documentation cannot be relied on as the sole evidence of the research outcomes, as the documented materials invariably turn the performance moment into something else by transposing it into a different medium altogether (text, photographs, film, audio recording etc). Documentation “cannot unproblematically ‘stand in’ for the performance itself” as Piccini reminds us (2002).

Although there is a risk that “the documentation of practice may at worst displace the thing itself” (Nelson, 2013, p. 6), it is nonetheless necessary to accompany the live event, to support, illustrate (to some degree), remind and evidence the research, and is “complementary rather than explicatory of the work itself” (Nelson, 2013, p. 84). The practice research portfolio associated with this research practice is available at <https://www.performingplay.co.uk/> and illustrates the multi-method approach to archiving and documentation.

I believe that, in recording the performance, a process of translation and adaptation is necessary if, as Matthew Reason observes, the video representation is expected to be watchable: “the more faithful the video representation, and the less it adapts the performance for the new medium, the less watchable it becomes as an artefact in its own right” (2006, quoted in Nelson, 2013, p. 85). In documenting *Inchcolm Project* and *Generation ZX()*, I opted for using Go-Pro cameras (head-mounted cameras) in order to mirror the aesthetic of the performance (see the *Inchcolm Project* and *Generation ZX(X)* Walkthroughs <https://www.performingplay.co.uk/walkthrough>, <https://www.performingplay.co.uk/walkthrough-1>). The Go-Pros recreated the first-person point of view, the shakiness of movement across terrain, the points of interest – the direction in which the audience/player looks but also where other participants - encountered during the event - were or what they were focusing on, as well as capturing environmental sound. For *Inchcolm Project*,

each performance was recorded by two participants, the filmmaker (Rob Page) and an audience member. This ensured that I captured the changing atmosphere and light conditions as the weather changed dramatically between the two performances. It also mapped four potential journeys on Inchcolm, as each audience/player explored the island differently: at a different pace and/or route, some opted for free exploration while others were aided either by the paper map or the Sonic Map on their phones. By capturing four journeys I managed to identify some of those patterns of engagement, which became even more important as unobtrusive participant observation was impossible due to the size of the island and number of participants.

In the editing stage, I recreated, as much as the non-interactive medium of film would allow, the “‘feel’ of the event” (Nelson, 2013, p. 85). The audio was superimposed over the environmental sound to mirror its geo-tagged coordinates on the island and their location in the park, and we collated footage from all of the Go-Pros to create one possible walkthrough as it would have been encountered on the day, lacking of course the sensory and embodied aspects of the performance. In other words, I created ‘a sense of “what might be”, rather than a fixity of what was” (Piccini and Rye, 2009, p. 46, quoted in Nelson, 2013, p. 6).

Beside the challenges of documenting the outcome, documentation of the processes of making is made difficult by the spontaneous, intuitive and responsive nature of the creative process which makes capturing the moments of insight nearly impossible despite the researchers’ efforts to keep diaries, or record rehearsals. These moments of insight (or “discovery”, Nelson, 2013, p. 28) are usually recorded after they occur, and reflected on in the written component of the thesis.

In documenting the process, I captured those moments of creative insight by taking photos during the repeated site-visits on the island, in the park and at the factory, recording environmental sound and doing creative writing in-situ. The JTC management team facilitated a tour of the factory and shared their memories of how the space was found when they took over, as well as walking me through the changes that they have implemented through time. The

memories of Timex are captured in the recorded interviews and I have gathered a historical archive of footage, audio recordings, photographs, paper clippings and scans¹⁹.

In terms of gameplay, I captured points of interest in the *Dear Esther* game-world by taking screenshots every time I revisited the game. These points of interest could be narrative elements embedded in the game environment, moments of gameplay which elicited a strong emotional response, or interesting design choices which prompted moments of aesthetic appreciation. The screenshots thus worked as a diary in which I recorded 'ideas' to be explored through practice and eventually incorporated in the final design. These illustrate how my design concepts evolved through time and how various production elements were gradually layered. Various iterations of costume, set, map and sound design illustrate the collaborative and responsive design process as it gradually grew and evolved.

As Nelson points out video documentation of the outcome is "most effective when mobilized alongside other documents" (Nelson, 2013, p. 89) which capture the research process: "it is the archive, along with various representations of performance contained within the archive, which give performance form and meaning and that speak about performance" (Reason, 2006, p. 40).

Pearson and Shanks observe that performance disintegrates leaving behind traces and memories: "It then immediately falls to pieces as traces and fragments of a different order, ranging from documentary photographs to the memories of its participants: fragments/order/fragments" (2001, p. 55). The challenge then becomes, how are these traces collected, preserved and presented in attempt to capture the absence of performance, that which has passed and now lives solely in the memory of those who made it and experienced it. The website becomes a "rescue archaeology of the event", a "cluster of narratives, those of the watchers and of the watched, and all of those

¹⁹ These were sourced from the Timex History Group, John Carnegie's personal archive, the McManus Special Collections, and from the interviewees' personal archives.

who facilitate their interaction” (Pearson and Shanks, 2001, p. 57). Because the performances “are and were only ever assemblages of practices, experiences, tellings, retellings, memories, perceptions” (idem, p. 58) the documentation preserved on the website is a similar assemblage of footage, recordings, writings, photographs, memories, experiences, sounds and voices.

The *Inchcolm Project* assemblage thus gathers:

- four sets of raw Go-Pro footage,
- three edited films: a short trailer, a slightly longer experience trailer, and a full walkthrough,
- event photos,
- site visit photos,
- drawings, recordings and notes,
- timestamped gameplay screenshots,
- gameplay diaries,
- the *Dear Rachel* text,
- the 24 audio files,
- the *Inchcolm Project* map and various iterations,
- the installation ‘sketches’ (these are the visual references, images, photos and screenshots, that the set designer and I used in communicating about the design concepts and ideas),
- the scores for the instrumental solos and the final orchestral performance.

Similar to *Inchcolm Project*, the *Generation ZX(X)* archive is an extensive assemblage of documentary evidence of the research and the research outcome:

- a full ‘walkthrough’ captured and edited as a *Generation ZX(X)* film,
- event, site visits and workshops photos,
- an oral history archive which includes the 11 interviews with the women who worked in Timex,

- three interviews with Charlie Malone,
- the seven interviews with game developers,
- the text and recordings of the 'Mona' audio files,
- the three games and various iteration prototypes and sketches,
- archival footage and photos from inside the Timex factory,
- personal archives of former Timex employees,
- personal archives of game developers,
- images and games which were used as references for developing the aesthetic and gameplay 'feel' of the games,
- the two briefs that the student development team responded to,
- the projection,
- the text and versions of the text for *She-Town*,
- and the custom controller for *Assembly*.

In addition to the archive, this PhD thesis is itself a document, which captures in writing the development, design and implementation of concepts, as well as the reflection on processes and outcomes. It is thus documentation that "is generated before, during, and after the event" (Pearson and Shanks, 2001, p. 58) compiling the planning and implementation stages of the events as well as reflections on the "aftermath" - the scene of the crime which "demands a poetics of absence [...] a labour of production/creation/transformation" (idem, pp. 59-60) through which the process of ordering the fragments is achieved through writing.

Practice as research and performative data

Forms of research inquiry through practice gained momentum in the UK in the mid-70s chiefly as a result of the incorporation of vocational training schools and conservatoires into universities which meant that the artists working in universities had to conform to academic standards and frameworks (Nelson, 2013) which led to an increasing demand from artists operating within HEI for validation of their practice-based research (Gray, 1998).

In parallel with the establishment and recognition of PaR as a methodology, artworks were being produced as part of the research and included in the submissions as research outcomes. This opened a new challenge for artists undertaking research in the 'live' arts in terms of documentation and for research committees in terms of evaluation. The experiential and ephemeral qualities of the work challenged the demand for replicability (Hopfinger, 2017) while at the same time demanded that evaluating panels attend the showing of work (Nelson, 2013).

This research project aims to develop new ways of making. I believe that action research cycle is particularly suited to my own research project in particular, as it focuses on the iterative nature of practice and emphasises the role of reflection, while critical participatory action research further considers the transformative potential of practice. And as Stephen Kemmis, Robin McTaggart and Rhonda Nixon argue, its purpose transcends the purely utilitarian and at times narrow scope of improving individual practice offering opportunities for more inclusive (research) practices: "the purpose of critical participatory action research is to change social practices, including research practice itself, to make them more rational and reasonable, more productive and sustainable, and more just and inclusive" (2014, p. 3). In my case this is particularly poignant because, like Henry Jenkins (2007), I argue that hybrid experiences (transmedia storytelling in Jenkin's case) which combine video games and performance, can expand the aesthetic appreciation and making practices of both fields by offering multiple entry points. These hybrid experiences can tap into the audience pool of each field, and open new ways of making for practitioners in both fields. Critical performative action research (CPAR), as opposed to 'traditional' action research, positions the researcher on the inside (Kemmis and al., 2014), offering the advantage of situated and embodied knowledge, which brings it closer to artistic research. Furthermore, Kemmis and al. expand their theory to take into account the site of practice. These practice architectures or located practices, show: "how practices are held in place and made possible by cultural-discursive, material-economic and social-political arrangements found in or brought to the sites where practices actually happen" (ibid., p. 3). This contextualises interdisciplinary practices, in particular site-

specific or site-responsive practices as they literally respond to the sites in which they take place. Although both projects which constitute the practice component of my research responded to very different sites (Inchcolm island, and Dundee), the design methods which underpin them are not only coherent but also re-locatable and to a certain degree replicable in that they can be used as a stimuli for other processes, illustrating how practices are “shaped but not determined by the places where they happen” (ibid.). The paradox of performance as boundless but “incorrigibly particular” (“perfused by space and time”, Kershaw, 2009, p. 4) is captured by Baz Kershaw through the term “boundless specificity” (ibid.). This “boundless specificity” transfers to performance practice as research which “defines itself as method and methodology in search of results across disciplines: a collection of transdisciplinary research ‘tools’.” (ibid., p. 5). This can address one of the objections to PaR which is that it is solely preoccupied with improving practice and thus only contributes to its own discipline.

Prominent supporters of PaR argue for a paradigmatic shift towards the performative (Haseman, 2010; Haseman, 2006; Bolt, 2016; Bolt, 2009; Barrett, 2010a; Barrett, 2010b; Barrett, 2010c). Following John L. Austin’s notion of performative speech acts (1975), Brad Haseman notes that in artistic research, the practice of articulating the research *is* the research: “It not only expresses the research, but in that expression becomes the research itself” (2006, p. 6). If the live performance is the symbolic ‘data’ analysed and explicated in the exegesis then neither quantitative data (numbers) nor qualitative data (words) are at the heart of the research, but the artwork itself (a complex system of symbols). This performative turn (Kershaw et. al, 2013, Schatzki et. al, 2000, or, see, for example, Barbara Bolt’s discussion of Judith Butler’s notion of performativity in relation to art practice, 2016, pp.133-136) in artistic research is reflected in the diversity of methods deployed by artist researchers in their attempt to capture and explicate this symbolic data, and in the creative and unique ways in which they are combined to best suit the research inquiries. Researchers turn to qualitative and quantitative methods and combine them with their own practice-based methods resulting in a multi-method hybrid that spans not just various epistemologies and ontologies, but also a multitude of

disciplines. PaR is inherently interdisciplinary (Barrett, 2010a; Barrett, 2010b; Barrett, 2010c; Bolt, 2006; Bolt, 2009; Bolt, 2016; Nelson, 2013; Sullivan, 2005; Gray, 1996).

The spiral of acting and observing, reflecting, planning is different for each research project as each practitioner has a different skillset and level of understanding and knowledge, which means the entry points for each spiral are different. The exit points are also arbitrary, depending on the circumstances of each individual research project. What makes the spiral model appealing for artistic research is that it allows for a circular type of process, where each cycle reveals new insights and new lines of inquiry while at the same time offering flexible exit points. This accommodates the “cycles of making and reflection” (Barrett, 2014, p. 3), where the artist can temporarily exit the spiral to reflect and write, and then return to the practice with “renewed understanding” (Trimingham, 2002, p. 56). This accounts for artistic research’s ability to be “simultaneously generative and reflective” (Gray, 1996, p. 10).

The reflective characteristic of artistic research is where the processes of tacit, experiential and embodied knowledge are articulated, where Schön’s “knowledge in action” is articulated as “knowledge on action” or in Nelson’s terminology is where the know-how becomes know-what “know what works, know what methods, know what principles of composition, know what impacts” (Nelson, 2013, p. 37). In other words, critical reflection consists in knowing “what ‘works’, in teasing out the methods by which ‘what works’ is achieved, and the compositional principles involved” (ibid., p. 44). My critical reflection on the two projects that make the body of the research is detailed in the final chapters of this thesis. Following Nelson’s impetus, the reflection foregrounds making (know-how), reflecting (know-what) and critical and theoretical inquiry and formal knowledge (know-that). My reflection is structured on looking in and looking out, following Christopher Johns’ model of structured reflection (1995) which prompts reflection which is structured and focused on different levels: aesthetics, personal, ethics, empirics and reflexivity. This way of structuring reflection helped to increase my awareness to the way in which I responded to the sites (both physical and virtual) and to the motivation behind my responses. In what follows I illustrate how structured reflection can contribute to a deeper

understanding of the research inquiry even if this means revising the inquiry altogether, as Kershaw and Nicholson state: “the unpredictable accidents of reflexive methods in theatre arts research can be productive of positive, creative, methodological revision.” (2013, p. 9)

Entering the cycle for the first time I found it problematic to define a problem or research question as both terms suggest either an optimal solution or a ‘right’ answer. This would have meant that I started my research with an assumption that there is a ‘right’ way of conducting practice and by extension research through practice. Nelson states that this is a common aspect of PaR where gaining “substantial insights rather than coming to such definite conclusions as to constitute ‘answers’” (Nelson, 2013, p. 30) is typically the case. Haseman (2006) has also identified this challenge for PaR researchers and suggested that they are rather led by “an enthusiasm of practice” (p. 3). Similarly, Kershaw et al. call these starting points hunches or intuitions (2013, p. 65). My initial intuition was that I should investigate the interplay between interaction, immersion, and narrative, as various configurations of these three lenses are common in discussions of video games and contemporary performance. I started working on my research project with this initial curiosity as to how would a video game translate to a live performance? What would change in terms of narrative, interactive and immersive configurations? As the research project progressed, I started to interrogate why *Dear Esther* elicited such a strong emotional response and I realised that the answer lies in how its design foregrounds the interpretive and emotional abilities of the player facilitated and shaped through walking. By reverse engineering its design I noticed that Robert Briscoe designed the environment as an emotional landscape and a semiotic text to be deciphered. The environment is a puzzle designed by using ‘subliminal signposting’ (Briscoe, 2012a). Similarly, the openness of the text and its poetic form embraced the interpretive abilities and sensibilities of the player. The emotional journey of the character, the emotional journey of the player and the emotional landscape of the island are supported by the music and sound design. All these design components are developed to facilitate a meaningful experience for the moving and sensing body of the player. Interaction is focused solely on the aesthetic and dramaturgical function of walking. As a playwright I

was intrigued by the game's poetic text and as a dramaturg by the openness of the text and by how walking is designed as an aesthetic and dramaturgic practice.

I realised that I was beginning to be more interested in how video games and performance create meaningful experiences by allowing the moving body to progress through their environments and discover their stories. I was becoming interested in the design of story and sensory-rich spaces, and in the mechanic of walking as an aesthetic practice. Exploration and discovery thus became dramaturgical devices, and the meaning-making process was entrusted to the moving body. Although I was still adapting a video game to a live performance, I also started exploring the ways in which the two can be literally brought together, allowing the body to move through both their environments, physical and virtual. I was no longer talking about either audience or players, instead I was developing a notion of audience/players as I was gradually starting to envision performance and video games as part of a unitary experience. In doing so, I was leaving immersive theatre territory and moving towards mixed-reality performance (Benford and Giannachi, 2011). Through practice I reached a point where my initial lines of inquiry were changing, and with them my practice was changing and growing as I was exploring new theory and developing new methods. This is how I understand Nelson's notion of praxis, as a "double articulation between theory and practice, whereby theory emerges from a reflexive practice at the same time as practice is informed by theory" (Bolt, 2006). As Melissa Trimmingham argues the aim of the research process "is always to ask a better question, not to reach a point where no more questions need to be asked" (2002, p. 57). This aspect of renewed understanding which leads to new questions illustrates the "generative potential of artistic research" (Barrett, 2010a, p. 4), what Bolt calls "repetition with difference" (2016, p. 132). Barrett argues that this generative potential resides exactly in its "subjective, emergent and interdisciplinary approaches" (2010a, p. 3), in offering an alternative "logic of practice often resulting in the generation of new ways of modelling meaning, knowledge, and social relations" (ibid.). So PaR projects not only contribute new ways of making but also new ways of conducting research, helping to define the performative paradigm, "where art is both productive in its

own right as well as being data that could be analysed using qualitative and aesthetic modes” (Bolt, 2016, p. 131). A PaR methodology is necessarily emergent from and conducted through the practice. Its emergent nature (Gray, 1996; Sullivan, 2010; Haseman, 2006; Haseman, 2010) is a direct result of the responsive, adaptive, messy, improvised and “unpredictable” behaviour of practice. As Kershaw and Nicholson summarise: “As they amply demonstrate, intuitive messiness and aesthetic ambiguity are integral to researching theatre and performance, where relationships between the researcher and the researched are often fluid, improvised and responsive.” (2013, p. 2). Through the creation and subsequent reflection on the two projects which form the body of this research I embraced the creative and intuitive nature of PaR. The fluidity and flexibility afforded by this methodology suited the requirements of practice-based and interdisciplinary research and offered me a functional way of accounting for the emergent, iterative and fleeting nature of its outcomes.

INCHCOLM PROJECT

Inchcolm Project was the culmination of my first year of research into connecting performance and video games. Through *Inchcolm Project*, I aimed to develop and test in practice a working methodology which combines game design strategies and techniques with live performance to create hybrid narratives which unfold across both mediums blurring the lines between the real and the virtual environments and bodies.

Project Description

Inchcolm Project was a hybrid event which took place on 16th October 2016 on Inchcolm, a Scottish island in the Firth of Forth. It combined elements of performance, video games, and live music. It was structured as a three-part experience: the promenade performance (*Dear Rachel*, Figure 4), the gameplay projection (*Dear Esther*, *The Chinese Room*, 2012, was played live and projected onto the Inchcolm Abbey wall, Figure 5), and the final musical performance (Mantra Collective performing *Dear Esther's* soundtrack, Figure 6).



Figure 4 Violinist Installation at the Battlement, *Inchcolm Project*, 2016



Figure 5 *Dear Esther* (The Chinese Room, 2012) projection in Inchcolm Abbey, *Inchcolm Project* 2016



Figure 6 Mantra Collective performing *Always* (Jessica Curry, 2012) and *Ascension* (Jessica Curry, 2012) in Inchcolm Abbey, *Inchcolm Project*, 2016

The audience consisted of 50 guests, academics and practitioners with a background in either contemporary performance or video games. The project team consisted of myself (designer, producer, writer), Dayna Galloway (co-designer), Kevin Murray (sound designer), Ana Inés Jabares-Pita (set and costume designer), We Throw Switches (a game curatorial duo formed of Andrew Dyce and Craig Fairweather) and Mantra Collective (led and conducted by Luci Holland and David Jamieson) who arranged and performed live Jessica Curry's soundtrack for *Dear Esther*. They were supported by Abby MacMillan and Adam Thayers on stage, production and technical management alongside a team of seven set and stage-design assistants (see <https://www.performingplay.co.uk/team>).

The audience/players received an invitation to the event in which they were offered directions for getting to the location, and instructed on times of arrival, appropriate clothing and footwear, duration, health and safety guidelines, as well as a waiver that included consent for photo and video documentation and feedback recording. The invitation also included instructions for installing Sonic Maps, a free application (no longer available) developed by Recursive Arts, and for downloading the Sonic Maps project which contained 22 audio files geo-tagged on Inchcolm.

The guests were greeted at Hawes Inn in South Queensferry and were provided with wristbands, maps and technical assistance with the Sonic Maps app. The audience/players then embarked on the Forth Belle, a passenger boat which took them on a 30-minute boat tour of the Forth and brought them to Inchcolm. Upon arrival, they were greeted by more members of the team who were there to help troubleshoot potential app or phone issues. They were invited to explore the island and to regroup at the Abbey (visible landmark) an hour later (2:40PM for audience no.1; 4:40PM for audience no.2).

The audience/players could use the physical map, the digital map (in-app feature of Sonic Maps) or rely solely on their orientation skills to explore the island. Sonic Maps allowed the user to create a 'project' - a collection of sound files attached to a geographical location, a process known as geo-tagging. This

editing app came with an accompanying player app, Sonic Maps Player, which GPS-tracked the user's phone and triggered/played the audio files when they reached their geographical position.

Alongside the sound files, we designed ten installations which were carefully positioned in specific locations on the island, consisting of either static visual installations, or mini-performances: musicians performing instrumental solos isolated from *Dear Esther's* soundtrack. The main references for the costumes of the performers were the film *The Shining* (Kubrick, 1980) and imagery of WW1 refugees, tying in with the narrative characters of the walkers (*Dear Rachel*) and the ghosts (*Dear Esther*), with the themes of refuge and displacement by war, but also with the site's history and WW1 structures (the bunkers and military barracks).

After the allocated time had passed the audience/players were guided to the 12th Century Inchcolm Abbey where a projection was set-up in the Refectory. The projection lasted 40 minutes and it consisted of a playthrough of the last two chapters of *Dear Esther*. As the game ended, Luci Holland, the singer entered the Refectory singing *Ascension* in unison with the game's soundtrack. The audience/players then followed her to the Chapter House, where Mantra Collective were assembled and who then performed *Always* and *Ascension* as an ensemble. There were printed instructions that invited the audience/players to pick-up one of the paper-boats which were scattered on the floor, write a guilty thought and to release it at sea. Finally, they were guided back to the Forth Belle for the return journey. The last audio file was playing through the boat's PA system. As they arrived back at the Inn they were given voice recorders and an envelope with directions for the post-show discussion as well as a list of topics to be discussed. The groups were formed spontaneously, and each had up to six people. Each of the groups had a moderator whose responsibility was to read out the questions and encourage discussion within the group. The moderator was either the person who opened the letter, or somebody else who felt confident and wanted to take on the role. The method was efficient as it helped to avoid participants taking on a role which made them feel uncomfortable and removed possible biases by not having any of the artists

present. The discussion topics were focused on the three lenses: immersion, narrative and interaction, and were structured as open-ended questions.

In what follows I will reflect on the design process and the working methods behind *Inchcolm Project*. I will elaborate on the interdisciplinary design methods behind *Inchcolm Project*: the process of remediation and transmedia adaptation, developing site and game-responsive content, designing a narrative and sensory-rich experience for a body on the move, and the dramaturgical processes of assemblage (Pearson and Shanks, 2001) and “(syn)aesthetics” (Machon, 2009) which ensured coherence of meaning across a hybrid and mixed-media experience.

Context: From Esther to Rachel.

Dear Esther is a deep, poetic ghost story told using game technologies. You explore a deserted island, uncovering a tale of love, loss, grief and redemption, delivered through a stunning voice-over and soundtrack set against beautiful environments. Rather than traditional gameplay the focus is on exploration, uncovering the mysteries of the island and discovering who Esther is and why you're there. (Briscoe, 2012b)

Dear Esther is a first-person exploration game set on an unnamed Hebridean island. In what follows I will attempt to give a personal account of the gameplay experience. *Dear Esther* is a first-person game which is why I suggest that a first-person description of my personal gameplay experience can better capture the experiential and the personal aspects of gameplay, and perhaps explain why *Dear Esther* has made such a strong emotional impact on me.

I am on a wooden pier, surrounded on three sides by water. A crushed boat to my left might be a clue as to how I got here, on the island. In front of me a lighthouse left in ruins indicates the direction in which I should be going (Figure 7).



Figure 7 The first encounter with *Dear Esther*. The boat on the left and lighthouse in front. *Dear Esther*. The Chinese Room, 2012

The wind is not howling but I can hear the subtle threat as I stand here on the pier completely exposed. I have no idea how I got here or why I am here.

As I make my way inside the lighthouse everything creaks and a shadow that seems to be peering down the shaft for a brief moment is giving me a feeling of unrest. Everything is in a state of complete disrepair. The wind and salt have chewed the paint and windows. Everything that is iron is now covered in rust. Some chemical diagrams graffitied onto the wall in green fluorescent paint will be my constant companions on the island. As I make my way around the island I trigger snippets of *voice-over* narration. The resigned voice of a man starts reading out his letters to Esther. They take the form of poetic meditations on life, death and redemption, fragmented memories of an accident on the outskirts of Wolverhampton, historical and fictional accounts on the island and its previous inhabitants, and Biblical references. The more I listen the more I am sure that they were not willingly parted and that the letters never reached their destination.

There is music too, of infinite sadness but also incredible beauty. It is like a very fine veil constantly pierced by the gulls, the waves, and my own footsteps.

The game's goal, as stated by the narrator, is to reach the aerial, a red light that I can barely see in the distance (Figure 8).



Figure 8 First view of the aerial. *Dear Esther*, The Chinese Room, 2012

As I make my way up, around, down, through and up again on the island's slopes I traverse four areas mapped onto the four chapters of the game: The Lighthouse, The Buoy, The Caves, and The Beacon. The more I make my way towards the red blinking heart of the island, the more surreal the island grows. Realism is shattered by the wind. Ghostly silhouettes tease my peripheral vision and misplaced and misshaped objects seem to trip me everywhere I go. My leg falls victim to their games. My movement is barely more than stillness.

The narrative is delivered through two main channels: audio, which includes both the voice-over meditation of the narrator (voiced by Nigel Carrington) and the music (composed by Jessica Curry) which intensifies to accompany the physical ascent; and visual, through the designed spaces on the island and their narrative cues, and the text and markings drawn in fluorescent paint all over the island (Figure 9).

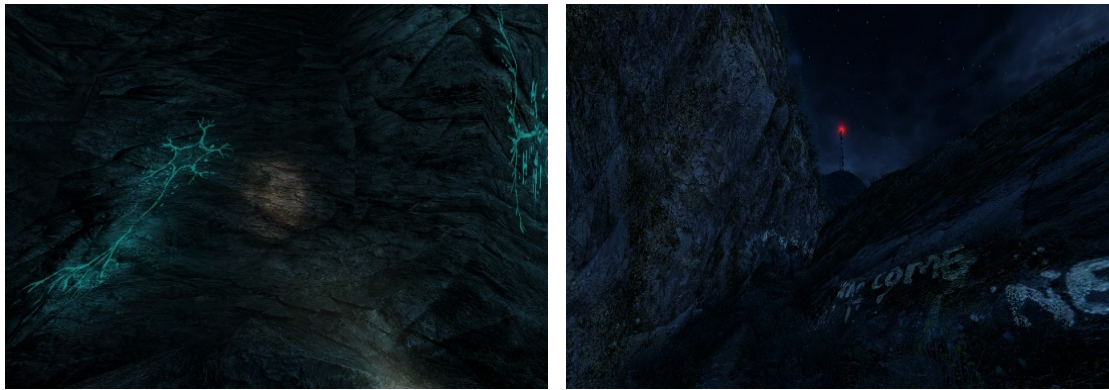


Figure 9 Fluorescent markings and text on the island. *Dear Esther*, The Chinese Room, 2012

There is also the option to play the game with subtitles, adding a layer of written text to the 'spoken' audio (Figure 10).

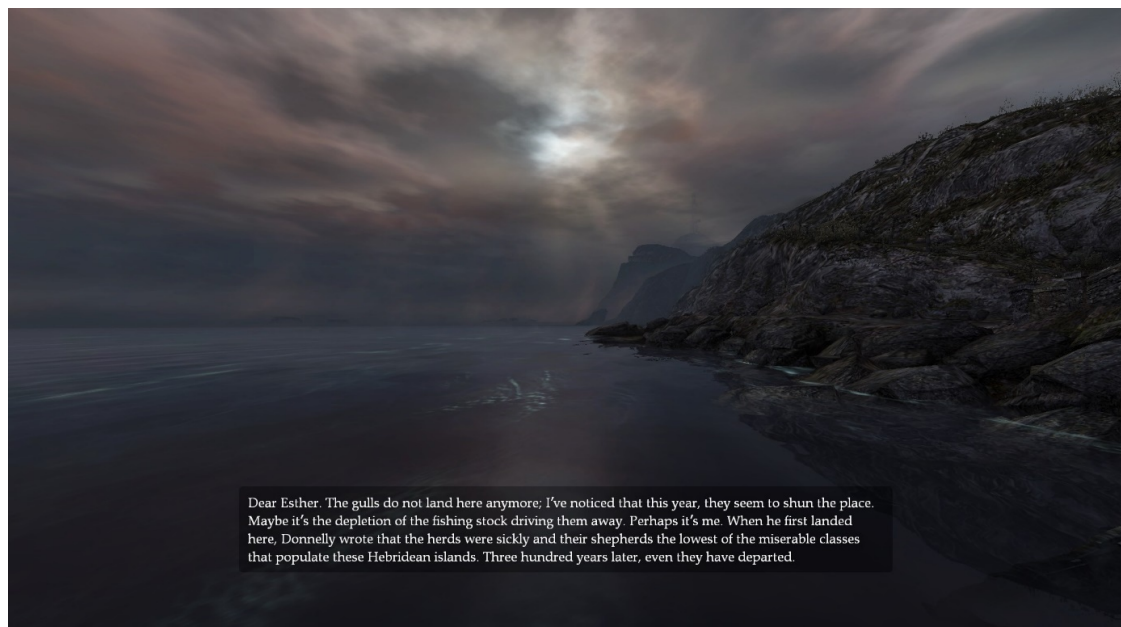


Figure 10 Overlay of subtitles, *Dear Esther*, The Chinese Room, 2012

The arrival on the island remains unexplained, so does the exact story. Facts and fiction, music and lyricism, characters - real and imaginary, blend to such a degree that the actual unfolding of the events remains uncertain. The certainty is that Esther (and potentially their unborn child) lost her life to a car crash, and the protagonist is trying to make sense of what happened that night, and cope with his grief and guilt. His letters to Esther – as physical objects – have been

folded into paper boats and can be seen in the last chapter floating at sea (Figure 11).



Figure 11 The letters for Esther folded into paper boats floating at sea. *Dear Esther*, The Chinese Room, 2012

The spaces on the island, natural and human-made, are populated by artefacts although it remains uncertain which of them belong to the island and which are projections of the protagonist's fevered mind (Figure 12).



Figure 12 Car parts scattered all over the island. *Dear Esther*, The Chinese Room, 2012

Or indeed, if the island is a physical space that triggers the memories, or is in fact an imagined space, a projection of the character's imagination. Or both.

As the path takes me around and inside the island, the character takes me on a journey through his internal space, deeper and deeper into his unconscious - visually represented by the surreal environment of the caves (Figure 13).



Figure 13 The surreal and eerie imagery of the caves. *Dear Esther: The Chinese Room*. 2012

I go deep into the belly of the island to be completely submerged into the fluorescence of its caves. Car parts, broken eggshells, ultrasounds, surgical paraphernalia, an underwater accident scene at a junction, and a doomed armada of letters folded into boats. The ink leaks into the water just as the water leaks into the boats.

When I emerge from the caves, the voice-over changes after the character has finally faced his repressed guilt. We are both ready for the final ascent. The path takes me up on a path alongside the cliffs where half-burned candles are guiding my steps alongside Biblical references to the destruction of Damascus which have been written in large fluorescent letters on the mountain (Figure 14).



Figure 14 Ascension to the aerial. *Dear Esther: The Chinese Room*. 2012

The green diagrams have spread all over the island now. I feel heavier and move even slower.

I dread arriving at the aerial. His guilt has echoes in my own, there is no refuge and I feel the anxiousness of the castaway deep in my stomach. The poems that he's reading have now lost all meaning but still sharply cut precise incisions into my ears. I dread arriving at the aerial, but I know now that this is my only way out. I climb, and I almost feel the cold corrosion of the iron staircase scraping my palms. The moon shines full and cold and the wind is raging. I jump and I fly. My shadow shows me that I am now a seagull (Figure 15). I am free to fly away from the (accursed) island.



Figure 15 The seagull shadow flying away from the island. *Dear Esther*, *The Chinese Room*, 2012

The voice whispers one last time: “Come back” and I am brought back to the start menu, suggesting perhaps that my freedom was just an illusion and I cannot ever leave the island.

Why *Dear Esther*?

At the beginning of my research project I played through a number of games in order to develop a critical and applied understanding of game design. *Dear Esther* stayed with me more than any other. I wanted to understand why and to see whether and how its design methods translate to a physical location. Essentially, I wanted to see how real a virtual world can become. I believed that deconstructing the game design and then implementing it as a live performance

would allow me to go through all the stages of the design process and eventually distil a hybrid interdisciplinary working method rooted and tested in practice.

I argue that *Dear Esther's* ability to generate such strong emotional responses is a result of the way in which its environment (immersive), mechanics (interaction) and story (narrative) are designed to support and complement each other. *Dear Esther* is set on an island in the Outer Hebrides. Although it is never named in the game, The Chinese Room have confirmed that they used Boreray, an island in the St Kilda Archipelago, as inspiration for the game's setting. The game's island is haunting and beautiful, sensorially rich, uninhabited except for gulls, ghosts and legends, evocative and symbolically charged, thus illustrating Wilkie's functions of the site in site-specific work: symbol, storyteller and structure" (Wilkie, 2002, p.158). These types of insights show how contemporary performance practices can contribute to a better understanding of video games in general and walking simulators in particular.

To focus the player's attention to the environment the designers have stripped down the game's mechanics to a bare minimum: the only permitted in-game actions are walking, (limited) swimming, zooming-in, and looking around. By removing other tropes used in subsequent walking sims like scavenging, puzzle solving or conditioning progression (take for example *Gone Home*, Fullbright, 2013, where parts of the house can only be accessed by finding a key which ensures that the story is experienced in a preordained way) and instead focusing solely on walking as an aesthetic practice, the game becomes a quest for meaning, a journey of discovery, 'wayfaring' rather than 'transport' (Ingold, 2007, 2016). Tim Ingold argues that unlike wayfaring which is a way of habitation and embodied knowledge achieved as one goes along "through the world rather than routeing from point to point across its surface" (2016, p. 82), transport is always destination oriented and is characterized by "the dissolution of the intimate bond that, in wayfaring, couples locomotion and perception" (ibid., p. 81). Wayfaring becomes a way of meaning-making along the way and a journey enjoyed for its own pleasures rather than just an anticipation of a destination. Wayfaring is not just an aesthetic but also a dramaturgical practice

and it can help to explain the pleasures of walking simulators. Players of walking sims can thus be seen as wayfarers in a virtual world.

The lack of in-game stimulation, Pinchbeck argues, allows space for “different kinds of reflective, emotional experiences” (2012a), what Upton calls “interpretive play” (Upton, 2015). In *Dear Esther* these experiences are supported by the environment but also by the narrative. The narrative in *Dear Esther* perfectly complements the environment and the mechanics, in fact, its unravelling depends on both exploration and walking. Story elements are embedded or suggested by the environment, whereas walking triggers the audio narration and pushes the story forward. The text is fragmented and ambiguous taking the form of a poetic meditation which evokes the atmosphere of the island and mirrors the rhythm of walking.

In adapting *Dear Esther*, I wanted to preserve all these elements and to explore the complex relationship between them, while at the same time to capture the changes and transformations that might occur in the process of its transformation into a live experience. Pinchbeck argues that by reducing stimulation in video games designers can “provide space and time for different types of experiences and different types of resonances to flourish” (2012a) which makes *Dear Esther* the perfect ‘candidate’ to explore through the medium of immersive performance where the experiential, the embodied, and the sensory can be freely explored. Different aspects of the game were adapted into different forms: some took the form of a promenade performance, some were embodied and performed in the musical performance, and some were completely recontextualised and reframed in the projection: a change of “mode of engagement” (Hutcheon and O’Flynn, 2012) - from interacting with to showing, a change of context of reception: from individual to communal, a change in ‘screen’ size and quality so on. This was an essential part of the adaptation process, what Hutcheon and O’Flynn call an adaptational strategy: “adaptational strategies demand that we *show* or *tell* stories, but in others, we *interact* with them” (2012, p. xx)

The design methods that I developed are intrinsically interdisciplinary and hybrid because they originate in the design of a game (*Dear Esther*) applied to

a live event (*Inchcolm Project*), thus accounting for a moving body in both a physical and a virtual environment. The narration is transmedia as it unfolds in and across the two media, and the world is a mixed-reality environment as it bleeds from the virtual island of *Dear Esther* into the real Inchcolm island.

Hutcheon and O'Flynn argue that there are three different modes of engagement, telling, showing and interacting *with* (2012) and most works can be successfully adapted either from one to another, or to the same mode of engagement. In adapting *Dear Esther* to *Dear Rachel* (the first part of *Inchcolm Project*, the audiowalk around the island) I wanted to maintain the same mode of engagement (namely interacting with) but to change the medium of reception, to create a 'live' version of *Dear Esther* to observe how the game's design strategies and methods can be 'ported' to performance. But I also wanted to expand on the themes and the narratives that the game engages with, while also allowing Inchcolm the same creative voice and sensory, narrative and symbolic presence that the island in *Dear Esther* has. *Inchcolm Project* was therefore not just a response to *Dear Esther* but also a response to Inchcolm island.

The process of adaptation

The selection process

Before I started working on adapting the game I had to first decide on a game. The selection process involved critically playing and assessing games while at the same time developing the selection criteria.

For a game to be adapted to an interactive performance, the actions or mechanics of the game need to be performable by a physical body in a physical environment. Walking, puzzle-solving, scavenging, listening, taking photos, drawing were mechanics that I could adapt, whereas shooting, swimming, climbing, driving, or parkour were not. At the same time, I wanted the performance to be first and foremost a sensory and narrative experience, 'wayfaring' rather than 'transport'. I was not interested in 'win' conditions, competitive mechanics or traditional goals like scoring points or gaining collectables, which is why I narrowed down the pool of potential games to only

include first-person, non-competitive, narrative games. I played through a mix of walking simulators, art and serious games, exploration and puzzle games, and horror games (see Table 3).

Game Genre	Games Played
Walking Simulators	<ul style="list-style-type: none"> • <i>Firewatch</i> (Campo Santo, 2016) • <i>Gone Home</i> (Fullbright, 2013) • <i>Proteus</i> (Ed Key and David Kanaga, Curve Digital, 2013) • <i>Everybody's Gone to the Rapture</i> (The Chinese Room, SIE Santa Monica, 2015) • <i>The Vanishing of Ethan Carter</i> (The Astronauts, 2014) • <i>The Stanley Parable</i> (Galactic Café, 2013) • <i>Beginner's Guide</i> (Davey Wreden, 2015)
Art and Serious Games	<ul style="list-style-type: none"> • <i>Papers, Please</i> (Lucas Pope, 3909, 2013) • <i>Her Story</i> (Sam Barlow, 2015) • <i>That Dragon, Cancer</i> (Numinous Games, 2016) • <i>Kentucky Route Zero</i> (Cardboard Computer, 2013) • <i>The Unfinished Swan</i> (Giant Sparrow, SCE Santa Monica Studio, 2012) • <i>Thomas was Alone</i> (Mike Bithell, 2012) • <i>The Path</i> (Tale of Tales, 2009) • <i>The Graveyard</i> (Tale of Tales, 2008) • <i>Sunset</i> (Tale of Tales, 2015) • <i>Bientôt l'été</i> (Tale of Tales, 2012)
Exploration and Puzzle Games	<ul style="list-style-type: none"> • <i>Myst</i> (Cyan, 1993) • <i>Journey</i> (ThatGameCompany, 2012) • <i>Portal 2</i> (Valve Corporation, 2011) • <i>Heavy Rain</i> (Quantic Dream, 2010) • <i>Life is Strange</i> (Dontnod Entertainment, 2015) • <i>Brothers: A Tale of Two Sons</i> (Starbreeze Studios, 2013)

	<ul style="list-style-type: none"> • <i>Oxenfree</i> (Night School Studio, 2016) • <i>Braid</i> (Number None, 2008) • <i>The Witness</i> (Jonathan Blow, Thekla Inc., 2016) • <i>Abzu</i> (Giant Squid Studios, 2016) • <i>Limbo</i> (Playdead, 2010) • <i>Inside</i> (Playdead, 2016)
Horror Games	<ul style="list-style-type: none"> • <i>Year Walk</i> (Simogo, 2013) • <i>Among the Sleep</i> (Krillbite, 2014) • <i>Silent Hill 2</i> (Konami, Team Silent, 2001) • <i>Amnesia, A Machine for Pigs</i> (The Chinese Room, 2013)

Table 3 Games played in the selection phase of the design process

While all of them had something unique to offer in terms of either immersive atmosphere, environments and sound, or interesting forms of combining interaction with storytelling, none of them appealed or stayed with me as much as *Dear Esther*. This is perhaps because *Dear Esther* blends the aspects from all the above genres that I find most interesting: the joy of exploration and discovery found in exploration games, the ease of navigation and the intricate environmental storytelling found in walking simulators, the haunting atmosphere and evocative sound found in horror games, a visual and poetic language and an emphasis on player-driven meaning found in art and serious games, and the cryptic and abstract narratives found in puzzle games.

Furthermore, *Dear Esther* started life as a creative response to *Half-Life 2* (Valve Corporation, 2004), a mod²⁰ in the Source Engine (Valve Corporation, 2004), but also as an AHRC funded, development-led research project at the University of Portsmouth²¹. The stated purpose of the project was to create

²⁰ A mod is short for a modification of a game by a fan-programmer usually in the same game engine. Mods can be standalone games in their own right, or maps, characters or levels. For more information see Postigo, 2007 and Moody, 2014.

²¹ "*Dear Esther* is part of a research project, creating experimental game mods, based at the University of Portsmouth, UK. The aim was to use Source to create something radically different from normal: an interactive story that dispensed with traditional gameplay and focused instead on an open-ended, semi-random narrative. The user navigates the environment, triggering audio fragments of a narrative which, together with visual clues and codes embedded in the world, build to create a story which is inherently constructed around the innate slippage of meaning and fragmentary nature of interactive experiences. To put it another way: it looks like a

“experimental game mods [...] something radically different from normal: an interactive story that dispensed with traditional gameplay and focused instead on an open-ended, semi-random narrative.”

(https://developer.valvesoftware.com/wiki/Dear_Esther). Its creators, The Chinese Room, were very transparent about their working process and their reflections on the design and aesthetics of *Dear Esther* were easily accessible (see Pinchbeck 2012a; Pinchbeck, 2012b; Briscoe, 2012; Curry, 2013; Pinchbeck, Curry and Briscoe, 2017). *Dear Esther* was the first game to start the walking sims movement and as such there was an abundance of material on the design processes, as well as numerous reviews, opinion articles and critical writing on its reception.

The game served as an initial ‘text’ that has been reworked, reshaped and rewritten. On the Valve developer page, *Dear Esther* is described as something that “looks like a game, and feels like a game, but it’s really something quite different” (https://developer.valvesoftware.com/wiki/Dear_Esther). The challenge was to capture this complex and hybrid experience and to translate it into a live experience. This experience had a game, a performance, a projection, and a musical performance component, but by bringing them together on an island, they formed something larger and different than the individual parts, something not quite like any of them. The hybrid nature of the project was reinforced by heightening the intertextual relationship between the initial ‘text’ and its adaptation which drew attention to the similarities between the game and the performance and blurred the lines between the ‘real’ and the fictional, between the physical and the virtual worlds and bodies.

Why adaptation?

One of the many pleasures of adaptation is tracing the connections between the ‘original’ and the adapted text (see for example Hutcheon and O’Flynn, 2012; Laera, 2014; Sanders, 2016) or what Hutcheon and O’Flynn call the “doubled pleasure of the palimpsest: more than one text is experienced – and knowingly

game, and feels like a game, but it’s really something quite different.” Description on the Valve developer page: https://developer.valvesoftware.com/wiki/Dear_Esther

so” (2012, p. 116). It is perhaps worth remembering here that *Dear Esther*, in starting life as a mod, is, in Genette’s terminology, grafted (Genette, 1997) onto *Half-Life 2* (Valve, 2004). Adaptation is both an active process of creation which always requires “re-interpretation and re-creation”, and an active process of reception “adaptation is a form of intertextuality: we experience adaptations (as *adaptations*) as palimpsests through our memory of other works that resonate through repetition with variation” (Hutcheon and O’Flynn, 2012, pp. 7-8).

Seen as process, adaptation is a constant negotiation between the existing and the potential ‘text’. In *Inchcolm Project* the adaptation (*Dear Rachel*) and the source ‘text’ (*Dear Esther*) were experienced together removing the distance between the experienced and the remembered texts. This created a déjà-vu sensation between the two experiences, merging them together in the memory of the event. The intertextual relationship was heightened, because I intended to draw attention to the similarities between the game and the performance, to emphasise them and to create additional ones to blur the lines between the ‘real’ and the fictional, and between the physical and the virtual worlds and bodies.

Adaptation offered me a way of creating a response to *Dear Esther* but in a medium whose conventions, methods and techniques were familiar to me. It also offered me a practical way of researching and understanding the conventions and strategies of video game. Not unlike fan culture then, adaptation (in my case a ‘re-mediation’) democratizes the process of creation. *Inchcolm Project* worked from the outset as a ‘prototyping’ of methods.

Hutcheon and O’Flynn compare adaptation with classical imitation to emphasise the creative and interpretive skillsets required of adapters: “Like classical imitation, adaptation is not slavish copying; it is a process of making the adapted material one’s own” (Hutcheon and O’Flynn, 2012, p. 20). The comparison with classical imitation, I would argue can be extended to also capture how adaptation is familiarising oneself with the techniques of the artists, it is a mastering of skill through practice and repetition.

Scholars in the field of adaptation studies (Hutcheon and O’Flynn, 2012; Sanders, 2016) have long been building on the semiotic theory of intertextuality

(Kristeva, 1969; Kristeva, 1980; Orr, 2010) - texts are already citations of other texts, echoes, “quotations without quotation marks” (Barthes, 1986, p. 60), palimpsests or texts in the “second degree” (Genette, 1997), to argue against the authority and uniqueness of an ‘original’ or ‘initial’ text and thus make the case for adaptation as a creative process. Any adapted text is appropriated, interpreted and filtered through the adapter’s own aesthetic, political or cultural beliefs: “a process of appropriation, of taking possession of another’s story, and filtering it, in a sense, through one’s own sensibility, interests, and talents. Therefore, adapters are first interpreters and then creators” (Hutcheon and O’Flynn, 2012, p. 18). Jenkins refers to fan culture creations as textual “poaching” (1992) borrowing Certeau’s terminology (1984) which captures the nomadic nature of reading, and the reader’s desire to possess the text. Jenkins argues that creating content based on the work they love, fans engage in creative acts of adaptation (1992; see also Hutcheon and O’Flynn, 2012; Sanders, 2016). This grassroots creativity which operates at the fringes of mainstream media, diversifies, expands and challenges it, and is illustrative of the creative potential of participation: “The power of participation comes not from destroying commercial culture but from writing over it, modding it, amending it, expanding it, adding greater diversity of perspective, and the recirculating it, feeding it back into the mainstream media” (Jenkins, 2006, p. 268). In a similar vein, *Inchcolm Project* wrote over *Dear Esther*, offered a new perspective on the text and anchored it in current political and social concerns. In what follows I will reflect on the processes of adapting *Dear Esther* and elaborate on the steps that I took during the process.

The process of adapting *Dear Esther*

Familiarity with the ‘text’

Initially I wanted to become familiar with the game, the context of its development, its creators as well as with its reception and interpretation. The narrative and some of the environments/tableaux are randomly selected so in order to know *Dear Esther*, multiple playthroughs were required. I played through the game repeatedly, taking notes and screenshots in my attempt to

capture gameplay in a holistic way, not just in-game events, but also text, images and sounds which I found particularly resonant and rich. The more time I spent in the game world, the more I became familiar with it, and I found myself returning over and over again to certain places, sounds and texts. These were then adapted in the live performance to create the illusion of continuity between the two islands, and blur the lines between the two 'texts', the two worlds, and the two realities.

I also wanted to become familiar with *Dear Esther's* reception and interpretation. This was not intended as a validation/invalidation of my own 'reading' rather a curiosity as to how others engaged with the game and the number of different interpretations supported and invited by the ambiguity embraced in its design. To this end I read numerous reviews and comment threads, forums and wikis. *Dear Esther* seems to still be as divisive in the game community as it was when it first launched, furthermore whenever a new game with the tag 'walking simulator' is launched the debate over whether they are games at all seems to be reignited. Despite all the 'noise' *Dear Esther* fans were avidly trying to collectively make sense of the game's story and uncover all of the island's secrets (<https://steamcommunity.com/app/203810/discussions/>). Henry Jenkins applies Pierre Levy's term collective intelligence to this process of democratic meaning making so customary in fan cultures. "Levy's model focuses on the kinds of deliberative process that occurs in online communities as participants share information, correct and evaluate each other's findings, and arrive at a consensus understanding" (2006b). This helps fan communities to pool their accumulated knowledge and skillsets to solve complex in-game challenges that they would perhaps be unable to solve by themselves (see for example McGonigal's discussions of alternate reality games (ARG), 2010; 2012; 2015). In *Dear Esther*, I would argue that the lyrical style of the text combined with its fragmented and ambiguous content is a design strategy that encourages community formation by inviting conversation and debate around the game's meaning. I will return to this later because this design method was another central element in the design of *Inchcolm Project*.

I also wanted to know more about the development and design processes, as well as the artistic intent behind the game, how certain artistic choices were

made and why, what were the thought processes behind them and if there was an 'optimal' dramaturgy/critical path that the authors wanted to convey. Luckily Dan Pinchbeck, Jessica Curry and Robert Briscoe were very open about their process. I found The Chinese Room's website and blog to be an invaluable resource, alongside the directors' commentary on the *Dear Esther Landmark Edition* as well as the numerous talks that Dan Pinchbeck, Robert Briscoe and Jessica Curry gave at developers' conferences, and interviews published in newspapers' gaming columns and game culture magazines. This helped me to get better acquainted with the game at a micro and macro level (Calleja, 2011), critically engaging not just with the 'text' but also these 'paratexts' (Genette, 1997), and improved my understanding and interpretation of the game and its design.

Interpretation: filtering through personal and theoretical lenses

I would argue that the process of interpretation started during the initial selection of the 'text', because the selection process was biased: I have chosen games that appeal to me, and then from this pool of games, I further selected one game that could be adapted. The selection is first a matter of taste and only after practical considerations come into play. As previously discussed adaptation is first appropriation and interpretation "through one's own sensibility, interests, and talents" (Hutcheon and O'Flynn, 2012, p. 18). As a playwright I was interested in how I could adapt the poetic text, as a dramaturg I wanted to re-create the openness of the text and to devise a way of walking as (syn)aesthetics - a sense and meaning -making process, and as an artist I wanted to explore the narrative, symbolic and sensory opportunities afforded by an island space.

Initially I played the game with subtitles so that I could screenshot the text; it was only later, when I found the text in its entirety, that I played the game without subtitles. The textual layer offers the game a distinct aesthetic, the text frames the visuals adding a unique texture overlay: when the subtitles appear, the environment is glimpsed around, under and in between layers of text. This acts as a visual metaphor for the island as palimpsest, an overlay of histories, stories, legends, and characters, but also visual landmarks, sounds and written

text. The island is literally written and drawn over: text and diagrams have been painted and carved into the mountain, in caves, and onto walls; pages of books, newspapers, medical files and letters are scattered onto beaches, inside bothies and sheds, on boats and inside caves. The idea of the gameworld as a palimpsest helped to focus my research on site-specific, site-responsive and site-sympathetic forms of performance, which place space at their core and engage with site's ability to be "an active component in the creation of performative meaning, rather than a neutral space of exposition" (Pearson, 2010, p. 26). This performative meaning of space is always a negotiation between the site and the audience, between the site's physical presence, the meaning that we attach to it (cultural, political, socio-economical, aesthetic, symbolic), and the embodied experience of it. Therefore "each occupation, or traversal, or transgression of space offers a reinterpretation of it, even a rewriting. Thus space is often envisaged as an aggregation of layered writings – a palimpsest." (Turner, 2004, p. 373).

The dramaturgic potential of islands

It was during this stage that I became interested in the dramaturgic potential of island-spaces. *Dear Esther* is set on an island as a way of limiting the game world (see Pinchbeck, 2012; 2013). The desolated island offered a particular aesthetic and was one of the three possible types of spaces in *Half-Life 2*: "Eastern European city, spaceship, or blasted, desolate landscape" (Pinchbeck et al., 2017)) and aesthetic reasons. The island and the ruin are complex environments which put forward an alternative aesthetic and which hold a great potential for exploring sensory, symbolic and narrative experiences.

My interpretation of *Dear Esther* was shaped by my fascination with islands as theatres where utopian and dystopian fantasies are enacted. Islands have been a source of inspiration for all forms of art, in all civilizations, and at all times. Islands are products of volcanic activity, fissure or deposit, a drifting of the land and, maybe most importantly, a drifting of the imagination. They can be natural or man-made. They come in all shapes and sizes. They can reside on maps or in the imagination, or sometimes both, as Nicholas Hasluk observes "Islands which have never existed have made their ways onto maps nonetheless"

(Hasluk, *Islands*, quoted in Stephanides and Bassnett, 2008). They have been places of dispute, negotiations, exploitation and resistance. As Baldacchino beautifully sums it up “Like Harry Potter’s mirror of Erised, islands, it seems, can stand for all things desired” (Baldacchino, 2005).

Islands are paradoxical or “nervous dualities” (Baldacchino, 2005) in that they are isolated but at the same time connected, real and imagined, safe and dangerous; they foster tradition but also innovation, they are paradises but also gulags, home and exile, escape and prison, space and place; they succumb to sexual fantasies but also STDs, luxury and tax evasion; they are at the heart of discourses of sustainability and dependency, nationalism and diversity, geography and literature, desire and fear (Baldacchino, 2005; Baldacchino, 2008; Baldacchino, 2012; Baum, 1997; Hache, 1998; Franks, 2006; Kincaid, 2007).

Despite the diverse attitudes towards islands, the islophiles and their unquestioned love for all-things-island, the islophobes who are afraid of-all-things-island, we are all incurable islomanes, Baldacchino argues, “we succumb willingly to the indescribable intoxication of islands” (2005).

The ludic imagination has not been far behind in choosing islands as a setting. A search on Steam with the keyword ‘island’ returns 1822 results (12/08/2018)²². It is perhaps unsurprising that islands are the perfect location for video games as they have fulfilled the same function in the Science Fiction (SF) imagination. In his analysis on how SF authors have responded to the island space, Paul Kincaid names two possible scenarios: Islomania (“island as dream state, the object of desire, the ideal”) and Insularity (“the island as prison or fortress that holds us apart from the rest of the world”), arguing that in science fiction they quite often overlap (2008, p. 463).

The 15th century brought countless explorations of the unknown world. Stories of mysterious islands, inhabited by wild natives, submerged in exotic, paradisiac flora and fauna, and adorned in unimaginable treasures started making their way back home: “when the Middle Ages were beginning to give way to the

²² <https://store.steampowered.com/search/?term=island>

Renaissance in England, a combination of ‘real’ travellers’ tales and popular national mythology established the island as the seat of strangeness and wonder and desire” (Kincaid 2007). Kincaid attributes the two trends to Thomas More’ *Utopia* (1516) – island of desire, and respectively to Daniel Defoe’s *Robinson Crusoe* (1719) – island as a prison.

The island space illustrates the dynamic relationship between the real and the imaginary, between individual and society, the old and the new, between the static land and the transformative water. Folklore provides a lot of examples of islands as fantastical lands, where the elements of the supernatural and myth are often encountered, places where heroes go to rest or die, places that draw the sailor in and never let him go, that appear and disappear, that live as guises of mysterious sea-creature. The island is sometimes portrayed as a symbol of the idealized search, the ideal that one seeks and spends his/her life seeking and never finding. It is a place of transformations and mutations, of exchanges between worlds, a place where “the savage” resides, where stories of carnivorous human beings, savage practices and terrible mutations come to life. It is a place that fascinates and scares. As Stephanos Stephanides and Susan Bassnett put it: “Islands, therefore, are places that can be paradoxically both safe havens and sites of great upheaval” (2008).

***Dear Esther* and ‘Utopia’, ‘Dystopia’, ‘Heterotopia’**

To a certain extent all game spaces, regardless how open or large they might seem, can be seen as islands because they have boundaries, are self-contained, and generate a game world with its own environment, behaviours, communities, artefacts and rules (Nyman, 2013; Nyman and Teten, 2015). Due to their isolation, islands are the perfect place for tests and experiments but also for creative expression: “testing grounds for new ideas and opportunities” (Nyman, 2013, p. 273). It is perhaps not surprising that many walking simulators are set on islands from the genre precursor *Myst* to *Dear Esther*, *Proteus*, *What Remains of Edith Finch* (Giant Sparrow, 2017), *The Witness* (Blow, Thekla Inc., 2016) or *Rime* (Tequila Works, 2017).

Baldacchino’s statement that “islands stand for all things to be desired” seems to be most apt in describing islands (2005). Because of their size, separation

from the mainland and water surroundings, islands can be easy to control and defend but also hard to escape. They have made ideal retreats but also prisons, quarantines and graveyards. I have already mentioned that desire and fear, these two sides of the human psyche, have always been projected on islands. This makes them the places where utopian and dystopian fiction have found a fertile ground, as Carey states: “To count as a utopia an imaginary place must be an expression of desire. To count as a dystopia, it must be an expression of fear” (Carey, 1999, p. xi). Utopias are imaginary places that strive for an ideal: the ideal man, the ideal society, the ideal self. Nature, reason, justice, control, freedom, technology, and gender are some of the most common utopian topics (ibid.). “Utopia is where we store our hopes of happiness” (ibid., p. xxvi). Utopias, as well as dystopias, are possible worlds. Unlike literature and film, video games actually offer the possibility to try out these worlds, either take part and influence their trajectory, or witness the utopian/dystopian fantasy as it unfolds (Schulzke, 2014). I would argue that precisely because they are experienced as ‘real’ they can be interpreted as heterotopias. Michel Foucault defined heterotopias as *real* places that have a special status and fulfil a special function associated with rites of passage, another resonance to video games which are usually journeys of becoming (for how Joseph Campbell’s discussion of the monomyth, 1949, has been used in relation to video games see Dunniway, 2000; Delmas et al., 2007; Plyler, 2013). Foucault identifies the graveyard, the boat, the brothel, the theatre, the cinema, the asylum, the prison, the island as heterotopias:

“real places-places that do exist and that are formed in the very founding of society-which are something like counter-sites, a kind of effectively enacted utopia in which the real sites, all the other real sites that can be found within the culture, are simultaneously represented, contested, and inverted. Places of this kind are outside of all places, even though it may be possible to indicate their location in reality” (Foucault, 1986, p. 3).

If heterotopias are “alternative spaces that are distinguished from that actual world, but that resonate with it” (Tompkins, 2014, p.1) then so are video games. Just like Foucault’s examples of the cinema and the theatre, video games summon in one physical place (the screen) different other real sites: “sites that are in themselves incompatible” (1986, p. 6) on which they reflect or comment

(see Tompkins, 2014, p. 1). But just as they bring a special ordering of spaces, they are also what Foucault calls “heterochronies”, different times experienced in the present which is momentarily suspended. In video games the phenomena of flow (1975 see Csíkszentmihályi, 2000) or immersion are states where I would argue players “arrive at a sort of absolute break with their traditional time” (Foucault, 1986, p. 6).

Johan Huizinga’s “magic circle” (1950), a demarcation of where play happens, can be seen as a heterochronic heterotopia, a space where time and space are suspended, simultaneously out-with and within the ‘real’ world (Huizinga, 1955). The magic circle can be a physical demarcation like the theatre or the screen or a malleable and invisible membrane that surrounds the players in instances of play that takes over the physical world (Salen and Zimmerman, 2004). Video games require that players step inside the magic circle by crossing a technological (they need a platform on which to run) and physical barrier (they require dexterity in their players, an ability to orient yourself and navigate 3D virtual space, an ability to see the screen and handle a mouse, a keyboard, or a controller so on). Furthermore, the player undergoes a rite of passage: opening the laptop, launching the game, inhabiting an avatar, and then diving in the world of the game which momentarily suspends traditional time and space.

Foucault in describing heterotopias states that they:

presuppose a system of opening and closing that both isolates them and makes them penetrable. In general, the heterotopic site is not freely accessible like a public place. Either the entry is compulsory, as in the case of entering a barracks or a prison, or else the individual has to submit to rites and purifications. To get in one must have a certain permission and make certain gestures (ibid. p. 7).

I would argue that the concept of heterotopia is a particularly useful concept for understanding *Dear Esther*, because the island has a real-world referent. The Hebridean island is a real place but also a representation that it is real as it is experienced for the duration of the game. Foucault argues that heterotopias can act as a space of illusion or on the contrary as a space of compensation. Put simply they can either act as a mirror of the real world or respectively as a perfect double, an ideal “that is other, another real space, as perfect, as meticulous, as well arranged as ours is messy, ill constructed, and jumbled” (p.

8). In any case they help us to make sense of the real world by allowing us to enact and participate in the utopia, or in the case of *Dear Esther* and *Inchcolm Project*, dystopia.

Utopia, understood as critiques or reactions to contemporary society or establishment, can be easily applied to the walking simulator as a genre, while particular tropes of utopian/dystopian fiction can help in the interpretation of *Dear Esther*. Walking simulators started with an experiment: what would happen if all gameplay is stripped out of a first-person shooter (FPS), leaving only the environment, atmosphere and story? As a reaction to traditional understanding of gameplay, walking simulators are in themselves utopian. They are constantly pushing at the boundaries of what video games are and what they can do. And what better setting for these types of experiments than the island, traditionally a testing ground? The time to meditate, reflect and pause that walking simulators allow, is also a reaction to our constantly speeding times, just like walking is in itself a stubborn refusal of technology, motorised transport, fuel consumption and carbon emissions. As Lee and Ingold observe: "Walking could then be an activity through which modernity can be resisted or reworked" (Lee and Ingold, 2006, p. 69). Walking and walking simulators are then forms of protest, ways of reclaiming individual power and agency; taking back control of one's movement, and a reengagement with time and space at a personal level. Meaning is not something pushed at the player but actively constructed and negotiated.

Dear Esther is a dystopian world, an island refuge where the character relives painful memories in an infinite loop, stuck in a place that used to be happy and alive but is now only inhabited by memories and ghosts. Its narrative form suits dystopia well, as Jameson notes "dystopia is generally a narrative, which happens to a specific subject or character, whereas the Utopia text is mostly non-narrative and, I would like to say, somehow without a subject-position" (Jameson, quoted in Galloway, 2006). Dystopian fiction thus plays out at the personal level. The character's aspiration for salvation or redemption comes into conflict with a cold and unflinching environment. *Dear Esther* can be read as a utopian attempt at salvation through a walk of absolution. The physical journey mirrors the character's internal journey from solitary guilt, isolation, and

a decomposition of the physical body mirrored in the decaying and decrepit man-made structures on the island, to a descent into the subconscious where the character literally faces the traumatic event (the car crash site appears in the underwater hallucination) which is mirrored by the descent into the visually surreal caves, and finally with the ascent and flight that grants the character freedom and escape from the island. Or does it? A voice says: “Come Back”, and the game starts again. An island-as-purgatory interpretation is reinforced by the game’s systemic nature, the unbreakable narrative loop could not be more perfectly suited to a game’s intrinsic aim of replayability. This interpretation is supported throughout by some of the game’s mechanics. For example, when you try to swim away from the island, you start drowning and then the voice says: “Come back” and you start again on the shore. The impossibility to interact with the objects or manipulate them reinforces the same interpretation. You cannot change the island in any way because perhaps the island is not real, the character is not real or both. Furthermore, it is our virtual body which walks its paths whilst our physical body guides it from a keyboard and watches it on a screen. We are one of the island’s ghosts. Casting the player as a ghost is another design strategy that I adopted/adapted and that I will cover in detail in the subchapter dedicated to the implementation of *Inchcolm Project*. Gameplay thus works to reinforce a potential narrative reading, which is what game scholars call expressive mechanics (see for example Bogost, 2007; Juul, 2007; Romero, 2008). The Chinese Room designed a narrative structure which contextualises the gameplay while at the same time being reinforced by it thus avoiding what Clint Hocking called ludonarrative dissonance, a disconnect between the narrative world and the game’s worlds which shatters the player’s involvement (2007).

The island functions as real space onto which the character’s fears are projected. The player takes this walk of absolution alongside him and perhaps ponders on her own guilt, pain or loss. *Dear Esther* can be read as a dystopia because it makes us face the improbability of salvation but is also a heterotopia because it allows us to enact it.

Deconstruction of the initial text and analysing its design

To adapt the game, I first wanted to really understand how it efficiently and successfully delivers a meaningful aesthetic experience. I argue that *Dear Esther* manages to do so through a combination of environment, narrative, sound and interaction. To create a dream-like experience, the writer and designer worked closely with the artist and the sound designer. The island's eerie desolation alongside the ethereal music and text create an otherworldly mood which is reinforced by the inability to interact with any of the island's objects and environments. This subchapter is dedicated to trying to understand how these design strategies were implemented to support a meaningful aesthetic play experience and a memorable game world.

The environment

In 2012, Robert Briscoe gave a talk at the Game Developers Conference (GDC) in which he described his working process creating the environment and visual style of *Dear Esther*. When he joined The Chinese Room to work as an artist on the stand-alone remake of *Dear Esther*, some aspects of the game (the 2008 mod) frustrated him. He found that there was a disconnect between the poetic, melancholic and ambiguous narrative, and the visual style. He argued that an environment is more than just a backdrop, a passive element in a game, but that it can be harnessed to add atmosphere and generate emotion (2012a). When he started work on *Dear Esther* he set himself two goals: to “reconnect the story to the visuals”, and to “use the environment as an immersion tank” (idem). Although he initially tried to adopt realistic style because he believed that immersion is best achieved through realism, he discovered that the engine limitations made the environment look “flat and unconvincing” (idem). This made him go back to the drawing board and start questioning what the qualities of an immersive environment are. He started looking at impressionism and realized that an environment does not necessarily need to be photo-realistic to be immersive and, furthermore, that impressionistic style of painting by mixing “real and surreal, detail and perceived detail mirrored *Dear Esther*'s strange and ambiguous story” (2012a). He wanted to *adapt* those paintings and bring the immersive quality of these impressionistic images to his work. I have

summarized here in detail because there are parallels to be drawn between Briscoe's process of adapting aesthetic qualities of painting to a game engine, and my process of adapting his work to a live environment. I will flag them up here to then further elaborate on them in the chapter dedicated to my own process:

- medium-specific constraints can be used creatively,
- a certain quality of an environment can be recreated/re-mediated,
- create environments that are evocative and resonate with the narrative, and that bind the story to the world,
- blending real and surreal imagery suits the particular nature of the text,
- an environment is not a passive backdrop but can instead be designed in such a way as to actively contribute to the emotional and aesthetic experience of the player,
- create an emotional landscape, not just a physical one (Briscoe, 2012a).

The last point distinctly echoes Pearson's statement that in site-specific performance the environment can become "an active component in the creation of performative meaning, rather than a neutral space of exposition" (Pearson, 2010, p. 36).

Briscoe goes on to elaborate four strategies for creating this type of emotional landscape: developing a dramatic visual style, using details to 'sew' the narrative to the world, using subliminal signposting, and breathing life into the world (2012a). In adapting *Dear Esther*, I engaged with the first three. The last was not applicable for obvious reasons: Inchcolm island is already very much alive.

The environment in *Dear Esther* is eerie and haunting. The island's dramatic cliffs cut abrupt lines into the skyline, the clouds occasionally shift and allow light to filter through, the vegetation adds a splash of colour but only just, the sea mist and fog wash out light and colour like a drowned watercolour. All of these create what Briscoe calls the mood and atmosphere of the island, and the island's distinct 'voice', its personality. Using soft light and a limited colour palette he manages to create an island that is mysterious and intriguing, that teases, excites and invites the player to explore it. Nothing in the environment is

sharp, no sharp contrast or edges, the light diffuses and smudges and blurs. Briscoe found that by breaking out of the photorealistic tradition he became free to play with the island's mood, creating a sort of beauty that stems from its eeriness; the island became a more interesting place to explore (2012a). The bright colours on the island are all the marks of human life, the physical traces that the protagonist leaves on the environment: chemical diagrams, Biblical citations written on the mountains, lit candles. But also imagined traces: the surreal fluorescence of the caves which stands in stark contrast to the fading colours of the island reinforcing the interpretation that the protagonist's psyche has bled over the environment. The use of colour in *Dear Esther* gains symbolic and narrative significance, a visual manifestation of the memory of the traumatic event that brought the protagonist on the island.

One of Briscoe's main goals was to create an island which supports and complements the narrative. To this end he developed complex environmental scenes to support important narrative nodes, but also smaller environmental details which provide contextual information about the characters, the island, or the storyline, what he calls "building a past and not just a present" (2012a). The lighthouse, the shipwreck, the caves, the bothy are scenes, complex spaces which are structured as assemblages of smaller environmental stories/elements, an equivalent of the theatrical and filmic mise-en-scene. I would argue that in *Dear Esther* the framing of the scene is also very important. By this I mean that Briscoe offers vistas from the fringes of the level looking in to incorporate perspective: every one of these scenes is introduced as a vista from the distance where the details cannot be made out with any clarity, but which invites the player to approach and explore to discover them. This is a play with perspective - alternating vistas and details - that I have also used in *Inchcolm Project*. Briscoe refers to "setting the stage" for emphasizing how he used the terrain and the environment in a way that makes it memorable because it is unique to an aspect of the story. He argues that this not only expands the story but also expands the game experience by encouraging the player to explore (2012a). Therefore, it is a combination of perspective, framing and creating a unique environment which encourages exploration.

The props are what Briscoe calls the small environmental details, which in *Dear Esther* are randomly selected, slightly different elements are spawned in each replay. He suggests that they should be poignant, dramatic and consistent with the story. They belong to the protagonist's past and are used to connect the protagonist to the island, he becomes a part of the island, overgrowing it: the "protagonist becomes a part of the environment, part of the history and story of the island.". Some of these can be rationally justified: the protagonist might have brought some along (books, documents, photographs, newspapers or medical files), but some are slightly out of place, adding to the surreal and eerie mood of the island (car parts, emergency room paraphernalia, or road signs). These are visual hints that start shattering the illusion of the island's 'reality' and of the protagonist's sanity.

Briscoe coins the term "subliminal signposting" to refer to how the environment can be used to "unconsciously guide the player through some of the more figurative aspects of the story not directly conveyed through the narrative" (2012a). Subliminal signposts, he argues, can be literal or symbolic. The literal way refers to how the environment is effectively a visual representation of the narrative, for example the voice-over refers to the bothy as the player sees a bothy atop a hill. This is different to how signposting has traditionally been used in games, to convey gameplay information to the player: either to help with navigation (visual landmarks), or to prepare for a battle/challenge (telegraphing, Smith and Worch, 2010), or to hint at solutions (puzzle keys) so on. Subliminal signposting contributes to building an emotional connection to the story and the character because it visually represents states, feelings, memories and thoughts, it fulfils a dramaturgical rather than a ludological function. Briscoe used symbolical subliminal signposting largely in Chapter 3: The Caves.

To get to the caves level the player has to take a leap of faith and jump into a dark crater. Leading to the jump the protagonist describes the pain of his infected leg, how he self-medicates with various types of painkillers, and how he has come to terms with the end. The music becomes distorted, screechy and broken, which is in stark contrast to the coherent melodic fluidity it had up until this point. After the jump we open our eyes to an environment which does not resemble any of the previous levels. Briscoe states that he intended the caves'

visual style to communicate a “subtle break from the physical reality of previous levels and make it more a symbolic journey of his own body and mind, his inner psyche” (2012a).

The colours are vibrant blues, greens and oranges. The music becomes harmonious and dreamlike as the song *Always* by Jessica Curry starts. A corridor opens into a circular room, with impressive stalactites and stalagmites surrounded by an underground river. The blue of the water draws a heart shape around the stalagmite island in the middle. The walls are covered in fine networks of fluorescent green paint. We have reached the heart of the island, but perhaps also the figurative heart of the protagonist (Figure 16).

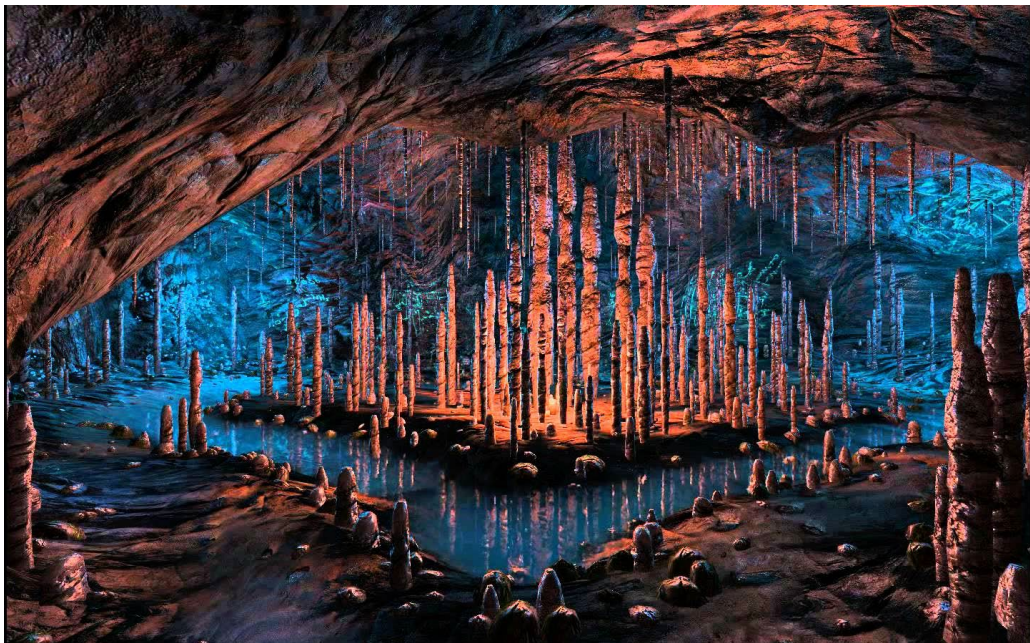


Figure 16 The heart of the island, *Dear Esther*, The Chinese Room, 2012

It is with this image that we started the *Dear Esther* projection into the Abbey in *Inchcolm Project* (Figure 17).

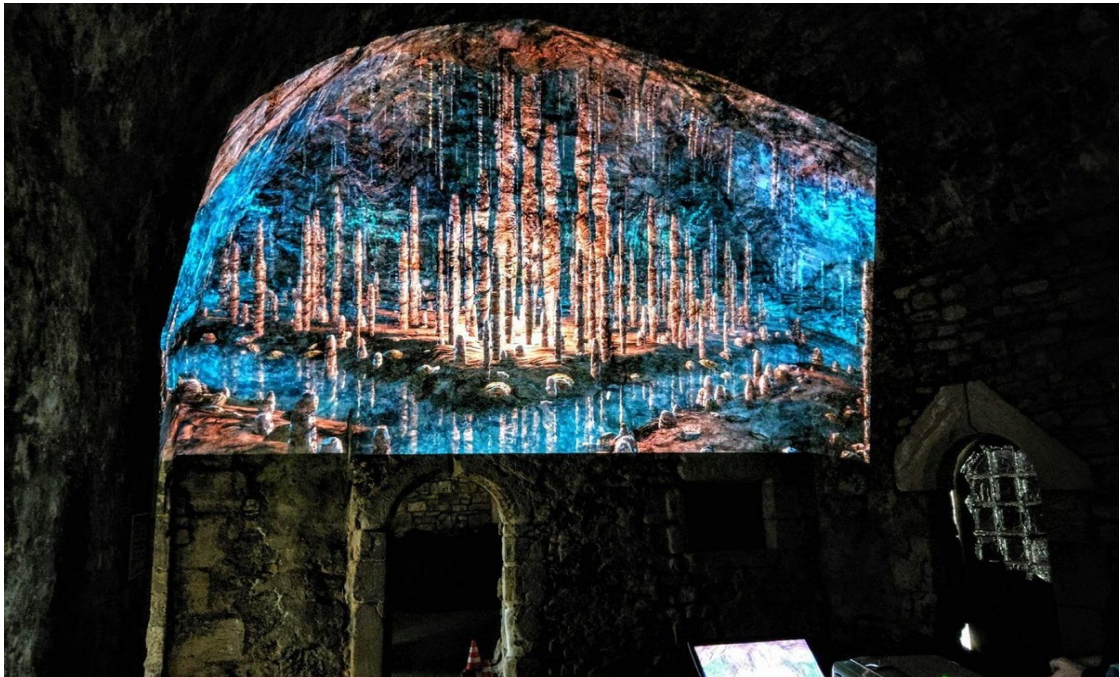


Figure 17 *Dear Esther* projection on Inchcolm.

For Briscoe the tunnels covered in interrupted and disconnected diagrams represent the protagonist's inner struggle and inability to understand the sequence of events that brought him here (2012a). The tunnels are an example of symbolic subliminal signposting because they communicate a state that is not literally referenced in the text, the environment offers the player hints that can help her process of interpretation (Figure 18).



Figure 18 Symbolic subliminal signposting, the tunnel of memory, the neuronal connections are broken. *Dear Esther*, *The Chinese Room*, 2012

It is in the caves that the protagonist must face the memory of the event that he has been repressing. This is represented as an underwater car crash scene (Figure 19).



Figure 19 The repressed event. *Dear Esther*, *The Chinese Room*, 2012

Briscoe has made the scene surreal placing it underwater and has given it the patina of time suggesting that the event has been repressed for a long time. It is only journeying deep inside his subconscious, that the protagonist can finally face it, and find peace. After the car wreck scene, the player starts to exit the caves, back to the surface of the island.

The exit resembles an eye, through which Briscoe communicates that the veil has been lifted, and the protagonist finally 'sees' the truth (Figure 20). It is a literal progression towards the light at the end of the tunnel, a rebirth. This is both literal and symbolic signposting, linking the two exits, from the caves and from the psyche (Briscoe, 2012a).



Figure 20 The exit from the caves resembles an eye (Briscoe, 2012a). *Dear Esther*, The Chinese Room, 2012

At a micro level, details are used throughout the caves to support the macro symbolic scenes. Various additional symbolically-charged props signpost narrative information. For example, it is suggested that Esther was pregnant at the time of the accident through the presence of ultrasound images, eggshells

and empty nests (Figure 21), information which is never literally communicated in the VO narrative.

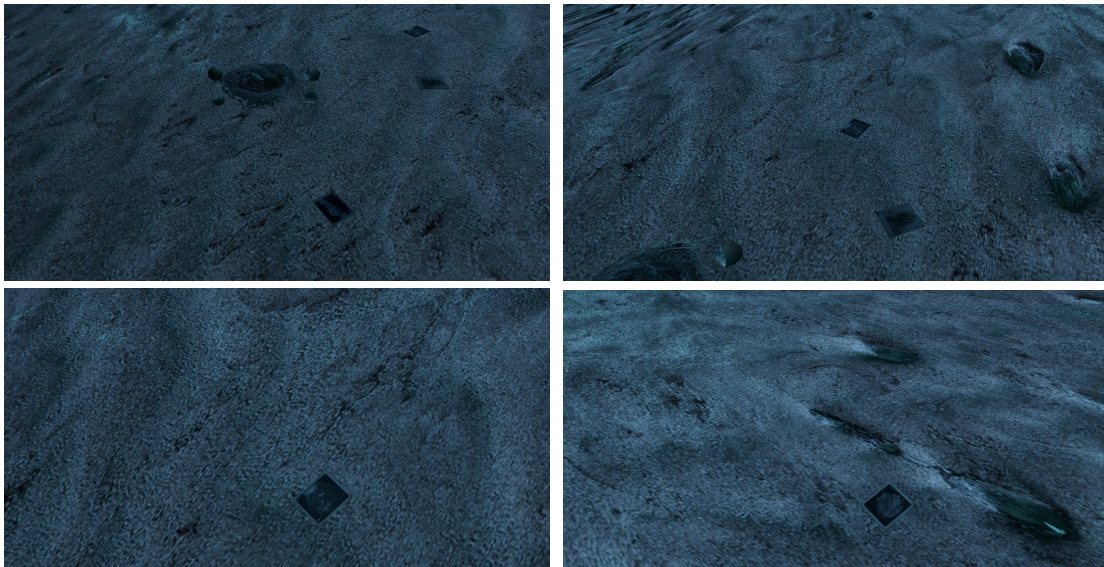


Figure 21 Subliminal signposting through details. *Dear Esther*, The Chinese Room, 2012

In adapting *Dear Esther's* environment to Inchcolm island I engaged with Robert Briscoe's design strategies used to shape the environment as an emotional and narrative landscape. His use of macro and micro details, the subliminal signposting and the use of dramatic elements to frame and set an emotional and narrative scene, were adapted in *Inchcolm Project* for a living body moving through a living and breathing island. His artistic creed that "All of the details, large and small, are the glue that binds the story to the environment" has also been mine. In *Inchcolm Project* the theme grew out of Inchcolm island's founding legend, the visual symbols of refuge constantly bringing the story to Inchcolm. At the same time, the moments of adapted environmental details similarly linked *Dear Esther* to Inchcolm: the paper boats, the candles, the feathers, eggs and bird nests.

The narrative

In 2012, at GDC Europe, Dan Pinchbeck gave a talk entitled *Ambiguity and Abstraction in Game Writing: Lessons from Dear Esther*. During the talk he emphasized the importance of ambiguity in game writing, as well as reflecting

on the process of writing *Dear Esther*, and how this type of writing shaped the overall player experience. Pinchbeck argues that the greatest tool for any game designer and game writer is the player's imagination, and in order to capitalize on it they should design experiences which encourage and stimulate it. Designers, he argues, should let go of authorial control and embrace ambiguity, become facilitators rather than 'tellers'. He compares game writing to a sandbox where the players can find narrative "Lego bricks" that they can assemble in whichever way they choose. The game writer has the responsibility to "provide the player with a toolbox, with the tools, the bricks that they need to tell a story themselves" (2012) The game writer thus becomes an experience facilitator, a creator of narrative playgrounds "we have to give them the tools, the units that they need to be able to assemble an experience which is going to be rewarding for them [...] our job is to make sure that the toybox is fun and has all the bits in it that the players want" (2012).

The game designer's role is to create an interesting story space in which the player can play, creating a mood and a set of story elements which support interesting story play. The text is literally fragmented into story blocks which are dispersed through the environment and randomized, there are multiple story options and combinations, in the case of *Dear Esther* the system chooses one version out of four possible files. The player's character is equally vague thus encouraging player's interpretation. The text only conveys information that cannot be visually or sonically communicated complementing the environment and sound design. And finally, the text generates a story mood by continuously reinforcing recurring themes through repetition of narrative leitmotifs. These narrative design strategies have been adapted in the design of *Inchcolm Project*.

In what follows I will consider some of the design strategies that The Chinese Room developed to support an open and ambiguous narrative.

As previously stated, in *Dear Esther* each VO unit is one of four possible versions which are randomly selected and played. In combination with the randomly selected environmental details (described in the previous subchapter) they support an immense number of possible interpretations. In his notes to

translators, Pinchbeck states that there are two major interpretations of *Dear Esther*, one literal and one figurative²³. These are the two meta-interpretations that the author actively supported through the script, although Pinchbeck has repeatedly stated that there are near infinite possible interpretations, none of which takes precedence over the others (2012a, 2012b, 2017). There is no 'solution' or right answer, *Dear Esther* is not a "mystery or a puzzle" but rather a "story Minecraft" (2012b).

Pinchbeck adopts Barthes' dichotomy between functions (actions) and indices (semantic units) (1975) to explain *Dear Esther's* ambiguity. By increasing the number of indices and decreasing the number of functions he created a text which is open for numerous interpretations, where the importance of a unique and well-structured plot is secondary to designing multiple 'fuzzy' story units which in turn encourage varied interpretations. Even though the text presents only a very small number of factual and concrete actions it continues to generate distinct and sometimes conflicting interpretations evidenced by the numerous forums and Wikis dedicated to the game. Therefore, community formation around a game can be encouraged by the ambiguity of the text: it forces players to pool their knowledge and meaning-make together by forming what Jenkins has called "collective intelligence" (2006a). The importance of the community of players and their interpretation is acknowledged and legitimized

²³ "There are really two major interpretations of *Dear Esther*. The first is quite literal: following the death of his wife in a car crash, the narrator has a nervous breakdown and strands himself on a deserted Hebridean island. The isolation, starvation and an infection following a serious injury cause his mind to deteriorate further, and he begins to hallucinate, projecting symbols, figures and meanings onto the environment. Driven mad with pain and grief, he begins to believe that the only route to redemption is to commit suicide, by climbing and throwing himself off the radio mast at the summit of the island, transmitting the story of Esther's death to the world.

The second opens in a similar way, but around the beginning of the second level, the seed is sown that the island may not actually be a real space. The narrator starts to openly voice his eroded confidence in the reality of the world, and unnatural symbols and events become apparent in the landscape. As we descend into the caves, it becomes clearer that this is not a real space at all, and the island actually appears to be some form of coma-dream, a visualisation of the destroyed interior landscape of the narrator's mind. In this case, everything begins to take on an altered significance: the act of throwing himself from a radio tower – does it mean redemption or waking from the coma, or an act of healing, of closure?". Pinchbeck, 2013. <http://www.thechineseroom.co.uk/blog/blog/some-old-dear-esther-archive-stuff>

by Pinchbeck who in the *Dear Esther* 2012 text incorporated an idea put forward by a player of the 2008 mod (Pinchbeck, 2012).

By increasing the number of indices and de-emphasizing the importance of functions Pinchbeck created an open text which actively resists interpretation, all lateral (indices) and vertical (functions) story units have equal meaning potential. Furthermore, the text becomes gradually more ambiguous as the narrator becomes less reliable, his memory increasingly fickle.

The style of writing is poetic, abounding in metaphors and symbols, where grammar and sentence structure are used expressively rather than logically. The form of writing is epistolary, as many of the VO parts read like letters. The text is intended to be dreamlike, a poetic meditation, a prayer or a conjuring spell (Pinchbeck, 2013) which invokes shapes, feelings and emotions rather than solely communicate information. Language is used aesthetically rather than rationally, symbolically rather than expositively. This stems from Pinchbeck's belief that narrative in games can have as much creative freedom to explore different forms as game music or game art which it complements. The text should convey what cannot be represented through environmental art and sound (2012a, 2012b).

The text of *Dear Esther* conjures images which can be thematically grouped to communicate states or feelings and suggest certain interpretative pathways. I would argue that these images could be grouped in eight categories: geographical/geological and meteorological, physiological and medical, botanical and zoological, religious/moral, architectural, maritime, mechanical/relating to automobiles, communicational (see Table 4). Pinchbeck moves between them to create cross-category associations which act as metaphors. These are repeated obsessively, the leitmotifs of the text which gradually build the overarching themes and symbols of the game: guilt, forgiveness and redemption, salvation, flight, broken communication, fever dream/nightmare/hallucinations, island as purgatory, island as an extension/projection of the protagonist's body and mind, obsessive repetition in a desperate search for meaning, trauma and the fragility of the human mind. This obsessive repetition of words is mirrored by the repetition of musical

motifs, environmental details, unlocked through the rhythmic and repetitive ritual of walking.

Categories of images in <i>Dear Esther</i> and their textual referents	
Geographical/geological/meteorological	island, outer isles, Wolverhampton, Sandford, M5, Welcome Break services, Bristol, Exeter, Oban, Cromer, wind, sea, sand, waves, ocean, caves, water, stone, cliffs, rocks, moon, beach, shoreline, bay, geography, geology, tides, thwart
Physiological and medical	the mouth, the belly, the eye, kidney-stone, birthmark, lips, wrist, arm, ankles, chest, shoulders, death/dying, illness, pestilence, infection, flesh, syphilis, painkillers, bones, guts, operation, bypass, veins, bruises, sick/sickness, hips, ribcage, teeth, heart, fingernails, forehead, nervous system, cuts, life, birth, skin, femur, pain, tears, lucid
Botanical and zoological	grasses, seagulls, feathers, gulls, goats, flowers, eggs, nests, bacteria, sheep
Religious/moral	the hermit, transcendence, shepherds, Damascus, water, sacrifice, rescue, Godfearing, godforsaken, scripture, charnel house, redemption, pilgrimage, Bible, responsibility, redemption, retribution, candles, headstone, torch, Mercy seat, Paul, ascent, rebirth, Lot, Lot's wife, dream, descent
Architectural	bothy, tunnels, cave, tarmac, road, junction, motorway, museum, goat shed, hospital, chimney, crematorium
Mechanical/relating to automobiles	hatchback, jump leads, ashtray, combustion engine, windscreen, rear-view mirror, glove compartment, brake fluid, dented bonnet, seatbelts, crash, wreck/wreckage, headlights, swerve, moment of impact, tarmac, boot, tires, wheel, skid marks

Maritime	salt, seagulls, boat, ship, boat without a bottom, sea, shipwreck, sea creatures, deep, surface, shore, vapour trails, shoreline, cargo, wash out, ocean, tides, buoy, lighthouse, island, adrift, float, armada
Communication	radio, radio mast, beacon, aerial, transmission, transmitter, message, letter

Table 4 The leitmotifs in *Dear Esther*

The world of *Dear Esther* is built around the intertwining of destinies and stories of various characters, Esther, the narrator, and Paul as well as two former inhabitants of the island: a hermit and shepherd called Jakobson, and finally a chronicler by the name of Donnelly. The narrator introduces all the other characters, the player only knows what the narrator tells her about them. I would argue that the player's identity is as ambiguous as the rest of the characters. Who am I in the game, and why am I on the island? If I am the narrator and I am remembering alongside him, then who is he and what am I to him? I can sense his presence because I constantly hear his voice. From his voice and manner of speaking I can infer that he is an English middle-aged man, well educated, well-read and well-spoken. I can also make assumptions about his state of mind: despite his well-articulated speech I can sense that something is slightly wrong, he is remorseful, frantic and sometimes incoherent, he has been through a traumatic event which he cannot yet face directly – elements of the car crash appear in his VO and the environment. He resorts to figurative and religious speech and as the game progresses he starts using increasingly more religious references, associations and imagery. Is he (re-) discovering his faith as he nears his demise? Ambiguity is not just present in the writing but also in character creation. There is no way of knowing whether the other characters are real or a result of the narrator's fevered imagination. Pinchbeck states that the narrator is intended to be vague: "He has no personality, no reality. Or he has several. Don't try and capture a sense of

person – it's important that this is evasive" (2013). The narrator is only present as a disembodied voice, while the other characters are voiceless silhouettes, ghosts that haunt the island, always slightly out of reach. They cannot speak for themselves, but we can get a sense of their personality through music.

Dear Esther's narrative power is achieved through a combination of all these strategies: the authored plot does not take precedence over the player's plot (increasing player agency to the detriment of authorial control), the story remains ambiguous and vague through use of symbolic and expressive language, and by diminishing the number of 'hard facts' in favour of lateral information. This activates the designer's most powerful 'tool': the player's imagination.

The sound

There are very few accounts of *Dear Esther*, if any, which do not mention its achievement in terms of music. Jessica Curry's score supports the emotional states of the game's protagonist, and the mood and tone of the island. Musical composition was integrated in the development process from the very beginning; *Dear Esther's* score is "an integral part of the experience" (Curry, 2013). This is because the working process was democratic: all art forms were equal, and iterative, the artists constantly responding to one another's work (see Briscoe, 2012a; 2012b; Pinchbeck, 2012a; Pinchbeck, 2012b; Curry, 2013; Pinchbeck, Curry and Briscoe, 2017). Curry responded directly to the text and to the environments, composing throughout the development process. In turn, Pinchbeck was listening to the music and responding to it through the text (Curry, 2013).

In her 2013 GDC talk entitled *The Music of Dear Esther: Creating Powerful Scores with Limited Resources* Jessica Curry states: "I wanted the music to be its own character, to evoke a presence that you can't see, you can't touch but that absolutely affects your experience in a very deep way while you play the game". Just like the island, the music frames the experience and establishes

the mood of the game from the very beginning. The game starts with the image of the derelict lighthouse and the track *The Very Air*, an instrumental piece for strings and piano²⁴. Together they set the tone and let the player know that this island is beautiful but melancholic, abandoned and sad. From that moment on the music accompanies the text and environment, like an emotional filter to the game, imbuing it with a “sense of loneliness and longing” (Curry, 2013). Curry opted for a “sparse and spare” style of playing which she characterises as Scottish (ibid.) for most of the tracks which play on the island (except the underground caves) to communicate the desolation of the island, its hostile and unwelcoming nature, its harshness to human life. For Curry, the music is the voice of the island and of the absent characters (Pinchbeck et al., 2017), it stands in for the non-present and voiceless entities, sometimes complementing and sometimes subverting the narrator’s voice.

As we start the ascent towards the centre of the island, always toward the blinking red light of the aerial, the theme of the climb or the ascent is rhythmically supported by the music. In *I have begun my ascent* the piano pierces through the strings and the solo cello to impose a mesmerizing and hypnotic rhythm of movement. I am reminded of Solnit’s observation that walking is a metronome of experience: “A rhythm of walking generates a kind of rhythm of thinking, and the passage through a landscape echoes or stimulates the passage through a series of thoughts” (Solnit, 2002, p. xvi). Curry wanted this piece to capture the essence of the long journey that the protagonist makes on foot

so it is rhythmically very repetitive and I was aiming to get that sense of walking great distances and I wanted to reflect the beauty of the island, the character’s awareness of the desolation of the space, but also of its grandeur in scale. So it’s epic on a small scale (2013).

²⁴https://www.youtube.com/watch?v=dHlkPTuV5ig&t=0s&index=17&list=OLAK5uy_mrKovljTJyg7WlaXk2Mr2GZutBRAnbb9o

The tone of the piece is sombre to support the religious themes that run through the narrative, conjuring images of Lot's flight to the hills or Jesus's climb on Golgotha, pilgrimages and walks of penitence.

The track *A/ways*, which plays in The Caves level, reflects the "otherworldly dreamlike feel" (2013) of the environment but it was also intended to introduce Esther's voice. The female voice and style of singing evokes Gregorian chant which is situated "midway between the spoken word of prayer and pure mystical contemplation" (Scheider, 1982, p. 3). Dramaturgically, the level symbolizes a journey to the subconscious which is represented through a surreal visual style, an abrupt departure from the realism/impressionism of the previous levels. Jessica Curry does the same with the sound. *A/ways* is thematically distinct from all the other tracks in the game, not just in terms of the instrumental sounds that she used (they have not been used previously in the game) and the style of the composition (a departure from the stark and sparse style) but it is the only piece which features Clara Sanabras' voice. It is no coincidence that a woman's singing voice underscores the level, as Curry envisioned the caves to be the island's womb, a layering of life-supporting water and feminine warmth (in Pinchbeck et al., 2017). During the underwater car-crash scene the music gives way to a subtle layering of sounds: a beating heart during an ultrasound, heavy breathing, water dripping, and oxygen bubbles bursting. As we emerge on the surface of the water, the music starts again, the word 'always' is replaced by the word 'never' in the new chorus. Curry referred to the soundtrack to the caves as a "ghost memory of music" which leaves traces in the player's mind (2013) thus perhaps mirroring Esther's haunting of the protagonist's subconscious or the traces that he has carved into the mountain's underbelly.

There is an abrupt tonal change as we exit the almost whispered soundscape of the caves to the harsh sound of the raging sea, the howling wind and the unforgiving echo of our footsteps. The full moon is out, its sharp light blurred by the fog, rendering the island in cold hues of blue. The little coherence and logic in the narrative has completely broken down: "Donnelly drove a grey hatchback without a bottom, all the creatures of the tarmac rose to sing to him" (*Dear Esther*, 2012). The panicked, frantic search for meaning is underscored by the obsessive repetition of notes in *This godforsaken aerial* which accompanies our

steps as we exit from the caves. The music is one last desperate attempt at communication, to make contact, to reach out for help, as an SOS message is heard in Morse code spelling ESTHER again and again²⁵.

Repetition plays a role equally important in the soundtrack as in the narrative. The theme *Remember* is repeated with slight alterations throughout the game to communicate the characters' emotional states (Curry, 2013). Curry reworked an earlier choral piece that she had written to underscore Christina Rossetti's poem *Remember*²⁶. This became a central theme in *Dear Esther* where it recurs in four instances as four variations: *Remember (Esther)*²⁷, *Remember (Paul)*²⁸, *Remember (Donnelly)*²⁹, and *Remember (Jakobson)*³⁰. Esther's is a "lush string version" characterised by a more 'classical' vibrato technique, Donnelly's is performed in what Curry calls a "Scottish sparse style" (2013), a style of playing which is plainer and without vibrato, Paul's is a "manipulated and very twisted version of the choral version", and for Jakobson's version she combined the initial choral version with Esther's lush string version because the characters are thematically linked in the game (ibid.). Using a musical theme like this not only communicates the feelings/emotional states of the characters but also gives the players a sense of who the characters are, the relationships between them, and the spaces they inhabit or roam on the island. Although physically absent their voices are present still, lingering and haunting the island and the protagonist.

Remember (Paul) accompanies the final ascent on the side of the mountain and up the narrow path. Candles light the way, the text written on the mountain in

²⁵https://www.youtube.com/watch?v=7enYQVUi2J4&index=12&list=OLAK5uy_mrKovIjTJyg7WlaXk2Mr2GZutBRAnbb9o

²⁶ <https://www.poetryfoundation.org/poems/45000/remember-56d224509b7ae>

²⁷https://www.youtube.com/watch?v=Sok3VDgltxM&index=14&list=OLAK5uy_mrKovIjTJyg7WlaXk2Mr2GZutBRAnbb9o

²⁸https://www.youtube.com/watch?v=FWP7DuhwMfl&index=6&list=OLAK5uy_mrKovIjTJyg7WlaXk2Mr2GZutBRAnbb9o

²⁹https://www.youtube.com/watch?v=Tc8eZIMisqU&list=OLAK5uy_mrKovIjTJyg7WlaXk2Mr2GZutBRAnbb9o&index=3

³⁰https://www.youtube.com/watch?v=Cluj2pdcfe0&list=OLAK5uy_mrKovIjTJyg7WlaXk2Mr2GZutBRAnbb9o&index=11

fluorescent paint alludes to one last final climb towards Damascus, indicating that the protagonist's coherence and sanity are completely gone. This is doubled by the high-pitched, broken and metallic sounds of the music. Our final ascent becomes a struggle for meaning, as we are assaulted visually and aurally by images and sounds that have lost all logic and harmony. As we reach the aerial we lose control, literally letting go: the game pushes us up the metal staircase. The text regains harmony, the narrator peace. *Ascension* starts, the piano creating a rhythmic texture of two alternating repeated chords overlaid with string and vocal fragments. The piano swells with the climb, its crescendo matching the growing excitement in the narrator's voice. We jump from the top of the radio tower, the volume of the music increases as we approach the moment of impact, but just as we are about to reach the ground we take flight. The music grows and takes over the island, just as we fly around it. It is an emotional discharge, and it suggests that the characters have found peace: "the music is really hopeful at this point and it's really... it signifies, to me: transformation, freedom, escape, acceptance" (Curry in Pinchbeck et al., 2017).

I argue that the music in *Dear Esther* fulfils five experiential functions: it establishes mood, generates emotion, defines the characters, suggests a rhythm of movement and is an element of gameplay, a puzzle. I engaged with all these aspects when designing the sound for *Inchcolm Project*. The two tracks that we have used in *Inchcolm Project*, *Always* and *Ascension*, are repeated obsessively in various forms, as instrumental solos which act as musical puzzle pieces, or subtle background music to the VO, or live musical performance, echoes of one island onto another.

The soundscape, defined by Murray Schafer as "the sonic environment" (1994, p. 274), contains the non-diegetic music, accompanied by the diegetic sounds that the island 'makes'. In Murray Schafer's terminology these are 'keynote sounds', sounds which are created by a landscape's geography and although they are ubiquitous they do not demand conscious attention. Their ubiquity, Murray Schafer concludes, "suggests the possibility of a deep and pervasive influence on our behaviour and moods" (1994, p. 9). The diegetic soundscape is composed of the constant lapping of the waves on the shore, the wind whipping the exposed paths and whirling into dilapidated buildings or squeezing in

through broken windows. The soundscape breathes life into the island, making it plausible as an island space while at the same time summoning soundscapes of islands and seascapes from the player's previous experience. These constant sounds are occasionally punctuated by the gulls' calls or a ship horn heard in the distance. Layered over are the site-specific sounds: broken glass, rocks sliding, water splashing or dripping, metal hinges dangling in the wind.

The sound of water is ubiquitous on the island, the waves which surround it, the rivers that zigzag over its surface, and the underground streams which furiously erupt at its seams. Murray Schafer argues that the sound of water is the first sound we heard as we emerged from water as a species, and in the womb as individuals: "The ocean of our ancestors is reproduced in the watery womb of our mother and is chemically related to it" (1994, p. 15). It is no coincidence then that the caves soundscape is flooded by water, the rocks and tunnels amplifying its myriad different sounds: dripping, running, falling, splashing. The caves are a perfect example of how diegetic sound and non-diegetic music do not just create a mood but also create a symbolic soundscape, they recreate the sonic world of the womb. Sound fulfils a dramaturgical function because it supports the meaning-making process.

The one constant in the soundscape remains the rhythmic sound of the player's footsteps, although there are variations here too, as they are amplified and echoed in caves, muffled in grass, broken on rocks and gravel. Sound is not just passively consumed but also actively created by the player, a soundscape is a sonic world that we both inhabit and create: "We are in sound and simultaneously sound ourselves: we are in the acoustic environment through our listening to it that which we hear. In this way we complete each other as reciprocal hearer and heard. The acoustic environment is the world in sound and makes a sonic world" (Voegelin, 2014, p. 9). We *are* in the sonic world of *Dear Esther* because we hear it and we hear ourselves in it. The sound of our footsteps anchors us in the world, makes it feel 'real' and immediate.

Sound alters and articulates our experience of space, bringing into focus alternative ways of being in and engaging with landscape (Voegelin, 2014; Smalley, 2007).

The voice plays a critical part in the *Dear Esther* experience through the VO narration performed Nigel Carrington. What I want to address here is not the text, rather the physical qualities of the voice itself and more importantly its impact on the overall game experience. I do so because the sound of the voice is omnipresent in the game and central to the experience of *Dear Esther* but also because I do not want to fall prey to the thoughtlessness that Michel Chion warned against: “By what incomprehensible thoughtlessness can we, in considering what after all is called the talking picture, “forget” the voice?”(1999, p.1). The voice is a subtle mediator, it adds emotion to the text by means of pitch and tone, volume and depth, speed and rhythm. We understand what the narrator is feeling not just by decoding his words but also his tone of voice, not just by what he says but also by how he says it. When all sentence structure and logic is gone from his monologue his voice grows in volume and the rhythm accelerates, communicating panic and anger. When he talks about Esther his voice often breaks descending into a whimpering whisper, when he talks about Paul he is shouting. It is interesting that whenever I would try to visualise the narrator, I would imagine a ‘real’ man, a physical rather than a virtual body, which of course would not belong in a digital environment. This seems to suggest that the voice takes precedence over the visual in the process of meaning-making, that “the presence of a human voice structures the sonic space that contains it [...] instantly sets up a hierarchy of perception.” (Chion, 1999, p. 5). In other words, the human voice becomes the focus of attention.

Following Chion’s terminology, the narrator is an acousmatic presence, a disembodied voice always out of sight, of the space but not in it, “outside the image but always in the image” (ibid., p. 23). The island is his world, he gains demiurgical powers because he voices things into being, the acousmatic voice talks about things that then materialise on the island: the buoy, the bothy, the caves so on. The acousmatic voice has “the ability to be everywhere, to see all, to know all, and to have complete power” (ibid., p. 24). There is an interesting conflict in *Dear Esther*, the narrator knows all but himself, he knows every inch of the island but he still needs to face that which he has hidden deep beneath it. The drive of the game is to uncover that which the narrator has hidden even from himself.

Another aspect that I want to discuss in relation to the voice is its intimate nature, particularly when the game is played with headphones, as it was in my case. The voice adopts a confessional tone and addresses his listener with the second person pronoun “you”. I am never sure if his words are intended for me or whether I am eavesdropping. The VO are my steady walking companion throughout the game. Because the voice responds to my movement I assume that it is my presence which prompts it, but I am uncertain whether it speaks to me. Talking about forms of site-responsive performance which incorporate “mediated and whispering voices in the ear or by the ‘live’ voice of the performer”, Myers notes that they “engage participants in particular modes of attentiveness that generate and present knowledge of places through conversational and convivial activity, such that participants become its co-author or co-creator.” (Myers, 2010, p. 59). This links back to my previous observation about sound’s understated contribution to interaction. The player becomes a co-creator in a manner similar to that described by Myers above. The direct and intimate address facilitated by the headphones and achieved by capturing the voice with a close microphone, transforms the experience into an “art of conversive wayfinding” (Myers, 2010), where place and meaning are always negotiated between the voice and the player. This conversation requires that the player filters the information communicated by the voice through her “perceptual, imaginative and bodily sensitivities and skills” (ibid., p. 59).

During *Inchcolm Project* all these aspects relating to music, sound and the voice were considered and developed in such a way that the voice of the characters, the voice of the island and the voice of the audience were in constant dialogue, taking turns to ‘listen’ and ‘speak’. These acts of ‘listening’ and ‘speaking’ are addressed below.

Interaction

When *Dear Esther* was launched it started important debates about the definitions and boundaries of games, what they are and what they are not, and if the boundaries should be as clear-cut and formulaic as they have traditionally been. All these debates revolved around interaction and player agency. To

summarise the critics' stance: *Dear Esther* is not a game because player agency is reduced to walking and interpretation, not taking full advantage of the systemic nature of games. The question thus becomes how much interaction is enough interaction to qualify an experience as a game, and more importantly who decides? The developers, the players, the critics? And if an experience feels interactive, if it feels like a game to me, then who is to say that it is not? Is there only one way to understand agency and challenge?

Keith Stuart for example argues that this is not the case: "What *Dear Esther*, and all walking sims tell us, is that there are different kinds of challenge and agency in this medium. Depth is not purely systemic" (2016). This echoes Brenda Laurel's stance on interaction:

If a representation of the surface of the moon lets you walk around and look at things, then it probably feels pretty damned interactive, whether your virtual excursion has any consequences or not. It's enabling a person to act within a representation that's important. Optimizing frequency, range and significance in human choice-making will remain inadequate as long as we conceive of the human as sitting on the other side of some barrier, poking at the representation with a joystick or a mouse or a virtual hand (Laurel, 2014, p. 29).

Laurel reminds us that increasing the number or frequency of choices or permitted actions does not necessarily make an experience more interactive. She approaches interactivity from an experiential perspective: the player must feel that she is actively present in the world, and this goes beyond orchestrating choice to incorporate sensory immersion and the responsiveness of the system (2014, p. 29). Interaction is meaningful if it feels meaningful, it is a matter of quality over quantity. And meaning is personal.

The Chinese Room have always argued for diversity: not all games are for all players, the more varied the games the more diverse the players (see for example Bratt, 2016). Millions of players have proved their point, the game has sold hundreds of thousands of copies, has been ported to PlayStation 4 (PS4) in 2016, has seen a Landmark Anniversary Edition in 2017, and is now acknowledged and revered as flagbearer for an entire genre of video games. Furthermore, it gained a 'spin-off', a live scored version called *Dear Esther Live*,

which after its Barbican launch has toured across UK's concert halls in 2017 and early 2018³¹.

So how is interaction designed in *Dear Esther*, a game where story and atmosphere take precedence over traditional gameplay (Brett, 2016; Stuart, 2016)? I argue that interactivity takes the form of four types of agency: interpretive, spatial, sonic and directional (relating to the direction of the gaze). As a player you choose how to interpret the game, where to go, and where to look, while constantly contributing to the soundscape. In turn, the game responds to player's movement through visual and aural feedback, by spawning environmental details and triggering sound, VO narration and music. This in turn prompts the player to interpret, move, and look and the loop continues becoming a "conversation of sorts", "a cyclic process between two or more active agents in which each agent alternately listens, thinks, and speaks" (Crawford's definition of interaction, 2013, p. 28).

Salen and Zimmerman call this loop designed interaction which resides in the relationship between the designed system of rules and the player (2004). The system provides the player with options and the player makes a meaningful choice as part of an ongoing interaction (Salen and Zimmerman, 2004). All choices are therefore an interplay between internal (at system level) and external events (at player level): what happened before the player was given a choice, how did the player make the choice, how did the choice impact on the system and future choices (internal events), and how are the possibilities and consequences of choices communicated to the player (external events)? For example, the first thing I see in *Dear Esther* is the lighthouse, so I chose to move towards it. This activates the triggers for the music and the first VO so the system plays them to me. This is the first instance of gameplay and it teaches me that by moving and exploring the island I will discover more invisible triggers and therefore hear more of the music and of the story. In the lighthouse my flashlight goes on automatically, which tells me that there are things in the environment that might be of interest and/or might offer additional narrative

³¹ <https://www.mcvuk.com/development/dear-esther-live-goes-on-tour-around-the-uk>

information. I also learn that turning the flashlight on and off is not a choice available to me. When I press the right mouse button I zoom in which reinforces the idea that there are clues in the environment that I should look for. This is all I need to know, and I learn it by pressing down 'w' to move forward while moving the mouse to angle the camera. There is no need for a tutorial because there are no complicated control schemes and key combinations to learn, no need to perfectly time jumps or dodges, no need to learn how to swap weapons or navigate menus. By limiting in-game action to movement anybody can just play.

The gameplay becomes a literal search for meaning through a designed narrative and sonic space. "Story is gameplay" Pinchbeck argues, "a tool which enables us to create an experience, we deploy it as a design technique [...] there is no difference between classic game mechanics and story" (2012b). As the player moves through the environment she discovers fragments of story conveyed through environmental storytelling and VO narration. The sound is central to the meaning-making process as it establishes the mood or the 'feel' of the story. It also engages the player in a conversation, as described above. The player's movement becomes a dramaturgical device, it structures the narrative experience by ordering the elements. Walking in *Dear Esther*, similar to walking performance, is an act of assemblage, of triggering, ordering and arranging the narrative information: "What begins as a series of fragments is arranged in performance: Dramaturgy is an act of assemblage" (Pearson and Shanks, 2001, p. 55).

It is perhaps worth noting here that the system rather than the player chooses which of the four possible narrative fragments to play when the player reaches the trigger. The player chooses how much time she spends in an environment, whether to stop and listen or listen on the move, and which direction to go in – there are a limited number of route options. All of these types of designed interaction were developed in *Inchcolm Project* aside from the four narrative cues. Because *Inchcolm* offered more freedom in terms of navigation thus more opportunities for designing walking as a dramaturgical device as described above, there was no need to systemically randomise the audio, the audience did that through moving on different routes.

Another aspect relating to in-game action that I want to discuss is lack of action. The impossibility to act is also an expressive mechanic because it prompts the question: why has agency been removed? Why can't I swim away from the island? Why can't I die? Why can't I touch? The fact that some actions are permitted while others are not opens the possibility of endowing the latter with meaning. I would argue that this is possible in the world of *Dear Esther* only once the fictional world has been established. It is perhaps worth considering that meaning can be bestowed retroactively. For example, after the jump, I saw 'my' shadow as a seagull during the ending flight cutscene whilst the music ended with the sound of a heart rate monitor flatlining and the screen fading to black. This prompted me to reconsider my entire gameplay experience in an attempt to decipher this last scene. It was then that I started to challenge my previous interpretation and see the island as a coma-induced dream. This was only possible because the combination of an inability to interact with the objects and environments and a gameworld, which has been consistently designed as an eerie, dream-like space, supported this interpretation. Stuart, who has been a constant supporter of the genre, observed that: "Stripped of traditional ludic elements, walking sims give the player room to really investigate the feel of every location, to think about the characters, to relate to them on a human level rather than as agents of action" (2016). This could expand Pinchbeck's statement that "overstimulation kills atmosphere"³² (2012a) to become 'overstimulation also kills empathy'. When agency is only used quantitatively the risk of objectifying everything that is encountered in the gameplay experience becomes very real, as Stuart observed.

In an interview with Chris Bratt for Eurogamer³³, Briscoe, Curry and Pinchbeck jokingly refer to the mechanics in *Dear Esther* as extreme walking, which seems apt, if insufficient, in capturing how interaction is staged in the game.

³²

https://www.gamasutra.com/view/news/165174/GDC_2012_Overstimulation_kills_atmosphere_says_Dearest_Esther_Pinchbeck.php

³³ <https://www.eurogamer.net/articles/2016-10-06-watch-what-do-the-creators-of-dear-esther-think-about-the-term-walking-simulator>

It is extreme walking but also an extreme imaginative and interpretive experience supported by consistent, rigorous and integrated design. In my experience, playing the game was many things but not fun which has been for a long time hailed as the epitome of gaming experiences. It was a hard game to play, not because it required dexterity or quick reflexes but because it required of me to care, to invest emotion and thought and attention. It is perhaps because of this that the game continues to haunt me and that finishing the game each time does not offer me any catharsis but a feeling of unrest and disquiet tension. Going back to Stuart's observation about how depth in a game can go beyond systemic complexity, *Dear Esther* offered a depth of emotion seldom seen in games up to that point. From Dan Pinchbeck I learned the most important design lesson that I could ever learn:

the real game is happening in the player's head and that the system can be whatever you want it to be but if the game isn't running in the player's head instead of the screen you're missing a trick you're not letting the game be everything that it could be (Pinchbeck in Pinchbeck et al., 2017).

Implementation. *Inchcolm Project*: Selection and Addition

In adapting *Dear Esther*, I wanted to build on its design, while at the same time to create a new piece of site-responsive work. The motivation behind this was two-fold, I wanted to emphasise how *Dear Esther* is relevant for exploring current humanitarian concerns while in the same time exploring how I could use the theme of guilt (at individual level in the case of *Dear Esther* and societal level - *Dear Rachel*) to connect the performance and the game.

This required a process of selection and addition: selecting some of the game's design strategies and developing new ones which arose from the necessities of working with the site and live performance. These are processes that are inherent in transmedia storytelling, particularly forms which require remediation.

The feeling of isolation, loneliness, and panic are supported by the fact that the player is stranded on a small and unfriendly piece of land surrounded by water. There is no way out unless she manages to unlock its secret. I wanted to instil the same feelings in the audience while at the same time to take advantage of

all the new sensations facilitated by the body being and moving on a Scottish island in mid-October. The smells, textures, temperature, sounds, tastes, light and landscapes on Inchcolm island were accessed through performance. The most important design choice that I made was that regardless of how I would structurally adapt the game, the setting must be an island. The island in *Dear Esther* was the central part of my experience and shaped all of the others. This choice soon turned into the main constraint. A series of practical questions needed to be answered: Where can I find an island that is evocative of the island in *Dear Esther*? How do I get permission? How do I get the audience/players on the island? How do I keep them safe and comfortable? These questions led to a ‘set scouting’ phase, in which I visited potential island locations and made a selection based on various criteria ranging from accessibility and safety to access to facilities while at the same time keeping the costs manageable (see Table 5).

Table 5 Possible locations for the project

Island	Aesthetically suited	Accessibility	Permission	Facilities	Participants’ Safety	Safe storage
Cramond	Yes	Easy, tidal island.	Yes	No	Yes	No
Isle of May	No (working research facility)	Costly	Yes	Yes	Yes	Yes
Inchkeith	Yes	Costly	No	No	Yes	Yes
Inchcolm	Yes	Costly	Subject to fee	Yes	Yes	Yes

After numerous site visits I decided that Inchcolm Island was the best option. It was evocative of the game environment (see Figure 22), close to Edinburgh and it operated as a tourist destination, so it had facilities and health and safety protocols in place for accommodating participants.

Some of the major limitations were that we did not have access to a reliable power source and that the island is a protected site, so every aspect of production had to be agreed upon with Historic Environment Scotland. Additionally, we could not set a weekend date until the end of tourist season as to not negatively affect the tour operators, nor secure sole use of the island, and we had to vacate the island by 6PM at the latest. All of these challenges started emerging well into the production phase of the project, so the overall design had to be flexible and the team had to constantly adapt to new constraints.

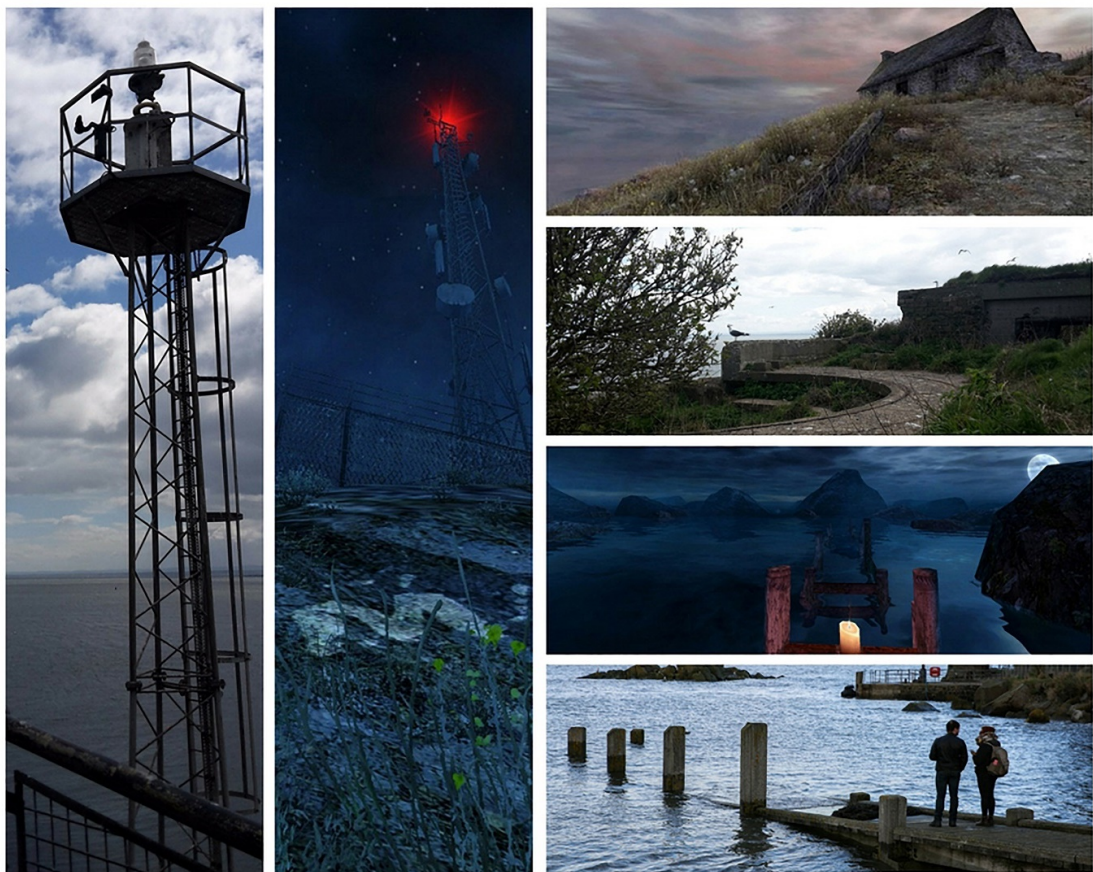


Figure 22 Evocative spaces on Inchcolm island

Inchcolm Project is utterly shaped by Inchcolm Island. In logistical terms, its affordances and limitations impacted on my artistic choices. But the island's physicality also impacted on how the performance was structured, how we worked with sound, where the installations and the musicians were stationed, the routes and paths that could be explored, how we guided navigation, how we used the locations that were inaccessible. The island's sensory potential was also employed to the fullest: the smells, the sounds, the colours and the textures, the mood of some of its locations, the spaces that conveyed certain feelings like isolation, exposure, awe, wonder, or vertigo.

The environment

Applying the design lessons learned from *Dear Esther* I wanted the environment to reflect the story, to amplify its emotional potential and to anchor the story in the audience/players' embodied experience. I wanted to endow and uncover the environment's dramaturgical potential of becoming Pearson's "active component in the creation of performative meaning, rather than a neutral space of exposition" (2010, p. 36).

I previously discussed Briscoe's strategies for creating an emotional landscape noting that I engaged with designing dramatic visual style, narrative details and subliminal signposting in the development of *Inchcolm Project*. In what follows I will reflect how these design strategies were applied in the live performance and to what effect.

The design of a dramatic visual style in *Inchcolm Project* revolved around framing rather than creation, focusing the audience/players' attention on the dramatic landscape rather than creating it as in the case of *Dear Esther*. This was achieved by tagging the audio files and positioning the installations and musicians in aesthetically and dramaturgically meaning-*full* locations. The audio file locations opened up vistas and panoramas offering views of the Firth, the shores or the island itself. They exposed the island in the changing light of late afternoon and the constantly changing cloud patterns (see Figure 23). The

musicians and installations were hosted either inside dilapidated military barracks or the Abbey. These spaces told the stories of the island's previous uses and inhabitants (see Figure 24 and Figure 25).



Figure 23 Dramatic emergent landscapes in Inchcolm Project



Figure 24 Musicians' locations in *Inchcolm Project*



Figure 25 Installations in *Inchcolm Project*

The installations invited the audience/player to pay attention to the narrative details embedded in the environment while the panoramic vistas invited them to

contemplate the emergent, ever-changing mood of the island. Alternating between them they could start to assemble a narrative from the dramatic landscape and the micro-tableaux of environmental storytelling, what I referred to earlier in relation to Briscoe's work as play with perspective. Patterns emerged from the combination of the designed, natural and human elements. The audience/players were constantly on the move, scattered around the island, standing still on edges and shores, looking out at sea, ghostly and silent, which led to unexpected encounters and emergent landscapes. They were an active part of the landscape, contributing to each other's narratives.

The elements of environmental storytelling, similar to *Dear Esther*, are clues to a traumatic event which explains the narrator's presence on the island as well as hints to a possible escape. As stated earlier the use of colour in *Dear Esther* gains symbolic and narrative significance because it acts as a visual manifestation of the memory of the traumatic event. The memory is projected onto the environment causing a dramaturgical conflict with the natural landscape: meaning becomes unstable when car parts, for example, start appearing on the island. This event is represented through recurring colours, displaced and misplaced objects, unnatural assemblages of natural and human-made materials. In *Dear Esther*, the island is gradually coated in fluorescent green writing, paint, car parts, emergency room paraphernalia, chemical symbols, ultrasounds alongside bird nests, broken eggs, feathers and bird bones. In *Dear Rachel*, Inchcolm is overgrown by parasitical fluorescent orange rubber and tape, dinghies, buoyancy aids, barbed wire, metallic wind chimes, fishing nets, life jackets, wire birds alongside bark, feathers, egg shells, twigs, shells and seaweed. In *Dear Esther* the fluorescent green of the accident starts

taking over the island, while in *Dear Rachel* the orange of the refugee crisis bleeds over the environment (Figure 26).

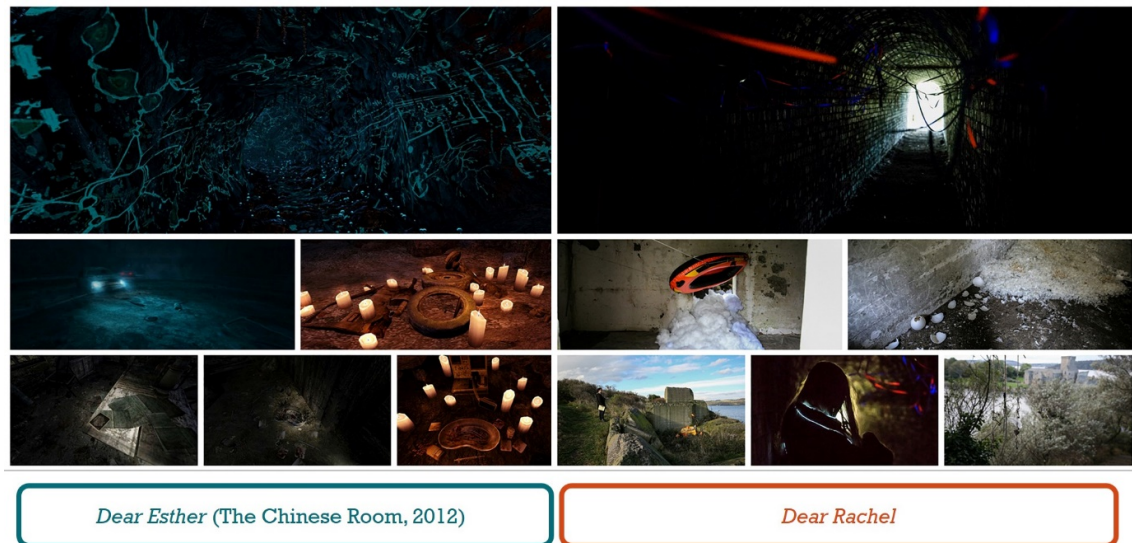


Figure 26 Colour schemes in *Dear Esther* and *Dear Rachel*

Subliminal symbolic signposting contributes to building an emotional connection to the story and the character because it visually represents states, feelings, memories and thoughts, thus fulfilling a dramaturgical rather than a ludological function. The overarching symbolic power of the island was supported at the visual micro-level by interactive and non-interactive installations, tableaux designed in response to the two types of ‘added’ environments in *Dear Esther* (by this I mean not the natural landscape but what we understand to be what the protagonist projects into and onto it): scenes and shrines.

The scenes, similar to the stage in theatre, are activated in performance by the audience/players. This demands that the audience/players undergo an essential transformation from audience/player-witness to audience/player-protagonist (like Myers’ term ‘percipients’ discussed earlier, 2010). The shrines are non-interactive moments of environmental storytelling, they convey additional information about the world and the character’s trauma. In *Inchcolm Project* we designed three scenes (the tree-tunnel [1], the paper boats [9], the tunnel [2]) and seven shrines (the hermit cell [10], the graveyard [8], the battlement [7], the tea party [6], the bombed building [5], the capsized boat [4], the broken eggs [3]), in total ten installation spaces. In Figure 27 the audio files are represented

as paper boats, and the installations as symbolic images, numbered here for reference.

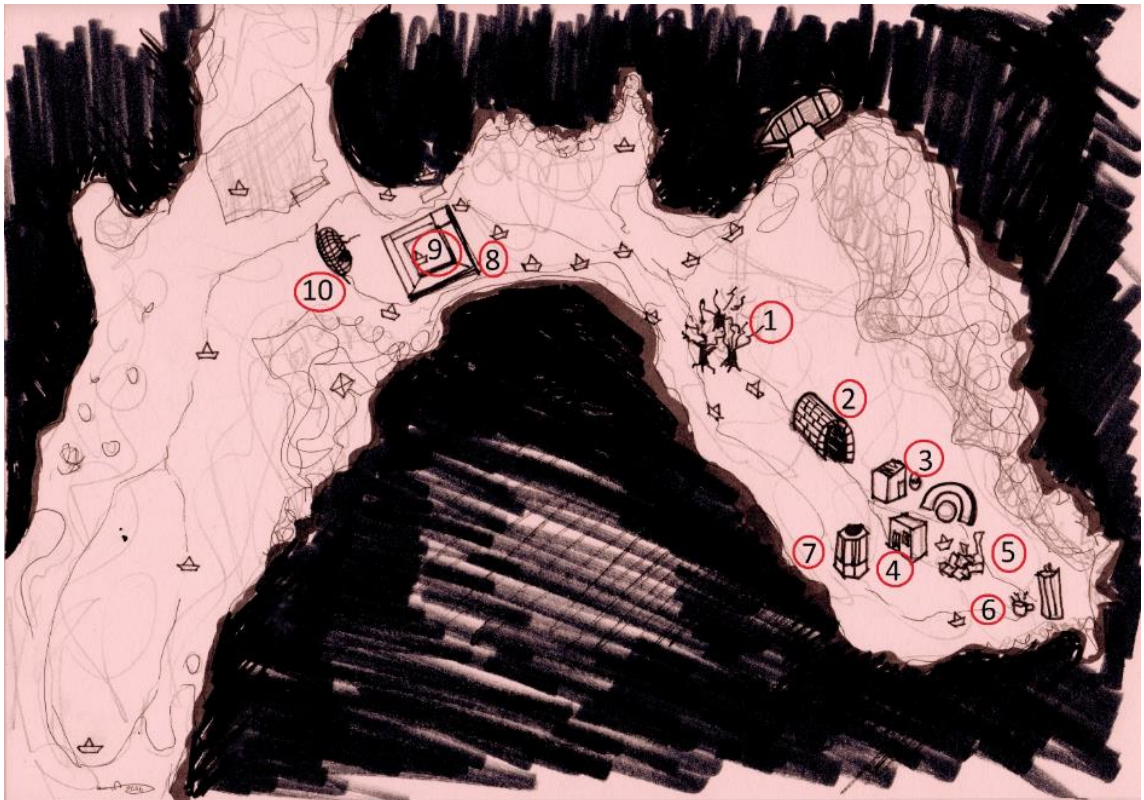


Figure 27 Inchcolm Project map, numbered for convenience

The tree tunnel (Figure 28, Figure 29) was designed as a playful installation. Wind chimes (handmade by me from jute string, bamboo sticks, metal pipes, black feathers, keys) hung close to the ground, forcing the audience/players to push them out of the way thus creating sound as they progressed. On a practical level this was designed as a 'tutorial level' instructing the audience/players that the soundscape surrounds them and that they should listen to the island and the sounds that they contribute to it as well as the headphones-mediated sound. Soundscape is the sonic world that we both inhabit and create. The installation amplified the sound of the environment (the wind through the trees) but also the sound of the audience/players as they progress through it. On a symbolic level, the black feathers and the abandoned keys suggest impossibility of flight and locked/unopened doors.



Figure 28 'Tuning' the wind chimes



Figure 29 Audience/players interacting with the wind chimes

The tunnel (Figure 30) was designed to fulfil the same dramaturgical function as the caves. The tunnel was built during the First World War to give the soldiers quick access under the hill to the guns³⁴. One of the musicians was stationed inside the tunnel (Luci Holland – vocals, during the first performance, Luisa Brown – violin, during the second). They were ‘entangled’ in EI-wire (neon battery powered luminous wire) which made them shimmer slightly in the complete darkness of the tunnel. Fluorescent orange and blue tape was anchored from the tunnel ceiling. When illuminated by the audience/players with the black light torches handed to them at the entrance, the tape became visible, moving in the wind as the audience/players passed underneath. The colours, blue and orange intermingled, were illustrative of the traumatic incident that haunts the protagonist, the capsizing of the refugee boat and the orange life jacket sinking. Luci and Louisa were heard before they could be seen, the eerie voice or violin piercing through the darkness. The audio file that the audience/players heard at the entrance or exit from the tunnel, depending on their chosen route, described the process of drowning. The audio file was tagged in a location on top of the hill which offered a panoramic view over the expanse of water of the river Forth (Figure 31). The stewards wore orange high-vis jackets which fulfilled both a practical and dramaturgical function, they could be seen from a distance in case the audience/players needed support, but also contributed to the chromatic theme of the performance.

³⁴ <https://canmore.org.uk/site/142671/forth-defences-middle-inchcolm-battery-access-tunnel>



Figure 30 The tunnel. Visual and sonic representation of the traumatic event



Figure 31 The entrance to the tunnel, a panoramic view over the Firth of Forth

The last scene was installed in the Warming House where the musical performance took place (Figure 32). It consisted of hundreds of paper boats folded out of sheet music from the game and the text of *Dear Esther* and *Dear Rachel* (Figure 33). Instructions were printed out with the invitation: “Write a heavy thought on a paper boat and then launch it at sea”. This invited a personal contribution which linked the audience/players to the themes of both performance and game, and reflection on the universality of the themes that they put forward. The live performance of the ensemble connected all the themes further encouraging a moment of retrospection and introspection, a reflective pause before departing the island.



Figure 32 The paper boats in the Warming House



Figure 33 Paper boats folded out of sheet music and text

The shrines were moments of environmental storytelling embedded in various locations around the island. Environmental storytelling is a term frequently used in game design to denote the ways in which the environment can contribute to the narrative experience. In addition to traditional narrative tropes, written or spoken text, dialogue or narration, walking sims make extensive use of the environment for conveying the story and for communicating information to the player.

Harvey Smith and Matthias Worch (2010) argue that a game environment has four main functions, two of which are functional and two of which contribute to the narrative. The physical environment structures player movement by communicating the routes, direction and destination and the limitations of the simulation (2010). For example, in *Dear Esther* the ocean surrounds the island thus limiting the game world in a way that the players can logically understand. Some pathways are blocked by collapsed rocks or eroded pathways which is not unusual for a mountain scape. Both examples are environmental, the player perceives them as part of the game world, and logical which helps to maintain the immersion. The aerial is visible from most locations on the island thus helping to orient the player while her final destination is always within sight. Walt

Disney called these types of visible landmarks 'weenies' based on how his dog would follow him around to get her share of his weenie (frankfurter). The weenies³⁵ are "visual magnets", landmarks who pull visitors from one area of the park to another (Sklar, 2013; for more on the use of weenies in video games see Brown, 2015). But the environment can also communicate and arguably shape player identity (Smith and Worch, 2010). The environment in *Dear Esther* prompts the player to question her identity and the reason why she is on the island. Smith and Worch argue that environmental storytelling is compelling because it constantly requires active interpretation, which builds investment. The player's previous experience comes into play in this process of interpretation, of 'reading' the environment. The environment invites the player to actively search for the narrative, what Ken Levine, the designer behind the BioShock series (2K Boston and 2K Australia, 2007), calls "pull narratives" (2008) – narratives which invite player action (see the 'weenie' discussion above).

Henry Jenkins argues that game design is narrative architecture, the process of building worlds and places "ripe with narrative possibility" (2004, p. 123). Therefore, environmental storytelling "creates the preconditions for an immersive narrative experience" through the evocative power of spaces, through the environment's ability to enact stories and to embed narrative information in its mise-en-scene and by providing resources for emerging narratives (ibid., p. 123). A game environment is evocative in that it appeals to the player's previous knowledge of similar spaces and genre specific conventions. In doing so it can build on, reinforce or thwart the player's expectations and aspirations. By placing the player within the story world, video games cast her as either a protagonist or a witness to the unravelling series of events. The player performs the story, it enacts it in Jenkins' terminology, by moving through the game world. Therefore, spatial progression and narrative progression are usually closely coupled. It is the player's exploration of the world that unlocks or triggers narrative events. This does not mean that spatial

³⁵ <http://theoryoftheparks.blogspot.com/2015/08/wayfinding-in-themed-design-weenie.html>

stories are less compelling, they just “respond to alternative aesthetic principles, privileging spatial exploration over plot development” (ibid., p. 124). The progression through the game is a linear but very rarely this chronology is reflected in the story. *Dear Esther* is a good example. Stories are usually revealed gradually and non-chronologically so as to prolong anticipatory play (Upton, 2015). The story is usually broken down into fragments which are scattered around the game world making sure that the player does not experience them chronologically. These fragments are “micronarratives” (ibid.), moments which shape the player’s narrative journey. It is perhaps worth noting that this journey is as much emotional as it is logical (relating to plot structure) as I have previously discussed in relation to *Dear Esther’s* environmental design. I would argue that the *Inchcolm Project* interactive scenes discussed above are enacted narratives, moments in which the player meaning-makes through interaction.

Jenkins’ last two categories are embedded and emergent narratives. What I have called shrines, the non-interactive vignettes which work to convey additional information about the world, the character, or the traumatic event, are embedded in the environment. The protagonist in *Dear Rachel* has left traces in the environment for the audience/players to decode, just like the protagonist in *Dear Esther* has. But choosing to embed essential plot elements into the game environment should be coupled with a controlled spatial progression or repetition or else they might be easily missed by the audience/player. In *Inchcolm Project* the traumatic event recurs in the environment through different symbolic images: the capsized boat, the pile of buoyancy aids, the unmarked graves, the broken eggs, the wire birds caught in the fishing nets, the candles, coupled with auditory cues, either VO or live music, which support them in conveying emotion. Briscoe discusses dramatic environments while similarly Jenkins talks about the important design lessons to be found in melodrama:

Melodrama depends on the external projection of internal states, often through costume design, art direction, or lighting choices. As we enter spaces, we may become overwhelmed with powerful feelings of loss or nostalgia, especially in those instances where the space has been transformed by narrative events. (Jenkins, 2004, p. 127).

These spaces create an overarching feeling, or mood, even if they do not directly communicate an actual narrative event. Environments which support emergent narratives, according to Jenkins, are sandbox games where the environment functions as a dollhouse which encourages players to make their own stories. This echoes Pinchbeck's view on games narratives as "story Minecraft" (2012a; 2012b). Applying Jenkins' terminology, I would argue that Inchcolm island is an evocative space which raises (narrative) genre specific expectations, and summons all the island spaces, real or fictional, that the audience/players have previously experienced. They walk around the island to discover audio and visual cues which 'feed' their process of meaning making. Walking not only gives them access to the story but transforms them into protagonists of their own story, they perform (enact as Jenkins calls it, 2004) the environment. The environment also contains embedded narratives: it acts as the character's memory palace, his subconscious guilt and repressed memories 'bleeding' over the natural environment. And finally, an interesting consequence of placing the narrative around the island, a space which has been fictionalised, was that all objects on the island, started gaining narrative potential. Some audience/players found letters and various discarded objects on the East coast of the island and started working them into their narrative. This is a phenomenon which occurs in immersive theatre called by Adam Alston "errant immersion" by which a "spectator accepts but accidentally takes too far an invitation to explore, perceiving and folding a range of aesthetic stimuli that are unintended by a designer into their immersive experience of a theatre event" (2016b, p. 61). Errant immersion is a form of emergent storytelling, when an invitation to explore has been launched, the audience/players start testing the limits of the world and the narrative, seeing how far the simulation stretches. The designed spaces and Inchcolm island (ghost and host in McLucas, 2000, and Pearson's, 2010 terminology) worked together to support those evocative, enacted, embedded and emergent narratives.

The embedded narratives take the form of non-interactive installation in *Inchcolm Project*, what I have called the shrines. Anna Fraser playing the violin was stationed at the Battlement (Figure 34). The installation was minimal, consisting in her costume and position in the space. She was positioned in the

corner, in a chicken wire crinoline into which moss, hay, feathers, seaweed, twigs and leaves were woven. We used natural materials found on the island because we³⁶ wanted to create the impression that she was growing into the wall, reclaimed by the island like everything else. The location was dramatic, the old military building, with an old tank track splitting it in two, offering an expansive view over the Firth of Forth. The walls were covered in writing: during the past century, hundreds, maybe thousands of hands have carved, scratched, and written messages, secrets that never left the island. All the performers were given directions to not interact with the audience, but to keep playing as they stare into the distance over the river (Figure 35). Anna's character was one of the ghosts of Inchcolm, stuck in limbo, performing her solo in a loop.



Figure 34 The Battlement installation, Anna Fraser playing the violin, the dress giving the impression that she is merging with the environment.

³⁶ I use 'we' here to refer to myself and Ana Inés Jabares-Pita, the set and costume designer



Figure 35 One of Inchcolm's 'ghosts'

The Tea Party for One installation was set up in between ruined military barracks, out of the audience/players' reach (Figure 36). An actor was sitting at a table set for two, waiting and looking out into the distance with his back to the audience. He could be spotted from a viewpoint near the radio mast (Figure 37). I wanted this image to reinforce the feeling of loneliness, isolation and a state of perpetual waiting.



Figure 36 The installation could only be seen from afar



Figure 37 Tea Party for One installation on Inchcolm island

The installation in the Bombed Building (Figure 38), as well as the broken eggs (Figure 39) were symbolic references to the traumatic event while the capsized boat (Figure 40) was its actual depiction, albeit inside a building half-reclaimed by landslides. A speaker set up in the building with the boat played a nursery rhyme, *The Big Ship Sails on The Ally-Ally-Oh*, on a loop (sung by Dallis

Murray, Audio 25 *Big Ship*: <https://www.performingplay.co.uk/audio>) about a ship sinking. The latter installation was out of reach, inside the building. The audience/players could only see it through the window-frame.



Figure 38 The Bombed Building installation, baby buoyancy aids and floats caught up in a fishing net and surrounded by barbed wire



Figure 39 The Broken Eggs installation, Inchcolm Project



Figure 40 The Capsized Boat installation, Inchcolm Project

In the hermit cell where Michael Ready was playing the flute there were three wire birds with black feathers symbolizing the departure of the gulls and the death cycles referenced in the audio (Figure 41).



Figure 41 The Hermit's Cell installation, *Inchcolm Project*, 2016

In the Abbot's House where the cello players were stationed (Gracie Brill the first performance, and Atzi Muramatsu during the second) there were candles fitted to the walls, and piles of rocks, sand and sea shells which represented the unmarked graves of the bodies washed onshore referenced in the text (Figure 42).



Figure 42 The Abbot's House installation, *Inchcolm Project*

The two types of installations invited the audience/players to engage with the island and the narrative and to explore the physical, sensory and narrative potential of the designed space. The play between the found and the designed

environments echoes Cliff McLucas' and Mike Pearson's ghost/host terminology, which they define as the "co-existence and overlay" of the found, existent architecture of the site and the temporary, purposely designed one brought to the site by the artists (Pearson, 2010, p. 35). The ghost analogy is well suited precisely because the memory and its traces are immaterial and untouchable although present and visible in both the game and the performance. Because ghost and host temporarily co-exist they become 'flatmates', negotiating this shared space. Sometimes the relationship is conflictual as they compete for primacy and sometimes it is harmonious as they complement and emphasize each other. Site-responsive performance thus becomes a choreographed dance between the two, a balancing act. Sometimes the designed spaces nested comfortably within the island's buildings, cracks, nooks and crannies. Sometimes it was a 'parasitical' body that the island rejected, tidal waves covering the audio files and washing away the paper-boats, flooded areas blocking access, rain forcing the performers into shelter and wind stealing the feathers and 'tickling' the wind chimes. These visible traces of tension forced the audience/players to stretch, reach out, hold onto, climb, crouch and wait. The island's voice was piercing through, forcing them to explore the boundaries of their physical prowess to discover and engage with the narrative. In return the changing light, the clouds, the shadows, the rain, the wind, the sea were constant variables, which meant that the landscape was constantly dynamic. Turner accurately observes that site-specific work turns the site and the work into co-creators (rather than operating with a clear-cut distinction between what is of the site and what is brought to the site which denies them transformation) (2004, p. 382). This complex palimpsest constantly engaged the audience/players' conscious attention in an active act of performing, reading, listening, and watching the dance between the environments.

The narrative

In *Inchcolm Project* the adaptation and the source 'text' shared Inchcolm island. The temporal and spatial proximity thus diminished the distance between "the

work we are watching and the work we are remembering” (Hutcheon and O’Flynn, 2012, p. xii). I wanted to take advantage of this proximity and create echoes of *Dear Esther* in the text of *Dear Rachel* to deepen the déjà-vu sensation between the two.

Inchcolm Project was a mixed reality performance that brought together the real and the virtual worlds and bodies, the two environments overlapped at times but also existed independently, adjacent to one another. The audience/players journeyed from *Dear Rachel* to *Dear Esther* and back again through mixed reality environments. This journey required that there were enough designed elements of continuity to ensure that the two realities did not feel disjointed. In this subchapter I want to focus on how I designed the text to bridge between the two worlds. I wanted the text of *Dear Rachel* to evoke *Dear Esther* and, in turn, be evoked during the *Dear Esther* gameplay.

The text was the result of repeated playthroughs, research into Inchcolm island, and refugee crisis stories and imagery. Inchcolm’s histories, tales, legends and superstitions made their way into the text. Inchcolm’s symbolic significance, as a place for meditation and ritual, as a refuge for those who seek salvation was also foregrounded. The legend of the founding of Inchcolm Abbey speaks of a hermit who offered Alexander I of Scotland and his men shelter during a storm. He shared with them his cell, his cow’s milk and the shells he had gathered on the shores³⁷. In return Alexander pledged to build an Abbey so that refuge would always be available for those lost or seeking shelter. In addition, as previously discussed, island spaces are charged with paradoxes, drawing attention to a vast array of dualities: refuge-prison, isolated-connected (in archipelagos), insular-creative, heaven-purgatory (water, liminality), advertised-hidden. Islands fascinate and intimidate. During the making of *Inchcolm Project* in 2016 media references to islands were dominated by photos of refugee camps enclosed with barbed wire, mountains of life vests lining the shores³⁸ and ‘dinghy graveyards’ on the islands in the Mediterranean. The refugee crisis

³⁷ <https://mediaevalcastles.wordpress.com/tag/inchcolm-abbey/>

³⁸ <https://www.bbc.co.uk/news/av/world-europe-34675552/migrant-crisis-the-lifejacket-mountains-of-lesbos>

captures the conflicting nature of islands as the illusion of paradise collides with the reality of refugee camps and the impact they have on the lives of refugees and locals³⁹. Playing *Dear Esther* for the first time in September 2015 felt deeply disturbing as it coincided with the image of the lifeless body of a child, Aylan Kurdi, lying on a beach in Bodrum, Turkey, forcing humanity to face its cold detachment. I wanted to anchor the performance into these realities, transforming *Dear Esther's* theme of individual loss and grief into a societal one. Coping with loss and guilt connects the two stories, albeit at different levels. The story in *Dear Rachel* responds to the game's themes: dealing with guilt and loss, forgiveness and redemption while at the same time engaging with the wider ongoing debates surrounding refuge, safety and humanity. The man in *Dear Esther* is coping with the loss of his partner, Esther, to a tragic accident that he feels responsible for. The man in *Dear Rachel* is tormented by the images of a capsized boat, of a mother and her infant child sinking under the weight of their fake life jackets. The story of life jackets counterfeited for financial gain^{40 41} is one of humanity's greatest indignities to date. The stories of parents who unknowingly gave their children fake life jackets hoping to give them better chances of survival⁴² made their way into the text.

The writing process started with breaking down the text in *Dear Esther*. I wrote down phrases and words that were either repeated obsessively or created powerful and memorable images (Figure 43). Some of them later became leitmotifs in *Dear Rachel*: the hermit, refuge, salvation, gulls, ghosts, pestilence, death, salt, boat without a bottom (see *Dear Rachel* text: <https://www.performingplay.co.uk/text>). I then wrote the twenty main fragments of the narrative, and four additional ones which were used as rewards for exploration. The latter were not represented on the physical map, a design

³⁹ <https://www.bbc.co.uk/news/magazine-34073196>

⁴⁰ <https://www.bbc.com/news/world-europe-35241813>

⁴¹ <https://www.theguardian.com/world/2016/jan/06/refugee-crisis-turkish-police-find-factory-making-fake-lifejackets-izmir>

⁴² <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4890212/>

choice inspired by 'Easter Eggs', which in are trophies for the players who push at the boundaries of what is allowed in video games. These do not offer any gameplay advantage to the players aside from 'bragging rights' and perhaps a personal sense of achievement.

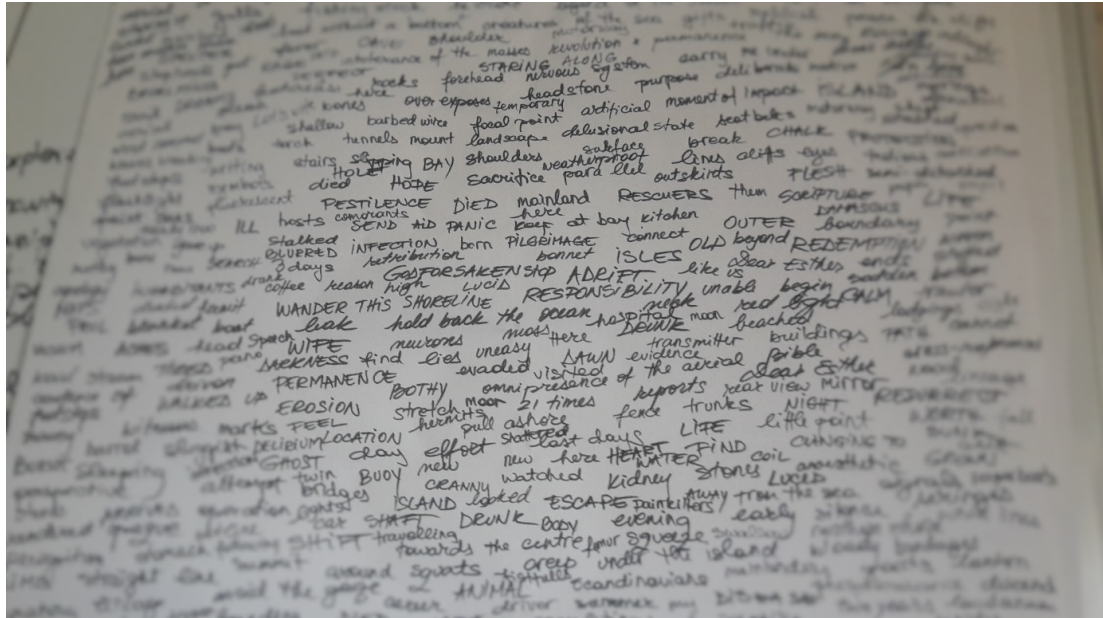


Figure 43 *Dear Esther* repeating words, personal sketch

I worked with a set of creative constraints. Firstly, I wanted to write in a poetic and epistolary style that mirrors the rhythm, style and ambiguity of the narration in *Dear Esther* while at the same time to write in the text the island's legends and history. Inchcolm's name derives from Colm's Inch⁴³, alluding to its connections to St. Columba, and his visit to the island in 567AD. The island is said to be Holy and under the protection of God: legends abound of the misfortunes bestowed on its plunderers due to divine intervention. The island served as a burial ground, its reputation reaching Shakespeare who referenced it in *Macbeth*:

"That now Sweno, the Norway's King, craves composition;
Nor would we deign him burial of his men
Till he disbursed, at Saint Colme's Inch,

⁴³ The word 'inch' has its roots in Scottish Gaelic and means 'island'

Ten thousand dollars, to our general use” (Shakespeare, 2006, 1.2:60-64)

Another legend gives its name to the channel which separates the island from the mainland: Mortimer’s Deep. Legend tells of the monks who were transporting the body of Sir Alan Mortimer to be interred at the Abbey. Due to unknown circumstances they disposed of the coffin in the sea. Inchcolm was fortified during the Napoleonic wars, and during WWI and WWII to defend Edinburgh and Rosyth naval base. Like many islands in the Forth it also served as a prison⁴⁴ and in 1790 a Russian hospital was based on Inchcolm to serve the Russian fleet.

I also aimed to write on the island, responding to and referencing its environments, locations, sounds, smells, tastes, and textures. Finally, I wanted to use repetition to reinforce important information – to use phrases as refrains thus ensuring that all audience/players will listen and remember them.

The fragments were written for their intended locations, conveying some of my emotional responses to them as well as referencing visual, auditory, olfactory or tactile stimuli. For example, near the sewers where a pungent smell was present, the audience/players triggered a narrative fragment which talked about infection; before climbing on the staircase to the radio mast they triggered a fragment which referenced the climb and the ascent; near a bench which overlooked one of the beaches where flotsam usually washes onshore they would hear the protagonist describing his idea for a museum of traces of humanity washed ashore; near the wall where it is said that the heart of the Bishop of Dunkeld is buried they would trigger the narrative fragment which told the legend. This was intended to prompt them to pay attention to the environment and make the connections between the site and the narrative.

I also used a style of constructing metaphors inspired by *Dear Esther*, where the traumatic event and the human body become intermingled:

“In the lobby a musical exhibit of horns, bone flutes, rib accordions,
And violins with fishbone bows and eyelash strings.”

⁴⁴ <https://www.revolvy.com/page/Inchcolm>

“And then the waves plant them on the shore.
Orange gas flowers blooming in the sand.” (Bozdog, 2016)

Like *Dear Esther*, the intended function of these types of structures was to communicate that the poetic imagery hides an unnatural and painful event which has been repressed and is piercing through the subconscious. The obsessive repetition of words and phrases was also used to this effect.

I developed a textual confessional tone of address: the text is written in the first person, which I believed would suit the headphones. The form that the text took was also influenced by its intended reception.

The text was developed late in the development process. This is because I wanted to allow myself the time to absorb and reflect on the game, the site and the theme. In this I am reminded of Mary Zimmerman’s description of her own process of devising and adapting text:

Yet I'm not completely flinging myself into the void when I start on a play because I'm basing my work on a pre-existing text, or collection of texts, and that is my constant map and guide. When I am devising a performance, the primary factor that determines what goes into the final show is undoubtedly the unconscious and conscious impulses of my own personality in dialogue with the original text: how I read its story, how I can best give that story a body, what I am drawn to, what I feel is beautiful, what formal considerations I value, what I am obsessed with. In other words, my own taste. All of this comes to bear on anyone adapting anything, but in this particular way of devising, in which the script does not precede production, but rather "grows up" simultaneously with it, at least three other factors exert unusual pressure on the final form the script will take: the designs for the play devised by my colleagues and me, the cast of the play, and the events and circumstances of the world during the rehearsal period of the play. The interweaving of these elements creates the "dig."(Zimmerman, 2005, p.314)

I have quoted here at large because the dig, the archaeological process of uncovering the text, is the near identical articulation of my own process of writing the text. One notable exception is that there was no cast to speak of in *Dear Rachel*, instead I was writing a text which aimed to echo another while at the same time accommodating its growing independence, the text’s will to develop its own ‘voice’. As Hutcheon and O’Flynn state about adaptation, the text is a constant negotiation between the existing (source) text and the potential ‘text’ (2013). The potential text, in site specific performance, is shaped by the site on three levels: its symbolic potential adds another dramaturgical

layer to the narrative, its ability to 'show' its stories and histories through its environment, and its structural abilities, its physical appearance constantly shaping the structure of the text (Wilkie's site as structure, site as symbol, and site as storyteller, 2002). These functions shaped the text by 'guiding' its reception (where the text is experienced), by shaping it (the text was site-responsive), and by aiding its semiotic and sensory interpretation (the symbolism of the island as refuge and prison eventually grew into the theme of the performance).

The sound

Another aspect that I wanted to bring to a live environment was the multi-layered texture of sounds: music, diegetic sounds and the acousmatic male voice speaking in the ear. The *voice-over* is the materialization of what Chion calls the "I-voice", not necessarily a voice speaking in first person, rather a voice that resonates in the viewer in a manner similar to first-person address (1999, pp. 49-51). The acousmatic voice exerts a similar power in first person video games because in a manner similar to cinema, the player is the camera. The I-voice is facilitated: not by the address but by "its placement - a certain sound quality, a way of occupying space, a sense of proximity to the spectator's ear, and a particular manner of engaging the spectator's identification" (ibid., p. 49). What this means technically is that the voice is recorded with a close mic and with no reverb ('dry'). This neutrality of recording environment keeps the voice detached from a certain place, and person, allowing for the acousmatic voice to be everywhere and keep its God-like powers. The I-voice is delivered, Chion argues, as "a written text that speaks with the impersonality of the printed page" (ibid., p.54). Which is why we, myself, Kevin Murray, the sound designer, and Sandy Welch, the voice actor, recorded the voice-overs in a dry recording studio. Sandy was given the text a week ahead of the recording day to have a chance to get accustomed to the 'unnatural' wording and sentence structure and to develop a sense of character and I gave him direction on the day, recording various iterations of the same text until we found the I-voice. The I-voice speaks in the present tense which contributes to the sense of conviviality

but also coexistence, the audience/players and the voice are here together: “the walking partner may not be physically embodied, but is acoustically present through spoken words of a guide or guides, and it is significant to the sense of conviviality that they speak in the present tense” (Myers, 2010, p. 63).

Using the I-voice facilitated what Myers calls “the sensation of a conversation” that audio guided walks can create: “With the use of a voice or voices guiding a walker, the sensation of a conversation is created through various strategies of narrative voice and rhythmic structuring of pace and path.” (Myers, 2010, p. 60). The audience/players become witnesses by merging their own experiences, narratives, memories and feelings with the ones heard in their ear (see Miller quoted in Myers, 2010, p. 62). This conversation becomes literal when two or more people are listening to the voice together, sharing “earpoints” (Myers, 2010).

Music was added in specific sound files to support the emotional tone of the voice and give a sense of emotional progression within each individual file. The music that we used was Curry’s piece *Always* because I wanted to keep Esther’s voice, and to introduce a musical theme that runs throughout the performance, while at the same time keeping the haunting quality of the female voice which stays with the narrator. I refer to it as haunting rather than a conversational quality because they never belong to the same ‘place’, the two types of voices have a different materiality, they ‘come’ from different places. The singing female voice exerts power over the male voice as it erupts and interrupts at will.

The musicians were performing instrumental solos from *Always*, arranged by Luci Holland and David Jamieson, in various locations around the island which created interesting overlaps and bleedings between the different types of environments. Anna Fraser, violin, was at the battlement, Luci Holland (vocals) and Luisa Brown (violin) were in the tunnel, Michael Ready (flute) was in the Hermit’s cell, Atzi Muramatsu and Gracie Brill (cello) were in the Abbot’s House and Douglas Kemp (accordion) was near the Cloister (Figure 44). The instrumental solos were echoes of the musical theme, isolated ‘voices’ in a disjointed and parallel dialogue that have not yet found musical unity. I have

come to refer to them as musical puzzle pieces, scattered around the island, 'gathered' by the audience/players and assembled through the musical performance.



Figure 44 The musician locations on Inchcolm island

The song, *Always*, is first heard in the headphones, but then it is heard on the island, and later, simultaneously on the island and in the headphones. This overlap took place when the audience/players triggered an audio file in proximity to the location in which one of the musicians was based. The song is

then heard in the game during the projection and finally 'assembled' in the live musical performance.

I also introduced this blurring of realities with *Ascension* which plays during the game's ending. As the projection neared the end, Luci entered the room and started singing in unison with the projection, but continued singing after it ended, leading the audience to the next location. This created a clear transition between the two realities, ensuring continuity between the world of the game and that of performance. It took the audience/players a couple of seconds to realise that the singing voice was now coming from the same space and the same 'reality' as theirs. During the first performance Luci entered from the rear of the room, opposite to the screen that the audience/players were facing. This way she was heard but unseen thus becoming an acousmatic voice herself. This took the audience/players longer to adjust to, probably because the acousmatic voice latched onto the image (for more on the materialising and embodiment of the acousmatic voice and the relation between the voice and the image see Chion, 1999). The seamless transition was broken as a steward had to direct their gaze and guide them towards the back of the room. Because I wanted the transition to feel like the first few seconds of awaking from a dream, for the second performance we decided to try Luci entering at the front of the room, to the left of the screen. This felt more seamless/natural and as she made her way through the audience/players they followed instinctively.

The position of the audio files and installations was carefully selected so as to facilitate a diverse and sensory-stimulating walk. The sound files would play in a certain circular area, visible to the audience/players in the Sonic Maps app. If the audience/players would leave the area before the end of the audio the sound would stop. However, the diameter of these areas varied from two meters to ten meters which gave the participants enough freedom to still listen on the move if they chose to. This also influenced the rhythm, pattern and pace of movement, and increased the number of choices available to the audience/players. The sound of radio static was used to mark the beginning and end of transmission thus signalling to the audience/players that the VO was about to start. This supported an element of expectation, giving the audience/players time to settle into an active listening mode as described

previously (<https://www.performingplay.co.uk/audio>). When the static started they could stop to listen or keep on walking as long as they did so within the perimeter of the tagged area. The static framed the audio signalling that what the audience/players were hearing was a fragment, a trace that somehow still lingered in the environment. Together, the audio files created a “sonic ruin” (Myers, 2010, p. 66), an eclectic composition of sound textures, rhythms and surfaces, “narrative debris drifting on radio waves” (ibid.). In *Inchcolm Project* the ruined landscape is mirrored in the ‘ruined’ soundscape, their fragmented, open and broken nature requiring interpretative effort, asking the audience/players to ‘fill in the gaps’: “the work encourages multiple readings and understandings through the soundscape’s fragmented, repeated, looped and discontinuous narratives and invites similar choreographies of walking. In this way, walking the work is appropriately like walking through a ruin” (ibid., p. 66).

Most of the audio files were tagged in locations that facilitated encounters, offered vantage points, or emphasized landmarks or sensory information which was referenced in the text. The latter created the synaesthesia that Myers refers to, facilitating an embodiment of the narrative, an anchoring of the story in the lived experiential moment. In these moments the information is no longer abstract but personally meaningful, “embodied and more imaginatively and emotionally resonant” (Myers, 2010, p. 61). Stopping, walking, standing and listening are woven together, creating a rhythm of the lived experience of *Inchcolm Project*.

Interaction: walking as an aesthetic and dramaturgical practice

In both *Dear Esther* and *Dear Rachel* walking is the main form of interaction with the designed story world. I argue that in *Inchcolm Project* walking fulfils an aesthetic and a dramaturgical function. Aesthetic in that the walk was a performance, a series of encounters with sound files, installations, environments (landscapes, vistas) and other audience/players assembled through walking. Dramaturgical, in that the process of meaning making is enabled and performed by the moving body, ‘making-sense’ and ‘sense-

making', not just a semiotic activity but also a sensory one (Machon, 2009; also Machon, 2013).

Tom Perlmutter observed that "Navigation is to interactive what montage is to cinema. [...] It is the fundamental structural principle and the defining aesthetic. It is also the determinant of the relationship with the audience." (2014).

Navigation is the backbone of the aesthetic experience, it gives it structure while at the same time it enables the processes of 'making-sense' and 'sense-making'. This subchapter focuses on how walking was facilitated in *Inchcolm Project*, the strategies and designed rules that enabled it. Pacing the rhythms, routes, narrative and sensory information were important design strategies in the development of the project, while the 'host' and the 'ghost', the performance and the island, shaped the rules of engagement. Furthermore, as Carl Lavery points out, walking and digital experiences are bound by "the distracted and fragmentary consciousness produced by digital technology" but equally demanded by both:

To walk is to be distracted, and to find aesthetic pleasure – perhaps even a kind of transcendence – in that distraction. In other words, the consciousness of the walker is similar to the consciousness of the digital channel hopper or game player, both are dynamic and simultaneous (Lavery, 2009b, p.48)

These distractions whether designed or naturally occurring in the environment were emphasized by the performance in *Inchcolm Project*.

The rhythm of walking is a negotiation between the rhythm of the body, cultural and social norms and the environment. We 'dressage' (Lefebvre, 2004) our bodies to adapt to different environments by adopting different rhythms of walking, we may walk like a tourist (Edensor, 2000a), like a city dweller (de Certeau, 1984), like a Rambler in the countryside (Edensor, 2000b). Edensor notes that: "the contingencies of the body and the qualities of space ensure that in all but the smoothest spaces, walking rhythms are continuously adapting to circumstances" (2010, p. 73) which positions walking not just in the realm of improvisation but also site-specific practices, a constant adaptation and response to the environment.

Walking can be simultaneously immersive and critical, the two stances alternating in the rhythms of walking: “The rhythms of walking allow for a particular experiential flow of successive moments of detachment and attachment, physical immersion and mental wandering, memory, recognition and strangeness” (Edensor, 2010, p. 70). By alternating between them the rhythm of walking allows for reconciliations and coexistences of different timeframes, spaces and critical distances.

City dwellers today walk at a different rhythm than city dwellers did before the invention of motorized transport, paved roads, or street lighting. Who walks is as important as where she walks. Our rhythms are guided by tradition and social norms, a desire to conform and an instinct for survival in as much as they are impacted on by the environment. Although we should all be entitled to the same rhythms, the world’s history of violence, intolerance and hate has taught us that the rhythm of walking is gendered and raced (see for example Solnit’s discussion of the challenges that walking women faced, 2002, pp. 232-246, also Heddon and Turner’s interviews with walking women artists, 2010).

Walking was designed as a convivial activity, whether the audience/players walk only in the company of the voice, or with each other. The latter can create a bond between the audience/players as they become co-participants and co-creators in their shared embodied experience of the piece: “Sharing or creating a walking rhythm with other people can lead to a very particular closeness and bond between the people involved” (Lee and Ingold, 2006, p. 69). The shared rhythm of walking thus facilitates social interaction.

As Myers observes walking is interactive by inviting the voices of others just like the voices of places “to speak and the listener is invited to cooperate, co-compose, or co-conspire.” (Myers, 2010, p. 62). But listening and walking are demanding and require effort which is precisely why, Myers argues, they require an active act of witnessing which builds investment. Discussing three pieces of promenade performance she states:

I become aware of the complicated way in which I am implicated in this work to witness something, to respond and be responsible, to help resurrect these houses. It is not a cosy visitation. I am bearing witness through the effort of my walking, sensing, remembering and imagining, and this effort is significant. It is what distinguishes this

mode of participation from other passive forms of viewing or receiving performance or an artwork. (Myers, 2010, p. 62)

Bearing witness is not comfortable because it requires constant acts of attention and participation as the responsibility of meaning-making is delegated to the audience.

In *Inchcolm Project* the rhythm of walking is influenced by the physical ability and cultural background of the audience/player, by whether she is walking alone or with others, by the position and design of the audio files, and by the physical and aesthetic qualities of the environment.

Stepping safely and comfortably

The physical comfort ensures that the audience/players can enjoy the experience, particularly when they spend three hours exposed to the elements and weather on a Scottish island in mid-October. The instructions sent to the participants ahead of the event advised wearing suitable footwear and clothing, warm and waterproof layers as well as any water or food that they might require. The island could be traversed by following different routes with varying degrees of difficulty, so I wanted to make sure that everyone regardless of their physical condition or fitness levels could access some of the designed elements. Most of the installations could be accessed by following one of at least two routes, out of which one was an easily accessible and clearly marked path. These were designed to facilitate access to the harder to reach locations and were signposted with a trail of orange paper windmills. The windmills marked the optimal route, what in game design is called the critical path: “The critical path is the shortest path through a level without using secrets, shortcuts, or cheats. Basically, it's the path the designer intends the player to take through the level unless she gets really clever” (Stout, 2012). Following the risk assessment, some of the locations were deemed unsuitable and unsafe for exploration and were cordoned off ahead of the performance. For those who ventured to explore the unmarked paths there were additional audio files as rewards for exploration, but they were not essential to the overarching narrative

instead emphasizing the vistas from those vantage points (see Figure 45, and Audio 9 and 23 in <https://www.performingplay.co.uk/audio>).

I wanted to ensure that the audience/players' emotional comfort was protected, which meant balancing a feeling of adventure with safety, encouraging them to explore and get lost while at the same time knowing that we were there to help and support them when needed. The map could also be used to help them get unlost, if they so desired (see Figure 46).



Figure 45 (Left) Audience/players exploring the unbeaten path and Figure 46 (Right) Audience/players 'decoding' the map, Inchcolm Project, 2016

Walking is made exciting by the possibility of getting lost. Solnit celebrates the potential that getting lost holds for discovery, for enabling “the unfamiliar appearing” (Solnit, 2006, p. 22). But getting lost requires a surrender to the environment, a temporary loss of control (ibid.). Getting lost on an island is more enjoyable because it is temporary, if you keep walking Inchcolm eventually exposes its borders. As previously discussed, islands, because they are spatially limited and have their boundaries always on display, are spaces that invite exploration, that ask to be circumscribed (Baldacchino, 2005). The unfamiliarity of the environment endows walking with a sense of risk, whereas

risk-taking is encouraged by the controlled nature of the environment: the audience/players are attending an event that has been designed and assessed, therefore they can take risks within safe parameters.

Stepping with others

Walking with others also impacts on the rhythm of walking, either speeding up or slowing down the individual player/audience to accommodate the rhythm of their co-walker. Lee and Ingold capture the essence of a 'shared walk'; walking alongside is a negotiation of rhythm as the walkers attune to each other and the environment (2006). The walkers share a rhythm and the sights as they make their way through the environment: "To participate is not to walk into but to walk with – where 'with' implies not a face-to-face confrontation. But heading the same way, sharing the same vistas, and perhaps retreating from the same threats behind" (Lee and Ingold, 2006, p. 67). Jo Lee and Tim Ingold argue that sharing or co-creating a rhythm with others can create a bond and closeness between walking companions: "A person walking generates a particular style of movement, pace and direction that can be understood as a 'rhythm' of walking. Sharing or creating a walking rhythm with other people can lead to a very particular closeness and bond between the people involved" (Lee and Ingold, 2006, p. 69). Similarly, Dee Heddon discusses the potential of these shared rhythms of walking to generate 'friendscapes', a merging of topography and autobiography achieved through the companionable walk (2012). The walkers share stories and exchange their perspective or point of view on the landscape they also share. Heddon took 40 walks with 40 friends to celebrate her 40th birthday performing a "settling into pace" as she walked alongside walkers aged from three to 70 years old (2012). In *Inchcolm Project* by introducing an auditory narrative element I encouraged the audience/players to also exchange interpretations and negotiate meaning during the walk together. Meaning-making became collaborative, a constant interaction between the environment, the co-walkers, and the audio. Misha Myers discusses the importance of the "voice in the ear" in walking practices arguing that: "Guided walks create an auditory space, whether through the voicing of place in live spoken narrative or

through recorded and mediated voicings and soundscapes. It is via the movement through these auditory spaces that places are sensed, made sense of, and sensually made” (Myers, 2010, p. 61). This “conversive wayfinding” (where conversive captures both the delivery of the authored narrative: the voice ‘talks’ to the walker, as well as the emerging conversations between co-walkers) enables a sharing of “earpoints” as well as a “viewpoints” anchoring the landscape and the soundscape into the body:

It is at those moments of synesthesia, when there is a merging of something I hear with a detail I see, smell or touch in the city around me, that I am able to absorb information that is no longer abstract, but embodied and more imaginatively and emotionally resonant (Myers, 2010, p. 61).

This embodied experience is shared with the co-walker thus facilitating an exchange of points of view, by sharing their experience they allow their companion access to a different perspective. Adapting their pace and rhythm to the environment and each other, Myers argues, “may encourage modes of empathetic witnessing and the co-production of knowledge through collaborative and connected encounter, making it particularly conducive as a participatory ethnographic and artistic methodology.” (Myers, 2010, p. 60).

The landscape, the soundscape, the shared walk and the shared pair of headphones contribute to the forming of Heddon’s ‘friendscape’ (2012).

Whilst walkers might accommodate each other’s pace, the ground accommodates particular forms or shapes of companionship, of being-together. There are walks that contain shared memories; walks that allow the sharing of one’s memory with another; and walks that prompt resonances and contrast, likenesses and differences (Heddon, 2012, p. 71).

The sharing thus depends on who is walking, what they are seeing, sensing and hearing, and with whom they are seeing and sensing and hearing it with.

Furthermore, the environment influences the rhythm of moving, the narrow, winding paths, the steep stairs, the slippery terrain all conspired to make walking together a challenge. Particularly when there were groups of up to four people tethered to a phone (see Figure 47).



Figure 47 Group of 4 audience/players tethered to one phone. *Inchcolm Project*

Heddon observes how the “materiality of the walk” also “prompts certain forms of companionship” (Heddon, 2012, p. 71). The environment impacted on how the audience/players walked together, not just the rhythm but also the shape of the group, whether side by side, one after the other, in a triangular shape so on. This was also a consequence of technological factors, for example the length of the headphones cable or whether a pair of headphones was shared or not. This is how Heddon describes how landscape shapes companionable walk:

The path is wide enough to accommodate us, side-by-side; or its narrowness forces us to walk one behind the other – which usually prompts silence; or the incline is so steep that talking and breathing become laboured – but at the same time, the incline prompts regular, shared breaks – time taken to look back at the view, sometimes to share a warm flask of tea” (Heddon, 2012, p. 71).

On Inchcolm, the audio files were located in scenic locations, usually following a climb so they offered the perfect opportunity to rest and listen, look around, and look behind (see Figure 48). The audience/players who walked together had to negotiate not just the rhythm of walking, but also the breaks in those rhythms, the moments of respite. Following Dorinda Hulton’s observation that place has a dramaturgical function in that it dramatically structures a walking performance (Hulton, 2007), Heddon notes that “The shape of the walk directs the shape that bodies take in the landscape and the shape of the interactions, the relations between them” (Heddon, 2012, p. 71). Designing potential routes for walking in *Inchcolm Project* was a dramaturgical process of alternating between viewpoints and earpoints, between rhythms of movement and moments of stillness, between watching, listening, sensing and talking, between individual and collective experience, between moments of solitary wandering and moments of encounter. This was the backbone of the process of meaning-making, a dramaturgy for a moving body through a sensory-rich, audio and narrative augmented space.

In gaming terminology, *Inchcolm Project* was designed to support different types of co-located play experiences: single player, two-player technology dependent, two-player technology independent, multiplayer technology dependent, multiplayer technology independent (Figure 48). Although the multiplayer option initially stemmed from technological constraint: the Sonic Maps App had no support for Windows phones and limited functionality on Android phones, it ultimately depended on the willingness of participants to share their phone with friends or strangers.



Figure 48 Types of co-located play in *Inchcolm Project*: single player, technology-independent two-player, technology-dependent two-player, technology-independent multi-player, and technology-dependent multi-player.

These formations of bodies constantly moving and rearranging on the island generated a spontaneous choreography: individuals and groups which move to their own individual rhythms while at the same time adapting to the rhythms imposed by the encounter with the environment and other individuals or groups. Some audience/players decided to take different paths and go in the opposite direction from others to have a solitary experience, while some decided to follow the general direction of the group. This resulted in constantly shifting patterns of bodies in space, mini-choreographies taking place simultaneously (see Figure 49), that contribute to the overarching rhythm of the island, a “place-ballet” (Seamon, 1979): “Conducting their own daily activities, people come together in space, which takes on a sense of place. Individual participants using the same space unintentionally create a larger place with its own tempo of activity and rest, bustle and calm” (Seamon and Nordin, 1980, p.35). Edensor similarly discusses the improvised performance of tourists negotiating the busy, heterogeneous space of the Indian bazaar (2000) while Filipa Matos Wunderlich argues for urban design that takes into consideration the rhythmicity of the city, the tempo of walkscapes, the city’s “place ballets” (2008). David Seamon and Christina Nordin argue that the place ballet of the Swedish market place of Varberg is a choreography between two different types of patterns, regularity and unexpectedness (1980), a dance between routine and improvised movement. I would argue that these types of patterns are made apparent in *Inchcolm Project* as audience/participants adjust their routine movement patterns to accommodate the materiality of the walk (Heddon, 2012) and negotiate their direction during the moments of encounter with others.



Figure 49 A place ballet on Inchcolm island, *Inchcolm Project*, 2016

Steve Benford and Gabriella Giannachi discuss interweavings of trajectories and note the importance of orchestrating moments of solitude as well as moments of encounter. They note: “Although it may often be desirable to bring trajectories together, it is sometimes equally important to steer them apart, so as to create moments of isolation and reflection, minimize distractions and interruptions, or avoid competition for limited resources” (2011, 237). Discussing his own participatory work, R.M. Sánchez-Camus compares audience deployment with breathing. In the moments of breathing out the audience goes out to explore, and when breathing in, they come together as a group for moments of collective encounter with the work and each other.

A really good analogy that I have for one of the methods of audience deployment is as a breath; to create moments of assembly and the moments of individual chaos where the audience can choose what to do...you deploy for moments of exploration and then come together for collective moments, deploy and come together, deploy and come together and so on. I see it like a breath. You exhale and the audience goes out and you inhale and they come together for a singular moment and the chaos again. It gives the piece a very good rhythm and flow. (in Machon, 2013, p. 93).

This is a second type of choreography apparent in *Inchcolm Project*, alternating between the moments of solitary exploration and the moments of encounter and exchange: the projection, the musical performance and the post-show discussion at the Hawes Inn pub in South Queensferry. This allows for the

individual and collective aesthetic experiences to be made sense of collectively in a similar way in which gaming experiences are decoded and discussed in forums (see Jenkins' argument about the importance of collective intelligence in fan cultures previously discussed). This echoes Bourriaud's relational aesthetics where participation opens up the work as an arena of encounter and exchange in which meaning is elaborated collectively, interactively, immediately, and intersubjectively (1998 in Bishop, 2006, pp. 160-171). Furthermore, the other audience/players infiltrate the visual frame of the solitary walker, turning the romantic tourist gaze into a collective gaze.

Co-located social multiplayer experiences can be comforting in many ways: they reduce social anxiety, they enable a setting in which the players can learn from one another (social learning) and facilitate emotional contagion and physical feedback loops (see Isbister, 2010; Márquez Segura and Isbister, 2015). The collective aspects of the project have the potential to diminish the pressures of participation and the moments of encounter offered the audience/players the chance to compare their 'progress' with other audience/players and the option of learning or borrowing other 'strategies' of engagement. By watching others perform, for example seeing other audience/players in the distance engaging with an audio or an installation, the participants could decide to go there thus potentially becoming themselves the performer for other audience/players. This is reminiscent of the ghosts in *Dear Esther*, the player is constantly following in their footsteps but never manages to reach them as they always disappear when she approaches. The elusive figure of the ghost was behind the concept of collectively casting the audience/players as the walkers, others who walk on the island searching for redemption. This was repeatedly referenced in the text, most of the audio files which referenced the encounters with the other walkers were tagged in locations where encounters were very likely (see Figure 50 and Audio 2, 4, and 7 in: <https://www.performingplay.co.uk/audio>).

We are the last in a long line of refugees: the walkers, stepping on
the consecrated ground that burns our feet.
We have shunned the world and in so doing the world has shunned
us back.
We walk the shores, the caves and the hills, broken like the waves
that hold us.

There is no salvation here.
Only walls.
(A walled poem, Bozdog, 2016)

I see them sometimes.
Shallow tormented eyes flickering in the immense solitude.
Their footsteps louder than thunder in the depths of stillness.
They begin their ascent here.
Looking for redemption in the heights.
The waves don't offer them any solace.
And so they climb.
Like moths drawn to the light.
They stand on the edge and look out over the sea.
Over the shore.
Over the borders.
And forests.
And fields.
They look out to unseen places.
They look back to long-gone times.
They look forward for homes left behind.
(A poem of Others, Bozdog, 2016)

Dear Rachel,
The horn blasts from the Abbey
At sunset.
Awakening the night.
Raising the fogs.
Scaring the gulls.
Calling the walkers.
Its dull cry echoing our existence,
The mark of our curse.
The horn cries
And an invisible hand pulls us to the Abbey.
High and higher, up the steps,
To the refectory.
Our cursed steps echoing in the walls.
And there we wait.
In the refectory the holy men would share their bread.
We share their silence.
We share our guilt.
In this place of communion, we make our atonement.
(The calling, Bozdog, 2016)

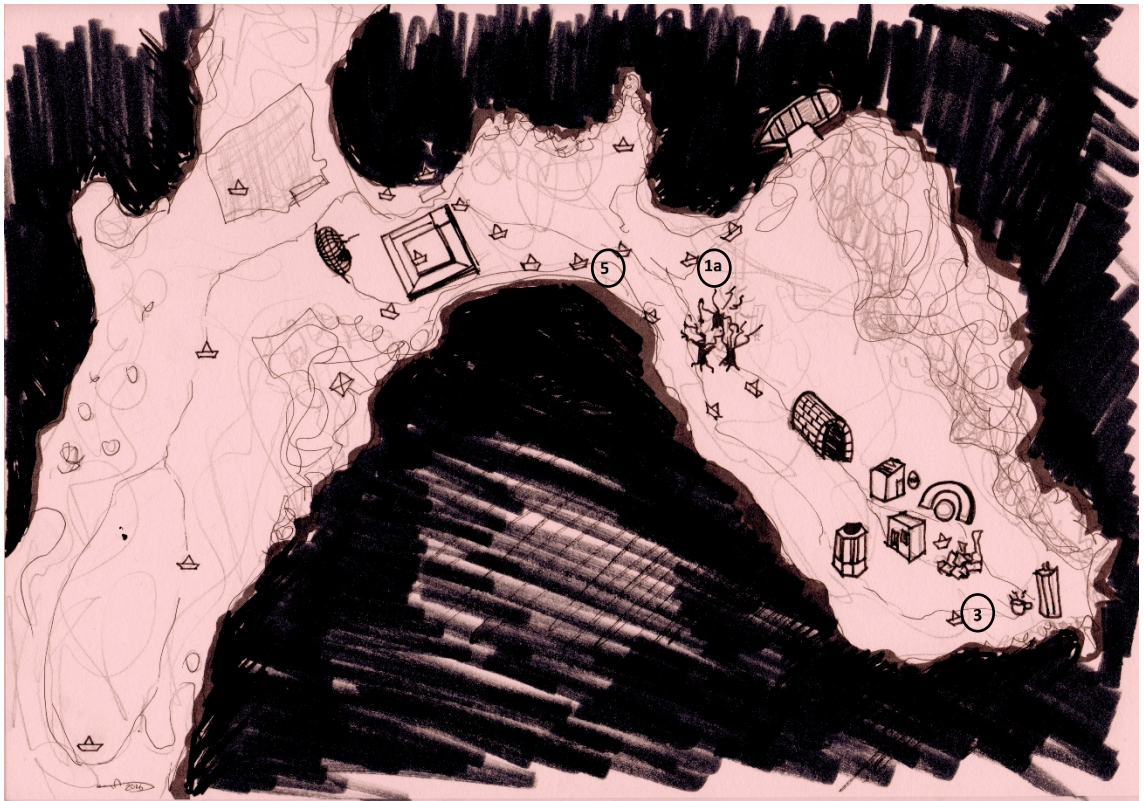


Figure 50 Map with the audio files which reference the walkers, 1a – A walled poem, 3 – A poem of Others, 5 – The calling, *Inchcolm Project*, 2016

The audience/players became each other's ghosts, contributing to each other's narratives, their gameplay story or what Calleja calls "alterbiography" (2011). These others are conjured in the walk, they walk beside them, or better still, as Heddon writes, between them: "Walking, then, has conjured versions of selves I have not yet encountered. It has also ushered in other types of ghosts too as we follow in the footsteps – or walk beside – those who were here before us: the 'and' between me and you" (Heddon, 2012, p. 74). As Heddon suggests, as they walk in others' footsteps, whether these others are their fellow participants, or the ghosts of Inchcolm past, they also might discover things about themselves. Walking thus facilitates journeys of discovery, of narratives, of environments, and of selves.

Stepping on Inchcolm island

Walking unlocks narratives, thoughts, emotions and memories and invites free associations and streams of consciousness. It unlocks imagination and memory, and it allows space for meditation by setting up a slower pace; it allows us to slow down. Rebecca Solnit observes that “While walking, the body and the mind can work together, so that thinking becomes almost a physical, rhythmic act... is a state in which the mind, the body, and the world are aligned” (Solnit, 2002, p. xv). Walking allows us to journey through space, through time and through imagination. The body journeys through space while the mind journeys through thoughts “A rhythm of walking generates a kind of rhythm of thinking, and the passage through a landscape echoes or stimulates the passage through a series of thoughts” (ibid., p. 6). When walking through an environment you take it all in, and as the landscape unfolds so do thoughts, memories, images and recollections of places and walks past. Solnit emphasizes the role of walking as a visual activity which is made possible by the slow pace of walking, or as she calls it, a leisurely tour: “It is the movement as well as the sights going by that seems to make things happen in the mind, and this is what makes walking ambiguously fertile: it is both means and end, travel and destination” (ibid., p. 6). As Solnit observes, walking is pleasurable in and of itself, both a cognitive and aesthetic experience, a rhythm of movement which stimulates thinking, imagination and memory.

Walking in *Dear Esther* is purposefully slow as to allow the time for the story, music, sound, and environment to be taken in. Inchcolm facilitates the same type of slow walking, its steep steps, its narrow winding paths, its derelict and crumbling underfoot, the dizzying heights of some of the more exposed cliffs impose their own rhythm and speed of movement. In designing the possible routes across Inchcolm I considered both its architecture and natural landscape, terrain, textures, echoes and exposure, smells, landmarks, and sounds.

Inchcolm is riddled with aesthetic and sensory dualities, the West side of the island is well looked after, the grass is regularly mowed, and the paths are kept clean and clear. The main tourist attractions, the well preserved 12th century Abbey and the Hermit’s Cell, are located here which means that the tourists are

usually flocking to this side of the island. Phil Smith makes the distinction between ruins and 'ruins', ruined spaces from which ruination has been carefully removed:

'Ruins' are what remain when ruination is temporarily and superficially removed from ruins – those strange places where the grass is mown in the moat, where visitors largely ignore the materials in their hunger for signs, where wooden walkways are constructed for apparent fear that folk may become infected by the thirteenth century (Smith, 2015, p. 67).

The West side of the island is thus a 'ruin', a testament to the island's romantic and monastic history, its wilderness is tamed and its 'deserted' Scottish island aesthetic is carefully staged. This is where legends and histories blend, where myths and the glorious past are celebrated and put on display (see Figure 51).

The East side has been left to ruin. This side speaks of the island's more recent history, a military fort built to defend the capital during the first and second World Wars. These derelict military buildings are reclaimed by vegetation and inhabited by gulls, left in disrepair and mostly ignored by tourists. The few that venture on this side of the island have scribbled on the walls, messages of love, friendship and the odd obscenity have been repeatedly erased by salty winds just to be written over again by persistent hands (see Figure 52). This is what Lorimer and Murray call "foundlings" or "found writing", "ruinous folk-language" which "talks back" to authority and official signage (2015, p. 59). The aesthetic of the palimpsest is perhaps never more obvious than it is here.



Figure 51 One of the many plaques on Inchcolm island celebrating its legendary past



Figure 52 Found writing on Inchcolm island

This is the 'wild' side of the island, where Inchcolm can be itself outside the cosmetic limitations demanded by tourism economy, its heritage status and the

official health and safety protocols. Mike Pearson and Michael Shanks discuss the relation between heritage sites and authenticity arguing that “rupture is essential to the *authentic imagination*” (original emphasis, 2001, p. 118); the spaces that have been left rather than sanitized and ‘updated’ to modern standards, leave room for imagining their past, reading it in the ruins.

In these spaces times coexist, we can imagine their past and visualize their likely future while at the same time deducing the reason for their present state (see also Lorimer and Murray, 2015; Dillon, 2011; Beswick, 2015; Arnold-De Simine, 2015).

The past is invading the present and the future, always taking us out of the now, casting us backwards or forwards in time, as a catastrophe that has already happened or will happen: the past as ruinous present, the present as anticipated cataclysmic future (Arnold-de Simine, 2015, p. 95).

They speak of contemporary values and draw attention to what is valuable in the present, what is monetizable and what is tourist-worthy. Even the world of ruins has its hierarchy and in it the Abbey scores higher. Edensor argues that in industrial ruins “we are haunted ... by the signs of the past that project us back to things we half know or have heard about, recollections of a past we can hardly recognize, and carry us outwards to other places, in the memory or imagination” (2008, p. 137). Ruins “set us adrift in time” (Dillon, 2011, p. 11) while at the same time haunting the present with their undeniable and stubborn physical presence. The analogy of the haunting is also made by Arnold-de Simine who takes it a step further by placing ruins into the realm of the undead or the undying: “ruins are often seen as haunted and uncanny: like ghosts they are unfinished business, in one way or another. They are the unfamiliar familiar that cannot be repressed; they are something disquieting that refuses to die – the ruin and the undead have much in common” (Arnold-de Simine, 2015, p. 95). Which is perhaps why the island in *Dear Esther* and Inchcolm are so well aesthetically suited, they are both filled with the ghosts of the past.

Furthermore, Hugh Wilson having interviewed urban explorers about the practice, explicitly links video games, role playing games (RPGs) and horror films to urban exploration describing it as “an odd mix of Doom, Dungeons and Dragons and archaeology” (2003). He describes urban exploration as a ‘real’

experience of a video game: “In the dark recesses of long forgotten railway tunnels, or among the rusting hulks of abandoned industrial machinery, the thrills of computer gaming or horror movies can be experienced, to some degree, for real” (2003). Luke Bennett takes this a step further and raises the question of whether video games and horror films could be an entry way into the practice, “an extension of onscreen exploration activities”, a “later-in-life manifestation of these formative pastimes: the labyrinth having been encoded through those armchair games of tunnel exploration” (2011, p. 426). In other words, video games can whet the appetite for (urban) exploration. This can be of course looked at in reverse, as (urban) exploration inspired games from *Super Mario* (see Sheff, 1999) to the more recent *The Town of Light* (LKA, 2016)⁴⁵. Video games often strand the player in abandoned and ruined environments in post-apocalyptic worlds where clues to the past are buried in the rubble. Reading the ruin is an important dramaturgic tool in both video games and urban exploration, and one which I wanted to make available to the audience/players of *Inchcolm Project*.

Heritage sites, although historically and archaeological accurate, are reconstructed, brought up to date, modernized, they are contemporary to us but ask that we pretend the past is unfolding now in front of us (Pearson and Shanks, 2001). I argue that the heritage side of the island, the ‘sterilized’ site puts forward a ‘staged’ or ‘curated’ authenticity, whereas the authenticity of the unkept and East side, similar to Pearson and Shanks’ example of the Big Pit at Blaenafon, lies in “the character of the changes we perceive it has undergone” (2001, p. 118).

The ruined landscape on Inchcolm acts as a ‘wormhole’, a crease in the fabric of space and time, recalling its past into the present. The cannon tracks in the battlement, the ammunition and supply tracks cutting lines around the island, the living barracks atop the hill, the communication aerials all share their tales of woe.

⁴⁵ The game’s environments and themes are inspired by urban exploration of Volterra Psychiatric hospital in Italy. See: <https://www.pcauthority.com.au/news/the-dark-truths-behind-the-town-of-light-458893>

On the East side, nature takes its course, seagulls nest and die, vegetation grows, buildings decompose, matter decays and rots. Most of the installations were nested in there, built of organic matter which dutifully started its own process of decomposing thus blending in with its surroundings.

The tourist is unwelcomed here; unlike the rest of the island, this is not a tourist-friendly zone. Here, she is at the mercy of the nature's moods. Seagulls nest here and they have a low tolerance for trespassing (see Figure 53 and Figure 54). Here we see the erosion of time and weather unfolding, we see nature triumphing, we see what 'forgotten' looks like. The passing of time has rendered these buildings irrelevant, not worthy of heritage and tourist attention, they have outlived their usefulness.



Figure 53 Signage on Inchcolm island demarcating the 'wilderness'.



Figure 54 Inchcolm island taken over by seagulls.

This side of the island is alive rather than frozen in time, it confronts the audience/players with time passing and its effects, made visible “through space” (Arnold-De Simone, 2015, p. 95). And in being alive it moves, it shifts and changes, it performs. Left to its own devices it is sensory and aesthetically rich because it offers variety, nurtures diversity and leaves room for imagination and interpretation. Because there are no plaques or signs to tell the story, the visitor can make up her own. I was attracted to this side of the island because it captures the essence of the ‘forgotten’ and it constantly performs its disappearing. It is also a site open to interpretation, improvisation, and imaginative play which stimulates storymaking and storytelling. It proposes a different type of aesthetic, a counter-aesthetic which challenges the romantic notion of the island and its grand narratives. It questions traditional and generalized concepts like island tourism, landmark, and official history. By confronting the audience/players with the “textures of decay” (Edensor, 2008, p. 129) the East side of the island precludes romantic and touristic expectations of islands and heritage sites.

The textures of Inchcolm

Inchcolm's state of dereliction and abandonment (particularly felt of the east side of the island) influences the rhythm of walking. The ground underfoot constantly changes, as the paths are overgrown, collapsed or otherwise interrupted, which forces the walker to find alternate routes, to change course, to devise and improvise new ways of getting around. She needs to stay alert, to pay attention to the environment and deploy all her senses in the process of wayfinding. Tim Edensor discusses walking through industrial ruins observing that these sites despite being often treated as "blights on the landscape" contradict, and critique modern discourses of progress and regeneration (2008, p. 123). These "terrain(s) vague" (Levesque, 2002 quoted in Edensor, 2008, p. 126) support alternative aesthetic, sensory, and narrative experiences and open possibilities for improvisational walking (Edensor, 2008). Walking becomes improvisational in negotiating the crumbling ground underfoot and collapsed structures, but also a playful subversion of what has previously been a highly regulated space, with its productive rhythms and patterns of movement: "spaces that once embraced order may now be violated" (ibid., p. 128). The conventions and order that the site imposed in a previous life are now forgotten and left to ruin with the site. This gives the body permission to play and express itself freely, the opposite of the self-contained manner usually demanded of walkers in convention-regulated, public spaces. Curiosity and impulse pull the walker through a space in which destination and path are constantly shifting: "A path evolves as the walker is called forth by curiosities, potential channels of movement, tempting surfaces and gradients, and peculiar impulses" (ibid., p. 127). Furthermore, in *Inchcolm Project* the desire to discover the audio files demanded that the audience/players push the limits of their physicality and jump, climb, crouch, stretch and reach while at the same time negotiating the unstable and unfamiliar ground. This led to silly, outlandish, and sometimes 'undignified' body poses that would have been hard to justify in a 'public' place, as Edensor observes, while walking in ruins "the body is inadvertently coaxed into a more flamboyant and expressive style, awakening performative possibilities beyond those to which it has become habituated" (ibid., p. 130). The walk through Inchcolm's derelict spaces introduced diverse and sometimes

unusual underfoot textures to the audience/players (see the first part of the walkthrough, up until minute 21: <https://www.performingplay.co.uk/walkthrough> or the experience trailer: <https://www.performingplay.co.uk/copy-of-inchcolm-project>). The more common natural textures: grass, mud, soil, water, pebbles, sand, twigs and leaves alternated with site-specific, less common textures: seagull droppings, the bodies of gulls in various stages of decay, feathers, worms, dead seaweed, bones, snails, salted dried vegetation and rotting wood. Concrete, paved, metal or wooden surfaces sometimes confused the senses as they surprisingly materialized from vegetation. The constantly shifting and unexpected nature of the ground underfoot drew attention to itself, prompting the audience/players to observe their environment closely.

Walking on the West side of the island brought its own variety of underfoot textures. The indoor routes took the audience/players through the 12th Century Abbey, where the architecture, the limited light and the ground underfoot impacted on the rhythm of walking. The darkness, the slippery and uneven stone flooring, the narrow steps smoothed by time and traffic, made the Abbey perilous which meant that risk aversion slowed down the walkers. Furthermore, one does not simply run through an Abbey. By this I mean both that the architecture of a place and its monastic designation conspire to suggest a certain type of 'accepted' behaviour (regulated by tradition), as well as the fact that the architecture of the building presents multiple points of interest which conspire to slow down the walker. Pearson observes that "Religious buildings come freighted with history, with established routines of observance, with atmospheres of piety" (2010, p. 64) and these contribute to the rhythm of walking in the Abbey. All these site-specific constraints shape how the audience/players engage with the environment but also how the environment responds to their presence, for example how it distinctly echoes different types of footwear or footsteps, or how it casts their shadows onto surfaces. The heavy rain that has fallen the day before and on the day of the performance rendered the ground underfoot slippery and muddy, changing and unifying its colour and smoothing out the dents, cracks and crevices in the surface of the stones. This erased all the adhesion that the ground had had before.

Walking outside on this side of the island, sandy beaches, and freshly mowed grass contributed to the palette of underfoot textures. Here, nature is tamed and kept under control, the paths are clearly demarcated and the gulls are kept at bay. This side of the island resembles a garden more than a natural environment, walking here is risk-free and leisurely.

The sounds of Inchcolm

On Inchcolm sounds abound and compete for attention (for example watch the walkthrough from 4:06 to 7:32, <https://www.performingplay.co.uk/walkthrough>). They can distract the walker, intrigue her into changing direction and lure her to venture off the path. They are points of interest in the environment which call out to the walker thus impacting both on the pattern and rhythm of movement. I wanted the journey to offer varied and interesting soundscapes to the audience/players. The sound of waves lapping on the rocky shores was the constant and repetitive backdrop onto which various occasional sounds were layered: the sounds of the wind whirl winding through windowless buildings, tunnels, or trees, the clacking of the elder tree stems, the seagull calls, the sound of foghorns and ship horns blasting in the distance, and the sound of the walker's own footsteps.

Inside the Abbey the wooden floor underfoot creaked, amplifying and propelling the sound of footsteps below and around. The stone flooring muffled all footsteps, and the ancient walls drowned out all the 'noises' from outside. The Abbey was erected as a space for prayer so sonic isolation from the distractions of the outside world and voice amplification are embedded in its architecture (see Pearson and Shank's discussion of monuments and 'morbid echoes', 2001, pp. 119-130). A lot of the Abbey windows have been replaced, keeping the sound of the sea and wind out. The Abbot's House which borders between the Abbey and the sea has not been renovated and the windows are opened to the sounds, winds and smells coming from of the sea (see Figure 55 – location 8, Figure 56, Figure 57). The Cloister is an open space inside the Abbey, where the wind amplifies as it whirls between the columns (see Figure 55 – location 5).

Its odd status as an indoor outdoor is echoed in its soundscape: sounds from outside carry inside where they are amplified by the site's architecture.

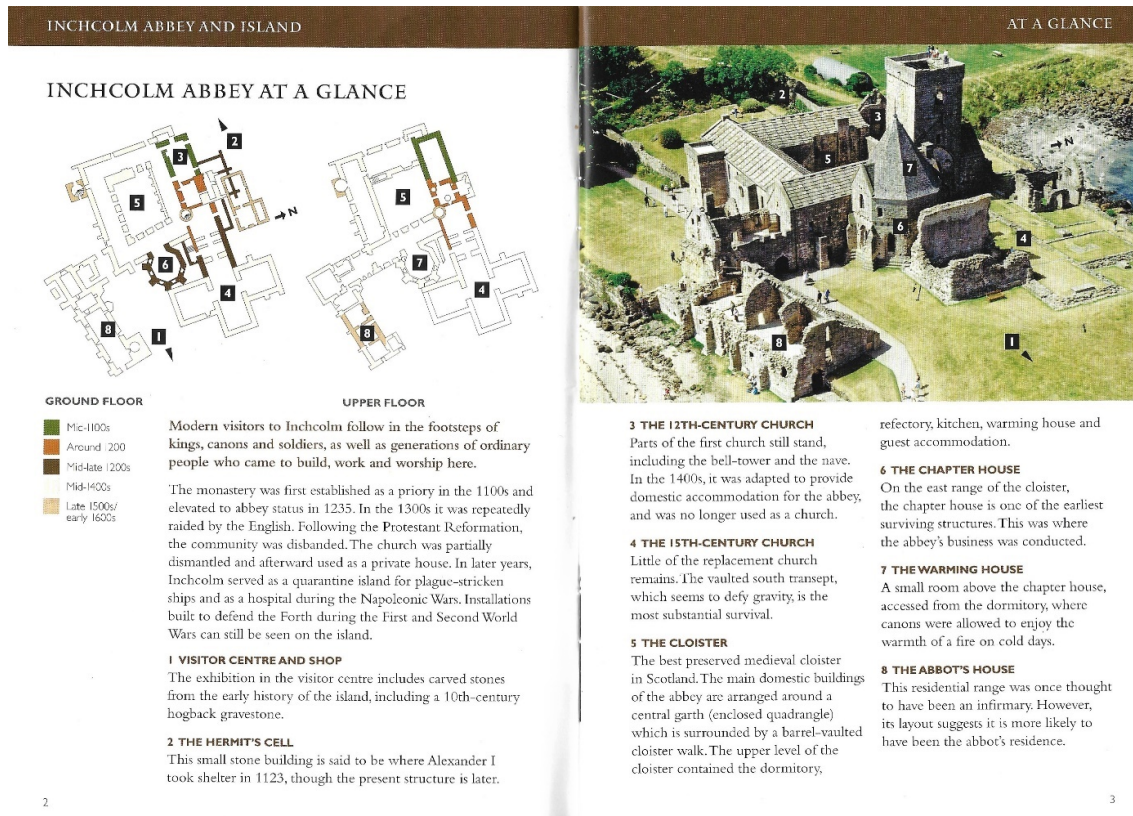


Figure 55 Inchcolm Abbey plan from the Historic Environment Scotland brochure



Figure 56 The Abbot's House outside view



Figure 57 The Abbot's House inside view, audience/players listening to/watching the sea

There were no audio files inside the Abbey because the thickness of the walls blocked the GPS signal. Instead I decided to station two musicians in the Abbey to take advantage of the site's acoustic. The cellists were stationed in the Abbot's House (Figure 58) and the accordionist on the outskirts of the Cloister

(Figure 59) thus adding a layer of music to their already complex soundscapes as discussed above. Furthermore, the accordionist's position was mirroring the site's structure, neither wholly indoors nor outdoors.



Figure 58 The layering of sounds in the Abbot's House soundscape



Figure 59 Douglas Kemp performing in the Cloister wall

Filipa Matos Wunderlich argues that place-temporality is an aesthetic experience “defined by four sensuous attributes and meaningful experiences: a

vivid sense of time; an experience of flow; a distinct soundscape; and rhythmicity” (2013, p. 385).

The sounds that the audience/players encountered on the island alongside the designed sound which was playing in their headphones created the score or the soundtrack to their experience, they walked to the ‘beats’ of the island (for more on how music impacts on walking see Franěk et al., 2014; DeNora, 2000).

The sights of Inchcolm

The landscape and architecture compete with the sounds and textures for the walkers’ attention. The aesthetic appeal of the ruin, what Rose MacAuley called the many pleasures of the ruin (1953), merges with the aesthetic appeal of the island landscape on Inchcolm. I have previously discussed the complex attraction of island spaces but I would like to emphasise here two aspects that they share with ruins: the promise of solitude and the possibility of building anew. Deleuze discusses the attraction of the island: “Dreaming of islands—whether with joy or in fear, it doesn’t matter—is dreaming of pulling away, of being already separate, far from any continent, of being lost and alone—or it is dreaming of starting from scratch, recreating, beginning anew.” (Deleuze, 2004, p. 10). But ruins also communicate abandonment and desertedness, promising escape and isolation, a space outwith control where one can begin again:

What, by outward appearance, is unloved, seems to cry out for fresh kinds of commitment, at a personal level, on intimate terms. In its plight, the ruin communicates neediness, that it has burdens to share. What it offers in return is the promise of isolation and escape, cultivating fantasies, secrecies and associations. And so the ruin becomes the object of attraction in a waking dream (Lorimer and Murray, 2015, p. 63)

Both the ruin and the island struggle to free themselves from the metaphor, to attest their physical presence and detach themselves from the idealized image and the expectation. This can be hard to achieve because as John Urry noticed: “tourism paradigmatically involves the collection of signs” (Urry, 1992, p. 172), the actuality of the site is sometimes framed, if not altogether disregarded, in order to fit the stereotype. In *Inchcolm Project*, Inchcolm is found and

interpreted through walking, feeling and sensing it, a type of embodied knowledge that only the (moving) body can afford.

Inside the ruin looking out alternates with looking down, as obstacles and unstable underfoot present an immediate danger and therefore require constant attention (Edensor, 2008). The constant negotiation of obstacles in the surroundings puts a strain on the body, requiring audience/participants to stop and catch their breath. Audio files were usually located in these moments of respite, at the top of stairs, in between ruins, so as to allow the audience/players the opportunity to stop for breath, to listen, to look out, and to reminisce: “we may also suddenly become aware of body strain, the texture of the immediate surroundings and the eruptions of memory” (ibid., p. 134). This ability of the sensorial to bridge between times and spaces is not a new concept, Bergson noted as far back as 1896 that “there is no perception which is not full of memories. With the immediate and present data of our senses, we mingle a thousand details out of our past experience” (1988, quoted in Feld, 2005, p. 181).

In the ruin, sight not only loses its primacy amongst the senses but becomes multi-sensual “inextricably embedded in the work of all the other senses in the body’s interaction with its surroundings” (Edensor, 2008, p. 135). Edensor argues that this synaesthetic ability of sight is a consequence of the alternative aesthetics encountered in ruins (2008). Unlike the city where space is curated to facilitate efficient and effective walking guided primarily by sight, the ruin puts forward an eclectic collection of unlikely objects, structures, textures, smells, and sounds which slow down, interrupt or stop the walker, and which require the collaboration of all the senses to decode (ibid.). The mise-en-scene of Inchcolm’s ruins stands out because it is an assemblage of unusual shapes and forms, crumbled and broken textures, invaded by the nature, vegetation growing from cracks, insects crawling on the walls, seagulls nesting in corners, soil overflowing from door and window sockets, water infiltrating and gathering in indoor puddles. The audience/players encountered “strange or accidental sculptures, things located in odd situations, juxtapositions of things and eccentric compounds of matter” which are an unusual sight for “a gaze attuned to visual orderliness” (ibid., p. 134). This “alternative aesthetics” embraces

disorder and “opens out heterodox possibilities for appreciating beauty and form” (ibid.).

Edensor notes that “we may sense these sights in other ways other than visual, for sights may conjure up an apprehension, for instance, of texture, weight and smell” (ibid., p. 135) so sight can also function as a gateway to the other senses, the eye developing a tactile ability (see Barker, 2009). Machon similarly observes that “sight can become tactile through looking and looking again at the sensual aesthetic of the work, which activates a sensory involvement akin to touch within the act of looking alone” (2013, p. 78). The alternative aesthetic of the ruin conspires with the extra-ordinary aesthetic of the island to overturn the hierarchy of senses, to endow sight with multi-sensory abilities, and to instil in the audience/players an appreciation for unusual, atypical and uncommon forms, shapes and structures.

The limited visibility due to the lack of artificial lighting, collapsed structures and slippery and uneven ground underfoot, demanded that the audience/players focus their sight on the feet while they negotiate the trajectory through the ruins. In the tunnel, where the audience/players walked through pitch darkness the sense of sight was temporarily completely removed which emphasized the importance of the other senses, and the light events, moments where the black torch caught the fluorescent tape or when they encountered the musicians tangled in *El-Wire* (Luci during the first performance, and Louisa during the second) (see Figure 60). Occasional darkness rendered sight special by challenging the tendency to take it for granted, while at the same time encouraging the audience/players to explore the full extent of their sensorium. This leads to a shift in perception which: “occurs when sight is removed and space is reconfigured” and that urges audience/players “to attend by using the full sensorium in experiencing the work. This serves to accentuate embodied perception by heightening holistic sensory awareness” (Machon, 2013, p. 81). In the tunnel the few visual stimuli were designed to contribute to a heightened sensory experience. In the Abbey, the musicians and the installations were set up in areas where little natural light made its way in, aiming to create a similar enhanced sensory experience (Figure 61).



Figure 60 The visual-events in the tunnel. *Inchcolm Project*, 2016

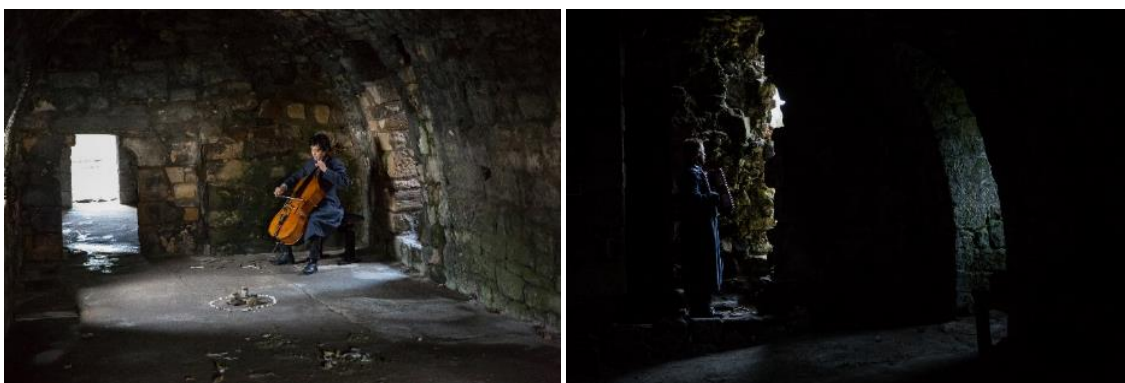


Figure 61 Musicians in the Abbey. Atzi (Cello) in the Abbot's House, Douglas (accordion) in the Cloister

The sense of sight also functions to draw attention to the other senses. Urry notes that because they are visually distinctive, a place out of the ordinary, touristic destinations are appealing to the tourist gaze and endow all the other connected activities and senses which take place in that environment with “a special or unique character” (Urry, 1992, p. 172). This experience becomes a special event of “striking, almost sacred, importance” (ibid., p. 173). Urry flags up the dangers of an excessive emphasis on collection of sights (sightseeing) and associated objects (photographs, postcards, souvenirs). He argues that this process of accumulation can sometimes substitute the process and experience of travel (ibid.). In *Inchcolm Project* this danger is counterbalanced by a type of experience design in which sight is only one aspect of the experience, where sounds, textures, smells, tastes and haptic information are equally emphasized. Edensor, similarly regards sight as gateway, not just to other senses but to other times and other spaces. The sights thus facilitate travel in time and space, but also in memory and imagination (see also Solnit, 2002):

While we walk we always travel elsewhere, not just along the immediate path but outwards to distant sights and scenes, back to the past and to places in the imagination, and to remembered smells, noises, and non-visual sensations, often those which are stimulated by the sights of the journey (Edensor, 2008, p. 135)

Urry distinguishes between the romantic and the collective tourist gaze (1990, later he added three additional categories: spectatorial, environmental, and anthropological, 1992), where the former emphasizes “solitude, privacy, and a personal, semi spiritual relationship with the object of the gaze” and the latter emphasising conviviality (1992, p. 173). In the former the presence of other people interferes and disturbs the tourist who is seeking a private and elitist experience based on the expectation that the sights are for her eyes only. The latter celebrates the presence of others, their very presence enriching the view. Here the tourist engages in a sort of ‘people-watching’ where “other people are necessary to give atmosphere or a sense of carnival to the place” (ibid.). It is perhaps worth noting here that *Inchcolm Project* also opened up possibilities for a shared gaze, not necessarily watching others inasmuch as watching, and walking, with others. During *Inchcolm Project* some audience/players sought the romantic experience of solitary exploration of an uninhabited Scottish island and

did so by distancing themselves from others. However, their view of the island took the shape of the collective gaze, as other audience/players would unavoidably be 'in the shot'. Urry observes that the proposed types of gaze are ideal and in practice the tourist gaze alternates between them (1990, 1992).

So far, I have mostly discussed the aesthetic of the ruin, but on Inchcolm island the ruin and the island are visually intertwined. Due to the small size of Inchcolm, the seascape is visible from every point, creating a combined aesthetic with the ruin and the natural environment (see Figure 62). I understand seascapes to be "the visible interaction of abiotic, biotic and human processes developing on the earth surface over time [...] on the coast, sea and adjacent waters" (Pungetti, 2012, p. 52). The coast therefore delineates between seascape and landscape, allowing a view towards both. On Inchcolm, the ruins are part of both the seascape and the landscape if seascape is understood, as Gloria Pungetti argues, to afford "views from land to sea, from sea to land and along the coastline" therefore "an area of intervisibility between land and sea" (ibid.). As illustrated in Figure 62 the sound-files were located in areas which afforded the audience/players ample views over the landscape, the seascape and the coast which unites them, creating a combined aesthetic or a lens of "intervisibility" between them.



Figure 62 Combined aesthetics on Inchcolm island: the ruin, the seascape and the natural environment. Each image has been numbered with its corresponding audio file, please see: <https://www.performingplay.co.uk/audio>

The smells of Inchcolm

Inchcolm Project confronts the audience/players not just with an alternative aesthetics but with smells and tastes that are distinct to mainland and urban smellscapes and tastescapes. The taste of salt is omnipresent on the island as the sea wind dries on the visitor's lips. The smellscape, is constructed similarly to the soundscape, with a predominant background smell: the sea smell, onto which occasional site-specific smell-events are layered: seaweed, sewers, mold, rot, humid wood, decay, mud, freshly cut grass, wet sand, cleaning products, toilet sanitizer, seagull droppings, wet feathers, rubber, perfume and deodorant. Jim Drobnick proposes the term "heterosmia" to capture the condition of the postmodern museum spaces where various smells from various types of spaces and sources combine (gift shops, cafes and exhibits) (2005, p. 269). This is an "unintended result of the mixing and close juxtaposition of previously separated activities" and stands in opposition to the anosmic (smell-less-ness) of the white cube (ibid.). The heterosmia of Inchcolm was a combination of scents exuded by the ghost, the host, and the participants. Some smells occurred naturally on the island, whereas others emanated from the installations that we brought to the island, from other audience/participants and from the performers. Some of the island's scents were so subtle that only an enhanced awareness could reveal them. By engaging in sensory walks on Inchcolm I paid increased attention to olfactory information and wrote down memorable and distinct smells, a methodology that Victoria Henshaw called a "smellwalk" (2014). This revealed the subtle and hardly noticeable scents of the island. These are what Drobnick calls "pungent loci" the smelly spirits of the place which "exist at the edge of sensory awareness even as they demarcate the physicality of a place" (2005, p. 275). I decided to amplify some of Inchcolm's pungent loci, for example the smellscape of the Battlement composed of smells of wet and decaying wood, rot and leaves was enhanced by adding more leaves, landscaping bark, wood, twigs and moss inside the building (Figure 63). Similarly, by adding five kilograms of feathers in the Broken Eggs installation (Figure 64) I aimed to enhance the smell of birds nesting that was subtly felt in the building.



Figure 63 The Battlement installation



Figure 64 Broken Eggs installation

I also used sound to draw attention to the smells, by either referencing the smell indirectly in the text (for example Audio 15 - *Infection* was played where the smell of the septic tank was particularly strong:

<https://www.performingplay.co.uk/audio>) or by tagging audio files in the area thus forcing the audience/players to spend time in that areas while the audio was playing thus increasing the chance of encountering the smell. For example, the lullaby, Audio 25, *Big Ship* was installed in the Capsized Boat installation to draw attention to the complex smellscape of the Broken Eggs installation, the artificial rubber smell exuding from the dinghy and the naturally occurring odours of decay, mold and rot in this area which was constantly flooded and overgrown, see Figure 65, and <https://www.performingplay.co.uk/audio>).



Figure 65 The flooded area in between the Capsized Boat installation space (left) and the Broken Eggs installation space (right)

The scents used to amplify the olfactory dimension of Inchcolm were all naturally designed. I did not use any artificial smells or scent diffusers because I wanted to draw attention to the richness of scents already present on the island. By amplifying the olfactory print of some of these locations I aimed to heighten the audience/players' olfactory attention to the environment. Referring to museum and gallery spaces, Drobnick observes that unlike artificial smells usually deployed for commercial use

the presentation of scent in a context-specific manner still holds a potential to reconfigure the museum experience. [...] exhibits that include extra-visual sensory experiences grant heightened status to

the subjective nature of knowledge production, and foreground experiences that are partial and uncertain (2005, p. 271).

Walking through the sensory-scape of Inchcolm island, the audience/players become co-authors of their individual experiences, they follow sounds, images, memories, stories and their senses, constantly negotiating both the terrain and the narrative. Discussing the postmodern museum which affords sensorial as well as educational experiences and which behave simultaneously like a “conserve and display” museum and a theme park, Tracy Davis, likens the visitor experience to a performative encounter with the ideology and the mise-en-scene of the museum and its curatorial policy (1995). They are

in part like the audience of a realist stage play deciding whether to be caught in the simulacrum of a depicted time and place, and in part like the spectators at a promenade performance where they are at liberty to move from staging post to staging post and direct their attention at will (Davis, 1995, p. 16).

The audience/players’ agency is expressed through walking which leads to the encounter with the designed elements of the performance, the sensory-scape of the site, and their fellow participants. Furthermore, by foregrounding the experiential, this encounter leads to a subsequent negotiation of meaning, rather than a passive consumption of a story. As Drobnick similarly observes about visitors of the postmodern museum spaces: they “‘perform’ rather than ‘consume’ the content” (2005, p. 271). This type of agency, however, is only possible in spaces which allow for a multiplicity of senses and a plurality of sensory interpretations to come to the fore, spaces which do not prioritize text and the visual and which are not made homogeneous through sanitising and deodorising. As opposed to many urban spaces which have been transformed into “blandscapes [...] aseptic places, created by the modernist drive towards deodorization, that are so empty that they lead to an alienating sense of placelessness’ (Drobnick, 2002, p. 34), Inchcolm is an “empire of the senses” (Howes, 2005) where textures, temperatures, tastes, sounds and smells break the “olfactory silence” (Classen et al., 1994, p. 203) and contribute unhindered by commercial or aesthetic demands to the island’s identity. As previously discussed attempts have been made to tame the West side of the island, to close it off from its natural surroundings, to better align with the heritage status

of the island and touristic demands. Which is why the conflict between time, nature and preservation interests is palpable here. The risk of the West side becoming a bland landscape and therefore losing its sensory identity is weighted against disappearance, and this is what makes preserving Inchcolm island a challenge.

It is precisely this distinct sensory identity which contributes to the experiential and embodied nature of *Inchcolm Project*. The olfactory identity of a place has been called by Drobnick an “aromatopia” which similar to Foucault’s heterotopia (1986) is a site of “polyvalency where orthodox behaviours are shed and alternative possibilities temporarily inhabited. The intensity and diversity of smells demarcates the museum’s experience as decidedly ‘other’ – one olfactorily coded to be outside the routine of the ordinary and everyday” (Drobnick, 2005, p. 270). Inchcolm’s scents can break the olfactory routine of the audience/players, all of them city dwellers, and etch the event in the embodied memory of the event. Douglas Porteous similarly noticed that smellscapes can be appreciated when the “habituation effect” is broken, when the nose encounters unusual scents (1985). There are three different smellscapes on Inchcolm that hold the potential to invoke the “odoresque” (Drobnick, 2002, p. 33), each distinctively unique: the shore smellscape, the inland smellscape, and the ruin smellscape. Drobnick argues that smellscapes have the potential to invoke a reaction similar to landscapes’ picturesque qualities, an “affective responses to place-specific smells” which “engages with the spectrum of emotional-aesthetic experiences much like what is encountered when the term picturesque is invoked: experiences which range from the beautiful and memorable to the inspiring and sublime” (2002, p. 33). *Inchcolm Project* aimed to facilitate this type of experience by affording the audience/players the possibility to encounter varied and unfamiliar smellscapes. The shore smellscape combined the salty sea scent, with the distinctive scent of Scottish beaches where the fresh and/or putrid smell of fish, kelp, mussels, cockles and clams combines with the smell of wet sand. The smell of vegetation growing wild and wildlife (rats, sea birds, insects) combined with the musty smells associated with increased precipitation and humidity: mold, rot, mud, decaying wood and leaves to create the inland smellscape, which is in turn a

combination of a woodland and a shore smellscape. Edensor notes that the ruin faces the visitors with “unfamiliar textures of decaying materials” (2008, p. 132). The smells of decay are equally unfamiliar: rotting wood, cement decomposing, humid brick and soil combine to create the ruin smellscape.

Arguably more than any other sense, smells hold the potential for recall and affective memory. Bachelard called them “sublimators of the essence of memory” (Bachelard, 1969, p. 140) while Leslie Hill and Helen Paris have noted their emotional and affective potential: “Not only does smell so fully and comprehensively reveal memories of the past, it also re-invokes the emotion connected with that moment” (2014, p. 40)⁴⁶. By offering three distinct smellscapes *Inchcolm Project* invited and welcomed recollection, offering the audience/players numerous possibilities to reminisce. Its ability to evoke and invoke alongside its individual and personal nature make smell an important aspect of any experiential and aesthetic activity as Hill and Paris observe: “Smell can be a hugely potent player in live performance, a pervasive silent stalker that seeps inside us, unlocking past memories, secrets, feelings and intensities” (Hill and Paris, 2014, p. 40). And this is another important aspect of smell, its intrusiveness and omnipotence, its power to linger and haunt. Smell cannot be contained nor evaded/avoided and it enters our nostrils whether we want it or not.

Sadly, smell, perhaps more than all other senses, has been pathologized and associated to all things natural and animal (as opposed to civilized) and affective (as opposed to cognitive) and therefore undesirable in an exhibition space (Drobnick, 2005; Howes, 2005). This has led to its exclusion from architecture, urban planning, and social sciences as well as the arts and humanities (Henshaw, 2014; Henshaw et al., 2018; Howes, 2005; Quercia et al., 2015). Smells have been eliminated from the white cube, the museum and the gallery (Drobnick, 2002; Drobnick, 2005), whereas performance makers

⁴⁶ Through their practice Leslie Hill and Helen Paris have explored the potential of smell in performance. Curious’ programme for the performance *On the Scent* asks: “*Have you ever been taken unawares by something in the air - transported to another place and time by an intangible but achingly familiar scent?*” which I feel encapsulates the potential of smell to be at the same time omnipresent and inescapable. <https://www.artsadmin.co.uk/projects/on-the-scent>

have only relatively recently started exploring the potential of scents (Banes, 2007; Di Benedetto, 2010; Hill and Paris, 2014). Needless to say, smell is one sense that still challenges video game developers⁴⁷, which is why I believe that the smellscapes of Inchcolm island have the potential to seep into the gameplay experience of *Dear Esther*, attach themselves to the affective memory of the game, and perhaps open the possibilities for exploring new avenues which coalesce olfaction and gameplay.

Stepping in(to) *Dear Esther*

Stepping inside the Abbey for the projection of the *Dear Esther* gameplay the audience/players underwent a series of transitions: from outside to inside, from interacting with to watching, from an individual mode of reception to a communal one, from a small screen (their phones) to a large 'screen', from in-ear to loudspeaker. Furthermore, the gameplay experience itself changed by modifying the form of reception (from individual and intimate to communal and public) and display (from a high-resolution monitor to projection onto a granulated, uneven and broken wall). Moving from outdoors to indoors brought with it a series of sensory changes. Inside the Abbey the audience/players were sheltered from direct wind and showers, although a strong draught was still present, and the rooms were humid. They lost the warmth of the sun and natural light: the windows were darkened to increase the visibility of the projection. The Abbey smelled of damp and occasional whiffs of sea air which made its way around the windows. The audience/players needed time to adjust to the darkness, and artificial lighting (candles) was introduced to facilitate their safe navigation through the large hall. Despite the size of the room the audience/players grouped in the centre in close proximity to one another (Figure 66). This was probably an attempt to keep warm as the room temperature was

⁴⁷ There are a few games which are centred around a smelling mechanic or explore smelly controllers although none of them has enjoyed popular or critical success: *Butt Sniffing Pugs* (Spacebeagles, 2015, <https://kotaku.com/a-dog-butt-game-controller-built-with-disabled-gamers-1739059297>) or *What's That Smell* (Wowwee, <https://whatsthatmell.wowwee.com/>) are good examples.

cold and they were no longer moving. This led to the viewing being intimate despite its communal nature, the audience/players becoming an audience and settling in into a more traditional spectating role. The soundscape became a layering of sounds originating from the audience, from the game, from the player (the clicking of buttons), and the occasional bursts of wind blowing through the Abbey.



Figure 66 *Inchcolm Project* audience clusters during the projection.

By projecting the game on the island and inside the Abbey, the gameplay experience was incorporated into the lived, and embodied experience of *Inchcolm Project*. Using the game within the performance aimed to upset and blur both the frames, thus creating a hybrid experience which forces the audience/players to develop a ‘vocabulary’ for critical assessment and affective interpretation. This critical stance becomes possible particularly because the two frames disrupt each other and draw attention to their fiction, constantly reminding the audience of the limits of the simulation and representation, as Gabriella Giannachi notes:

The theatre of the hypersurface is not immersive but it simulates immersiveness. As the multiplicity of perspectives generated by the encounter of the real and the virtual becomes apparent, the viewer

may experience and experiment with them – being both present in the work and *verfremdet* estranged from it (2004, p. 95).

The projection immediately evokes their immediate experience of *Dear Rachel* by bringing the adapted and the original “text” in spatial and temporal proximity. The game projection can be seen as a cutscene, a “lean back” moment (Katz, 2010; Vosmeer and Schouten, 2014) where their agency is temporarily removed, which grants them access to a parallel narrative within the same fictionalized world. This is perhaps why some participants have interpreted it as either a sequel or a prequel to their own experience around the island facilitated by the projection of a narrative space within a narrative space (this will be further discussed and illustrated in the Feedback Discussion chapter).

Projecting the space of a navigable, 3D environment, onto an Abbey wall, darkened by time, cracked through temperature fluctuation and salt erosion, forces the two realities to collide. The image was physically pierced by corners and sharp edges as it slipped/dripped/poured into crevasses and dents. The virtual world of the game was not simply superimposed on a surface, rather it merged with it creating a hybrid surface, or a hypersurface (Giannachi, 2004) which melted image into surface to a degree in which neither could be distinguished from the other. The oversized projection took over the arched wall, bleeding onto the ceiling and neighbouring corners, creating a sensation of engulfment, an illusion of 3D, which surrounded and physically immersed the viewers into the game environment (Figure 67).

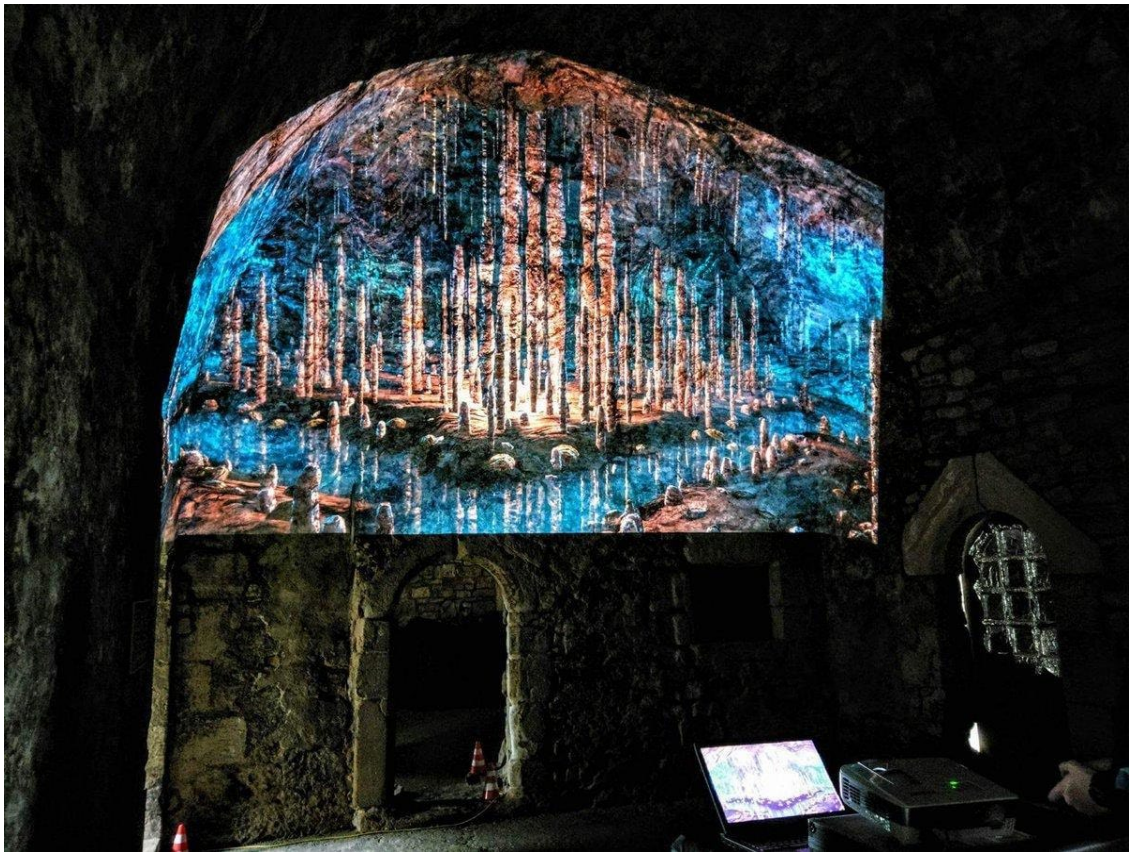


Figure 67 Dear Esther projection inside Inchcolm Abbey

The two worlds sabotage each other and take turns being centre-stage. The image is absorbing and hypnotic, pulling the viewer in, whereas the physicality of the surface acts as a constant barrier, constantly asserting its presence by distorting the perfectly rendered graphics. The surface constantly reminds the viewer that she is suspended between the two worlds, here, on this cold, humid island and there, on that cold, humid (virtual) island. The physicality of the viewer's body acts as a similar reminder. The cold penetrates her wet clothes just as the edges of the wall penetrate the image. The salty sea air, the pungent seaweed smell, the wet October wind, make their way in, through the Abbey windows and into the dark Abbey room where the real and the virtual briefly coexist. It is particularly this brief coexistence, facilitated by the spatio-temporal proximity of the two worlds that allows for a 'cross-contamination' of sorts: the viewer in this limbo state can accumulate and record information from both

worlds. This is one consequence of the intrinsic liminality of these types of spaces, as Giannachi notes:

Because the hypersurface is a liminal space, the viewer can double their presence and be in both the real and the virtual environment simultaneously. In other words, the viewer may be part of both the realm of image and the sphere of the real, and may modify one through the other (2004, p. 95).

I believe that this 'cross-contamination' of the virtual with the real and of the real with the virtual is one of the most exciting aspects of the *Inchcolm Project*. The virtual Boreray, the physical Inchcolm and the fictionalized Inchcolm collided in the hypersurface of the projection forcing the audience to negotiate all the sensory and embodied information that they accumulated by walking in and in between all three islands.

Dramaturgy of assemblage and the aesthetics of the palimpsest.

The development process of *Inchcolm Project* required a parallel process of dramaturgy through which the overall themes were kept in check at a macro level across all components of the project (performance, projection, musical performance) and at a micro level, in each individual element. This involved 'pruning' – removing everything which could offset the meaning-making process, and a process of assemblage, an improvisational type of composing, or what in performance practice is called devising: "a process of creating performance from scratch, by the group, without a pre-existing script" (Heddon and Milling, 2006).

Devised performance demolishes both the supremacy and the primacy of text, opting instead for a critical and democratic if sometimes serendipitous accumulation of fragments. Pearson and Shanks observed that: "Devised performance, as contrasted with conventional theatre, results from the identification, selection and accumulation of concepts, actions, texts, places and things which are composed and orchestrated in space and time" (2001, p. 55). This does not mean, however, that there is no overarching concept, on the contrary, the concept or the main theme of the piece becomes of paramount importance as it encompasses a "set of governing aesthetics, ideologies,

techniques and technologies” (ibid.) which insure the coherence of the performance. These fragments, in my case, were images, bits of text, locations, smells and sounds, textures, in no particular order or hierarchy. Due to the cross-disciplinary nature of *Inchcolm Project* and its dialogical nature with both the game and the site, it was important that the working process allowed me the flexibility to work across disciplines in parallel and with no pre-established order. Ensuring that the overarching themes and concepts are consistent and clear in all the elements of the performance is the process of dramaturgy: “What begins as a series of fragments is arranged in performance: dramaturgy is an act of assemblage” (Pearson and Shanks, 2001, p. 55).

Dramaturgy is therefore a collection of seemingly disparate elements and the bonds which hold them together, both structurally and narratively: “Although diverse and seemingly disparate, the many threads of such a performance are, however subtly, held together and orchestrated according to a set of structural and narrative principles” which can “perhaps be viewed as a complex narrative in its own right” (Turner and Behrndt, 2008, p. 32). Dramaturgy thus becomes a world of possible meanings and interpretations, both at the level of production (engendered by the authors) and at the level of reception. Cathy Turner and Synne K. Behrndt have observed that the shift from traditional theatre to performance and its equal emphasis on all the elements of the performance event has provoked a similar shift in how we define and think about dramaturgy (2008). They write:

All of these describe the turn from a compositional logic based on the primacy of the verbal text, to a logic according to which this primacy is not assumed, so that other elements (visual, sonic, physical) may be equally significant, or may dominate (2008, p. 31).

In my process, I have embraced Pearson and Shanks’ analogy of dramaturgy as assemblage because it suggests that the assembled whole, is in the same time distinct and larger than any of the components. It also suggests an interdependency, each component has the potential to shape and focus the reading and interpretation of all the others and of the whole: “Material in one track will inevitably mediate material in another; they are read and interpreted onto, into and through each other, whether they have natural affinities or not” (2001, p. 25). And finally, they view dramatic structure as a stratigraphy, a

layering of distinct but interconnected strata: “text, physical action, music and/or soundtrack, scenography and/or architecture (and their subordinate moments)” (2001, p. 24) each with the potential to convey different themes at different times.

I was particularly drawn to a dramaturgy of assemblage because it celebrates unlikely dramaturgies and seemingly absurd assemblages, it embraces the multiplicity of meanings and interpretations encouraged by a design which foregrounds the interpretive and critical abilities of the audience/players, it blurs the lines between fiction and ‘reality’, authenticity and inauthenticity, site and work:

It may be possible to create theatrical presentations which are not reliant upon the reenactment and singularity of interpretation of conventional dramatic practice, which make no pretence at verisimilitude, which juxtapose alternative interpretations simultaneously, which reveal site continuously and which serve to evoke rather than to monopolise meaning, rupturing rather than consolidating. Such interpenetrative hybrids may include anachronism, lack of congruence, fantasy, the overlaying of ‘like’ and ‘unlike’ in order to stimulate the imagination of the spectator, to provoke questioning and to embrace her in an interpretive and critical process. Their parts never fully coalesce and they contain irreconcilable discontinuities within their juxtapositions of material. They are purposefully unauthentic (Pearson and Shanks, 2001, p. 119).

The analogy to stratigraphy is perfectly suited if we recall Hutcheon and O’Flynn’s observation about the aesthetic of the palimpsest present in adaptation. Adaptation, they argue, foregrounds the “doubled pleasure of the palimpsest: more than one text is experienced – and knowingly so” (2012, p. 116). The ‘original’ text (*Dear Esther*) and the adapted text (*Dear Rachel*) are both ‘written’ onto Inchcolm which brings a third dimension to the aesthetic of the palimpsest, observing how the medium impacts on both ‘texts’. It is perhaps not surprising that the movement through the space has been likened to a simultaneous act of reading and writing, whereas the space itself takes the form of a palimpsest: “each occupation, or traversal, or transgression of space offers a reinterpretation of it, even a rewriting. Thus, space is often envisaged as an aggregation of layered writings – a palimpsest.” (Turner, 2004, p. 373). The aesthetic of the palimpsest is thus present in the making of the work and in its

subsequent reception as both reading and (re)writing. The three strata (text, adaptation, and medium), their components, and the relationship of interdependency between them shaped the dramaturgical process of *Inchcolm Project*.

In *Inchcolm Project* this dramaturgy of assemblage consisted in designing moments of encounter (interaction), and the journeys between them. At the creation level, the process is fraught with tension, a constant conflict between the desire to tell and the desire to leave the work open, to invite and stimulate multiple interpretations. At the reception level, the process of meaning-making is embodied and therefore highly personal. The audience players journey around the island and interact with both designed and found narratives, environments, soundscapes, textures and smellscapes and in this interaction they discover/become aware of the prowess of their own body and its meaning-making abilities. Josephine Machon introduces the concept of (syn)aesthetics to account for the sensory dimension of dramaturgy, a concept which foregrounds the two-fold aesthetic of performance: making-sense/sense-making (semantic and somatic) at both the level of production and the level of reception (2009). (Syn)aesthetics is defined as “an aesthetic potential within performance which embraces a fused sensory experience, in both the process and the means of production, as it consists of a blending of disciplines and techniques to create an interdisciplinary, intertextual and ‘intersensual’ work” (ibid., p. 14). At the level of making, (syn)aesthetics can be seen as both a style of production which embraces a semantic and sensory aesthetic, and the process of making the work, of designing this combined somatic/semantic experience through various design strategies (set and costume design, narrative design, sound design, interaction design, journey/route design). At the level of reception making-sense and sense-making are fused in the embodied experience of the work: “This fusing of sense (semantic ‘meaning making’) with *sense* (feeling, both sensation and emotion) establishes a double-edged rendering of making-sense/*sense*-making and foregrounds its fused somatic/semantic nature” (ibid., original emphasis). A (syn)aesthetic approach was integral to my dramaturgical process because *Inchcolm Project* demanded that the audience/players engage both their sensory and cognitive abilities to interpret their experience. I therefore

approached dramaturgy as the process of designing both a narrative and a sensory journey which foregrounds the opportunities afforded by the site and the body moving through it.

Dramaturgy as a sensory journey focused on maximising the potential for encounters with the found site and all its components, its physical, symbolic, narrative and sensory presence, by creating routes around the island which facilitated these encounters. But it also focused on devising ways of amplifying these aspects through design, as discussed in previous subchapters. These two strategies place the found site (the 'host') and the performance (the 'ghost') in a reciprocal relation by which they reveal, complement and/or contradict and emphasise each other. From a dramaturgical standpoint, the challenges were to allow equal 'spotlight' time to each, as well as developing a type of design which, on the one hand, facilitates and stimulates multiple interpretations and, on the other, creates echoes of the gameworld of *Dear Esther*.

I facilitated the encounter with Inchcolm's islandish, ruined and wild landscape (and seascape) by inviting the audience/players to explore the island, opening the host to their processes of sense-making and making-sense. I added an extra motivator through handing them a map which hinted that there was hidden information on the island. The sound files and the installations drew attention to the environment while at the same time being enriched by it. This was a result of the site-responsive nature of the design process: the narratives, sounds, visuals and scents of Inchcolm were initially mapped and then incorporated into the design. Multiple 'readings' of the site were encouraged through the very nature of the site: the fragmented aesthetic of the ruin (Edensor, 2008) and the marbled pattern of the landscape (natural/built environments and materials, seascape/landscape, landscaped/wild), the sporadic and fleeting occurrence of the smells (Porteous, 1985; Drobnick, 2002), the alternating and layered nature of the soundscape (diegetic/non-diegetic, sound/music, mediated/unmediated), and the abstract nature of the installations. Edensor's observation about the experience of ruined space can be easily applied to Inchcolm island: "In encountering ruined space, by contrast, the body is enlivened and challenged by a wealth of multi-sensual effects – including smells, sounds and tactilities – which thwart any distancing manoeuvres that prioritize the visual" (Edensor,

2008, p. 132). The sensory dramaturgy of Inchcolm was exposed by designing varied routes around the island, routes which engaged as many different senses as possible. Thinking about an acoustic dramaturgy similarly challenged me to alternate between moments of silence and moments of sound, between environmental and designed sound, between mediated and unmediated listening experiences, between the voice in the ear and surround sound.

The dramaturgy of staging narrative text involved a balancing act between adapting the text of *Dear Esther* and writing new text which responded to the site, its history and legends, its noises and moods, its landscapes and textures. By creating echoes of *Dear Esther* in the text, I wanted to emphasise the palimpsestic ability of adaptations, their ability to summon other texts and stimulate interpretive play: “adaptation is a form of intertextuality: we experience adaptations (*as adaptations*) as palimpsests through our memory of other works that resonate through repetition with variation” (Hutcheon and O’Flynn, 2012, pp. 7-8). The text worked alongside the evocative environments to summon the world of *Dear Esther*, to create these echoes that bridge the transmedia divide, and encourage a cross-disciplinary interpretative process. As Hutcheon and O’Flynn observe:

when it came to analyzing videogame adaptations, I realized that it was less the story itself than the story world, or what I called the “heterocosm” (literally, an other cosmos), that was being adapted [...] Thematic and narrative persistence is not the name of the new adaptation game; world building is (2012, p. xxiv)

The text is open (I use ‘open’ here to align with Umberto Eco’s understanding of an open work: “brought to their conclusion by the performer at the same time as he experiences them on an aesthetic plane”, [1989] in Bishop, 2006, p. 21) and fragmented, a collection of seemingly disparate poems. The continuity between them is ensured through the voice and the obsessive repetition of words and phrases which act as leitmotifs. The text is ambiguous, and the stylised language makes interpretation uncomfortable which is why the environment is essential in completing the interpretation process. The ruin doubles as a metaphor for the instability of meaning: “Stories that are fragmented, non-linear, impressionistic and contingent are better suited than traditional linear narratives to the experience of walking in ruins” (Edensor, 2008, p. 137). The narrative

Lego bricks are stacked atop the surviving structures found in the environment, the gaps in between them filled by memories and impressions, the spaces in between them filled by the rhythms, the textures, the smells, the sights, the sounds and silences of walking.

Inchcolm Project assembled a video game, a performance, a concert, a soundwalk, a projection, narratives of loss and guilt, refuge and forgiveness, ruins of the past (architectural and narrative) and their traces in the present, historical accuracy and fantasy, legends and symbols scattered across centuries and islands near and far. In this unlikely assemblage it celebrated the power of interpretation as both a cognitive and sensory process, embodied and yet critical.

Iterative development and collaboration in *Inchcolm Project*

Inchcolm Project was a creative collaboration between myself, Ana Inés Jabares-Pita who co-created the ‘visual style’ of the performance, and Kevin Murray who developed and implemented the sound design. In what follows I will elaborate on the process of collaboration and the iterations that the visual style and the sound design underwent.

Visual style and iterations

We worked with visual references and moods that were assembled during the site-visits. Ana knew the story and themes and had access to documentation (historical documents, accounts of various stories and legends, site photos, Abbey map). Our process was dialogical. I sent initial reference images to Ana (refugee crisis imagery, screenshots from *Dear Esther*, and a suggested mood for each location) who responded with her artistic interpretation. The working process was not a ‘traditional’ theatrical one because the story and the visual style preceded the text. The visual style was born out of the game, the site, historical research, and visual imagery relating to the themes: refuge, shelter, isolation. The story influenced the setting, which in turn shaped the final story

world. There was a very interesting relationship at play between the initial 'text' (the game), the site, the setting and the adapted "text" (the performance).

The main references for the costumes were the film *The Shining* (Kubrick, 1980) and imagery of WW1 refugees. The concept for the costumes was to capture the essence of the characters: the musicians and the performer are ghosts on the island, frozen in time, and like everything else on the island gradually reclaimed by nature. They are growing into the island. The female musicians were wearing long dresses and faux-fur coats, and the male musicians were wearing long military coats or tunics. The musicians were stationed in locations which offered protection from the elements for both musicians and instruments, while in the same time making a sensory contribution to the aesthetic of the performance. All the locations facilitated the encounter between audience/players and performers, between the found and the designed, embedded and emerging narratives, between the sensing body and the sensory-scapes of Inchcolm.

The colour palette was dominated by orange (life jackets, buoyancy aids, fluorescent tape, the paper windmills, dinghy) to represent both the traumatic event which brought the narrator on the island, and the larger scale traumatic events which unfold on the islands of the Mediterranean. This mirrored the chromatic symbolism in *Dear Esther*, where the environment is gradually covered in the colour that the character associates with the trauma: fluorescent green (see Figure 68 and 69).

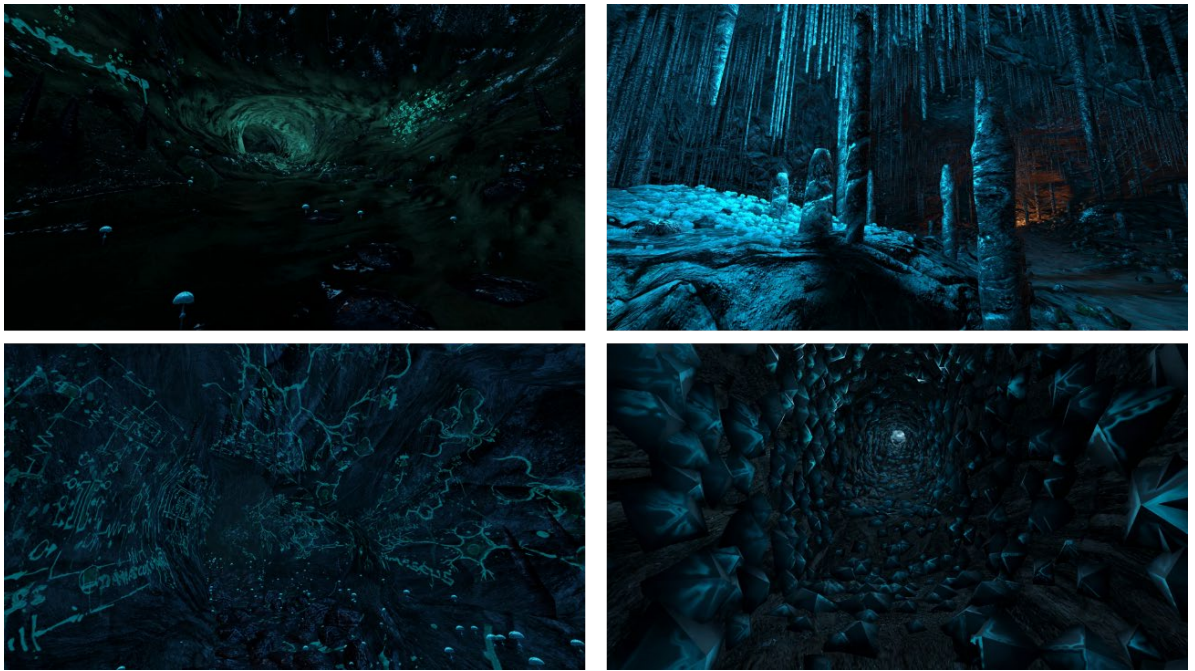


Figure 68 Dear Esther greens

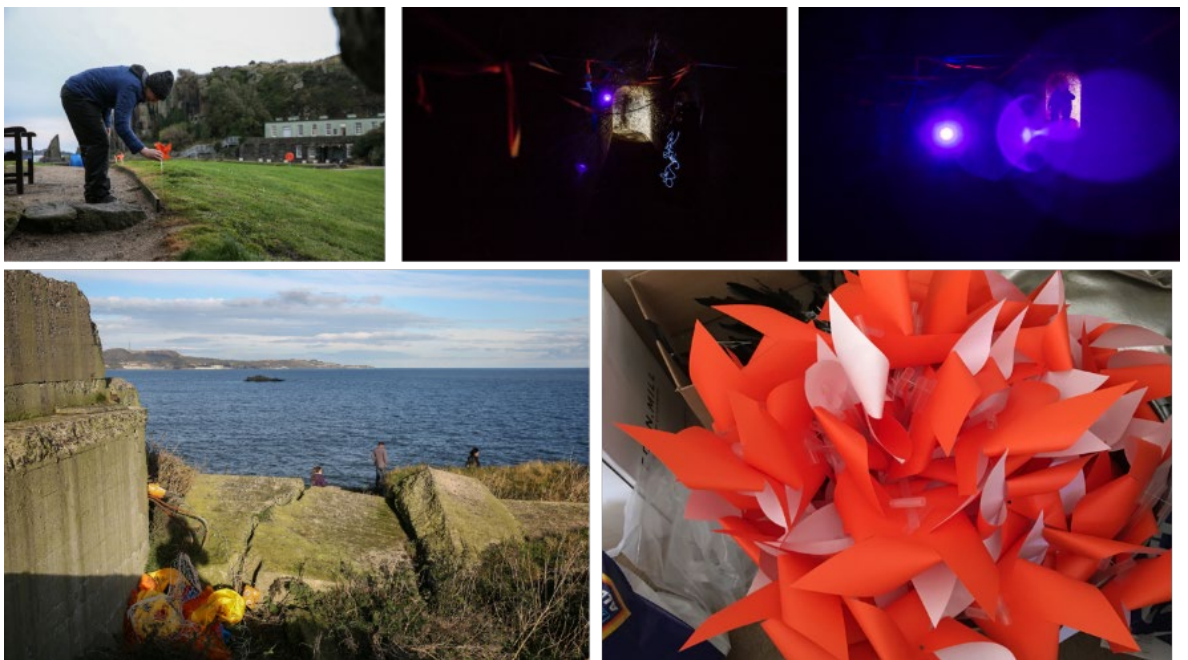


Figure 69 Inchcolm Project oranges

The Battlement installation design was centred on Anna's costume. The character was communicated visually through a crinoline made of chicken wire which supported the insertion of various natural materials, either found on Inchcolm or purposely brought to the site: bark, straw, twigs, seaweed, moss

(see Figure 70). The costume was also an olfactory installation enhancing the woodland smellscape of the site. Due to the low temperature we chose a faux-fur coat that fit the visual style while in the same time keeping Anna warm.



Figure 70 The Battlement costume

The Bombed Building installation was based on the concept of refuge and aimed to connect Inchcolm with the brutality and inhumanity of refugee camps. Through this we hoped to convey the complex symbolism of islands and their multiple functions. The installation consisted of a fishing net wrapped around children's buoyancy aids, life vests and floats, surrounded with barbed wire. This was nested in the ruins of one of the military posts which resembled the bombed remains of a building, hence the name (see Figure 71). The initial references for the Bombed Building installation were the images and drone footage from 2016 of the life jacket graveyard on the Greek island of Lesbos⁴⁸.

⁴⁸ See for example: <https://www.bbc.co.uk/news/av/world-europe-35867695/migrant-crisis-drone-captures-life-jacket-graveyard>



Figure 71 The Bombed Building installation

The Broken Eggs installation was conceptually designed to represent the fragility of life and the infant death toll of the Syrian refugee crisis. The installation combined the imagery of the broken eggs, empty bird nests, and ultrasound photos from *Dear Esther* with site-specific imagery: feathers and bird bones. To emphasize/exaggerate these found elements, Ana designed large eggs moulded from plaster that were scattered on the floor alongside five kilograms of feathers and orange fairy-lights (Figure 72).



Figure 72 Broken Eggs installation

Across from the Broken Eggs installation space we designed the Capsized Boat installation which was a literal representation of the traumatic event alluded to in

the text. This aimed to convey the precarious nature of the dinghies used by refugee smugglers: they are small and unsuitable for transporting large numbers of people across large distances.

The two installations were dramaturgically connected: the infant death toll is a direct result of inadequate transport. The installation consisted of a rubber dinghy suspended from the wooden beams of the ceiling. Underneath, polyester stuffing illuminated with blue fairy lights represented the sea (Figure 73). We used the old doorway, which following a landslide was now flooded with soil, to suggest that a traumatic event which has been repressed is bursting in. A hidden audio player played on a loop *The Big Ship Sails on The Ally-Ally-Oh*, a nursery rhyme (sung by Dallis Murray, see Audio 23 in <https://www.performingplay.co.uk/audio>). Dallis' vocal performance resembled that of a little girl singing reinforcing the dramaturgical connection between the two installation spaces.



Figure 73 The Capsized Boat installation

The Tea Party for One installation aimed to reinforce the themes of isolation, loneliness, longing, and a perpetual state of unfulfilled waiting. It consisted of one performer (John Bruin) seated at a two-seater table, looking in the distance across the Forth appearing to wait (Figure 74). His location was inaccessible to the audience/players who could only glimpse him from a distance from a vantage point near the radio mast.



Figure 74 Tea Party for One installation

For The Tunnel installation I wanted to take advantage of the darkness and play with light and fluorescence. The Caves level in *Dear Esther* was our initial visual reference which started us thinking about what kind of information could be revealed in the dark, how we could do that, and how we could make it interactive. The audio that the audience/players listened either upon entering or exiting the tunnel (depending on direction of travel) was a very accurate description of the process of drowning (see *A drowned poem*: <https://www.performingplay.co.uk/text>). Initially we wanted to 'draw' on the tunnel walls the chemical bonds in CO₂ (carbon dioxide), H₂O (water) and CH₄ (methane) which are all referenced in the text. However Historic Environment

Scotland would not allow the use of chalk however un-intrusive and natural. We then tried using fluorescent tape, but due to the humidity of the walls the tape would not adhere to the surface. Due to these circumstances and the very limited time for set-up we decided to design an abstract representation of the audio, a mingling of fluorescent blues and oranges moving in the wind and shimmering in the black-light. The tape was fixed on the sides and ceiling of the tunnel, creating a tunnel within the tunnel floating above and around the audience/players, forcing them to negotiate the light and their body posture as they made their way through the labyrinth (Figure 75). We also used EI-Wire on the musicians' costumes, so that the audience/players first glimpse an amorphous shape in the distance, only to reveal the musicians tangled in it upon approaching their location. The echo and the wind amplified and distorted the voice and the violin creating an eerie soundscape. The space shifted and changed as the audience/players made their way through it. The Tunnel was an ever-changing amorphous space, visually and sonically interesting, which conveyed an array of feelings and anchored the narrative in the body.



Figure 75 The Tunnel installation with violinist (left) and vocalist (right)

The Tree Tunnel installation was designed to complement and enhance the location, a staircase surrounded by trees on both sides, their foliage combining to create an archway (hence the name). The windchimes hung from the tree tops at various heights, creating a similar choreography to the Tree Tunnel, albeit with sounds rather than light. The windchimes were highly stylized and symbolic, combining the themes of time (watch components), displacement

(keys), freedom/flight (white feathers), mourning (black feathers) and violence (the metallic sound of the wind pipes) (Figure 76).



Figure 76 The Tree Tunnel installation, close-ups of the wind chimes

The Paper boats were another connector to the world of *Dear Esther* (Figure 77), and worked as a visual and interactive installation, as previously discussed. Similar to the Capsized Boat we wanted to convey displacement and out-of-placeness by bringing water-related imagery indoors (Figure 78). Paper boats were also tied with fishing wire to driftwood logs and left to float on the island's two beaches, unfortunately the tide washed them out.



Figure 77 Paper boats in *Dear Esther* (left) and *Inchcolm Project* (right)



Figure 78 Paper Boats installation

The Hermit's Cell installation consisted of three wire birds (Figure 79) which aimed to convey captivity and impossibility of flight and was another reference to the refugee camps. The installation also aimed to capture the tension between legend and reality, the dream of freedom collapsing into the reality of the camp, the envisioned dream of Inchcolm as a refuge (the legend of the hermit is physically embodied in the Hermit's Cell) collapsing into the reality of the island's history as a plague island, prison and burial ground. The sound of the flute (a wind instrument) is contained by the thick stone walls of the cell reinforcing the idea of captivity.



Figure 79 The Hermit's Cell installation

The Abbot's House installation was a reference to the unmarked and the empty graves on the islands in the Mediterranean. The audio file which played at the entrance conveys the image through text: "A stone without a name, A name without a stone" (see Audio 8 *A poem of two islands*: <https://www.performingplay.co.uk/audio>) whereas the installation consisting of rocks, shells, seaweed, twigs and candles reinforces it visually (Figure 80). The sadness and sombre sound of the cello, and the waves crashing onto the shore add an auditory layer to the image, creating a sense of mourning.



Figure 80 The Abbot's House installation final iteration

The physical map complemented the Sonic Maps map which only allowed a limited perspective of the surroundings: the audience/players could only see their physical location and immediate vicinity as Sonic Maps zoomed in and centre on their position. The physical map offered a complete representation of the island thus providing the audience/players with the means to orient themselves. The map was an optional feature, it could be put away and only used when the audience/players felt lost or anxious.

I worked with Ana until we arrived at a map that was cryptic enough to intrigue and stimulate exploration, but also representational enough to give people the comfort of not feeling lost.

The first iteration was based on Google Maps and site-visit sketches because we did not have access to any surveying maps of Inchcolm. Initially this was only a partial mapping because during our first site visit some areas of the island were inaccessible due to the seagull nesting season. On a Google Maps image, I pencilled in the routes, audio files and installation spaces. Ana worked with that and during the first site visit she drew a hand sketch that she then

refined. The next step was deciding the visual aesthetic of the map. The hand-drawn map appealed to both me and Ana. We wanted to counterbalance the digital map of Sonic Maps with the physicality of a hand drawn map. Some of our visual references were fictional treasure and castaway maps. In terms of design I felt that using the headphone symbol to mark the audio files was conflicting with the fictional world of the performance and was somehow too literal. I suggested paper boats instead, which created a semiotic connection to the world of the game. In *Dear Esther* the paper boats are made out of the letters to Esther that the player has been made privy to through *voice-over* narration. In the game the paper boats 'are' the physical support and visual representation of the audio logs. This eventually led us to the final iteration which was printed out and handed to the audience/players upon arrival on the island (Figure 81).

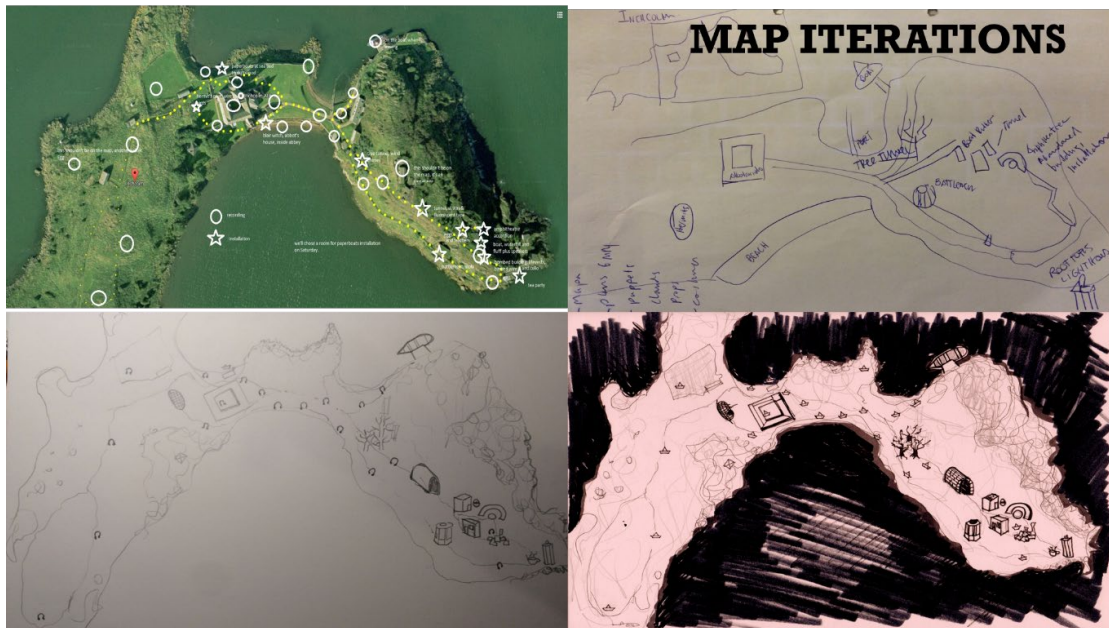


Figure 81 Map iterations, Google Map with audio files and installations (top left), hand drawn sketch (top right), hand drawn map with audio files and installations (bottom left), and final iteration (bottom right)

Sound style and iterations

The sound design process started in a similar way to the set and costume design process, by sharing the documentation, the *Dear Esther* soundtrack and

playthrough with Kevin, after which we discussed the concept. I wanted the sound design to evoke *Dear Esther* while at the same time to be as specific to Inchcolm as the *Dear Esther* soundtrack is to the world of *Dear Esther*. I also wanted the sound to capture the thematic essence of the performance and to suggest the themes in a similar way.

The voice recording was the first phase of the process. We recorded Sandy Welch, the voice actor, in a recording studio at the Royal Conservatoire of Scotland. We recorded each of the poems (the text was written as a collection of poems) individually, trying out different tones, cadences, volumes and rhythms.

The second stage was editing: Kevin took the 'dry' recordings and responded to the text by layering special effects, sound effects, natural sounds and music to the recordings, and inserting the radio static effects at the beginning and end of each audio file. Some of the sound effects were created during the production process, while others were recorded on site. We processed the recordings and 'degraded' the sound quality to create the impression of an old recording. Most recordings have a natural sound background: the sound of wind, waves, seagulls and steps which were recorded on Inchcolm. Tracks from the *Dear Esther* soundtrack (Jessica Curry) were layered into multiple files, for example *Always* is clearly audible in Audio 22 (<https://www.performingplay.co.uk/audio>). Some sound files layer sounds for semiotic emphasis: heartbeat, clock ticking, fog horn, metronome (Audio 6 *A drowned* poem, Audio 21 *The Echo*, <https://www.performingplay.co.uk/audio>). On others we exaggerated the reverb or inserted fragments of previous VO for dramatic effect (see Audio 22 *An ending note* <https://www.performingplay.co.uk/audio>). The volume of the sound files was generally set to a lower level so as to allow for environmental, diegetic sound to be heard over the sound from the participants' headphones even if their phone volume was set to maximum.

Finally, we walked together on Inchcolm and tagged and tested the audio files repeatedly, as Sonic Maps would not allow us to do so remotely. The repeated site visits were useful because we got to test in different weather conditions and directly observe how they influenced the mood of the sound. We also adjusted

the tagged areas so as to avoid overlaps, and allow time for silence and environmental sound, time in which the audience/players could process and interpret the audio.

Discussion: feedback

For *Inchcolm Project* the audience/players consisted of fifty invited guests, practitioners and academics from both video games and performance backgrounds. The audience responses to the experience were recorded immediately after the event through group-discussions prompted by six questions designed ahead of the event, which were handed to each group in a letter. The questions were designed to prompt discussion focused around the three overarching theoretical concepts which bridge the divide between video games and performance: immersion, narrative and interaction (see Figure 82).

Dear Reader,

You have opened the letter and therefore you will be the moderator of your group. Thank you. If you could please read this aloud for your fellow group members that would be fantastic. First of all, thank you so much for taking part in my research. You have all travelled on a Sunday and have taken from your own time to be part of this research project. And for this you have my thanks and my gratitude. [Inchcolm](#) Project is the initial stage and a testing of methods and concepts.

[Bjorn](#) has handed you a recorder. This recorder can be turned on and left on the table so as to capture the following conversation. If you are feeling generous and still have some battery left on your phones any additional sources of recordings would be highly appreciated.

Included is a list of questions, it would be tremendously helpful if you could discuss them amongst you.

These are:

1. What do you feel the live aspect added to the experience? And why?
2. What do you feel the gaming aspect added to the experience? And why?
3. Did you feel like the two sides of the experience, the live and the gaming, were connected? What elements made you feel the connect/disconnect? Were the transitions between the two sides, live and virtual, seamless or did you feel like the experience was segmented? What could I do to make these transitions smoother?
4. What aspects were you most interested in (story, environment, sensory elements, interaction, others)? Where did you spend more time and why?
5. Did you feel like you were expressing agency by making choices? Can you please name some situations in which you felt like you were making a choice? Did this add to or distract from the experience?
6. Did you feel immersed or absorbed in the experience? What contributed to the immersion or lack of immersion?

Your feedback is very important as it will help me go back to work and design [Inchcolm](#) Project for the public, so a longer run and a wider access for those who are willing to take the journey. It will also help me further my investigation into ways of connecting video games and live performance and into what we can hope to achieve by doing so. The next stage of my research will be to develop a video game and a performance that are designed as a unitary experience from the beginning, a trans-media story that requires navigation of both environments in order to follow the narrative thread.

I will take into consideration your impressions, questions and comments, find out if you felt like what I was trying to achieve worked or not, and what aspects worked better than others. What came across and what I failed to communicate. Your feedback will assist with developing further work.

Again thank you so much for your time and your generosity. If you have any questions or comments, or just want to talk about games and performance please get in touch at mona.bozdog@gmail.com, 1504960@abertay.ac.uk, MBozdog@rcs.ac.uk Or Tweet me @MonaBozdog.

THANK YOU

Figure 82 The letter handed to the audience/players at the beginning of the post-show discussion

Each group self-appointed a moderator to avoid potential biases caused by the presence of myself (the artist/researcher). The recorded discussions were then transcribed by me and I performed a soft thematic analysis in order to identify what design elements had been the most effective.

The responses helped me to identify the aspects that were effective, directions that could be developed and further investigated through the second project, particularly agency during gameplay (projection), a longer time for exploration, and a sense of emotional progression developed in parallel with the physical progression through the space. The responses also suggested areas and fields which could benefit from the research, in particular heritage or historical sites and environments, natural landmarks or parks, family attractions and so on.

The main themes which were discussed could be grouped into six categories: sensory/environment, narrative/story, interaction/agency, dramaturgy of

assemblage, and suggestions. The sensory/environment theme grouped verbs relating to any of the senses: looking, listening, hearing, touching, smelling, feeling, nouns relating to any of the senses: environment, landmark, island, sound, music, wind, waves, weather, site, space and adjectives relating to the experience: physical, atmospheric, immersive, visceral, personal. In terms of the narrative I followed recurring references to the narrative, text, story, character, actor, voice, theme, mood. The theme of interaction/agency is shaped by discussion topics relating to walking/stopping, rhythm, duration/time, exploration, discovery, direction, solitary/isolating, map, playing, gaming, and choice. The dramaturgy of assemblage/palimpsest refers to the process of (syn)aesthetic meaning-making (meaning, sense, understanding, interpreting, feeling, semiotic, symbol) and the connection between all the experiential layers, how they shed light on each other (fragments, connection, and any references to two or more of the above themes and components). And finally, because it was presented as a work-in-progress the audience/players were invited to suggest ways of improving the experience and future directions for the work. Each of these themes is discussed in relation to the audience/players' observations on the companion website (<https://www.performingplay.co.uk/feedback-post-show-discussions>). It is worth noting here that although each of the themes are thematically grouped in distinct categories, in practice they overlap and merge in the immediacy and unifying nature of embodied experience.

Emerging Themes

The main themes which were discussed could be grouped into six categories: sensory/environment, narrative/story, interaction/agency, dramaturgy of assemblage, and suggestions. The sensory/environment theme grouped verbs relating to any of the senses: looking, listening, hearing, touching, smelling, feeling, nouns relating to any of the senses: environment, landmark, island, sound, music, wind, waves, weather, site, space and adjectives relating to the experience: physical, atmospheric, immersive, visceral, personal.

In terms of the narrative I followed recurring references to the narrative, text, story, character, actor, voice, theme, mood. The theme of interaction/agency is

shaped by discussion topics relating to walking/stopping, rhythm, duration/time, exploration, discovery, direction, solitary/isolating, map, playing, gaming, and choice. The dramaturgy of assemblage/palimpsest refers to the process of (syn)aesthetic meaning-making (meaning, sense, understanding, interpreting, feeling, semiotic, symbol) and the connection between all the experiential layers, how they shed light on each other (fragments, connection, and any references to two or more of the above themes and components). And finally, because it was presented as a work-in-progress the audience/players were invited to suggest ways of improving the experience and future directions for the work. In what follows I will discuss each of these themes in relation to the audience/players' observations and draw some conclusions about the general reception of the work, the opportunities and challenges as identified by the audience/players. It is also worth noting here that although I discuss each of the themes individually, in practice they overlap and merge in the immediacy and unifying nature of embodied experience.

Sensory experience

The sensory experience of *Inchcolm Project* was discussed in relation to the natural environments, the installations/designed environments and the sounds. The audience/players reflected generally on mood and atmosphere rather than actual instances of interesting play of light, smellscape or textures. In hindsight, I think conducting the interviews myself would have given me the chance to tease out more specific information about the sensory experience, particularly as sensory design was one of my main design strategies. As is, the aspects that were most discussed are in the realm of auditory and visual combined with a 'feel' of the island, its mood and atmosphere. This is not to say that it is not valuable but that I feel that I have missed an opportunity to unpack what was meant by the 'feel' of a place, what was experienced as 'the voice' of the island aside from visual and auditory stimuli.

The natural environment

The natural environment of Inchcolm impacted greatly on the audience/players' experience, particularly the aesthetic of the island and that of the ruin.

Some audience/players mentioned the aesthetic and sensory qualities of the island particularly in relation to the island in *Dear Esther*, which contributed to the immersive 'feeling' of the environment:

"By being on an island there's that immediate feeling of immersion"

"The scenery was stunning, and it worked so perfectly with how the island and the game felt"

"The environment was absolutely beautiful, breathtaking"

"For me it's the environment that's the most compelling about it, being there that's the novelty of it, it's the environment complemented by the sensory element happening in the environment"

"The environment was definitely the thing for me, I mean its locational project and it has to be in a certain place. I went as a child and I didn't take it in so much but having this experience has heightened the memories of it"

Others commented on the conflicting yet complementary aesthetic between ruin and 'ruin', the West and East side of the island, between the Abbey and the military buildings. The audience/players also noticed how the ghost and the host worked together to create a holistic aesthetic, how the work nested within the site.

"And that odd juxtaposition that Inchcolm's got between the medieval Abbey and the WWII installations"

"I think it worked well using Inchcolm particularly, using the space that were there, using the broken remnants of the WW installations and putting visual images into them, and then working that into the ruined Abbey"

The audience/players also commented on how Inchcolm felt distinct from the everyday, what was previously discussed as having a 'in-its-own-world' quality. This contributed to identification with the character, his isolation, remoteness and solitude. This is interesting because it hints at how the environment can be used to convey the feelings of the character and generate an emotional connection. I have discussed this in relation to Robert Briscoe's design strategies and how I tried to adapt his use of environment to convey feelings.

Inchcolm's isolation contributed to a feeling of loneliness, being removed from the known and from the everyday as well as from the mainland:

"I was interested in the environment and the sensory elements. Yeah how removed from the everyday experience you felt just by being on the island"

"it felt really isolated even if you were staying next to another person. On your own on an island, put in the place of that character. As a performance it did a very specific thing of making you feel quite small, a small part of something much larger".

However, some audience/players felt that the island was not remote enough and that the presence of others broke the illusion of the immersive experience. They compared (and contrasted) this experience to the solitary experience of *Dear Esther*.

"One thing that slightly took away from my immersion was that the island didn't feel remote enough"

"The island was so busy, I don't know if it was better or worse, cause obviously in *Dear Esther* you're one person exploring this really isolated island, it detracts from that sort of solitude that you get in the game, that sense of solitude and almost helplessness cause you're there by yourself"

Others, on the contrary, enjoyed encountering other audience/players, sharing a feeling of complicity. This is a result of casting the audience as ghosts, walkers which pass each other, each on their individual walks of redemption, acknowledging but not talking to one another. This supported the fictional world and accounted for the presence of other visitors on the island.

"When you pass someone who's doing it, it heightens the experience having other people doing it at the same time I think it does heighten it"

The desire to physically explore the island was repeatedly discussed, particularly in relationship to bodily presence, becoming aware of the physicality of one's own body as the performance required them to reach, stretch, climb and jump. This is a type of physical bodily struggle which video games do not afford, making *Dear Rachel* a complementary experience to *Dear Esther*.

“You’ve not got the real threat of your physicality. In a game you wouldn’t have thought about it twice”

“I actually felt like I was playing that, exploring physically, playing through the rules”

“I felt quite led by the physical environment and my desire to explore things physically”

“I thought it was very cool and interesting. I feel like the physical struggle is not something that you can experience in a game”

The audience/players’ responses confirmed my hunch that the island should be a central part of the experience in *Dear Rachel* just as it was in *Dear Esther*. The island space and all that it entails/communicates/signifies created emotional continuity between the two experiences and offered a unique narrative and sensory identity to the project. The discovery of a space that sits outwith the everyday experience, a space that was unusual and distinctly different in terms of geology, atmosphere, texture, climate, architecture, sensoryscapes than what they were accustomed to, became an immersive and unique experience supported by the performance event. The senses of the audience/players were heightened because the environment had a ‘in-its-own-world’ quality, it was an extra-ordinary space which destabilised their process of meaning and required that they paid increased attention as they navigated, discovered, and mapped their surroundings. Their body-awareness was also heightened as they performed physical actions that their bodies were unaccustomed to.

The installations

The installations were discussed in relation to meaning, sensory aesthetic, and their ability to focus attention on the environment and enhance its sensory potential.

The audience/players appreciated the play with perspective and attention to detail in creating tableaux and vignettes, the positioning of the installations and audio files in locations that felt like a reward for exploration, the relationship between the found environment and the work and how they reveal and complement each other, the playfulness of the interactive installations (the

scenes) and the symbolic and semiotic power of the shrines (the non-interactive installations).

“Everything aligned quite perfectly. The installations were immersive in their own way, especially the guy sitting at the table, that one in particular made me feel like we were reliving a memory of his or something, maybe because it was more distant.”

“It was quite nice to happen upon the installations and the performances around the island whilst you were listening to the audio files because, it made it a bit more haunting cause you’re connecting the story to where you are so you felt more immersed.”

“I really liked the sensory experience when we walked through the small path with the err ding...the wind thingies, it felt really special to go through there”

“I was quite taken with the wind chimes and the little environmental elements that helped to build atmosphere.”

“Seeing people dotted around the island, I really wanted to know what their story was, particularly the guy on the cliff edge.”

“Some of the installations were more interesting than the others, more abstract. The tunnel was really cool. And the musicians. That was awesome. So dark. Yeah very dark and creepy.”

“My favourite bits were when you climbed up, around the back and had sense of exposure and you came around and there was an actor sat at the table exposed. Yeah it was really good cause it really went with the story. Everything that we heard up to that point was all about desolation, there was nothing in it about suddenly seeing somebody there”

“And the pile of life jackets were set up on top of the hill as well, with the barbed wire.”

“It was great when you stumbled upon the musicians, and it wasn’t awkward”

“I loved the sensory tunnel, all of the sudden I came across the little bits that lit up. We got a blue light to shine, wee torch and I was looking to see the ground and I thought you can’t see the ground with this stupid torch, and then of course it caught the light and after that it was quite funky. I found it quite joyful and you found it quite disorienting. I don’t like dark tunnels but that made me smile”

“I loved the boats on the floor, it was such a sad thing I thought it was really quite touching”

“I found it more effective than just seeing the boats and the rubber dinghies, actually seeing a live person there made it more immersive,

having a person there made you pay more attention. Almost like a ghost on an island”

“and then it was nice to find things on top of those places. After making those decisions, like rewards.”

“And we lingered a while at the guy drinking his tea. That was fab. I like to think he was still there. I really liked the distance that we had with that one. Yeah, that was very cool. It did cross my mind that there was a way of getting there, but in the same time I didn’t want to break the distance, I wanted to preserve that, whatever he was there for I didn’t really want to know, I wanted to be left to fill in the blanks for myself”.

The installations successfully supported emotionally and semiotically the themes of the project, while in the same time creating moments of continuity and overlap with *Dear Esther*.

The sounds

Some audience/players discussed sound in relation to its location, how the two aspects complemented and echoed each other, combining to generate a mood, to create an atmospheric ‘feel’ to the island. The audience/players remarked on how the sounds were chosen to be listened in specific locations to draw attention to the site’s sensory potential (vistas, smells, exposure) but also how the sound responded to the site, referencing locations or structures in the environment. The sound anchored the story to the environment and to the body.

“It really helped you stop and appreciate things as well. A lot of the audio clips were benches or at really good places to look so it made you take a moment and take in your surroundings.”

“Together they gradually formed more of a whole the more you listen, the more you find. It was quite nice to happen upon the installations and the performances around the island whilst you were listening to the audio files because, it made it a bit more haunting cause you’re connecting the story to where you are so you felt more immersed.”

“I felt that was really immersive, it was very much, just mixed in with the audio and the environment you’re in just all started to come together really bizarrely, it was really powerful.”

“Near the steep staircase where you could see the old building. I went up there and there was a sound file with a bit of the story. And when you stayed there to keep the sound playing, just the view, and all started to sync together really nicely.”

“It’s definitely something quite powerful hearing audio about a place while you’re there seeing it.”

“being in a site specific place made the recordings more visceral, so in certain moments in which the guy was talking about the ocean and you’re looking at the ocean, it added a really beautiful layer that you don’t get in a video game which is nice.”

“when you were standing there looking into the distance listening to his words, everything made sense and everything was just great.”

“even just standing there and listening and looking out was beautiful, and a really nice experience”

The sound and environment influenced each other’s reception. The audience/players discussed how the weather, the colours, the light, the temperature and the climate impacted on their mood and how they were interpreting the audio.

“And the weather, I realised, that the story sort of would have been so great even if it would have been a really good weather, or even if it would have been a really bad weather, because if it would have been a really bad weather it would just feed it, the atmosphere, but now because it was so good, it became such a contrast, to the story”

“I’ve had such a beautiful day and to hear about people drowning, it was quite juxtaposed. I guess that contrast made it stronger, definitely, it was really eerie and a bit surreal”

“The actual conditions on the island determine how you feel and how the audio lands.”

“I enjoyed discovering the island when it was really grey and really windy and really moody, and you were looking out listening to that thing, it was really invoking all those feelings of misery and sadness.”

“why when you have this beautiful island and this beautiful experience does it have to be so sad and miserable and horrifying, instead of a joyous, happy experience?”

Most audience/players enjoyed the layering of music and sound, diegetic and non-diegetic. They discussed how the instruments and the environmental sounds complemented and enhanced each other. The soundscape: the sound in the ear, the live music and the environmental sound were an important part of the experience. Some audience/players regarded the musicians as different

areas, likening them to levels in a video game where the soundtrack change marks the landscape change. The audience/players also discussed how the sound in the headphones impacted on the experiencing of the other sounds, muffling some and hiding others which created a sense of surprise and discovery. Some of the audience/players enjoyed tracing the connections to the soundtrack of the game but also composing the musical puzzle, observing how the instruments on the island “talked” to one another, calling each other across the island and then finding harmony in the final performance.

“when I came across those moments of music it was like you know when you go into a new area in a game, and there’s a music change, it wouldn’t have made sense within the rules of this world that she’d created, in this real world that’s not mediated to have a speaker, within the rules of the space it only made sense to have live music.”

“The music didn’t work for me, my taste of music. [...] a barrier to immersion, musicians in general.”

“The environment, the sensory elements, hearing the flute player and then hearing the waves slapping on the shore so these kinda created sounds along with these natural sounds all flowed really well together.”

“I found that the live, the site specificness of it and the sound of the waves was really well integrated into the audio in the ears. And the live element of happening upon the violins or the flute because it was from the same place as the audio composition it made the live, the sound of the sea, the live musicians, the audio digital composed stuff all brought that into one and then that connected me to the audio in the game which I found really good.”

“we were around the corner and there was the girl with the violin and it gave me a fright and it was awesome. Just sort of like walking towards an area and all of the sudden you hear music. Especially when you are listening to an audio clip and have your headphones on you’re not quite sure where it’s coming from, and then you realize there’s a violin player standing just around the corner”

“It was really dark and atmospheric and because it was live it made it so much more in the moment. The last part, the venue and the sound. Some of it felt like it tied the knot to the whole experience.”

“The voice, an actor, this kind of people have a way of putting words in the way they say it. I think his performance was stronger than the actor who does the voiceover in the video game. Although I did love the discovering as you were going around the individual musicians I did love that I thought that was lovely. And the way they stayed in character.”

“But I didn’t feel completely immersed in the experience because you are wondering around discovering the island because you were doing two things, and then you were listening to the story and then you were walking and then you were listening. If there was music in between, in the quiet bits, although I love the sound of the sea and the wind but because I had the headphones on I wasn’t getting as much of that. I mean the gaps were strange, you were discovering the island so you lost the story a little bit and then you remembered.”

“With the accordionist, I was kinda chasing him but not really wanting to get to where he was. It was something that you said about how the instruments seemed to be talking to each other. Yeah because they were playing fragments of the soundtrack so it gave them a similar voice, they all came together at the end in the final performance but it was nice to have the fragments of it as you were going around”

The sound stimulated exploration and pushed the limits of the audience/players’ physical prowess. It stimulated them reaching to ‘grab’ an audio file, chasing it into the water, or going down after it on the beach. The sound also imposed a rhythm of movement, the speed and pace of movement but also the moments of pause and repose, moments of standing still, sitting down or watching out.

“We were trying to find a sound file, and we got to a part that felt like we weren’t supposed to be in but that was where the phone was telling us to go and that was the part where I felt like it was really fun. And we got near the edge of the cliff when the recording finally started, it was nice in a weird, dangerous kind of way”

“I wanted to listen to the story, so I found myself standing in one place and looking with way more focus at details and things in the scenery, if I wouldn’t have had the audio experience I would have probably just slowly walk by it, but the audio actually forced me to stand in one place as well.”

“I definitely felt immersed in the experience. Especially when I couldn’t quite reach an audio clip, so I had to climb down onto the beach, just hearing the waves go back and forth, and seeing the beautiful sun reflect on the water, it was just really something else you know”

“We were saying this is the ultimate walking simulator, cause you don’t get all the information fed to you, you try to find it and some of it is a bit out of reach, and you sneak around an area, walk up to the edge. And these little blobs of audio that you’re trying to get to can get people into really weird locations, like standing right on the edge of something. Yeah places that you would not normally think to go to” (audience/players *Inchcolm Project*).

Some audience/players discussed the audio as a motivator for exploration, how it created game-like challenges, and how the narrative ‘goals’ and the sensory-

scapes sometimes came into conflict - to stay, listen and watch, or to move faster and 'collect' the whole story:

"We didn't bag all 20 of the audio recordings but I think we did pretty well actually. It's nice to know that you can go back though and listen to them, and I think I probably would go back and listen to them and spend a bit more time with them."

"I rushed to try and get them all"

"I got most of the audio."

"I thought it was interesting the mixture between first of all the gaming aspect, trying to get all the dots, trying to get all the audio clips, and then also standing in each place and I wanted to listen to the entire audio clip"

The layering of sounds and creating a site-responsive and site-specific soundscape were two very successful design strategies. Which is why the use of live music, environmental sound and headphones delivery (the intimacy of the voice in the ear) which also mediates and/or filters the rest of the soundscape became staples of storywalking sound design alongside incorporating a site's aural identity and creating a soundscape that is site-sympathetic and site-responsive.

Narrative

When discussing the narrative the audience/players remarked on the story elements, whether these were communicated through the VO, through environmental storytelling, through sound and music, through costume and installations. Inchcolm also had its own stories, some were etched on buildings and benches (see the previous discussion on foundlings), some could be 'read' in its buildings and paths, whereas others were written on plaques, signs and information boards. This is why I have made a distinction between embedded narratives, emergent narratives and engendered narratives. Embedded narratives are the story elements found in the environment (whether placed there by the artist or not), the emergent narratives result from the interaction between the engendered narratives, the environment and the audience/players' imagination, and the engendered narratives are the authored story elements (regardless of how they are encountered).

Some of the discussion around narrative focused on the designed narrative, the written text and how it was conceptually linked to the environment. I called these engendered narratives because there was a pronounced dramaturgical intention behind them, they were engendered by the author. The audience/players discussed the VO, the costumes and the installations and how they were developing the story as they went along, incorporating all that they had found in the narrative.

“and sort of the darkness of the children getting the fake floating devices, and stuff like that, that was just heart wrenching, and the boats and life jackets, yeah the floaters, the baby floaters. A lot of thought was put into hiding little bits here and there.”

“The story was very interesting too. And haunting. Yeah, very dark. I like the way that it was like letters. It's quite interesting going around and looking around cause so many things were not right in front of you, right on the path so you had to get off the path a bit and look into the distance.”

“The one that hit for me it was the parents who bought the life jackets for their kids and give them on to the kids and they just had, had this rubber tubes, and these rubber tubes actually worked while the life jackets were fake, they didn't.”

“I loved what they were wearing, I started projecting some kind of story, cause they were looking almost like refugees. I thought the costume was good I thought it really matched the feel of what she was trying to achieve. For me it looked like when you see images of WWII and people in their best winter coat.”

The audience/players discussed the story in relation to the environment, the place where they were when they listened to the audio, and what this added to the experience. I realised that more than in *Dear Esther* the audience/players tend to connect and remember both the story and the place where they were when they listened to it. This is why the audience/players paid more attention to both the environment and the story.

“The gases the bodies and the bodies floating to surface, and the description of how that happens, that was quite, I think of where we were standing looking right over the water, really grey and the water was going, it was windy you were just looking over the water imagining. It was really dark.”

“I had a moment when I was looking out on the Firth and it was explaining what happens to your body when you drown and it was really really intense and I found myself looking out and imagining all of that. We stood there for about 10 minutes.”

“There was one section where you’re walking along the grassy path at the edge of the cliffs and he’s talking about the seagulls, how they’re born and how they grow and how some of them die and are discarded, and you stood right there in the area that he was talking about, that was quite powerful actually”

“I really enjoyed the story aspect of things but I think the environment where we were was really cool, just exploring the island, the story really added to it. The story was beautifully done which made exploring more fun and more interesting.”

Emergent narratives are the stories that the audience/players developed based on the text, the environment, the sound, their own imagination and sense-making/making-sense abilities. Prompted by the fact that they were in a fictionalised environment they started purposefully looking for ‘hidden’ clues, paying increased attention to the environment. This is the ‘errant’ immersion discussed previously, when everything in the environment is integrated in the story whether it was intended as such or not. The audience/players enjoyed the non-linearity and the ‘modular’ nature of the text, the fact that they could piece the story together themselves, based on how much of the story they have found, and in what order, rather than a fully structured, linear story. The fact that not all of it made sense or that parts of it were missing did not detract from the experience rather encouraged them to interpret and use their imagination to fill in the gaps.

“Everything has the potential to have narrative power as you walk around. Instead of having that typical attention that we have about what we’re doing, or in a walking sim you can follow a path, instead of doing that we kept stopping and looking at things, more so than we normally would.”

“It’s not a collect them all, the bits that you get help you piece together an experience for yourself, it’s not handed to you on a platter.”

“you were going through your own experience and your own interpretations and understanding of what you were hearing and seeing within the space you were in”

“I think that it was like a breadcrumb trail... It didn’t give you a tour or a direct story, little parts, they were disjointed and then you have to connect the dots at the end”

“The story... I’m... still in my head sometime after I still try to piece the little bits together.”

“In a lived game you have choice over what order you experience the text, you unfold the narrative of the game. I was naturally putting the story that I was reading onto the place, a game wouldn't have the same sense of history”

“I think the story it's all there to, it's just a hint of a narrative that you build extra on, so if you do see something you kinda build a narrative around it and you tie it together yourself, so it grows and grows without necessarily having to do anything.”

“We felt that we were going round to try and piece together the story, in the tour around the island. I'd seen the game, played it not very well, but I much preferred going round the island to try to piece together the clues and make up the story with the audio in my ears than I did being guided through a virtual space”.

“And then there was the strange note that we found because of our exploration, attached to the bush, which was cool, it was not part of the experience, but it was a nice little extra touch that was unintentional but really threw a curve ball to the story, almost, then it almost tied in, it was like we build our own story around it.”

“Yeah it was quite modular it was just you picked up the key story beats and then you formed it by talking through it.”

“but I got the story link, it wasn't immediately apparent. I didn't know if we were doing it the right way around, if the story was dependent on that or if you could just go anywhere. I was wondering about that as well, I think maybe you could get an idea, I don't know if the whole motivation was just to discover it yourself.”

“Was the story linear or nonlinear, was there a preferred route to take? I think it could be experienced in any order, we went a weird way and if you find anything interesting it all forms an image in the end. More than *Dear Esther* which is quite linear I think that was good that you could experience it in any order”

I think that the feedback sessions illustrated that the audience/players enjoyed the 'open' narrative and the freedom to explore and shape their own stories. This helped to sediment my narrative design strategy: developing a way of working with stories that are not linear but fragmented, modular and ambiguous. As a playwright, I learned how to let go of authorial control and how to find alternatives to the well-developed plot and dramatic arc. Trusting the audience/players' meaning and sense-making abilities and their imagination, as well as embracing the 'host's' ability to contribute to structure the experience while in the same time contributing its own stories, and sensory and symbolic

layers were valuable lessons and formed the backbone of my narrative design process.

Interaction/agency

The discussions about agency can be thematically grouped in two categories, a high degree of agency which was experienced during the performance, and a low degree of agency which was experienced during the projection.

The high degree of agency was associated with *Dear Rachel* where the audience/players felt that they made choices in terms of routes, rhythms, how and where to listen. During *Dear Rachel*, because the audience/players were given the freedom to explore, they felt that they were exploring game mechanics and rules in a performance setting, enacting *Dear Esther* on Inchcolm island. Furthermore, the audience/players felt that their agency was 'real' as opposed to the illusory agency implied by some games. This is because in a physical setting the choices have repercussions on the physical body and its experience of space and story.

"We chose where to go and stand and which way to make our way around the island. The choice was to go and make the most of the experience. And try to absorb yourself and try to interact with other people. You were constantly making your own choices about where to go on the island, how long to stay in a space, if you walked out of the space and lose the audio do you chose to go back into it or chose to move on and go somewhere else. But yeah, I think you were constantly making choices a lot of the time without even realising it."

"In terms of making choices I decided that the best thing for us to do would be to try to get away from the group."

"I felt quite led by the physical environment and my desire to explore things physically, so a lot of the choices were physically to go"

"What I really enjoyed about the experience was having the agency and that being quite a solo experience"

"Agency. Oh yeah cause you could chose the way you wanted to go around the island."

"a lived game you have choice over what order you experience the text, you unfold the narrative of the game. I was naturally putting the story that I was reading onto the place, a game wouldn't have the same sense of history."

“there are choices in there even in the way you follow. It could have been set up like a set route and then you wouldn’t have any, it would have been interesting to see how the experience would have been like, and how different that would have been. At a base level your agency is how long do you linger in places, do you listen to the whole excerpt or some of it, yeah, which direction you go, or if you just enjoy the scenery and don’t really pay that much attention to the sound excerpts.”

“You operating the mechanics of the game, with the first section I felt, that was the only section fully understood or that I would have a direct relation to gaming mechanism in performance, exploring, I actually felt like I was playing that, exploring physically. Playing through the rules, the first as a gaming, me manipulating technology. In terms of gaming.”

“We didn’t actual have the app, which I think was great, I don’t think that not having the app detracted from it. No, to be honest if I hadn’t known there was meant to be a technological aspect to it I wouldn’t have felt I was missing anything. I thought it set a nice tone, IT DID, as you’re walking around the island without knowing what the sound element was it was nice to have the performers there. I loved the atmosphere of it. I liked just randomly discovering them without following the map that we were given. It’s something that I quite like, especially because you’re on an island, so you’ve got such clearly defined parameters, you can’t wonder off, you can only go so far, and it was just about enough time to go around the island, so I don’t think there was anything we missed in terms of the live aspect, or it didn’t feel like it was.”

“Choosing the route I suppose initially. Where to go on the island first. The choice to put the map away, just exploring and seeing where we could go. It was all the little choices within it about where you went next and where you chose to be. And how long to linger.”

“The impression of agency that you get in gaming, we do actually have, although you had the windmill and the path was demarcated, you do have choices that are based on us as people to make. So yeah agency and choice it’s an important part of it.”

“In a way though for me the windmills gave me permission, they limit your exploration a lot like a real game.”

“The difference between, because you say the demarcation line, when you play a game that does the same thing where you can go is quite heavily marked, you don’t have a lot of freedom even though it implies freedom, this was extremely vague about where you could go, cause you could try to climb, so this was extremely opposite in that sense, I found that really interesting, I thought that was really cool.”

Most audience/players felt an abrupt transition from actively exploring the island to passively watching a projected image that they have no control over during

the gameplay projection in the abbey. Conceptually I wanted this to be an imaginative effort rather than physical and a space for tracing the connections between the island that they have just explored and the island that they are watching in the projection. I also wanted to project environments of *Dear Esther* that were visually impossible to recreate (the Caves) and in-game actions that the physical body would not be able to safely perform on Inchcolm (the dive, swimming, the ascent and the jump) thus complementing their experience around Inchcolm. However, I believe that the transitions could have been smoother, giving the audience/players longer to adjust.

“It took me longer to settle in”

“Watching a recording of someone else playing a game was more observatory than participatory”

“I didn’t feel like there was a tremendous amount of the actual gaming experience, it was like watching somebody else playing the video game, even though it was clear that it was a narrative thus telling us a story but it didn’t feel terribly much like a game”

“I thought it would have been better restricted to the walk along the coastline of the island, the caverns, I know the Abbey it’s kind of cavernous and tunnel like and there are tunnels on the island, but it’s not the same kind of thing. While the walk along the coast would have felt like an extension of what we’ve just done, which was a walk along the coast of this little island.”

“The gaming: I didn’t follow, I disconnected from it quite often. Yeah, I was the same. Yeah, it was a bit harder to follow but maybe it was because you are not playing it, you are watching somebody else playing it.”

“It felt slightly jarring, going from your direct experience to passively watching somebody else do something in a virtual world, and I don’t know if it was necessary. I think it complemented although it was a different kind of experience.”

“also in terms of transition, it took me a while of watching the game to understand some of those aesthetic links that you were talking about because I think for a lot of the beginning of what we experienced was a subterranean thing that you didn’t have in the live experience. So I think there was bits of watching that felt easier to connect with the experience that I just had physically.”

“[agency] It’s removed and then it’s given back at the end, with the boats.”

“I like the sense of feeling like I am creating meaning or contributing in some way. And in the second and third parts it was given to me and I was a witness rather than having a sense of play.”

“Yes. I mean it’s much more evocative of course when you have to do the work and make the connections yourself rather than passively watching something.”

Some audience/players discussed enjoying the aesthetic of the projected image despite not being interactive.

“The image was so strong that I was so engaged all the time. The image was really engaging, I was in, I was following the story. It was visually amazing creating the illusion of 3D, using the energy of the walls.”

“I loved the gaming bit, but I took that as a separate thing altogether. It didn’t join with the other things that were going on. It would be different if you did that yourself, if you’re immersed in that game yourself.”

“Yeah absolutely immersed and absorbed. Probably I felt more so in part one, than part two projection. Which isn’t to say that part two wasn’t you know wasn’t really interesting as well it was just very different than part one.”

“I wasn’t entirely sure what the purpose of the projection was, it was really beautiful.”

“Even though it was really pleasant I didn’t feel like I was playing a game.”

As previously discussed, it was not possible to create moments of gameplay for all the audience/players on Inchcolm, but the feedback showed the desire of the audience/players for direct participation which further motivated me to follow this direction in *Generation ZX(X)*.

Dramaturgy of assemblage

The process of meaning-making was aided by the continuity of the narrative themes, by the inclusion of the ‘initial’ text, the evocative environment (the island), and the recurring environmental and auditory motifs.

Most of the audience/players made the connections between the performance, the game, and the musical performance. The three elements, despite being perceived as distinct components of the experience due to their different

experiential aesthetics, shed light on each other contributing to the overall process of meaning-making. This was made possible by the presence of the recurring thematic motifs in the narrative, environment and sound. Many audience/players commented on how the experiences felt connected and part of the same fictional world and narrative.

“It was something that happened while we were watching the video from the game that it’s based on when I realised that I was looking at the video but the feeling that I got during the day sort of came back to me, and I realised that it was so intertwined, what was happening, and the story, and the voice telling, and the music that you’ve been prompted with through the musicians during the whole day, it was just so, it was just so perfectly balanced, it was just so nice to get that. The experiences felt connected. Especially you walking around the paths all convoluted kinda going upwards it mirrored what you saw in the video game, the passages up, it was really nice. You can do things in the digital world that you’re not allowed to or not able to do in the real world so when you prime us the whole day with some feelings and some movements and the same kind of location you kind of looked at the rocks and looked at the island in the game and they look so similar, but you can never sort of fake somebody jumping off a giant mast or tower but you can do that in the digital world, so they like, they feed off each other. And obviously having the voice, the voice sort of melded everything into one world. And there were moments of glimmer as well, although it was dark there was light.”

“I was thinking oh we’ve already been all over the island and there were clues and things and stories and I was thinking of should I have been piecing more of this together than I have. It felt like it was a prequel, an introduction to what we have just done before. See, I felt the opposite, I felt like we were, I felt like the game was way in the past, and that we were witnessing the next iteration of the guilty and that was connected to the guilt of not being able to deal with the deaths of the refugees because there were some very specific explicit explanations about the life jackets. I felt las if I was retired to the island to live out the guilt of someone who couldn’t live with the guilt of the refugees in the same way that he couldn’t live with the guilt of Esther. I felt in a kinda deep sense there the idea of exploring guilt connected them. He jumped off the lighthouse and we’re flying around the island and the girl started singing, and I wasn’t too sure where it was coming. Yeah, it was really seamless.”

“Parallel narratives that shed light on each other. There are similar themes but the things that I took from each weren’t the same. And the theme for me it’s regret and looking back at things that you wish you have done. So then the picking up a boat and writing something that you feel guilty about, to me kinda says that’s you thinking about your own regrets and its your contribution to the story.”

“I felt as if I was retired to the island to live out the guilt of someone who couldn’t live with the guilt of the refugees in the same way that he couldn’t live with the guilt of Esther. I felt in a kind of deep sense there, the idea of exploring guilt connected them.”

“Tonally the two things were very beautifully matched. And it was very well designed in that sense. And it was great choice of site, yeah absolutely, it was fantastic. It didn’t feel as much as I work in progress as I expected it to.”

“I was really enjoying the story but I don’t think I heard enough of it, I don’t think I found enough of it. I didn’t feel like I found enough of the story although I knew it was something to do with the refugees and something to do with Rachel. I couldn’t quite understand, I understood that Rachel had died and that the children have drowned, and I had pieced this idea together, but I couldn’t make any round sense of it. It wasn’t until the virtual had happened that I then was able to go ah this is about people being on this island, the island is a metaphor for guilt, or piecing together stories about things that you can’t control.”

“To be honest playing *Dear Esther* doesn’t feel like playing a game. The game is kinda like that. It’s not mission based or quest based. It’s really difficult to explain what it is... It’s in fragments so it’s left to you to tease out what’s happened to this character and what the island represents. It’s left to you to decide. And I liked that that was the same in the installation pieces and with the performers performing fragments of the soundtrack to *Dear Esther* (and there was no particular order to it) and the visual cues like the life boats and the life jackets it is left to you to tease out what happened, but the tone is very much of the game, and very sombre so you’re drawn to certain sorts of conclusions. I think if you were to play the game you’d be surprised how much like our walk around Inchcolm it felt.”

“Especially when it seemed to play directly off the game which again is about ruins and the under-island caves, so I thought it set the tone very well using those spaces that were very well chosen, and I could see why they were chosen to go with that game, and why that game was chosen to within them.”

“But then in the game the island is a beautiful place but it’s also not a very welcoming place as well, it’s dark, abandoned, there was no life but it’s still beautiful. It’s a memorial for him isn’t it. He made it into a memorial.”

“It was something real, I thought I missed it, I had this choice that I could have made and missed it so then I didn’t want to miss it. It added because it was nice to have that boat in your hand and then put it in the water, it mirrored what physically happened on the island as well as in the game.”

“For me it definitely linked to the video game part because there was a scene in the video game where it’s all dark and it’s cold for me that

resonated with what I did I was actually quite scared because I couldn't see a thing (and then there are things that lit up as well).”

“I struggled with that bit, understanding the connections, because the Dear Rachel stories I found it harder to bring that into watching the projection onto the wall. It did feel segmented but I didn't mind that. It felt segmented because the live experience you had your headphones, you were going through your own experience and your own interpretations and understanding of what you were hearing and seeing within the space you were in, but with the video projection it was more of a group experience because we were all together.”

“When I got to the game part on the island it really did jolt. The live experience coming first it led you into that game, I really did feel as if that island was part of the one that I just experienced, I didn't connect it back to when I played the game. In the virtual island I felt like I was connected with the actual island.”

“Really nice to be immersed in an environment. There's something about seeing things live, that's different from if you were playing in a game and you heard the same thing, it's not quite the same, it doesn't have the same feel to it.”

“Being in the environment was really great but listening to the story in the environment was what I was really interested in.”

“The semiotics always trying to make meaning of images and of what you see, I was constantly making meaning of the space and listening to what this person was saying, and then realising that we are in a dungeon, he was talking about a dungeon, you know hearing the thing and also being in the thing, it was really powerful actually.”

The music and sound design acted as an additional thematic link between the embodied experience of the island and the virtual world of *Dear Esther*, creating additional recurring motifs:

“I think the music adds a lot, it gives you a theme. A motif that kept appearing throughout and then hearing it all together in a complete piece.”

“It was something that you said about how the instruments seemed to be talking to each other. Yeah because they were playing fragments of the soundtrack so it gave them a similar voice, they all came together at the end in the final performance but it was nice to have the fragments of it as you were going around. “

“The live aspect made me experience that atonement, finding myself making peace. Without that I would have been in a very dark... there would have not been a full stop to the experience, I would have left ... the experience would have been left with a comma, I would have

been left in a state of confusion. It gave a nice conclusion to the experience, and carried on the feeling, gave a nice feeling of peace.”

“you happen upon sound files and they were letters to Rachel, it’s sort of parallel to the game experience, they were quite cryptic clues I would say.”

“They were connected because the voice recordings seem slightly connected with the second part but not entirely connected.”

Some audience/players used interaction to frame the process of meaning-making, drawing parallels between the experience of playing *Dear Esther* and the experience of exploring Inchcolm:

“I think I enjoyed the interaction, I played the game and found the interaction is really meaningless, a bit boring. In the game there’s stuff there and you can look at it and I was like is that it. But on the island I was like: oh crow’s feathers, they look like they could spell help. I felt like that was great, I was so much more engaged than I was in the game.”

“You didn’t get told where to go, it was nice that no one told you where to go. There were markers on the path but that was mostly for safety. And you could if you wanted to just go to the beach and stay there and don’t do anything. I think this made the experience. I think so too. I think that was one of the elements that made you feel like you’re not in a video game, so many times you’re in a game and you realise oh I should have started in the other side. It doesn’t make sense now. As a player you feel like you’ve done something wrong, you never have that experience here.”

“The custom of things to listen to, the custom of things to find. I played a lot of these kind of games and I felt like I was quite good at them but then doing it live and moving around a space it’s completely different.”

“I found it slightly confusing at times because I was perhaps trying to find connections where there weren’t any.”

“I never played the game before but seeing that I could really relate it to what we just did, it felt like you watched it doing it.”

“I’ve never played it but when I was watching the projected part I was like oh, I wish I had known more about the game so that I could have appreciated the singing and the music a bit more cause it sorta tied in, tied the game together really nicely.”

“and yeah I think it’s because of playing the game previously and making connections in my head to the game and comparing them as I was going around which I enjoyed”

“I think it’s because of playing the game previously and making connections in my head to the game and comparing them as I was going around which I enjoyed.”

Suggestions

The audience/players were frustrated by the limited time for exploration which led to a fear of missing out. Most of them felt that a longer time dedicated to exploration would improve the experience and facilitate the meaning-making process:

“I felt that I would need more time. And that was maybe the thing that stopped me from being more immersed. It’s the fear of missing out, it’s distracting.”

“Limited time, a bit more time would have been nice. We missed out things that were very poignant and powerful in the narrative because we rushed through.”

“I did feel as if I missed things because we didn’t make it to the other side, I wanted to be able to do that, wander a bit more, rather than having to retire to the Abbey, the Abbey was great I would have liked more time to wander again, and maybe do it again. That’s a really good point I would have liked to go back out. I would have liked to have more time.”

“You need to be able to take it at your own pace. I would definitely do it again. More time for a better experience. It sounds like it could be quite a good niche for a thing to boost further.”

Another aspect that was discussed was including more guidance to improve clarity and facilitate the meaning-making process:

“I think I would have liked a bit more guidance, what to look out for and how to understand it.”

“If I had a bit more information understanding it, to understand the background as to the whole concept, if I had that I feel like it was probably me that I wasn’t connecting the two as well as I could have if I had a bit more information.”

“With the story I would have liked some reminders of what I’ve heard because I’ve forgot a lot there was just so much to absorb and take on and interpret that I felt a little bit overwhelmed and the stories were very very beautiful and the descriptions but because we didn’t hear all of the different parts of the story, I was aware that we missed parts.”

“Overall there were a lot of very interesting elements to this. The joining instructions could have been a little bit clearer.”

“Maybe a bit more background information on the boat about the project. Because it was such a special day such a special occasion and a lot of thought and effort was put into it.”

Some audience/players suggested ways of making the transitions smoother through structural modifications:

“I think that possibly the theatrics of it could have started perhaps even when we were waiting to get on the boat, so maybe there was a bit more of a sense of anticipation as we went across that maybe some things were happening already, over the boat’s pa system.”

“Being led from one place to another, when you first arrive you were completely free to wonder and look around, and then these two things happen, as a group and it felt a bit disconnected. Perhaps if there have been, say somewhere where you encounter the game being played, and we can encounter that and leave it and then come back to it, just as we could revisit bits of the island. The disconnection is not in itself a problem, disconnection is not necessarily a bad thing.”

“I think it does heighten it but you need everyone to naturally congregate in the same point at the same time for that to work. That would have been perfect. I think it would be possible though to run an event like that where there isn’t a demarcation, people who do health and safety in a performance mode, for example having the ushers thematically dressed so that they’re already separated from us the audience, and they can have speaking parts, so that they can direct and support but do it thematically. In a performative way. Or have them in life jackets. Oh that would have been beautiful.”

“I wondered what it would have been like if the video game was at the beginning and then you explored the island. Only because towards the end of the video game journey the narrator is saying that he has written about it all over the island I was thinking oh we’ve already been all over the island and there were clues and things and stories and I was thinking of should I have been piecing more of this together than I have.”

“Another way of alerting us, another way in which we would have been summoned, other than the beginning.”

For some audience/players the technical issues with app detracted from the experience:

“A little bit of problem with the app. The app was a bit wonky. [...] The technical things made you come out of the immersion, and that’s always a bummer because you really want to experience, because as you said when everything worked, when you were standing there looking into the distance listening to his words, everything made sense and everything was just great.”

“Some circles were in the sea, yeah some of them were in the sea.”

“The app was the weakest thing.”

“Yeah, I felt quite annoyed that I had the headphones on at times, I was trying to catch up with it, oh no I can't go back to it, what have I missed, I was already feeling like I couldn't understand the story very well. You come away from these things thinking about what you've missed.”

Others found that not having the app did not interfere with the overall experience.

“Despite not having the app I felt pretty immersed.”

“We didn't actually have the app, which I think was great, I don't think that not having the app detracted from it. No, to be honest if I hadn't known there was meant to be a technological aspect to it I wouldn't have felt I was missing anything.”

Whereas others found that the app, which took away the functionality of their phone, actually forced them to pay more attention to their lived experience:

“That's what I was saying, because you were using the app all the time you couldn't be taking photos when you were there, you had to properly get yourself into, you are surrounded by this stunning environment and you can't take a photo of it...it actually made you appreciate the environment that you're in.”

Some audience/players found the map hard to decode:

“The addition of the map was interesting but it would have been nice to have the sensory zones marked on the map so you can put your phone in your pocket so you don't have to fiddle with that. If you're exploring with an actual physical paper map then it feels a bit more natural. Especially because it was hand drawn. The landmarks in which the audio plays in *Dear Esther* are not marked either. It would be interesting if you had no idea where you would experience the story, you could guide with the wind things, but having a surprise might be quite cool. The pinwheels the closer you are to a zone the less spaced out they would be, and then it would be a patch of pinwheels marking the zone.”

“I really enjoyed it but the map was confusing. It's more relevant now that we know our way around it. It would have been nice if there was something in it that encouraged you to look at the map and mark things on it, to have a bit more interaction.”

“The boats are the spots for the sounds, that only occurred to me after when I was on the boat back.”

Whereas others observed that the map was not a compulsory element and was only there for additional guidance:

“Yeah because we have the map as well it was intuitive in the sense that you completely made up where you wanted to go but you could use the map for reference.”

“I think maybe you could get an idea, I don’t know if the whole motivation was just to discover it yourself. Or if it was, because you had the map. We didn’t look at the map.”

“I liked just randomly discovering them without following the map that we were given.”

Some audience/players commented on the opportunity to discuss with one another, and suggested how that could be pushed further:

“It’s kinda nice just to talk about it, and then you’re discussing what’s going on.”

“It could be pushed more in terms of choice, in terms of the journey that different people can go on, what if they hear different things, how can you push the individuality of it. What if people were hearing different things, how you can push the individuality of it. Having a different experience than the person that’s walking next to you.”

“When we started talking about it, and we heard the same thing it was nice but it also feels like you’re checking a box. More intriguing if there are slightly different things, and when you start talking to the other people who heard something else at that position you start to piece together the narrative through collective conversation.”

Some audience/players even suggested further future uses for the project:

“I thought that part one where we walked around and listened to the sounds I think it would be really excellent to develop that as something for the general public to get engaged with, so hopefully that can get developed more so that people can download these apps and go on to the island, maybe not just on Inchcolm island, but on other spaces as well where this can get rolled out where people can visit a really special place and get a deeper experience, something more just to get you more creative, more cultural, or just to get you to think in a different way while you’re there, I definitely think that’s an idea that could be further developed.”

“And with a tailored game that’s written for this purpose that would be fantastic. That would be so exciting”

Insights

The post-show discussions offered real insight into how the audience/players experienced and engaged with the project. Overall through Inchcolm Project I succeeded to tease out a working methodology and a comprehensive design strategy as confirmed by the audience/players’ feedback as well as identifying

aspects that were less successful and would benefit from further thought and development.

Following audience/players' feedback I sedimented a way of working with sound and space, a way of writing that is site-responsive and site-sympathetic whilst in the same time non-linear, modular and ambiguous, a way of dispersing story elements across the environment and creating a sense of narrative progression coupled with spatial progression, a way of supporting the narrative through sensory design, a way of using interactive and non-interactive installations as semiotic and emotional scenes, a way of alternating moments of solitary exploration with moments of social or collective encounter. The audience/players found that the two fictional worlds were thematically connected so I successfully created an experience continuum across virtual and physical space. The audience/players assembled the story elements that they encountered sonically and visually, weaving them with the sensory information from Inchcolm.

Some of the areas that I wanted to explore further were how to integrate moments of gameplay in the experience, and how to create an experience that feels clear, cohesive and less disjointed without explicitly 'guiding' the audience/players from one to another. I was not necessarily interested in a seamless and consistently immersive experience because I believe that switching between modes of engagement increases critical awareness of both the sense-making and making-sense abilities in the audience/players.

Despite audience feedback I felt that having a time limit encourages decision making and experience-exchange. Observing the dynamics and richness of the dialogue during the post-show discussions I wanted to develop work in which these opportunities for coming together and for experience and knowledge exchange are facilitated and encouraged.

Through observation I discovered the interesting shapes that bodies formed around phones and how the phone conditioned the way in which the audience/players move and relate to one another. This was another aspect that I wanted to explore going further. I also liked how the audience/players contributed to each other's narrative and experience, they were either following

or going in the opposite direction from each other, learning from watching one another and creating patterns and emerging shapes across the environment.

I was excited about the potential uses of storywalking techniques for heritage organisations, for preserving and 'telling' stories and histories of spaces in creative ways which blend narrative with space, environment with technology, and virtual with physical.

And finally, I was keen to explore further the assemblage of images, voices, movement, bodies, senses, spaces and stories to create complex meaning and sense-making experiences.

Conclusion

Developing *Inchcolm Project* involved complex processes of adaptation (of a game and to a site) and dramaturgy (of assemblage and (syn)aesthetics), which shaped the design strategies, techniques and tools deployed in its making. The hybrid nature of the project, having live and virtual components, demanded that I develop interdisciplinary working methods, borrowing from both game design and performance practice.

The first stage of the process involved selecting a game and a location which were evocative of one another and suitable for supporting a live event: it fulfilled all the conditions required for an audience to have a safe and enjoyable experience. The next stage was to understand how *Dear Esther* manages to create a meaningful gameplay experience. This involved a process of reverse engineering its design, going behind the gameplay experience to analyse the design strategies which underpinned its visual style and environments, its narrative, sound and interaction design. These design strategies were then adapted to Inchcolm island, filtered through its narrative, sensory, structural and symbolic presence.

The process of adaptation required a parallel process of dramaturgy which insured the coherence of meaning across different types of environments (physical and virtual), and mixed-media components (promenade performance, projection, musical performance). This is a dramaturgy of assemblage, where different elements are pieced together by the moving bodies of the audience/players. These moving bodies perform their own (syn)aesthetics, processes of meaning making understood in their twofold nature: sense-making and making-sense.

The visual design combined environmental design strategies originating in *Dear Esther* with the site-specific constraints and opportunities afforded by Inchcolm island with the aim of emphasising the site's potential to become "an active component in the creation of performative meaning, rather than a neutral space of exposition" (Pearson, 2010, p. 36). Applying the design lessons learned from *Dear Esther* I wanted the environment to reflect the story, to amplify its

emotional potential and to anchor the story in the audience/players' embodied experience.

Throughout the design process of *Inchcolm Project* I engaged with Robert Briscoe's design strategies developed in *Dear Esther* to shape the environment as an emotional and narrative landscape. His use of macro and micro details, the subliminal signposting and the use of dramatic elements to frame and set an emotional and narrative scene, were adapted in *Inchcolm Project* for a living body moving through a living and breathing island. Additionally, *Inchcolm Project* is site-responsive and was utterly shaped by Inchcolm Island, at a structural, sensory and narrative level: its affordances and limitations impacted on the design. The island 'dictated' how the performance was structured, how we worked with sound, where the installations and the musicians were stationed, the routes and paths that could be explored, how we guided navigation, how we used the locations that were inaccessible. The island's sensory potential was also employed to the full: the smells, the sounds, the colours and the textures, the mood of some of its locations, the spaces that conveyed certain feelings like isolation, exposure, awe, wonder, or vertigo.

The design of a dramatic visual style in *Inchcolm Project* revolved around framing rather than creation, focusing the audience/players' attention on the dramatic landscape rather than creating it as in the case of *Dear Esther*. This was achieved by tagging the audio files and positioning the installations and musicians in aesthetically and dramaturgically meaning-*full* locations which drew attention to and emphasised the island's environments and narratives. The installations invited the audience/players to pay attention to the narrative details embedded in the environment while the panoramic vistas invited them to contemplate the emergent, ever-changing mood of the island. Alternating between them they could start to assemble a narrative from the dramatic landscape and the micro-tableaux of environmental storytelling, which I referred to as play with perspective. I argued that in *Dear Esther*, Briscoe framed the scene by going beyond the level design to incorporate perspective: the scenes are introduced as a vista from the distance where the details cannot be made out with any clarity. They intrigue and tease the player, inviting her to approach, explore and discover them. Thus, a play with perspective is achieved by

alternating vistas and details. This encourages exploration through a combination of perspective, framing and creating an environment which is interesting to explore.

I argued that patterns emerged from the combination of the designed, natural and human elements. The audience/players were constantly on the move, scattered around the island, standing still on edges and shores, looking out at sea, ghostly and silent, which led to unexpected encounters and emergent landscapes. They were an active part of the landscape, contributing to each other's narratives.

The elements of environmental storytelling, similar to *Dear Esther*, are designed to communicate the traumatic event which explains the presence of the character on the island. Furthermore, the bright colours on the island are all the marks of human life, the physical and psychological traces that the protagonist leaves on the island.

As argued earlier this use of colour in *Dear Esther* gains symbolic and narrative significance because it acts as a visual manifestation of the memory of this traumatic event. The memory is projected onto the environment causing a dramaturgical conflict with the natural landscape: meaning becomes unstable when car parts, for example, start appearing on the island. This event is represented through recurring colours, displaced and misplaced objects, unnatural assemblages of natural and human-made materials. In *Dear Esther*, the island is gradually coated in fluorescent green writing, paint, car parts, emergency room paraphernalia, chemical symbols, ultrasound images alongside bird nests, broken eggs, feathers and bird bones. In *Dear Rachel*, Inchcolm is overgrown by parasitical fluorescent orange rubber and tape, dinghies, buoyancy aids, barbed wire, metallic wind chimes, fishing nets, life jackets, wire birds alongside bark, feathers, egg shells, twigs, shells and seaweed. In *Dear Esther* the fluorescent green of the accident starts taking over the island, while in *Dear Rachel* the orange of the refugee crisis bleeds over the environment.

I have argued that signposting is traditionally used in games to convey gameplay information to the player: either to help with navigation (visual

landmarks), or to prepare for a battle/challenge (telegraphing, Smith and Worch, 2010), or to hint at solutions (puzzle keys) so on. In addition to this literal signposting, in *Inchcolm Project* I used what Briscoe calls subliminal signposting which manifests itself as either literal or symbolic. Subliminal signposting engages with the environment's ability to "unconsciously guide the player through some of the more figurative aspects of the story not directly conveyed through the narrative" (Briscoe, 2012a). Because it visually represents states, feelings, memories and thoughts, it fulfils a dramaturgical (rather than a ludological) function, it holds the potential to contribute to an emotional connection to the story and the character. The literal way refers to how the environment is effectively a visual representation of the narrative, for example the voice-over states: "And so they climb, like moths drawn to the light" (<https://www.performingplay.co.uk/text>) just as the audience/players saw a staircase leading up to a radio mast.

The Tunnel installation design is a good example of symbolic subliminal signposting because it generates a feeling which is not literally referenced in the text, but which contributes to its interpretation. In *Inchcolm Project* it is suggested that the character's wife, Rachel, was also pregnant: "I kissed your belly where guts and dreams were mingled in a knot just as the horn was calling us again" (<https://www.performingplay.co.uk/text>). The character, after witnessing the drowning of a mother and her infant child, questions the humanity of our society. The thought of bringing a child into a world which allows this to happen is the trigger that forces him to take his own life and takes him to the purgatory island:

"Sometimes, if the limbs are short, the body comes out facing upwards.
And then the waves plant them on the shore.
Orange gas flowers blooming in the sand.
And started walking between the orange blossom away from the sirens that were drowning the goodbyes" (Bozdog, 2016)

These narrative pieces of information are not literally communicated in the text but are implied and can be 'read' with the help of the environmental details signposted in the Tunnel installation.

The overarching symbolic power of the island was supported at the visual micro-level by interactive and non-interactive installations, which I have called scenes and shrines. I argued that the scenes, similar to the stage in theatre, are activated in performance by the audience/players. This demands that the audience/players undergo an essential transformation from audience/player-witness to audience/player-protagonist ('percipients', Myers, 2010).

What I have called shrines, the non-interactive vignettes which work to convey additional information about the world, the character, or the traumatic event, are embedded in the environment. The protagonist in *Dear Rachel* has left traces in the environment for the audience/players to decode, just like the protagonist in *Dear Esther* has. In *Inchcolm Project* the traumatic event recurs in the environment through different symbolic images: the capsized boat, the pile of buoyancy aids, the unmarked graves, the broken eggs, the wire birds caught in the fishing nets, the candles, coupled with auditory cues, either VO or live music, which support them in conveying emotion.

I have also argued that Inchcolm island is an evocative space which raises (narrative) genre specific expectations, and summons all the island spaces, real or fictional, that the audience/players have previously experienced. They walked around the island and discovered audio and visual cues which 'fed' their process of meaning making. Walking not only gave them access to the story but transformed them into protagonists of their own story, they performed (enacted as Jenkins calls it, 2004) the environment. The environment also contained embedded narratives: it is the character's memory palace, his subconscious guilt and repressed memories 'bleeding' over the natural environment. And finally, the designed environment stimulated the emergence of personal narratives. This were not designed but supported by the designed environment, which, following Alston, I identified as "errant immersion" (2016b). The designed spaces and Inchcolm island (ghost and host in McLucas and Pearson's terminology, 2010) worked together to support those evocative, enacted, embedded and emergent narratives. Sometimes the relationship was conflictual as they competed for primacy whereas other times it was harmonious as they complemented and emphasised each other. Catherine Turner observed that site-specific work turns the site and the work into co-creators (2004, p. 382)

which write over each other creating a palimpsest. This complex palimpsest constantly engaged the audience/players' conscious attention in an deliberate act of performing, reading, listening, and watching the dance between the environments.

In *Inchcolm Project* the theme grew out of Inchcolm island's founding legend, the visual symbols of refuge constantly bringing the story to Inchcolm. At the same time, the moments of adapted environmental details similarly linked *Dear Esther* to Inchcolm: the paper boats, the candles, the feathers, eggs and bird nests. The environmental design of *Inchcolm Project* was simultaneously game and site-responsive.

The text was the result of repeated playthroughs of *Dear Esther*, research into Inchcolm island, and refugee crisis stories and imagery. Inchcolm's histories, tales, legends and superstitions 'infiltrated' the text just as the writing style of *Dear Esther* did. Inchcolm's symbolic significance, as a place for meditation and ritual, as a refuge for those who seek salvation was also foregrounded. The theme of refuge echoed the larger social context in which I first played the game: the Syrian refugee crisis unfolding on the islands in the Mediterranean. I wanted to anchor the performance to these realities, transforming *Dear Esther's* theme of individual loss and grief into a societal one. The story in *Dear Rachel* responds to the game's themes: dealing with guilt and loss, forgiveness and redemption while at the same time engaging with the wider ongoing debates surrounding refuge, safety and humanity.

The writing process started with breaking down the text in *Dear Esther*. I wrote down phrases and words that were either repeated obsessively or created powerful and memorable images. Some of them later became leitmotifs in *Dear Rachel*: the hermit, refuge, salvation, gulls, ghosts, pestilence, death, salt, boat without a bottom (<https://www.performingplay.co.uk/text>).

In writing the *Dear Rachel* text I worked with a set of creative constraints. Firstly, I wanted to write in a poetic and epistolary style that mirrors the rhythm, style and ambiguity of the narration in *Dear Esther* while in the same time to write in the text the island's legends and history. I also aimed when possible to write on the island, responding to and referencing its environments, locations,

sounds, smells, tastes, and textures. The fragments were written for their intended locations, conveying some of my emotional responses to them as well as referencing visual, auditory, olfactory or tactile stimuli. Finally, I wanted to use repetition to reinforce important information – to use phrases as refrains thus ensuring that all audience/players will listen and remember them.

I also used a style of constructing metaphors inspired by *Dear Esther*, where the traumatic event and the human body become intermingled. Like *Dear Esther*, the intended function of these types of structures was to communicate that the poetic imagery hides an unnatural and painful event which has been repressed and is piercing through the subconscious. The obsessive repetition of words and phrases was also used to this effect.

Because I wanted to foreground the interpretive abilities of the audience/players, the text was intentionally ambiguous and fragmented in 20 'pieces' which were scattered around the island. This challenged me to write the text in such a way that it could be experienced in any order, and in any quantity, meaning that the number of 'pieces' found should not necessarily impact on the interpretation. Consequently, I decided to write the text in lyrical form; a volume of poems can be read in its entirety or selectively and randomly, none of these forms of reading more meaning-*full* than the other. The lyrical form of writing supported the open and ambiguous narrative, as well as the episodic nature of its reception.

The text also responded to the form of mediation, namely I developed a confessional tone of address: the text is written in the first person, which, as I have argued, suited the headphones.

Being a loosely adapted text, *Dear Rachel* was a constant negotiation between the source text and the potential text (Hutcheon and O'Flynn, 2012). This potential text was equally shaped by the site: its symbolic potential added another dramaturgical layer to the narrative, its stories and histories were embodied by its environment, and its physical appearance constantly shaped the structure of the text. These three functions of the site (as symbol, as structure, as storyteller, Wilkie, 2002) shaped the text by 'guiding' its reception (where the text is experienced), by shaping its themes (the text was site-

responsive), and by aiding its semiotic and sensory interpretation (the symbolism of the island as refuge and prison eventually grew into the theme of the performance).

The sound was designed to mirror the multi-layered texture of *Dear Esther's* soundscape: music, diegetic sounds and the acousmatic male I-voice (Chion, 1999) speaking in the ear.

Music was added in specific sound files to support the emotional tone of the voice and give a sense of emotional progression. We used music from the *Dear Esther* soundtrack to ensure continuity between the world of the game and the world of the performance.

I also decided to have musicians performing on the island which introduced a layer of diegetic music to the soundscape. This created interesting overlaps between the different types of acoustic environments, mediated and unmediated, fictional and environmental. I have called the instrumental solos musical puzzle pieces which were assembled in the final musical performance. This created an overarching musical theme which could be traced throughout the *Inchcolm Project* experience (during the performance, in the game during the projection, and in the musical performance).

The positions of the audio files and installations was carefully selected so as to facilitate a diverse and sensory-rich walk, thus contributing not only to the narrative but also to the interaction layer. By using static at the beginning and end of transmission, we created an opportunity for the audience/players to settle into an active listening mode. When the static started they could stop to listen or keep on walking as long as they did so within the perimeter of the tagged area, reinforcing the connections between sound and movement.

We also used sound to focus attention to the environment by amplifying it. This anchored the sound, the environment and the narrative in the body creating moments in which the information is no longer abstract but personally meaningful, “embodied and more imaginatively and emotionally resonant” (Myers, 2010, p. 61). Stopping, walking, standing and listening are woven together, creating a rhythm of the lived experience of *Inchcolm Project*.

In both *Dear Esther* and *Dear Rachel* walking is the main form of interaction with the designed story world. I have argued that in *Inchcolm Project* walking fulfils an aesthetic and a dramaturgical function. Aesthetic in that the walk was a performance, a series of encounters with sound files, installations, environments (landscapes, vistas) and other audience/players assembled through walking. Dramaturgical, in that the process of meaning making is enabled and performed by the moving body, making-sense and sense-making (Machon, 2009), not just a cognitive activity but also a sensory one.

In *Inchcolm Project* I intended to design opportunities for walking, either alone or with others. The environment, the narrative and the sound were designed to be experienced and interacted with through walking, while in the same time offering the motivation for it. They enabled different rhythms of walking, exposing the moving body to the stories, textures, sounds, smells and sea- and landscapes of Inchcolm.

The development process of *Inchcolm Project* required a parallel process of dramaturgy through which the overall themes were developed at a macro (across all components of the project: performance, projection, musical performance) and micro level (narrative, environment, sound, interaction). This involved two types of processes: 'pruning' or removing everything which could offset the meaning-making process and devising, an improvisational type of assemblage. This process of dramaturgy ensured that the two overall aesthetics, the palimpsest and (syn)aesthetics, were coherent and developed across the *Inchcolm Project* experience. The aesthetic of the palimpsest is present in the making of the work and in its subsequent reception as both reading and (re)writing whereas (syn)aesthetics refers to the potential of creating and experiencing "interdisciplinary, intertextual and 'intersensual' work" which supports complex processes of sensory and semiotic meaning-making (Machon, 2009, p. 14). The three strata of *Inchcolm Project* (text, adaptation, and their respective mediums), their components, and the relationship of inter-dependency between were shaped through this dramaturgical process.

All of these design strategies and techniques underpinned the development process of *Inchcolm Project*. Together they form a working method that I have

called storywalking. This working method was developed and refined in the process of creating and critically reflecting on a piece of work which is hybrid in its structure (with mixed-media and mixed-reality components) and interdisciplinary in its design (video game design and site-specific performance practice).

These strategies, skills and methods were part of my toolbox going into the development of my second doctoral project, *Generation ZX(X)* where they were refined, developed and tested against a process of transmedia creation which required the devising and design (from scratch) of the performance and the games.

GENERATION ZX(X)

From Inchcolm Project to Generation ZX(X)

For my second project I wanted to develop a video game and a performance which would contribute to the same hybrid narrative experience. I aimed to explore the affordances of both mediums and try out various ways of blending interaction with storytelling, and space with movement. This involved bringing forward some of the design heuristics developed during *Inchcolm Project*, and adjusting them, developing new design methods and adapting some of the existing ones through the simultaneous development of the video game and the performance. Ideally, I wanted the video game and the performance to nourish, inspire and complement each other.

Inchcolm Project started with *Dear Esther* and then developed as a response to Inchcolm island, its symbolic significance, sensory physicality and narrative voice. This formed the underlining processes: initially game-responsive design followed by site-responsive design. In designing the second project the starting point could not be a game (as this was to be developed later in the process) so, in order to maintain consistency across the two projects, the starting point had to be a site which would inform the games and the performance structurally, symbolically and narratively. I was looking for a site which was similarly evocative, atmospheric, and symbolic, sensory and story-rich as the island in *Dear Esther* and Inchcolm to inspire both the video game and the performance. Simultaneously, after receiving a Woman in Games Ambassador IGDA Scholarship⁴⁹ and out of personal curiosity, I started investigating why Dundee is such an important centre for video games development and education. I was intrigued by the urban legend that the ZX Spectrum computers, which were manufactured locally, 'fell off the back of the lorry', or left through the Timex side door, and, as a consequence, 'every household in Dundee had one'. This interested me because of the underlying gender politics: the computers were

⁴⁹ The Scholarship allowed me to attend the GDC – Game Developers Conference in San Francisco, where I had numerous conversations with international developers and educators about Dundee's impact on the industry and how singular it is that a relatively small city in Scotland had such a disproportionate influence.

built in the Timex factory by women who are never present in the video games history books. I wanted to try to find out why.

I gradually realised that this complex narrative of the hidden figures of Britain's video games industry could replace 'site' as a starting point for the second project. At the same time, I took part in the Global Game Jam⁵⁰ (GGJ) with a team of developers and academics. During the 2017 GGJ we designed *Ola de la Vida*, a three-player, physically controlled collaborative game (for more details see Parker et al., 2017). Designing and reflecting on the design of this game, its performative aspects, blending physical with digital space, and designing for spectatorship and semi-spectatorship (Love and Bozdog, 2018) helped to develop my thinking around the moving body and about bodies moving together⁵¹.

I was now not just exploring movement in a physical and digital environment, but also the impact of physical body movement on the digital space and the potential of physical controllers. I wanted to explore how to design for bodies moving and playing together, to develop a type of social and collaborative design which encourages dialogue, camaraderie, and conviviality and generates a feeling of community (see Pearce, 2009; Isbister, 2010; Márquez Segura and Isbister, 2015; Wilson, 2012; Love, 2018). I was gradually moving away from Inchcolm's romantic aesthetics of meditative walking in a dramatic landscape (developed as a response to *Dear Esther's* aesthetic), and towards a relational and social aesthetic of people walking and playing together which better suited the project.

⁵⁰ The Global Game Jam is a world-wide annual event, in which teams from all over the world design a game over a weekend (usually in January) which responds to the same theme.

⁵¹ We have introduced the term semi-spectatorship to refer to a spectator who is also an active part of the game, for example a player watching her co-players play as she is waiting for her turn (internal semi-spectatorship), or audience spectators who are involved in the game either voluntarily – offering advice, contributing to the atmosphere by laughing, shouting, gasping or involuntarily when the game spills outside the magic circle extending it (external semi-spectatorship). External spectatorship is “shaped by either the anticipation of participation, or the embodied knowledge of previous participation. This type of spectatorship is pleasurable and fun in itself, as it enables the formation of a support network/community, it allows for imaginative gameplay, reflection and strategic thinking, it acts as a safe space where the spectators can overcome the intimidation of participation by watching others play, and finally it acts as a tutorial - learning by watching.” (Love and Bozdog, 2018 p.tbc)

So, at the time when I was developing *Generation ZX(X)*, all these other threads and interests became to emerge and converge. I was interested in the personal stories of Timex rather than the male voices of authority which dominated the Timex strikes rhetoric. Even before I started collecting oral histories, from the preliminary archival research it became evident that there was a theme running through all the narratives of Timex, and that was the sense of community, solidarity and conviviality. Through the GGJ my design toolkit was expanding along the same thematic lines. Simply put as I became interested in the social and gender dynamics in Timex I was also developing the skills needed to pursue these interests through practice. I will elaborate on how my practice during GGJ informed *Generation ZX(X)* in the subchapter dedicated to the games' design, but for now it is important to note this convergence as it marks the beginning of a line of artistic inquiry into the potential of video games to bridge a generational and technological gap.

Through *Generation ZX(X)* I wanted to polish a design strategy that I developed while creating *Inchcolm Project*. I propose the term 'storywalking' to account for an approach to design which is centred around the moving body. Storywalking combines walking as an aesthetic, critical, and dramaturgical practice of reading and performing an environment, with designing complex, sensory and story-rich environments for a moving, meaning-making body. This approach was a result of developing and reflecting on *Inchcolm Project* and draws from site-specific performance and game design methods.

Designing for storywalking is not simply designing a story, or an environment, or indeed a choreography but rather designing a world full of possible journeys. Following Pinchbeck (2012a; 2012b), I referred to it earlier as playground design, a playground which has the props to support imaginative play and meaningful interaction, but which also encourages you to bring your own imagination and creative skills and challenges you to find new ways to play. To design for storywalking is therefore to arrange narrative Lego pieces in a playground in a way that generates the most interesting story-space-movement combinations.

Storywalks are journeys unfolding not with the purpose of getting somewhere (goal or destination-oriented) but of remembering, or discovering, or rediscovering places, people and events, a celebration of the walk as an aesthetic practice. As Ingold reminds us:

In reading, as in storytelling and travelling, one remembers as one goes along. Thus, the act of remembering was itself conceived as performance: the text is remembered by reading it, the story by telling it, the journey by making it. Every text, story or trip, in short, is a journey made rather than an object found. And although with each journey one may cover the same ground, each is nevertheless an original movement (Ingold, 2016, p. 17).

Remembering happens in action and along paths. To Ingold's list of performances (actions) I would add that each game is remembered by playing it. This echoes Gordon Calleja's notion of alterbiography, which foregrounds each playthrough, each player's journey through the game as an original movement, an equal contribution of design and player:

Alterbiography is the ongoing narrative generated during interaction with a game environment. It is neither solely a formal property of the game nor a property of the player's free roaming imagination. ... Alterbiography is a cyclical process afforded by the representational, mechanical, and medium-specific qualities of a game, and actuated in the mind of the player (Calleja, 2011, p. 124)

I have already discussed the rhythms of walking and how they stimulate "a rhythm of thinking" (Solnit, 2002, p. xvi) prompted by the "sights going by" (ibid., p. 6). In walking one remembers as one discovers, partly the objects found but partly the journey made.

What makes a walk truly memorable is the personal significance that we attach to it, the fact that it is happening to us, we are rhythmically moving in a place and this unlocks memories, sensations, ideas. Walking firmly etches the place and the story into the body. Fiona Templeton remarked: "Somewhere here, six years ago, I broke my foot. But, when you break your foot, the hole is not the thing you remember" (Wrights and Sites, 2006). This hole is the perfect analogy for a narrative engendered and designed by an artist. As a storyteller I aim to design such 'holes' and patterns of 'holes' in an environment. These are provocations, what I previously referred to as narrative 'Lego pieces'. It is the

experience that this hole provokes/facilitates which is at the heart of the audience/player's narrative.

In light of this, I return to my definition: Storywalking combines walking as an aesthetic, critical, and dramaturgical practice of reading and performing an environment, with designing complex, sensory and story-rich environments for a moving, meaning-making body. My approach to environmental storytelling was developed during *Inchcolm Project* and draws from site-specific performance, where site is considered as a palimpsest (Turner, 2004) which illustrates the complex relationship between the designed ('ghost') and found/natural elements ('host') (Pearson, 2010). Site thus acts as storyteller, symbol, and structure (Wilkie, 2002), and becomes an active component "in the creation of performative meaning, rather than a neutral space of exposition" (Pearson, 2010, p. 36). To sum up, storywalking is a design process that can be applied to work which is structurally hybrid (with mixed-media and mixed-reality components) and inter-disciplinary in its design (video game design and site-specific performance practice).

Each of the design stages draws on appropriate theory as illustrated previously and as I will go on to discuss it informed *Generation ZX(X)* just as it informed *Inchcolm Project*. Storywalking was used in *Generation ZX(X)* as an arc for movement and story development, a plotting of environments, movements and actions.

Project description

Generation ZX(X) was a hybrid event which, like *Inchcolm Project*, combined elements of performance, video games, and live music. It was structured as a four-part experience: a promenade performance, a 'play party', a film projection, and a musical performance. The event took place on the 4th May 2018, in Camperdown Park, and at the JTC Furniture Group – the former Timex Camperdown factory. At 7:30 PM, 300 people⁵² gathered in front of Camperdown House to “celebrate Dundee's ZX Spectrum heritage, the video games born out of it, and the women who made it all happen”⁵³.

Over the course of an hour the audience/players explored the park in groups in search of snippets of interviews with the women who assembled the ZX Spectrum computers. These sound files were positioned in various locations around the park, a balloon marking the place where a specific sound file should be played (Figure 83). The number on each balloon corresponded to the number of the audio file on the audience/players' phones, 208 files in total. The balloons were colour-coded, each colour corresponded to an interviewee. The audio files were selected from 7 interviews with 11 former Timex employees (all women) which amounted to over 12 hours of recorded material. The interviews were informal discussions, structured around a series of open-ended questions thematically linked: personal background information, the work, the work environment, camaraderie and impact. The informal nature of the interview allowed me to ask the interviewees to elaborate on certain topics and follow up with additional questions to elicit more details and richer material. I grouped the audio files in five categories: 'Three words', 'Working on the computers', 'Working in Timex', 'The strikes' and 'Fun and friendship'. Each category was mapped to a certain area in the park. The importance of these oral histories cannot be understated as they capture the lived history of Timex and Dundee,

⁵² Eventbrite number of tickets sold was 298. The choirs consisted of an additional 70 women.

⁵³ <https://www.eventbrite.co.uk/e/generation-zxx-tickets-43095007327#>

as well as the assembly process of the ZX Spectrum
(<https://www.performingplay.co.uk/audio-1>).



Figure 83 Audience/players interacting with the sound files, *Generation ZX(X)*

After the park exploration the audience/players were escorted to the JTC Furniture Group building, where a pop-up arcade was set up (see Figure 84). In the custom-built arcade cabinets, they could play two games designed by Abertay students and staff: *She-Town*⁵⁴ and *Assembly*. *She-Town* is a 2D platformer in which the player collects five letters which spell 'TIMEX'. Each letter introduces a text-level, where the players can read a chapter from Dundee's history of economic regeneration (*She-Town* game: <https://www.performingplay.co.uk/games> and *She-Town* text: <https://www.performingplay.co.uk/text-she-town>). *Assembly* is a three-player installation game, where the co-players work together to assemble as many ZX Spectrums as possible in the limited time.

⁵⁴ The title refers to Dundee's nickname. In Dundee, women have traditionally been the breadwinners which contributed to the city's reputation as a 'She-Town'. From the jute mills to the assembly lines, women in Dundee have worked hard to provide for their families.



Figure 84 Custom-built installation for Assembly, with the two *She-Town* arcade cabinets on each side.

At 9:30PM when it was dark enough to project video outdoors, the audience/players were all invited to play the third game which was projected onto the factory-building wall (see Figure 85). The game, *Breaking out of the Frame*, was designed by Niall Moody, Kayleigh MacLeod and myself. During the game the audience/players are required to move left and right to control their collective avatar, Pinkie. Pinkie is running to collect ZX Spectrums while avoiding other computers from that time, namely ZX Spectrum's American rival, the Commodore 64 (C64).



Figure 85 *Breaking out of the Frame* the screen (left) and the players (right). The game projection was intended to be site-responsive, the game was designed to fit the window on the side of the building

After the game the audience/players settled into a spectator role as they watched a 30-minute site-responsive projection on the building (Figure 86). The film consisted of archival footage and photographs from the Spectrum assembly lines accompanied by the seven audio interviews that I had conducted with game developers. In the interviews the developers, Mike Dailly, Paul Farley, Douglas Hare, Chris van der Kuyl, Andrew and Philip Oliver, Danny Parker and Erin Stevenson, focused on the impact of the ZX Spectrum on their individual careers and also on the games industry at large. The developers acknowledged

the impact of the female labour on the industry and expressed their gratitude to the women of Timex (see Audio Projection: <https://www.performingplay.co.uk/audio-projection>).



Figure 86 Audience/players watching the documentary. The projection 'frame' was designed by Robin Griffiths as a mapped overlay for the window on the side of the building, transforming the window into a ZX Spectrum computer (the Spectrum's trademark rainbow can be seen in the bottom-right corner).

The event concluded with Sheena Wellington's song *Women o Dundee* (1990), performed by three community choirs (comprised entirely of women) lead by Alice Marra (see Generation ZX(X) Walkthrough: <https://www.performingplay.co.uk/walkthrough-1>). The women singing were carrying positive picket-signs which referenced the picket signs used during the strikes, and were made by inter-generational groups during two workshops, one in the Douglas Community Centre and one at the Hot Chocolate Trust headquarters (Figure 87).



Figure 87 The women choirs performing *Women o Dundee* by Sheena Wellington.

One of the advantages of developing hybrid experiences which unfold across different media (transmedia) is that they offer multiple entry points to the narrative and have the potential to tap into the audiences of each media (Jenkins, 2007; Dena, 2009; Phillips, 2012). Therefore, inviting audiences to a walk to discover the park and its secrets, listen to the stories of former Timex workers and prominent Dundee games developers, and play together at the arcades, appeals to a larger and more varied audience than an invitation to solely play video games or attend a performance. Hosting the event in a public place, Camperdown Park, helped to set the majority of audience members on equal footing in terms of ownership and familiarity with the space.

Inter-generational groups formed around technology: younger audiences had smartphones and used them as speakers for older audiences; in return older audiences shared their lived histories and stories of Timex with the younger audiences. They explored and played together, negotiated a comfortable pace and direction for walking and playing, and exchanged skills and stories while contributing to each other's experience. The event then became the space for an inter-generational encounter, where audiences came together to share an experience around video games and performance (see Figure 88 and Figure 89).



Figure 88 Inter-generational groups of audience/players exploring and listening together.



Figure 89 Inter-generational groups of audience/players playing together

In this chapter I focus the reflection around the four components that formed the experience: the walk, the gameplay, the projection and the musical performance, but first I want to briefly explain how the project came to be, and why I chose to engage with this topic.

Project background

On the Timex assembly line, the workers were overwhelmingly female. Although the work was highly demanding requiring precision, dexterity and

finesse, it was graded and paid as semi-skilled labour. The skilled jobs, tool makers and engineers, were mostly occupied by male workers (see <https://www.performingplay.co.uk/audio-1>).

As a result of Sir Clive Sinclair's insistence that the Sinclair computers would always be retailed at affordable prices, and because they were easy to programme (see the developer interviews: <https://www.performingplay.co.uk/audio-projection>), the ZX 81 and Spectrum had a major impact on the development of the British games industry. It can be argued that because it was assembled in Dundee by an affordable workforce, the retail prices could be kept low (see the developer interviews: <https://www.performingplay.co.uk/audio-projection>). The computers were sold at discounted prices to employees, and factory outlets: the legendary "fallen off the back of the lorry" computers made their way into Dundonian houses. Dundee-based video games developers today acknowledge that the role that the local manufacturing of these computers had on the local industry cannot be understated (see the developer interviews: <https://www.performingplay.co.uk/audio-projection>).

In 1993, after more than eight months of bitter disputes, Timex closed its gates in Dundee. This has become one of the most painful moments in the city's history, and for more than two and a half decades, strike action and Timex have never been separated. The impact that Timex has had on the city beyond the strikes has always been overshadowed by those final eight months.

The title, *Generation ZX(X)*, aims to draw attention to the hidden figures of the video games industry, the women who built the computers that led to Dundee's development as one of UK's leading games development and education centres. The (X) chromosome is foregrounded and added to the ZX Generation thus challenging official histories. My interest throughout the project has been to emphasise the impact that the women workers of Timex had on the industry and uncover and preserve their stories, taking advantage of the critical and transformative power of performance and play. I wanted to explore the idea of gender roles and how these play out in the working environment (women – physical labour, men – creative labour) and the ZX Spectrum computer, its

heritage and impact on the local video games industry and education as well as its aesthetic. I intended for the project to spark a conversation about accessibility around the questions: who makes and who plays video games? Who are computers and games really for? This stemmed from the observation that all of the women that I have interviewed never even considered the potential uses of the computers that they were building, wondered who they are for, or tried to use them.

I wanted to design an event which acknowledged the women's labour and its contribution to the video games industry. It was intended as an inter-generational dialogue for a mixed-age audience, the technology-savvy Generation Z and the Timex workers, most of which are (at the time of writing) at least in their late forties. The challenge was to bridge the generation gap around *technology* through a partly *technology-enabled* experience. How could I design experiences that invite participation and facilitate social interaction to counteract the intimidating nature of technology? How to make technology-facilitated experiences all ages friendly?

Context

As previously discussed, I was personally interested to explore what made Dundee such a thriving video games development and education centre. I asked a lecture theatre full of game development students the same question, and the only answer they had was to name DMA Design, Dave Jones' company known for developing *Lemmings* (DMA Design, 1991) and *Grand Theft Auto* (DMA Design, 1997). But Dave Jones also worked in Timex and used his Timex redundancy money to buy a computer and start his company (Dailly, 2004). During that time, the Sinclair computers 'were in every house in Dundee' (see the developer interviews: <https://www.performingplay.co.uk/audio-projection>), because they were manufactured locally. And it was not just the computers, but the creative scene which developed around them (see the developer interviews: <https://www.performingplay.co.uk/audio-projection>): early developers were making games for the Spectrum and the ZX 81 and exchanging them, talking about the latest games, exchanging cheats, and meeting to make games. For example, Dailly and Jones met at the Kingsway Amateur Computer Club

(KACC), and Richard and Douglas Hare were weekly attendees of the Computer Club in Edinburgh. At that time computers were a hobby, and the computer clubs were frequented by a certain demographic: almost exclusively teenagers and retired men (see the developer interviews: <https://www.performingplay.co.uk/audio-projection>).

I was interested to see if anything on the site of the former Timex Camperdown building on Harrison Road, now JTC Furniture Group, testified to its role in the manufacturing of the computer which kick-started the British video games industry. I visited the building and there was nothing there to tell the story of the computers which changed the fate of Dundee. There was only a mosaic which commemorated the watch production at Timex. Nothing there to tell the story of the ZX Spectrum computers and the women workers who built them. The female labour has gone unnoticed and unacknowledged for nearly four decades. This is the first chapter in Dundee's video games history, yet it has remained invisible. This is due perhaps partly to the fact that Timex is equalled in Dundee's collective memory with the strikes, and partly because the early history of video games usually starts with the hobbyist scene, which consisted predominantly of young men attending coding clubs and making games at home. The computers they used, where and by whom they were manufactured is reduced to a footnote if at all. I knew how important it was to record these stories now because they are disappearing as time goes by. I wanted to shift the focus from the strikes to the women of Timex and how vital their work has been for Dundee's economic development. More importantly I wanted the women of Timex to realise how much they have contributed to this development and that their hard work can be acknowledged and appreciated. The women in Timex were never inspired or encouraged to see what the computers can do, they knew how to build them but not how to use them. I believe that this is such an important story to pass on to future generations especially now when the games industry is striding towards gender parity and trying to find ways of empowering and inspiring more young women to consider working in games (see the developer interviews: <https://www.performingplay.co.uk/audio-projection>).

The design process

This chapter details the process of designing the audiowalk, the games, the projection and the musical performance at conceptual and implementation levels, and presents a reflection on the processes, strategies, and techniques which underpin it.

Designing the audiowalk

Selecting a narrative and a site

I started the project by conducting a series of interviews with Charlie Malone, a former trade union convenor at Timex, now a lecturer at Abertay University. I also interviewed Kathleen MK and Helen B, both former Timex employees. These interviews, alongside archival and media coverage research helped me to develop a better understanding of the history of Timex, the politics and the narratives that surrounded Timex and the strikes. This initial research constituted the documentation phase of the project, formed the basis for the student game design brief and was then circulated to the student team at the beginning of the game development process. Initially I had planned to use the interviews solely as references for character, story and game concepts to be used as basis for developing the video games and performance. But gradually I realised that by doing this I would be adding another narrative to an already extensive number of narratives *about* the women of Timex rather than *by* the women of Timex. I started to think about their agency and ways in which I could develop the project in a way which emphasised their voices.

During the first interview with Charlie Malone he mentioned that Camperdown Park was one of the routes that the workers took to work. The flow of pink Timex uniforms of the female workers coming to work from different directions would engulf the streets. The workers would all then walk up Harrison Road to the factory entrance. Camperdown Park is the largest park in Dundee, situated on the North-West side of the city just below the JTC Furniture Group (see Figure 90). I decided to use Camperdown because it would add a symbolic

significance to the walk, recreating the women's walk to work, but also because it allowed for all participants to wander freely and safely.

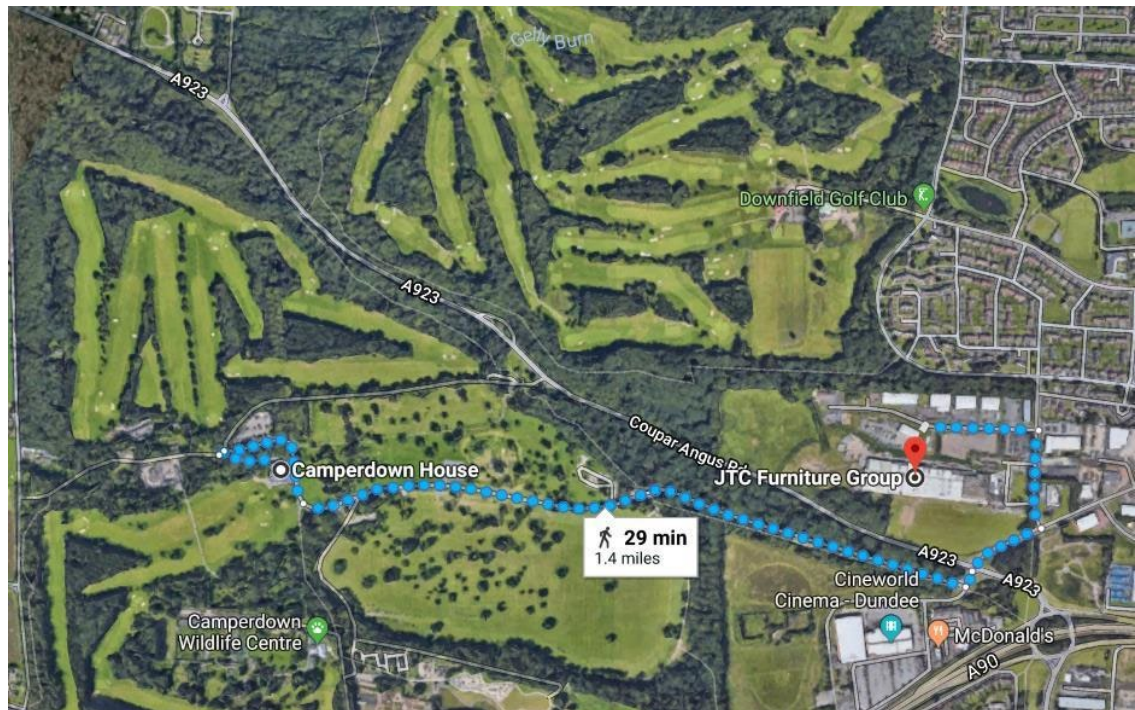


Figure 90 Route from Camperdown House to JTC Furniture Group

Initially the project was designed for Sonic Maps like *Inchcolm Project* (the audio files are geo-tagged and the audience/players would trigger them when they reach the area) until the app was abruptly removed from the App Store. Therefore, I had to devise a solution which would facilitate a similar experience. I wanted to group audio files thematically in certain areas, so that exploration of that area would unlock more audio files and offer a deeper and more nuanced understanding of that theme/topic. This would link the environment, the sound and interaction: deciding to linger in a certain area or to dwell deeper in a certain topic could act as motivators for exploration. Deciding to journey (rather than explore) would allow the audience/players to access more topics but explore less of the park, so movement impacts on their narrative journey. In order to implement these design strategies, which I developed during *Inchcolm Project*, I had to find a way of attaching the audio files to certain locations, which is why I decided to mark the locations using numbered balloons to correspond to the number of the audio file.

In terms of keeping the event as accessible as possible, I wanted the audience to be able to play the audio files regardless of internet and data allowance, so I shared the audio files with them ahead of the event so that they could download them in a location that had access to wifi. Sharing the files with the attendees ahead of the event meant that I had to count on their willingness to play along and not listen to the files beforehand, to respect what Josephine Machon, referring to the relationship of trust between audience and makers in immersive theatres, calls “the contract of participation” (2013; see also White, 2012; White, 2013). The audience were also assured that regardless of whether or not they had mobile phones or the audio files installed a team would be there to assist them and/or to pair them up with somebody who had.

Working with voices: a verbatim approach

Women voices

After the initial interviews with Charlie, Kathleen and Helen, I decided against including any of the recorded material of Charlie. The reason for this was three-fold. First, the story of Timex had been told and retold by men’s voices and I wanted the park to be a space dedicated to women’s voices, particularly because at the factory the majority of the voices speaking during the projection were male. Second, Charlie has contributed to many of the existing narratives of Timex, and he is often regarded as a voice of authority in the Timex struggle. I wanted to distance the project from the strikes and focus on the impact that Timex and his workers had on the city, and the oral histories of Timex. And finally, Charlie’s voice was already familiar, and his stories have already been made public. In my attempt to source information I approached the Timex History Group (THG), a group of former Timex employees who meet weekly to preserve Timex stories, histories and memorabilia. I was hoping that they would have an oral history archive that I could engage with. Unfortunately, all of the interviews that they had in their collection were focused on watch production and they were mostly with male participants. It is worth mentioning that the group itself was formed entirely of men. I also approached the McManus to inquire if I could access their oral history archive, but it was not accessible to

the public. In any case the focus of the project was moving towards a representation of female voices, so I decided to personally track down and contact former employees and assemble my own oral histories archive. This was advantageous not least because it gave me control over the interviewing process, the topics and stories discussed. I wanted to engage with oral histories because I believe that through them we can connect with history at a personal level. They give us direct access to a person's lived experience thus emphasising the subjective, personal and embodied aspects of history. And finally, I would argue that oral histories destabilise and challenge 'official' histories by democratising the process of 'writing' history, everybody's story matters equally, and every voice is equally important. Their accessibility is as important as their preservation.

The Timex History Group kindly put me in touch with some of the women who worked on the computers. Arranging the interviews was a challenge because of the old age of the participants. Timex closed 25 years ago and at the time of its closure some of the women had been working there for 30, even 40 years. Some had since passed away, while others had health issues that prevented them from taking part in the project. Another challenge was the fact that many of the women that I approached felt that they did not know anything about video games and therefore could not contribute much to the discussion. When I presented my justification for the project, how I think that they made a great contribution to the industry by building these computers to a high quality and at an affordable price, I felt a change in their attitude.

When working with Verbatim methods, it is the artists' responsibility to make sure that they build a mutually rewarding relationship, and that they in turn give something in exchange for the stories. The relationships that I built with my interviewees during the project were developed over coffee and cake(s) around a genuine and mutual interest in the city's history and the strong women who helped build it. We tried to make sense together of history and the part that women played or could have played in it. We discussed how Dundee's industries have grown from one another, the ship industry brought in the whaling industry, the whaling industry brought in the jute industry, and the jute industry is the reason why Dundee had a skilled female workforce. This in turn

attracted new businesses to Dundee: Timex and National Cash Registers (NCR) are great examples. I tried to understand what drove them at the time and what could have been done to encourage, motivate and inspire them to learn how to work with the computers. I also wanted to learn about their life after Timex. And most importantly I wanted to thank them, the flag bearers, for everything that they have done, because as a woman artist and researcher working in games development and education in Dundee I owe a large part of my career to them. I wanted them to feel that the event was our thank you to them and make them proud to see that their work has finally been acknowledged and recognised.

I held seven interviews with 11 women: Ann C. with Ann L., Margaret H., Stella T., Evelyn with Ann, Helen B, Kathleen M.K., Ellen, Liz and Lynn, which amounted to over 12 hours of recorded material. This was then divided into 287 files so that each audio file was centred around a single topic. I worked with Robert Clark on cleaning and enhancing the quality of the audio files. The next step was selecting the files. The final number was 190 audio files with a duration of three hours and 19 minutes

(<https://www.performingplay.co.uk/audio-1>). The files which did not make the final cut were either repetitions of topics already covered, or highly specialised information about the assembly process and machinery. To this I added 18 audio files that I wrote and performed which contained additional information about the project and the interviewees, as well as descriptions of the interviewing and editing process (see Mona Entry Logs: <https://www.performingplay.co.uk/audio-1>). This was intended as a distancing strategy foregrounding the mediation inherent in the Verbatim technique.

The interviews were informal discussions, structured around a series of open-ended questions thematically linked which was the best way to elicit and preserve the individual stories and memories. The questions were developed iteratively after the initial interviews with Charlie, Kathleen and Helen. I developed five categories or themes: personal background information, the work, the workplace, camaraderie and the social aspects of working with other women and impact of the work, each containing from three to five questions. These were adapted to suit each individual interview situation and interviewee.

The informal nature of the interview allowed me to ask the interviewees to elaborate on certain topics and follow up with additional questions. Some of the most captivating topics emerged during the interviews so I took an iterative approach and included questions around those topics in the subsequent interviews. For example, the pay grades, the toilet shops, the gender politics, and impact that a predominantly female workforce has on the workplace (see <https://www.performingplay.co.uk/audio-1> particularly the 'Fun and Friendship' and 'Working in Timex' playlists).

The relatively small number of interviews was still varied enough to capture some of its atmosphere and recount some of the Camperdown Timex factory's stories. In my last entry log, I reflect on the absent voices and the unasked questions and express my hope that the 11 voices would be a beginning. I also invite the audience/players to come back and listen to the voices that they have not heard on the day in their own time and express my aspiration that one day the park will be an open oral history museum where these stories are always there to be listened to and remembered, hidden in plain sight.

I would like it for this oral history museum to grow and grow. To be Dundee's little secret, the place you go to for a walk, so that as you go forward in space you also go backward in time.[...] I would love it if we made the park the loudest and happiest of museums, somewhere where we celebrate the hard work and sweat of women with laughter and singing, and embrace joy in all of its guises. A place where we tell all the women of Dundee thank you and where we solemnly promise to make them proud." (see Entry log 19: <https://www.performingplay.co.uk/audio-1>)

When I was editing the material, I noticed that I can group the audio in five categories that emerged from the interview themes: 'Three words', 'Working on the computers', 'Working in Timex', 'The strikes' and 'Fun and friendship'. Each category was mapped to a certain area in the park (Figure 91).



Figure 91 Audio files location in Camperdown Park

I wanted each theme to be reinforced by an audio intro which fulfilled multiple functions: it signalled to the audience/players that the audio file is about to begin and focused their attention while also giving them enough time to settle into an active listening mode. This is a technique that Kevin Murray and I developed for *Inchcolm Project* by using the radio static sounds at the beginning of each sound file. The intros also functioned dramaturgically to communicate to which theme the audio belonged to; they were sound-codes that hinted as to where the audience/players might position them in relation to the other sound files.

Combining Verbatim and walking techniques

Verbatim theatre is the term first used by Derek Paget in his 1987 article, *'Verbatim Theatre': Oral History and Documentary Techniques*, to describe "that form of documentary drama which employs (largely or exclusively) tape-recorded material from the 'real-life' originals of the characters and events to which it gives a dramatic shape" (Paget, 1987, p. 317). In its almost fifty years of existence, verbatim theatre has known two 'golden ages'. The first one flourished in the late 1960s around Peter Cheeseman's work and his interest in presenting the voices of the Stoke-on-Trent community and the socio-political issues the community was facing, the closing of the steelworks at

Shelton Bar for example⁵⁵. The second, starting in the late 1990s, was a reaction to the lack of (or insufficient) coverage in the media, singular point of view presentations or official statements' lack of honesty about complex political events and human rights violations like '9/11', the 'War on Terror' campaigns that led to the invasions of Iraq and Afghanistan, 'Bloody Sunday', the Los Angeles riots in 1992, the Matthew Shepard hate crime near Laramie, Wyoming in 1998, the Stephen Lawrence racially motivated attack and murder in Eltham, London in 1993, and the Gaza Strip conflicts to name only a few. It developed as a reaction to media bias, elitism, unreliability and exclusion, aiming to become a platform for the voices who are cut out from or ignored by media discourses while at the same time to make information available to a wider and varied audience (Paget, 1987; Soans, 2008; Hare and Stafford-Clark, 2008). It set out to present different voices and varied angles to a story and celebrate the beauty and authenticity of vernacular speech which was offered as an alternative to the standardised media discourse (see for example Blythe, 2008; Soans, 2008). Verbatim theatre aimed to empower communities and individuals who have historically been left out of the political arena and the media (Hammond and Steward, 2008; Soans, 2008; Hare and Stafford-Clark, 2008). Having dedicated my MLitt dissertation to working with Verbatim theatre I was familiar with both the opportunities and the challenges presented by the form, as well as the Verbatim technique and stages of the process. A Verbatim play would typically start with selecting the interviewees, conducting and transcribing the interviews, followed by a process of selecting, cutting, editing and shaping the material into a text. The dramatic arc is a result of the orchestration of the material - how it is edited and then shaped to offer a sense of progression - storyline development - and tension. In the Verbatim technique, the creative process takes place in these acts of 'manipulating' the 'raw' material: "The process of selection, editing, organization, and presentation is where the

⁵⁵ Paget attributes the development of verbatim theatre in the UK to two main facilitators: the portable cassette recorder and Peter Cheeseman's sustained activity at the Stoke-on-Trent's Victoria Theatre, from 1965 onwards. According to Paget, *Hands up – for You the War is Ended* (1971) and *Fight for Shelton Bar* (1974), although not yet labelled as verbatim plays, were the first attempts at staging verbatim theatre in the UK.

creative work of documentary theatre gets done” (Martin, 2010, p. 18). In a promenade performance (just like in a video game) this sense of progression (of the storyline) is synonymous with the spatial progression facilitated by the act of walking. The Verbatim text is then staged, and actors are cast as the ‘characters’. Their process involves listening to the original interviews and sometimes meeting and observing the interviewees to more accurately portray them and replicate their speech. I wanted to adapt some of the Verbatim theatre methods without writing and staging a Verbatim play. I did not want to write yet another narrative *about* Timex, but to develop a storywalk which places the women voices at its centre. I also wanted for the women to be present themselves rather than represented, and the recorded audio interviews allowed for this without having to replace their voices and bodies (see for example the “recorded delivery method” introduced by Anna Deavere Smith and developed by Alecky Blythe and her company Recorded Delivery, in which the recorded interviews and the interviewees themselves are voiced and respectively enacted by an actress/actor, Blythe, 2008).

I have argued (Bozdog, 2013) that Verbatim theatre’s main pitfall is that it can be misleading because it renders author mediation and bias invisible and thus risks creating the illusion that it is reality rather than an artistic artefact, a slice of reality as seen and presented by the author. I have suggested that this can be partly remedied by using various distancing strategies (Brecht’s *Verfremdungseffekt*⁵⁶). One of them is using autobiography to present the artistic process within the text by adding the voice of the author to the voices of the interviewees. This is not an unusual practice in Verbatim theatre (see for example *Come Out Eli* or *All the Right People Come Here*, *The Laramie Project*, or *Black Watch*). Describing the interviews and the interviewees, the selection and editing process draws attention to the constructed nature of the work and reminds the audience that the play is a result of artistic manipulation. The Verbatim play text is usually accompanied by a foreword from the artists describing the interviewing and selection processes or further explaining the

⁵⁶ <https://globalshakespeares.mit.edu/glossary/distancing-effect/>

verbatim method. These statements function as an authenticity certificate, testifying to the 'truthfulness' of the testimonies and events. Some examples include *The Laramie Project*: "During the next year, we would return to Laramie several times and conduct over two hundred interviews. The play you are about to see is edited from those interviews" (Kaufman et al., 2001, p. 5), *Going for a Walk: A Verbatim Play*: "The audio-recorded material – more than 25 hours in total – was subsequently transcribed and edited into a play by academic researcher, Deirdre Heddon. The script is presented below. All of the words in the play were spoken by the co-researchers or their Personal Assistants." (Heddon, 2015, p. 1), or *The Permanent Way*: "The play dramatizes only a very few of the many, many meetings I had" (Hare, 2007, p.2). For most Verbatim plays these are also the only source of information as to the extent of editing and dramatizing the artists have undertaken, and it is available solely for the readers of the play text (unless it is also published in the programme).

The form of the audiowalk allowed me to avoid some of the risks of Verbatim theatre while tapping into its advantages. The aesthetic of delivering/experiencing the voice in the ear has been covered at large in the previous chapter, but it is worth reiterating some of its characteristics here in relation to the Verbatim technique. The voice in the ear in this instance is not that of an actor performing a text, but that of various women, with different voices, sharing their personal stories. These are authentic yet distinct Dundonian voices, belonging to women from varied backgrounds, sometimes even nationalities (<https://www.performingplay.co.uk/audio-1>). Some have thick Dundonian accents, some verbal ticks, or a distinctive laughter, some speak loudly whereas others use a softer and quieter tone. What unites them is their shared experience of working in Timex although they attach different emotions and personal meaning to it. Deprived of a visual representation the audience/players can imagine their physical presence based on their voices.

The audience/players were embodying Verbatim techniques; their bodies were shaping their own Verbatim 'text' by walking and collecting the interviews that they found along the way. They made an informed choice whether they wanted to listen to multiple voices or follow the multiple parts of one interview because the logic behind the tagging has been presented to them at the start: "Where

you go it's up to you. How you decide to listen it's up to you. You can follow one person's story by following her colour. Or, you can go on an adventure and listen to any voice that you encounter and create your own patchwork of voices." (Mona Entry log 1: <https://www.performingplay.co.uk/audio-1>). They are also made aware that they are selecting as they go along, and that this is just one possible narrative out of numerous possibilities: "Tonight, you will walk and listen to some stories. This is the first of many audio clips that you will find throughout the park. You will listen to the voices of women who used to work just up the hill, in the Timex factory. [...] Take as much time as you need. You will not find all the audio clips tonight. And that's all right, you're not supposed to. There is no right and wrong way of doing this." (Mona Entry log 1: <https://www.performingplay.co.uk/audio-1>). The moving body threads one possible journey and one possible story as it moves through a space filled with audio files. For example, in the introduction to *Going for a Walk. A Verbatim Play*, composed by Deirdre Heddon, the author states: "This is just one possible story made from the conversations, the story Heddon has chosen to tell" (2015). The agency here clearly belongs to the author. In the *Generation ZX(X)* storywalk this agency transfers to the audience/players, it becomes the story their moving bodies chose to make as they move through this vast material. In the same introduction, Heddon states that walking was "a key methodology of the research" (ibid.). In the *Generation ZX(X)* storywalk, walking was also a research methodology albeit in a slightly different way. If Heddon deploys walking as a way of conducting and recording the interviews, I deployed walking as a way of composing and selecting the narrative material, the audience/players walk to make their own story. Walking becomes a way of structuring the narrative experience. Both approaches use walking as a way of structuring the artistic process but locate it at different stages of the research process.

In the initial audio file, I also wanted to destabilise any illusion of 'absolute truths' that the Verbatim form sometimes creates: "You will not find the truth in this park tonight. What you will find, are individual truths as they are remembered now, almost three decades later. Time does that though, it chews holes into our memories which is why you will not find a coherent story, but

disparate memories, that you will piece together yourself and fill in the gaps as you walk in between them.” (Mona Entry log 1: <https://www.performingplay.co.uk/audio-1>). This emphasises the unreliable nature of memory but also the creative agency facilitated by the invitation to remember. It is worth remembering here Ingold’s poignant observation about the performative nature of memory: “In reading, as in storytelling and travelling, one remembers as one goes along. Thus, the act of remembering was itself conceived as performance: the text is remembered by reading it, the story by telling it, the journey by making it.” (Ingold, 2016, p. 17) and I would add ‘the game by playing it’. Remembering happens during and in between audio files, in walking along and across paths.

I used two strategies to make my manipulation of the material visible. The first was to record my fieldnotes and use them for additional audio. In these audio snippets I describe the interviewing process, my decision-making processes and how I manipulated the materials. The audience/players were also instructed how they could find them in the initial introductory audio: “You will find me at the black balloons. I will be telling you the story of these voices and how they came to be here in Camperdown Park, a stone’s throw from the former Timex factory” (Mona Entry log 1: <https://www.performingplay.co.uk/audio-1>). Secondly, I decided to keep my questions and my voice as interviewer in the audio material, reminding the audience that the answers were shaped and driven by my questions. This partially allowed me to expose my own bias and remind the audience/players that the author bias is always present.

I have suggested (Bozdog, 2013) that technology might be another profitable avenue to follow as a strategy of rendering author-mediation transparent. This project allowed me to further pursue this ‘hunch’. Some technologies, particularly screen-based ones show their mediated nature. In *Inchcolm Project* I used Sonic Maps to geo-tag and geo-trigger the audio files. This created a seamless and immersive experience because the sound was automatically played when the audience/player entered a geo-tagged area. As previously discussed the Sonic Maps app was no longer available so I had to devise an alternative: the audience/players had to trigger the audio file manually which breaks the immersion (it is almost the equivalent of a popup menu in video

games). Used this way technology becomes another distancing strategy, reminding the audience that what they are experiencing has ultimately been mediated. Instead of using technology to create an immersive experience, which due to the nature of the project might have been misleading and deceptive, I used technology as a distancing strategy to remind the audience/players that what they are listening to is not the 'absolute truth'.

The Verbatim and storywalk techniques complemented each other: the women share their stories with the audience/players who create their own journey through the material. My bias and role in 'manipulating' the interviews was acknowledged in the recordings and these recordings were available to the audience/players, the black balloons acting as a constant reminder of this mediation.

Working with site

In storywalking the site is a central part of the experience and adds a sensory, symbolic, narrative and structural dimension to it. In turn the storywalk reconfigures how the site is engaged with and can emphasise and focus attention on certain aspects of the site which might have been overlooked due to familiarity, speed of movement or destination and time constraints.

Very early on in the development process I decided that the storywalk would start in the park which would be exclusively dedicated to women's voices. This was important because this was where many of the women walked to work. The park was to them a place of travel/commute (which Ingold referred to as *taskscape* "a constitutive act of dwelling" (1993, p. 163) and later as "travel" (2016)) rather than a space for exploration, recreation and discovery.

Storywalking facilitated performing the park in a different way, free from the constraints of time and destination, the journey of discovery that Ingold refers to as *wayfaring* (2016).

As previously discussed I wanted to organise the event in a public open space because ideally everybody has equal access to and equal ownership over public space. Reclaiming and democratising public space has been a main

concern of pervasive games which encourage players to rediscover space through play (Montola et al., 2009; Salen and Zimmerman, 2004; McGonigal, 2010; Brin and Carbo-Mascarell, 2018). This remains problematic because the regulation of behaviour in public places is discriminatory still (you can feel comfortable running away from ‘zombies’ in a London Underground station if you are white, perhaps less so if you are not) (Brin and Carbo-Mascarell, 2018). I would argue that walking and standing are perhaps better suited for reclaiming public space because they are actions that most participants feel equally comfortable with, they are less threatening and already have political implications and associations (marches for human rights, processions, protests, parades) (Solnit, 2002).

Parks are spaces designed to be enjoyed by visitors of all ages and have no cultural barrier to entry, unlike theatres, museums or video game arcades. There is no previous knowledge or skill requirement to enjoy a park which is why I argue that a Dundee park is a perfect location for exploring stories and memories of Dundee past, and aspirations for the city’s future. It is perhaps why it was also so well suited to facilitate inter-generational dialogue and exchange. By contrast oral histories in museum spaces are hard to access: access needs to be granted by the museum personnel who act as gatekeepers. Bringing them into a public space facilitates and democratises access, anyone can listen to the audio in their own time.

The park adds sensory information to the experience: the smells, the scenery, the sounds of Camperdown Park in May all became part of the storywalk. The audio files were purposefully tagged near rhododendrons in bloom, small ponds, daffodil patches, benches, tree tunnels and sand pits, away from the main roads (Figure 92). Camperdown Park is transformed by the storywalk, a familiar space seen anew, its secret places revealed by the performance. The relationship between the found space (host in MacLucas’ terminology, Kaye, 2000) and the temporary and overlaid space of the performance brought to the site by the project (ghost in MacLucas’ terminology, *ibid.*) was at times of harmony, or tension, or both.



Figure 92 "Markers" in Camperdown Park

The Host, embracing the ‘local’

As Tim Cresswell observed our “ways of moving have quite specific characteristics depending on who is moving and the social and cultural space that is being moved through” (2006, p. 197). A park is a space that has been designed to enchant the senses, relax, heal, energise, educate and/or for recreation. Although formerly a symbol of status and privilege destined for the sensory pleasures of the few, from the Victorian Era onwards parks have become social spaces dedicated to health and well-being through active and passive recreation and play. Camperdown Park is no different, starting life as the private grounds of Camperdown House, it was bought by Dundee City Council in 1946 (coincidentally the same year as Timex’s decision to open operations in Dundee) and opened as a public park in 1949. It has a children’s play park, a wildlife centre and a golf course. It is traversed by 4 main roads, all of them converging on Coupar-Angus Road (Figure 90).

In terms of what Wilkie called the “site-as-structure” function of the site (2002), Camperdown’s layout profoundly shaped the storywalk. The park is already bounded, which was a good way of containing the audience/players and offer them the freedom to wander while at the same time making sure that they were safe throughout and supported when needed. The park is also spacious enough to comfortably accommodate a large number of audience/players without feeling crowded. Its considerable size invites roaming and holds the promise that one can get lost if one chooses to. As previously discussed in relation to *Inchcolm Project*, the possibility of getting lost adds an element of excitement to walking because it holds the potential for discovery, for enabling “the unfamiliar appearing” (Solnit, 2006, p. 22). This involves a sort of abandonment to the environment, a willingness to surrender and let go of control. But Camperdown Park has clearly marked paths and roads which make navigating the park effortless and help one get un-lost if one chooses. Unlike Inchcolm island, Camperdown does not have many landmarks that could help the audience/players in the formation of cognitive maps and the landscape is less varied and mostly flat with few vista points. Instead, the numerous roads and paths set the direction and ensure progression to the meeting point at the main entrance of the park.

But Camperdown Park also tells stories (“site as story-teller”, Wilkie, 2002, p. 158), stories of habit and habitation, stories of travels and traversals, stories of lust and desire. In designing the storywalk I explored Camperdown’s informal ‘structures’ which defy its official structures and reveal the habits and ‘traditions’ of its visitors – the favourite shortcuts marked by footpaths and trails, personal landmarks - names scribbled on trees or benches and gazebos (the “foundlings” or “found writing”, “ruinous folk-language” discussed earlier, which “talks back” to authority and official signage (Lorimer and Murray, 2015, p. 59)), popular attractions signalled by patches of worn out grass. The storywalk exposes this parallel structure of the park which is carved by habit and presents the park as a lived-in space underscored by desire paths or desire lines: “lines of footfall worn into the ground, tracks of use [...] frowned upon in our national parkland, where they are seen as scars and deviations” (Farley and Symmons, 2012, p. 23). Every scar tells a story and the storywalk aimed to foreground them. In placing desire paths on equal footing with official roads and paths I put the personal on equal footing with the institutional, a mythogeographical approach (Smith, 2008)

that places the fictional, fanciful, mistaken and personal on equal terms with the factual, municipal history. It suggests performance through the participation of active spectators as researchers of the city, allowing authors and walkers to become equal partners in ascribing significance to place. At its simplest we are interested in finding ways of experiencing the built environment of the city in a creative or, more specifically, a re-creative manner (Hodge et al, 2004).

This approach is “purposefully unauthentic” (Pearson and Shanks, 2001, p.119) combining fact and fiction, “the overlaying of ‘like’ and ‘unlike’” (ibid.), history and histories, “in order to stimulate the imagination of the spectator, to provoke questioning and to embrace her in an interpretive and critical process” (ibid.). The storywalking invited the audience/players to challenge the ‘official’, the ‘truth’ and ‘The Narrative’, focusing instead on the personal, on the plural and on the ‘lived’.

I wanted the storywalk to reveal these desire paths just as it was revealing these ‘unofficial’ histories, to render the invisible visible. The desire lines fulfil both a structural and metaphorical function: walking down ‘invisible’ lines to hear ‘invisible’ women the audience/players are performing an act of rendering

visible these 'unofficial' narratives. Thus, the site can work with the narrative, it can reinforce the theme and invite the audience/participants to challenge the 'official' route through the space but also through history. The desire paths just like the women's interviews tell a different but equally 'valid' story, which although not manifest in maps and history books it becomes visible when moving through the environment. Taking the dramaturgical decision to expose these "scars and deviations" I engaged with the site's symbolic opportunities and placed the narrative and the site in a semiotic relationship: they elucidate and reveal each other.

I also wanted to take advantage of the various types of spaces and landscapes on offer: woodland walks, golf courses, playgrounds. These diverse types of scenery introduced different sensory-scapes as the audience/players made their way through the park: for example the musky and humid smells of the rhododendron groves changed into the smell of freshly mowed grass of the golf courses; the paved ground underfoot of the roads changed to the sandy underfoot of the playground sandpits. A site is a complex ecosystem which contains different types of spaces, each with their own unique sensory potential. In designing a storywalk I 'plotted' journeys that would uncover them because these changes and variations produce an acuity of the senses and draw attention to the body and the experiential nature of the storywalk. The nature of the site also imposes a certain rhythm of movement, having been traditionally dedicated to promenades, parks are spaces in which we stroll. They also seem to encourage certain types of behaviour: parks allow us to be loud, playful, mischievous and sometimes unruly. Anecdotally, I was made aware that Camperdown Park is notorious for the number of times that passers-by accidentally stumble onto private intimate encounters.

Repeated site visits allowed me to observe these structural elements and think about how I can devise the storywalk in a way which would expose but also graft onto the structural backbone of the park. This is important because revealing the invisible, the unnoticed, the overlooked makes the familiar become unfamiliar again increasing acuity of the senses and attention and eventually leading to a rediscovery of the local (Heddon and Turner, 2012). Heddon and Turner capture the essence of the local as "autobiographical

traces, place and identity mutually informing” (2012, p. 233). This means a reconfiguring of place and the way we previously engaged with it, to develop a new embodied knowledge of the park based on the storywalk: “It is through rewalking, like rewriting, that original stories emerge” (Heddon and Turner, 2012, p.230). Simply put, our memories of Camperdown will be a melange of remembered previous walks, stories and sensations and new ones facilitated by the storywalk, that dance between ourselves, our paths, our traces and our places.

The storywalk is shaped by how the park is structured and, in turn, structures the audience/players’ experience of the park by overlaying its own structural elements. It would be interesting to observe how making the storywalk a permanent installation in the park would create its own parallel structures, desire lines and traces in the environment.

But site also functions as symbol (Wilkie, 2002) - it stands in for the meaning that we attach to it, based on previous experience. By tapping into the symbolic potential of the site, the storywalk engages with the personal significance that we attach to spaces and beckons us to bring our previous experience and interpretive skillsets to the fore. It summons parks from our past to make sense of Camperdown: “landscape is always a work-in-progress. To perceive it, is always to carry out acts of memory and remembrance, engaging constantly with an environment within which the past is embedded” (Pearson, 2006, p. 219).

For the women working the day shift in the Timex the park was a quick route to work and women would often walk together

(<https://www.performingplay.co.uk/audio-1>). This is not uncommon as Heddon reminds us: “When walking was viewed as a necessity rather than a choice, working women would regularly walk together.” (2012, p. 70). This necessity is introduced in the storywalk by the technology which ‘requires’ people to walk together. Seeing people walk together acts as a reminder that walking is not without its socio-cultural constraints of what bodies are safe to walk where. But walking together is convivial in nature (Lee and Ingold, 2006; Myers, 2010; Heddon, 2012; Heddon and Turner, 2012), it is “conversive wayfinding” (Myers, 2010, p. 67). This captures the two different but complementary meanings that

we can attach to walking together: 'safe' and 'social'. It felt 'right' for the park to be the starting location of the storywalk as the audience/players are performing the women's walk to work while listening to their voices and memories of 'the Timex'. Although at the beginning of the project I was considering all the possible routes to the factory, approaching it from every direction, the park was also the safest place in which an audience can walk socially, slowly and with headphones.

For the Timex employees, during the last years of Timex, the park became an agora: the place for showing support, for community gatherings and rallies. The walk to the factory was an act of political allegiance with the workers, and defying/challenging the status quo. 25 years later, the audience/players walked with the women of Timex, discovering these life-stories which have been hidden under grander narratives: the political struggle of the unions under Margaret Thatcher and her successors in government, the unsustainability of competing against cheaper labour markets in other European and Asian countries, and a general devaluation of the labourer and her labour under economic and managerial pressures. The personal narratives in turn uncovered other equally important narratives: the gendered inequality in terms of opportunities for training, access to skilled jobs and skill-adequate pay and the estrangement of the labourer from the product in assembly line production. The former kept the women workers away from the computers that they were building, knowing how to build them but not how to use them.

The storywalk also challenged another 'grand narrative' namely the myth that the video games industry in Dundee was the result of any one individual. An idea is not born in vacuum: in the case of Dave Jones it came in a Dundee where computers were manufactured and where they were seemingly present in every house. The spark of genius needs a suitable environment to ignite it. This was acknowledged by the game developers during the interviews:

You've got a good art college and a good tech college and then you have this machine which allows both to do something interesting together. It invites you to create on it as well. Having those machines everywhere is a catalyst for creativity basically (Danny Parker interview, see <https://www.performingplay.co.uk/audio-projection>)

It starts with a catalyst, one person, but ultimately that catalyst had to be the Timex factory building Spectrums, you got to have the right environment for that catalyst to work. The environment was the Timex factory building computers and you had a catalyst which was Dave Jones deciding that he can apply some things that he learned at Abertay and write software for those things it needed the spark of success. A couple of those things to catch and DMA was born. (Paul Farley interview, see <https://www.performingplay.co.uk/audio-projection>)

The storywalk brings into focus all these aspects related to the space, while it unfolds across and betwixt it. It introduces multiple micro-narratives, a multiplicity of voices, memories and viewpoints challenging the dominance and authority of any one 'grand narrative'. Engaging with these personal memories, the storywalk aimed to resist what Nora has called the "conquest and eradication of memory by history" (1989, p. 8).

The site brings to the work "a particular and unavoidable history, a particular use [...], a particular formality [...], a particular political, cultural or social context" (McLucas in Kaye, 2000, p. 213) thus enriching and anchoring the work in a particular reality and materiality. The ghost in turn develops as a hybrid between found and brought narratives, actions, events and encounters, in a dance where ghost and host take turns to lead.

The Ghost, walking and listening together

I have previously argued that in *Inchcolm Project* the individual sound files as well as the soundscape that they create foreground the aesthetic of a "sonic ruin" (Myers, 2010, p. 66), an eclectic composition of sound textures, rhythms and surfaces, "narrative debris drifting on radio waves" (ibid.). If in *Inchcolm Project* this ruined soundscape mirrors the ruined landscape, in *Generation ZX(X)* it aimed to evoke the fragmented, subjective and fleeting nature of memory, to mirror the memoryscapes of Timex. This type of ruined soundscape suited the collective memory of both the park and the Timex factory, what Pierre Nora has called lieux de mémoire (memory sites): "any significant entity, whether material or nonmaterial in nature, which by dint of human will or the work of time has become a symbolic element of the memorial heritage of any community" (1996, p. xvii). These are symbolic places which function as sites of

memory (as opposed to real environments of memory “milieux de mémoire”, Nora, 1989, p. 7) because they contain traces of lived memory, “a bond tying us to the eternal present” constantly evolving and “open to the dialectic of remembering and forgetting” (idem., p. 8). These sites of memory appear when history threatens to erase and/or replace collective memory: “The “acceleration of history,” then, confronts us with the brutal realization of the difference between real memory-social and unviolated [...] and history, which is how our hopelessly forgetful modern societies, propelled by change, organize the past.” (Nora, 1989, p. 8). The storywalk drew attention to these sites of memory by overlaying the soundscape onto them, tapping into their symbolic significance. The significance of these spaces in the collective memory is unearthed by the bodies moving and remembering in them, and by the audio which conveys the memories of those who lived in them (however fragmented the audio and the memories were).

The soundscape, similar to *Inchcolm Project*, was designed as a layering of diegetic and non-diegetic sound. The diegetic soundscape consisted of environmental sounds (birds and insects, traffic, wind) and the sounds created by the audience/players themselves (laughter, footsteps, chatting).

The non-diegetic soundscape consisted of the audio files which invisibly divided Camperdown Park into five areas, each corresponding to a topic. ‘Three words’, in which the interviewees try to summarise their life in Timex in three words, acted as an introduction helping to familiarise the audience/players with some of the conventions of the audio walk, allowing them to get better acquainted to the technology and to each other. The audio files in which the interviewees talk about the strikes and Timex shutting down were purposefully located in the more picturesque areas of the park, on the golf course and in the rhododendron groves in bloom. This was intended as a balancing act, the beauty of the environment in stark contrast to the hard-hitting and emotional nature of the audio. The audio detailing work on the computers and video games were tagged in the children’s play area. This was a different design strategy, where the audio is visually and thematically reinforced by the environment. The themes ‘work in Timex’ and ‘fun and friendship’ more numerous than the rest, were tagged on both sides of the main roads for easy access to all. The area

designated for 'fun and friendship' also had 3 installations which distilled visually some of the audio content. One installation represented the traditions which carried from the jute mills: a potty with salt and white pudding which was referenced in all the interviews. The inflatable male figure tied to a tree and the baby balloon represented the women's best loved traditions: the hen and baby-dos. The third installation captured the discussions about the Timex nights out, the boisterousness and joie de vivre of women of all ages going out together, and gathered various party paraphernalia, from balloons and party masks, to bunting and paper decorations.

The audiowalk was visually represented by balloons of 8 different colours scattered all around the park, on paths and alongside roads, near benches and ponds, on golf courses and in rhododendron groves, in daffodil fields and tree tunnels, at entries and exits. They created additional points of interest in the environment, functioning as temporary landmarks. They guided navigation (a trail of breadcrumbs) and signalled the presence of a narrative moment. Aside from their function in guiding navigation and telegraphing they also held narrative information. Because the numbers written on the balloon positioned an audio file within a larger narrative sequence, they structured the narrative experience, and offered information about the overarching narrative: how many characters there were, how many audio files, how an audio file was positioned in relation to the others, as well as communicated the size of the narrative 'world'. Balloons enhanced the playful feeling of the park, encouraging what Machon in relation to immersive theatres has called a "childlike exploration and discovery" (Machon, 2013). They also added a sensory layer through their varied shapes, sizes and colours and the occasional bursting. Because some of the balloons had burst throughout the day the audience could not read the numbers leaving them guessing as to what number to listen to.

The design of the audiowalk reinforced the themes of the project and mirrored the invisibility of the women in Dundee's (video game) history: there were no traces left in the environment once the balloons and the bodies were gone. The audiowalk also engaged with the lacunary, subjective and unreliable nature of memory, particularly after 25 years. The inconsistency of memory was made evident in the final design, the voices were scrambled, the audio was

fragmented and scattered, the stories were interrupted and cut into short snippets.

During the audiowalk the audience were performing memory and composition, remembering, assembling and adding to the narrative and the environment. And they did so by walking together. As previously stated, a storywalk is designed to be interacted with. This interaction enabled participation in a variety of ways. In terms of the narrative the audience decided in what order to play the files, or indeed if to play them at all. In terms of routing/navigation, they chose their own path and route through the environment. They also chose the rhythm and pace at which to move which also influences the experience. They actively constructed meaning (making-sense and sense-making) in these processes of interaction with the environment and the narrative. Furthermore, they also created meaning from their encounters and conversations, from engaging in a way of walking together that Myers calls “conversive wayfinding”.

Walks conducted by mediated and whispering voices in the ear or by the ‘live’ voice of the performer engage participants in particular modes of attentiveness that generate and present knowledge of places through conversational and convivial activity, such that participants become its co-author or co-creator. (Myers, 2010, p. 59)

I have discussed the characteristics of convivial and conversive wayfinding in relation to the design of *Inchcolm Project* so I will briefly summarise some of these approaches to illustrate how they informed the design of *Generation ZX(X)*.

Walking is a ‘a particularly social kind of movement’ (Lee and Ingold, 2006, p. 79) which invites and welcomes companionship (Heddon, 2012). Walking together demands mutual respect and consideration for your fellow walker as the rhythm is negotiated until a comfortable pace is achieved (Lee and Ingold, 2006; Heddon, 2012). The walkers share the direction of travel (idem), viewpoints but also “earpoints” (Myers, 2010, p.61). The audiowalk invited the audience/players to walk together thus facilitating inter-generational exchange, as people talked and walked together sharing stories, sharing a rhythm and a phone. But walking together involves not only a negotiation of pace but also a negotiation in and of space (Heddon, 2012). The space we walk in “directs the shape that bodies take in the landscape and the shape of the interactions, the

relations between them” (Heddon, 2012, p. 71); the textures and the landscape equally shaped the rhythm of the walk and shape how the audience/players walked together. The presence of the phone in a group also influenced how the bodies positioned themselves in space: the group formed a circle around the source of sound (see Figure 93). If the environment dictates how we move, in what formation and at what speed, how we interact with the landscape and with each other, the phone dictates how we move when we stand, how our bodies position themselves in relation to the source of sound and each other, how we share the ‘earpoints’.



Figure 93 Audience/players groupings influenced by technology, space and each other

As Heddon observes: “There are walks that contain shared memories; walks that allow the sharing of one’s memory with another; and walks that prompt resonances and contrast, likenesses and differences.” (Heddon, 2012, p. 71). By walking together, listening together and talking together the audience performed acts of remembering, exchanging and composing. I wanted to engage with the opportunities that walking affords for composition and exchange and discussion of thoughts, memories, ideas, stories and

experiences. These were performed by the audience/players and supported/ignited by the walk, the environment and the audio.

Designing the games

At Abertay University, during the third year of study, students form teams to work on a professional project. Various organisations and companies put together briefs in which they pitch a project to the students. The students order the briefs according to preference and the briefs which rank first are then distributed to the teams who work on developing the games or applications detailed in the briefs. My brief described some of the design and aesthetic directions envisioned for the games (Appendix 2, Project Briefs), the non-commercial aspect of the project (showcasing it as part of a live large-scale event in May 2018), its diverse target audience (in terms of age, gender and familiarity with technology), and an emphasis on collaborative processes like knowledge exchange, inter- and cross-disciplinarity, and creative improvisation. During the academic year 2017-2018 Dayna Galloway and myself supervised and co-designed two games with a team of students (the team later took the name Retrospect): *She-Town* and *Assembly*. These two games were based on the Timex documentation and interviews. The two games, alongside *Breaking out of the Frame* (Niall Moody, Mona Bozdog, Kayleigh MacLeod), formed the gaming component of *Generation ZX(X)*.

She-Town is a third person platformer (see <https://www.performingplay.co.uk/games>). You control *Pinkie*, a pixel art avatar with red hair and a pink overall (Figure 94), as she makes her way through five factory levels to collect the letters that spell Timex. Each letter collected unlocks text which describes a different chapter in the history of 'She-Town' (Figure 95). The text (see <https://www.performingplay.co.uk/text-she-town>) was written by myself, and the level designs were developed by the team with additional thematic direction provided to them by Dayna and myself.

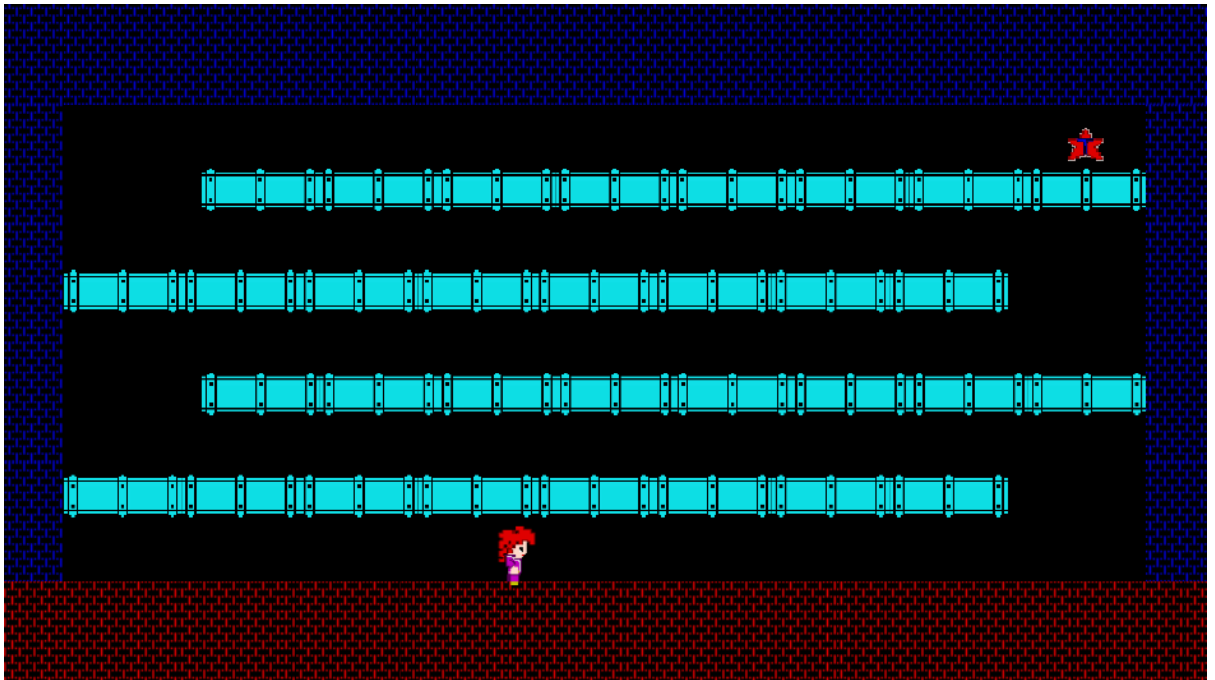


Figure 94 She-Town level 1, Pinkie at the bottom of the screen, the letter 'T' in the top right corner

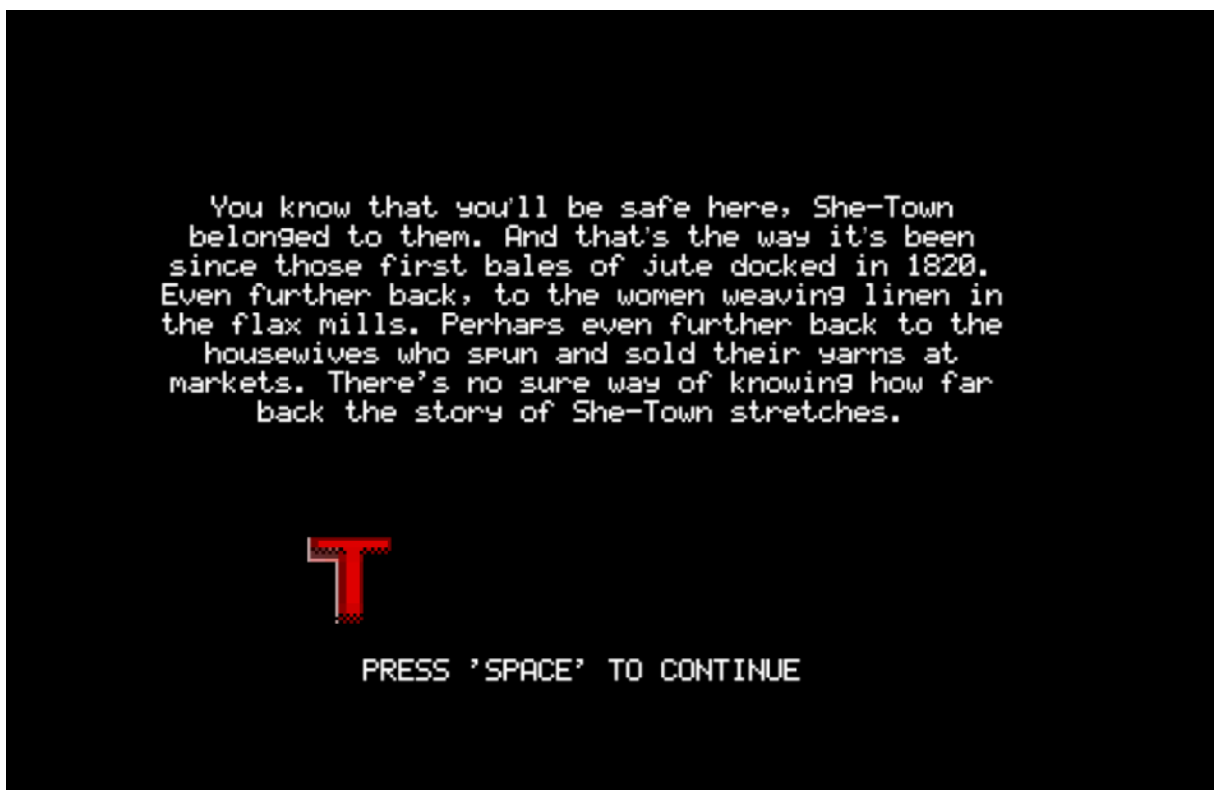


Figure 95 She-Town, first text level

Assembly is a three-player cooperative game and installation (see from 52:10 to 52:44 in <https://www.performingplay.co.uk/walkthrough-1>). Three players work the assembly line together trying to make as many ZX Spectrums as possible. The game is played on three monitors (one for each player) each with two

buttons (one on top one on the left side) sitting on a 210 cm-long desk. The monitors are encased in a cabinet with two buttons, one on top and one on the side (Figure 96). To bring the component from the line to the work station you press the top button and you send it forward on the line by pressing the side button. The game was co-designed by Retrospect, Dayna Galloway and myself, the installation was designed by me and the implementation and optimisation by Niall Moody (Figure 97).

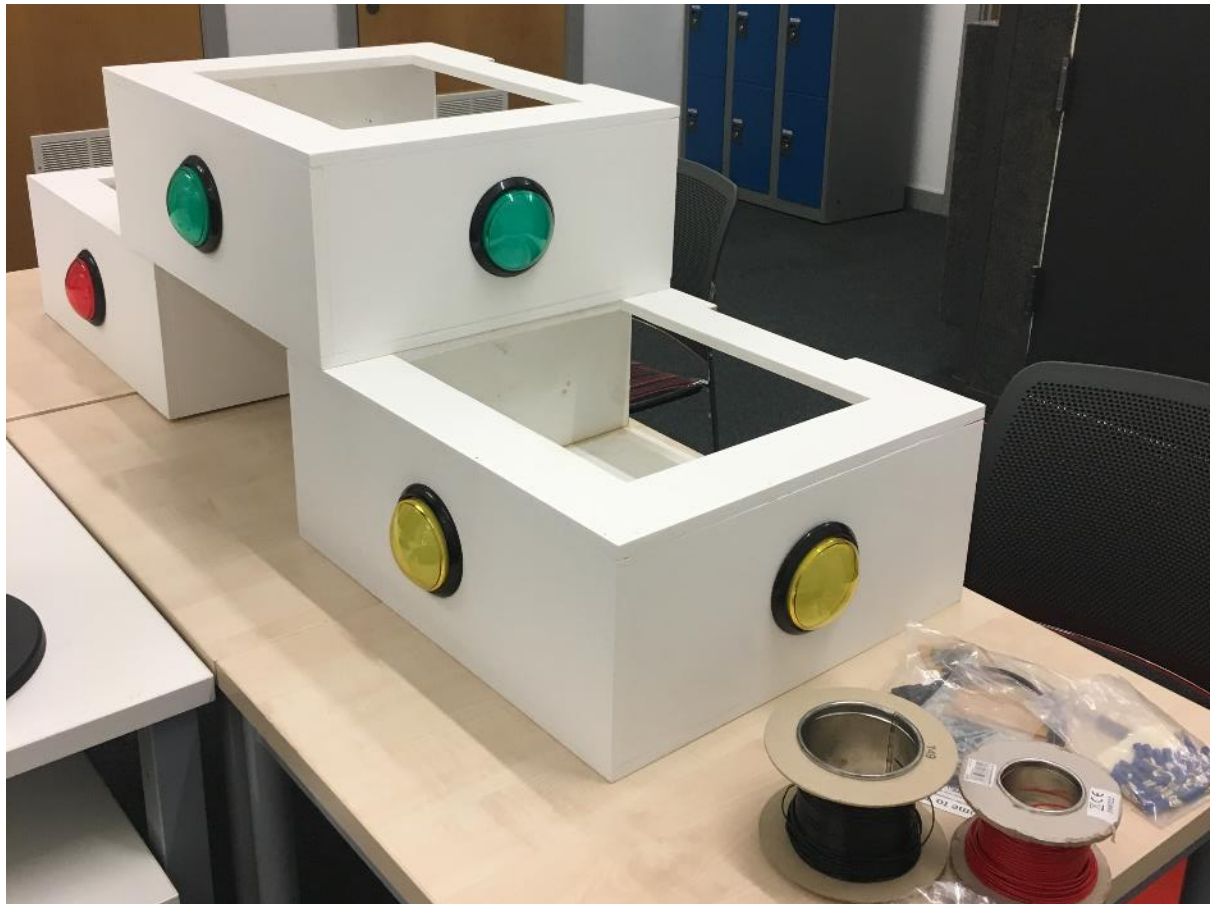


Figure 96 Cabinets for Assembly



Figure 97 Assembly installation final iteration

For *Breaking out of the Frame* I worked closely with Niall Moody to develop a game that can be played by a large group. The motivation for this was two-fold, first I wanted the game to continue the themes of conviviality, camaraderie and solidarity which were central to *Generation ZX(X)*. Second, I wanted to build on the feedback received during *Inchcolm* and improve the experience design. For example, in the initial *Inchcolm Project* design the audience/players encounter laptops with *Dear Esther* ready to be played in various locations around the island. Due to constraints outwith my control (not being allowed access on the island after dark or access to the island's generator) the game needed to be projected in the Abbey instead where we had access to a power source and enough darkness to project. *Inchcolm Project* participants felt that during the gameplay projection their agency has been taken away. As the feedback suggests they felt that going from active exploration and discovery to watching somebody else play felt disengaging, jarring and frustrating (<https://www.performingplay.co.uk/feedback-post-show-discussions>). Which is why I wanted for *Generation ZX(X)* to create opportunities for audience/players

to play together, particularly as their agency was removed straight after the game, during the projection. The game has five levels, in each one the audience move left and right to control Pinkie, as she runs left and right to catch falling ZX Spectrums (see *Breaking out of the Frame* gameplay video: <https://www.performingplay.co.uk/games>). The level is completed when three ZX Spectrums are collected, as each one reveals a third of the screen (Figure 98). Each screen/level is a 'canvas' split in three strips, a hidden image which represents a chapter in the history of Dundee, from the whaling and shipbuilding industries, to the jute mills and Timex, to the V&A and Dundee's future in design and digital arts (Figure 99-104). Figure 104 was a 'special edition' added for the showcase of the project at the V&A Dundee launch on the 15th September, 2018.



Figure 98 *Breaking out of the Frame* gameplay. Each ZX Spectrum collected reveals a strip of the hidden image

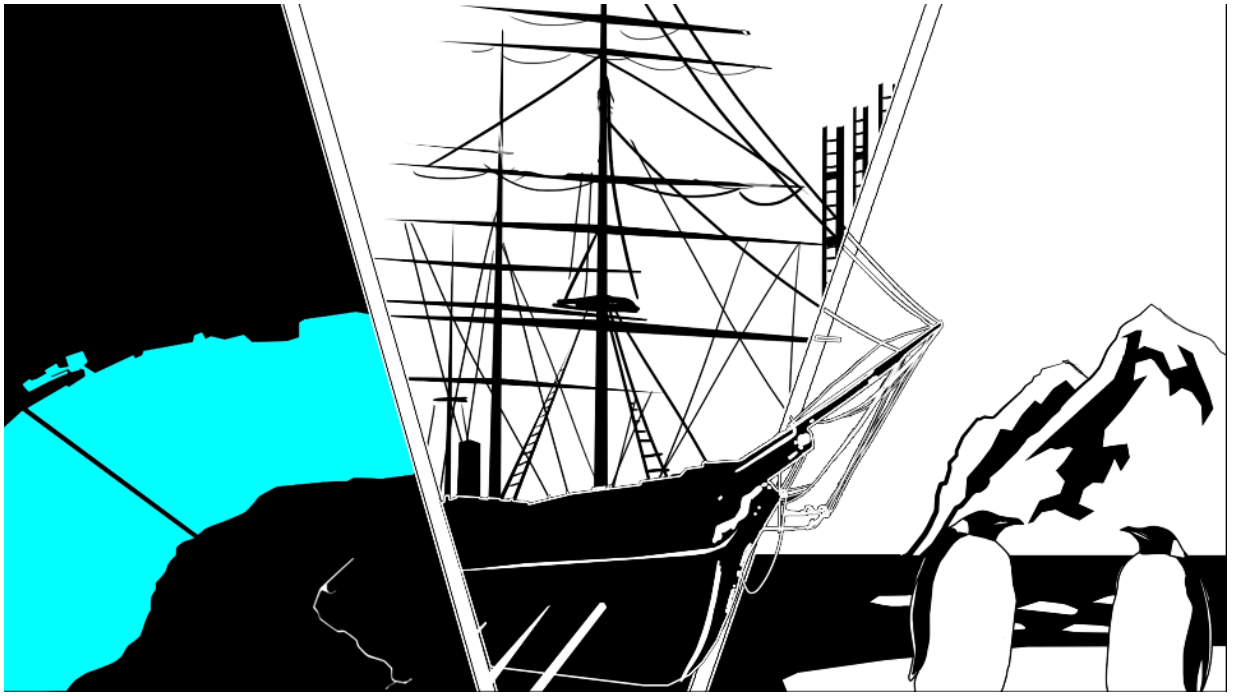


Figure 99 Level 1 image, Dundee's shipbuilding and discovery history, designed by Kayleigh MacLeod



Figure 100 Level 2 image, Dundee's whaling industry, designed by Kayleigh MacLeod



Figure 101 Level 3 image, Dundee's jute manufacturing industry, designed by Kayleigh MacLeod

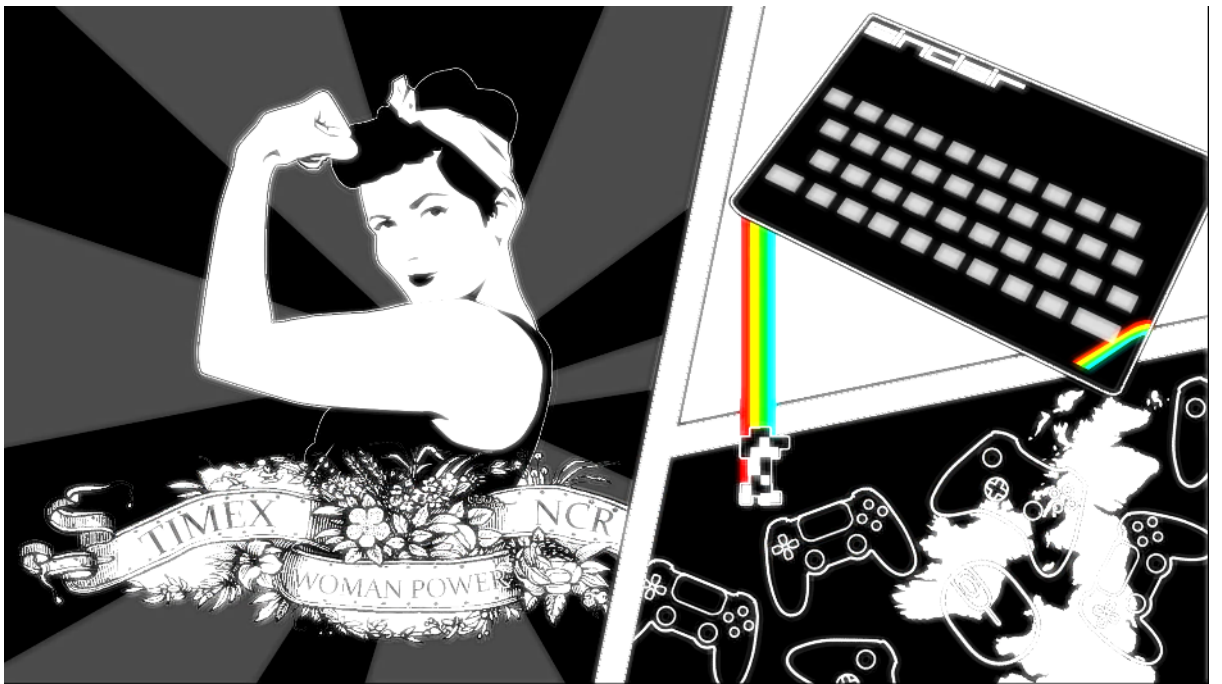


Figure 102 Level 4 image, Dundee's 'new' manufacturing industries in Timex and NCR, designed by Kayleigh MacLeod



Figure 103 Level five image, designed by Kayleigh MacLeod



Figure 104 Level five image for the V&A Dundee launch, designed by Kayleigh MacLeod

Working process

The student team consisted of eight third year students: an artist, two designers, one producer, one sound designer, and three programmers. From

September 2017, we met the team once a week to discuss and observe the progress of the games, offer feedback and advice and adjust the design.

In order to facilitate the working process, I organised the research and documentation into a folder that I shared with the team. This contained the interviews and historical Timex research, visual references, a ZX Spectrum emulator and classic Spectrum games. During the first month they became familiar with the history and narratives of Timex by accessing the interviews and the documentation. I was also trying to encourage the team to become familiar with the ZX Spectrum, its aesthetic and the game feel of some classic Spectrum games. I also planned a walk to the Timex building to help them get a better understanding of the site and the journey to the factory and invited Charlie Malone to accompany us to talk them through the location of the Timex buildings and spatial layout of the area as it was 25 years ago. Charlie answered the team's question and explained the history and socio-cultural impact of Timex and the strikes. Following this we asked the team members to each come up with a game concept based on the documentation and present them to Dayna and myself. We then discussed all the pitches and chose three to take further into development. The first was a platformer in which the player uses the platforms (conveyor belts) to make her way up to the top right of the screen to advance to the next level (Figure 105). Throughout she must dodge the thick letters thrown at her by an evil Santa Clause from the top left corner of the screen, mirroring the aesthetic of Donkey Kong (Nintendo, 1981). This was referencing the 'sacking' letters given to the Timex employees just after the Christmas of 1992.

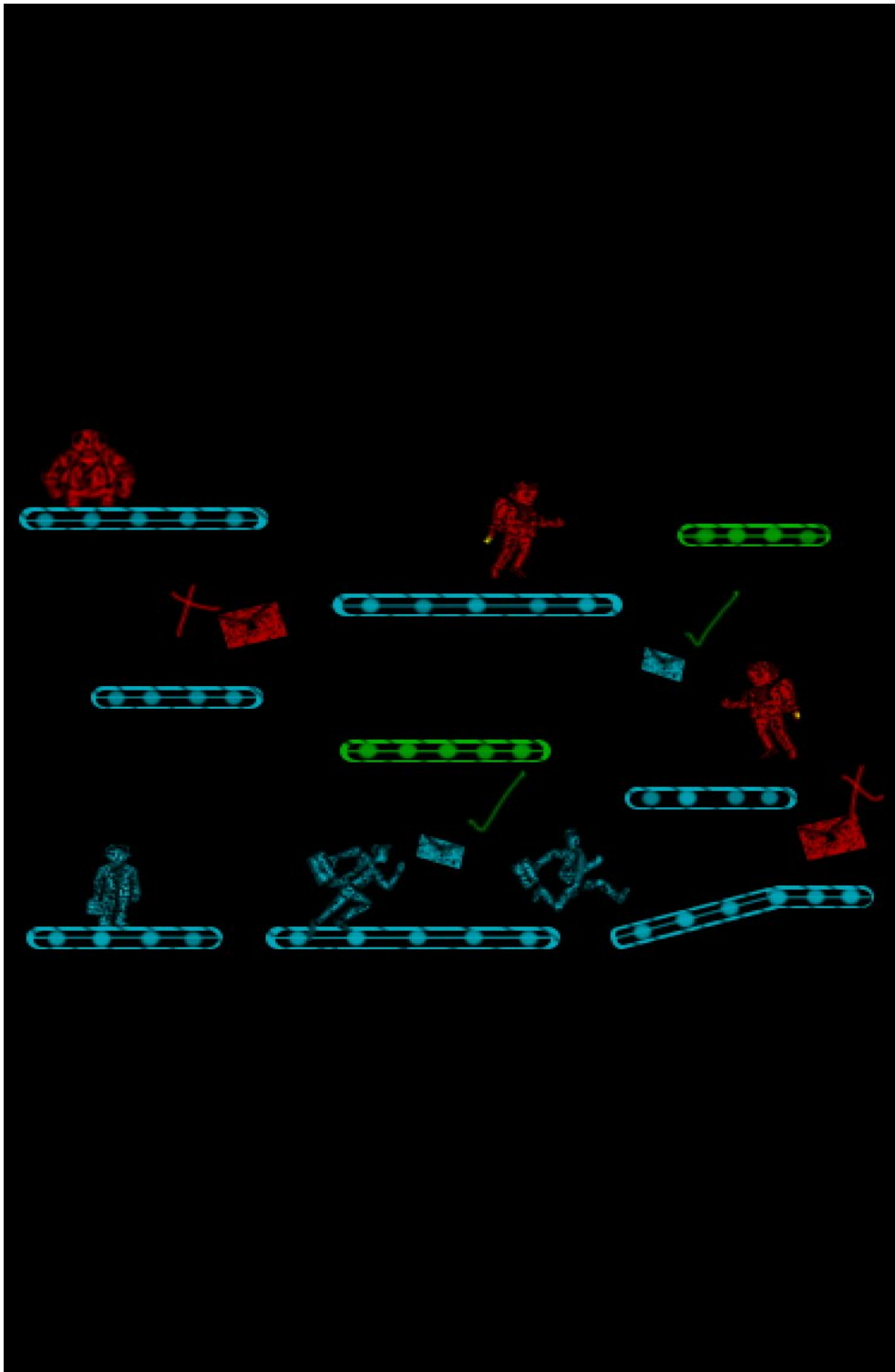


Figure 105 First game concept, using the conveyor belts to collect the small envelopes while dodging the thick envelopes

The second game was recreating the assembly line: you drag and drop the ZX Spectrum components in the right order to assemble, package and ship it (Figure 106).

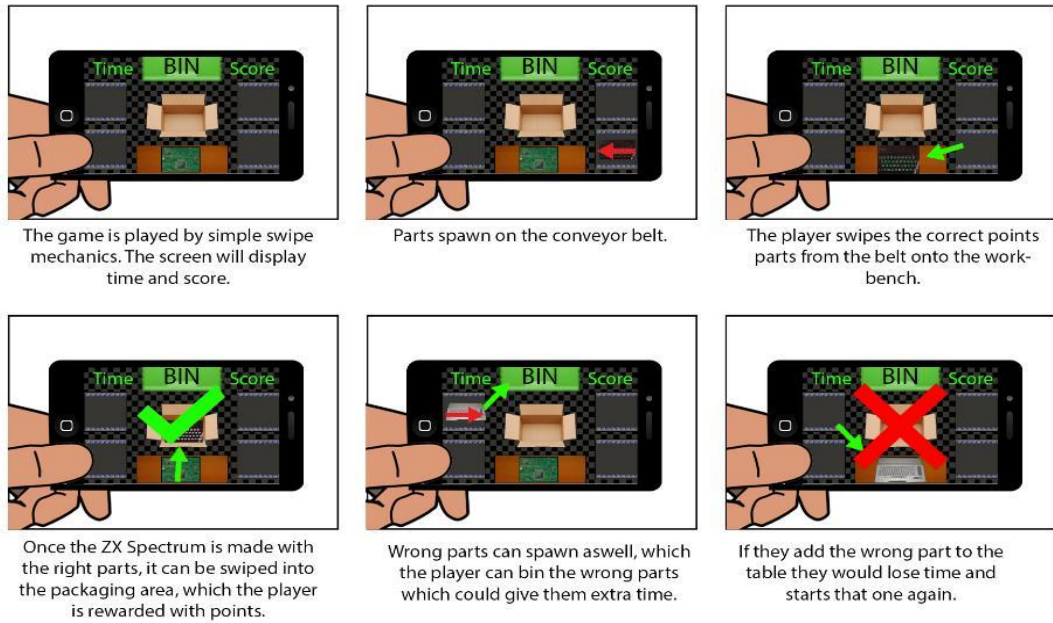


Figure 106 Assembly initial game concept

The third game, *Morale* (Figure 107), was a rhythm tapping game: you tap the rhythm of *The Animals Went in Two by Two* whilst tilting the phone to move the strikers in front of one of the two entrances to stop the vans with the ‘scabs’ from going in. The song was mentioned in one of the interviews as the chant that the strikers would shout when the vans were going past the picket line.

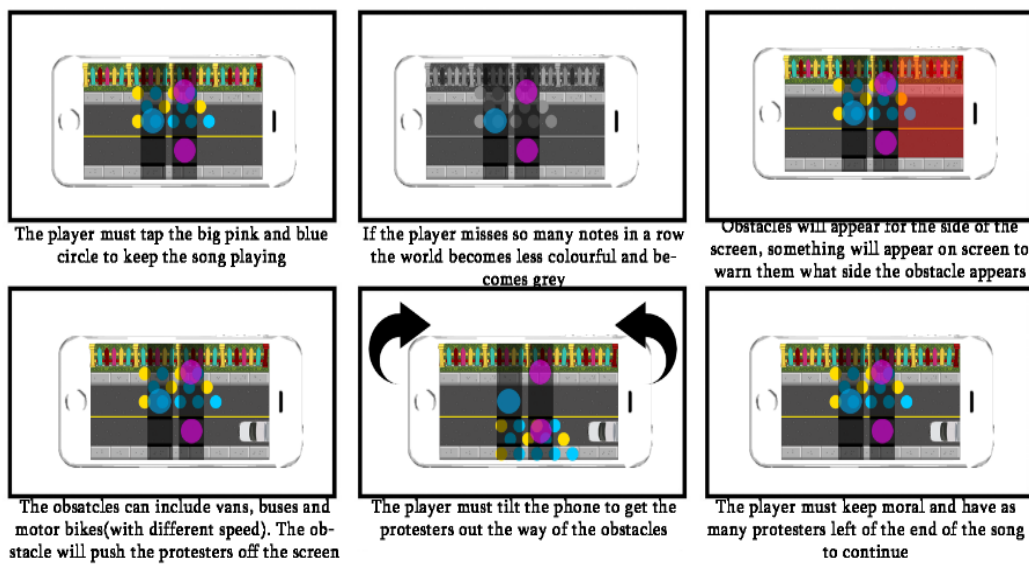


Figure 107 Morale game concept

I chose these three game concepts based on how well they integrated the documentation and the ZX Spectrum aesthetic and gameplay, but also based on the opportunities afforded for a glitch aesthetic which supported the idea of an imperfect system, a predetermined outcome, and a 'fixed' game. No matter how well the workers/players perform, the system is rigged and the 'game' always wins. I wanted to explore the glitch aesthetic because 'broken' or 'incomplete' games offer opportunities for togetherness and performative play: "games which are intentionally designed to be confrontational, broken, or otherwise "incomplete" can help inspire a decidedly festive, co-dependent, and performative type of play." (Wilson, 2012, p. 3)

When I started working with the student team I had intended for us to work together one day per week (the day designated to their professional project module). I aimed for us to work in the same physical space to facilitate constant creative dialogue, and thus ensure that the games and the performance develop together and constantly inspire, respond and adapt to one another. The student team were not able to work at Abertay, and to my disappointment did not enjoy a working process based on improvisation and collaboration.

Throughout the first semester we saw little iteration and creative experimentation. The team wanted clear direction from the 'client', whereas I was interested in working together and the synergies between the different design processes which is why in January 2018, at the beginning of the second semester, Dayna and I revised the brief. The revised brief asked for only two completed games and we had introduced clear design and visual style guidelines (see Appendix 2, Project Briefs). Niall and I took ownership of the third game and developed it collaboratively alongside the performance, constantly trying out new aesthetics and designs (see game prototypes: <https://www.performingplay.co.uk/games>).

The biggest challenge was trying to keep the games accessible, intuitive and non-intimidating while at the same time complex, interesting and stimulating. I would argue that this stems from terminological discrepancies between the two disciplines. The team often equated challenging with complex, so their design

solutions to “How can we add more complexity?” were invariably either increasing the difficulty, adding scores and/or health bars, or a winning/losing condition. None of these appealed to me, mainly because I wanted everyone to be able to play regardless of their previous gaming experience or lack thereof. I decided to turn to physical design to achieve this complexity.

From mobile to installation games

During the early stages of development all the games were intended for a mobile platform. I was encouraging the team to think of mechanics that would stimulate movement and gestural excess⁵⁷, to create moments of choreographed gameplay or “place ballets” (Seamon, 1979). In designing these moments of choreography, I took inspiration from:

- the relational aesthetics of social mobile games (see for example *Bounden* by Game Oven, 2014 or the *Jackbox Party Packs*, Jackbox Games, 2014),
- the design of in-game events in *Pokemon Go* (Niantic, 2016) and *Ingress* (Niantic, 2013) where either the game prompts an accumulation of players for example around Gyms (or the accumulation of players is needed to trigger a game event),
- the aesthetics and socio-political potential of flash-mobs (see for example Jane McGonigal’s reflection on how games can change the world, inspired by flash-mob and performance art design to provoke social change and capitalise on collective intelligence, 2010; 2012; 2015).

I was interested in designing games that have potential for stimulating performative and social play, which support people moving and playing together. This would have captured the themes of the project (camaraderie,

⁵⁷ See for example Simon’s research on gestural excess in Nintendo Wii games, 2009; or Apperley’s insight in the roles of bodies and gestural excess in game art, particularly glitch aesthetics and performance, 2013. Simon defines gestural excess as the gestures that the players make when interacting with intuitive or physical controllers which are in excess, the game does not register them so they do not influence gameplay: “bodies twist, contort and perform in ways that the game as such neither demands nor necessarily accommodates.”(2009, p.1)

conviviality, playful subversion, and inter-generational exchange) through gameplay. Unfortunately, the student design team had very little experience designing for mobile platforms and were unwilling to take risks with their final submission to creatively explore the potential that mobile phones have for supporting different types of gameplay and mechanics (I was suggesting jumping, crouching, waving for example, an interesting example of this for VR is Kirsty Keatch's *Move Bitch*, 2017).

Nonetheless games can generate social play through other strategies aside from game mechanics. Elsewhere we proposed four design approaches which can enhance camaraderie, conviviality and social play, only one of them being the gameplay itself where collaboration and team work are 'coded' in the game's mechanics. The other three originate in the design of the performative elements of and around the game like its scale, visibility and boisterousness, physical game design and mimetic interfaces (Love and Bozdog, 2018). We argued that the potential for social play can reside in the type of gameplay supported by the game itself, in the way it is placed and presented in a space, and in the physical and spectacular nature of its design. For this reason, I started thinking about how I could design the performance aspects of the game in such a way as to compensate for the lack of social play supported by the games themselves and shift the emphasis from the game to the players and the play experience. Similar shifts have been studied in relation to the revolution in gaming that was initiated by the Nintendo Wii and mimetic interface games. For example, the advertising campaigns for the Nintendo Wii usually show players at play rather than the actual game (Simon, 2009). This is in stark opposition to traditional console games with symbolic controllers which usually emphasise the graphics and the promise of adventure (Simon, 2009; Juul, 2012). In this type of design, the game becomes a social facilitator, a catalyst for a shared experience, not unlike contemporary participatory performance where traditional dramatic components like text and/or acting have been replaced by an emphasis on sensorial, experiential and interaction design (Machon, 2013; White, 2013). In our development process this shift marked the initial point of departure from the concept of mobile games and towards co-located computer games which could be embedded in the environment.

At the same time, we had concerns about whether the team would manage to successfully deliver three games which would respond to different types of movement and which would be compatible with multiple operating systems (Android, Windows and IOS). Because we only had one artist on the team, a designer took on art duties, but this proved to be problematic. Between the two artists there was very little communication which meant that the team struggled to develop a clear and consistent aesthetic style which would ensure continuity across the games and visually convey the themes ('sisterhood', camaraderie, conviviality). This lack of aesthetic consistency and clarity only added to my concerns and led me to develop a bold physical design to communicate those themes instead: pink colour palettes, animal prints and faux-fur textures, 'girly punk' arcade cabinets designed by women artists, brightly coloured buttons, multicoloured fairy lights (Figure 108). The aesthetic style choice was confirmed during the picket-sign making workshops in the choice of colours, shapes, materials and mottos that women of all ages were using. I will elaborate on this in the subchapter dedicated to the picket sign-making workshops. For now, I just want to emphasise that these elements were part of a design approach aimed to encourage social play, particularly when designing for semi-spectatorship which usually involves loud and bold physical design elements that accompany and complement the digital game and amplify the game as spectacle (Love and Bozdog, 2018).



Figure 108 The installation aesthetic style. The bold colours, fabrics, textures and prints contributed to a visual style that supported the project's themes.

The boisterous, social and convivial atmosphere of Timex was recreated/evoked through the games. The pop-up arcade represented the playfulness of Timex with the red brick building as a backdrop while the games recreated some of the social aspects of life in the factory. The audience performed the playfulness and camaraderie of Timex through gameplay.

Designing Assembly

The Design Approach

During GGJ 2017 and GGJ 2018 alongside Lynn Love, Danny Parker and Alex Pass I designed two multi-player co-located games with both digital and physical elements: *Ola De La Vida (ODLV)* and *Tales of Monstrous InTent (ToMI)*. Both games were intended for a social setting and used a similar design approach, combining digital and physical elements to enhance the social potential of video games, in either a public or an intimate setting. In *ODLV* three players hold hands inside a giant three-headed orange poncho but in an open

play space area, whereas in ToMI three players are hidden inside a custom-built tepee (Figure 109). Both games used Wii balance boards as controllers and three projectors for each individual 'screen' or playspace. Both games won the IGDA (International Game developers Association) Community Choice Award which is testament to the popularity of this design approach. The design approach and design strategies learned during the two GGJ came to the fore when I started thinking about the design, the implementation, and the technical and physical requirements of *Assembly*.

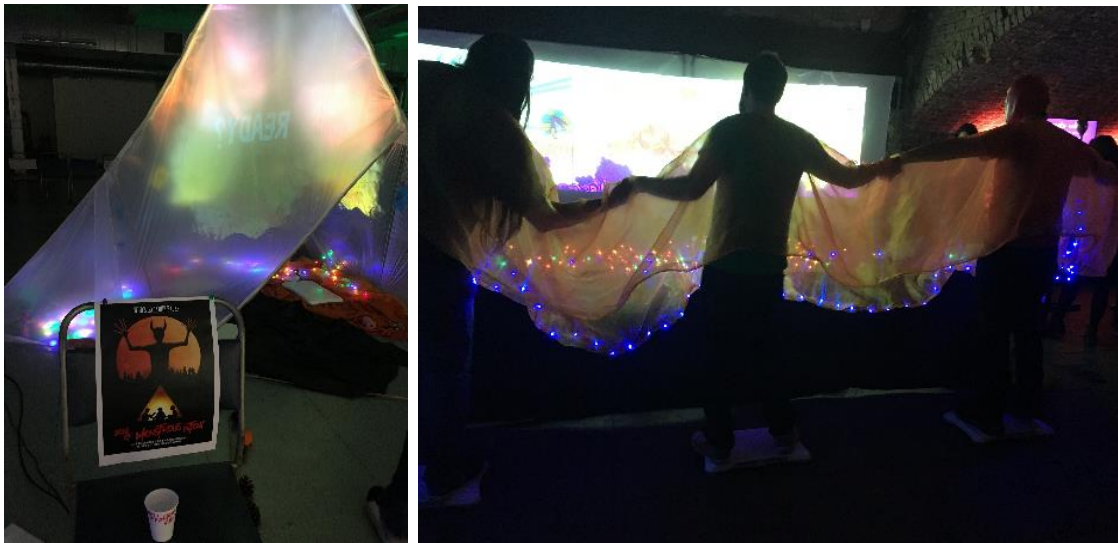


Figure 109 ToMI (left) and ODLV (right)

***Assembly*, an installation computer game**

Having had an initial conversation about the project with Niall Moody, a game artist and Abertay lecturer, Niall decided to join the project and collaborate on the design of *Assembly* and *Breaking out of the Frame*. Niall's passion for alternative controllers and meaningful mobile experiences was refreshing and creatively productive. It was during this time, January 2018, that I was starting to think about how to better integrate gameplay in the overall experience design and use my design skills to enhance the expressive and social potential of the games. As previously stated, I wanted the game to echo the overall themes, offer opportunities for inter-generational dialogue and facilitate community formation. So, I started discussing with Niall the possibility of designing an arcade which would be easily accessible for all. The installation that I had

envisioned (Figure 110) was intended as a physical controller for the *Assembly* game. What this meant was that for the game and the controller to work together, the game needed to undergo several changes as its design was adapted from mobile to physical controller. These changes affected the type of gameplay supported (from single to multiplayer), its intended reception (from intimate to social), the gameplay style (from competitive: player vs. game, to collaborative: players vs. game), the play experience (from private/individual to collocated play experience in a custom-built installation) and the platform (from mobile to computer). Each of these introduced new challenges from designing and commissioning the build for a physical controller, to adapting the game build in Unity.

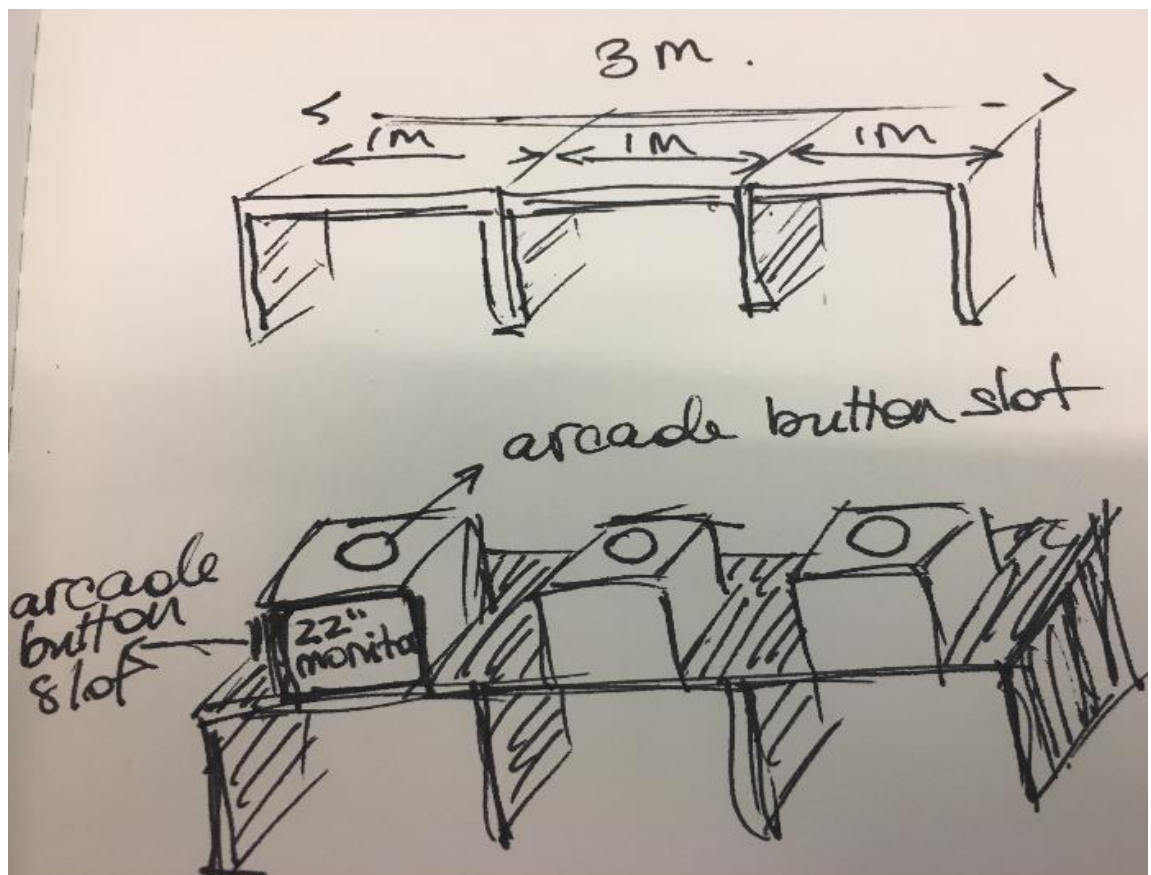


Figure 110 Custom installation for *Assembly*, design sketch

Watching our two GGJ games being played by varied audiences I wanted the *Generation ZX(X)* games to be as casual, accessible and social as possible. The initial prototype already had three components which prompted me to design the installation for three players, each player working on one component and then passing it on to the next player. This echoed the highly specialised

labour in Timex and mirrored the assembly line functionality. To make the game as accessible as possible I wanted to use intuitive controls and a large display screen which is why Niall and I decided to choose large and colourful arcade buttons as controllers, and 22-inch monitors, which gave us a larger display than a mobile screen. Playing the game on a monitor was in keeping with the ZX Spectrum aesthetic in terms of output, whilst the button smashing evoked 80s arcade interactions. The installation supported the presence of an audience by allowing an over-the-shoulder viewing angle which was part of a design for spectatorship strategy. Slamming a TV to make it 'work' is still an evocative gesture for everybody who had a TV or played a game on a TV in the 80s. We tapped into this satisfying and evocative gesture by placing the buttons on the top and the left side of the monitors. To protect the monitors and recreate the CRT boxy aesthetic style we encased them in a white cabinet which also made the buttons stand out (Figure 111).



Figure 111 Assembly monitors encased in the cabinets

The three monitors were aligned one next to the other on three 70cm long desks, which allowed enough space for the side button smashing while at the same time keeping the players in close physical proximity so that they could watch the other's play space, learn from one another and strategise or communicate with ease (see for example Mueller et al. analysis of the use of proxemics in game design, 2014, Reeves et al., 2005; Reeves, 2012); we have called this internal semi-spectatorship – the game's ability to encourage and support team work and increased attention to another's play space (Love and Bozdog, 2018).

I decided to use the TripleHead2Go because I was familiar with it and I knew that it can support exactly three outputs. The TripleHead2Go creates a stretched version of the screen which is then split into three segments each outputted into one of the three individual monitors. For the buttons Niall used a Teensy circuit board which connects the buttons to the laptop allowing for the buttons to be recognised as input. Each button is basically a different key press while the game recognises three sets of two key presses (one for each player) one for selecting the component and one for passing it on to the right. Simply put the game is controlled by three sets of down and right arrow buttons. Smashing the top button brings the component down and smashing the left side button passes it on to the right.

As I previously mentioned I wanted a bold and 'girly punk' aesthetic for the game which is why I used animal-print pink faux-fur for dressing the 'assembly line' and the chairs. This is a visual tribute to the women of Dundee, often described as strong, independent and feisty. Pink was also the colour of the Timex new-starts uniform (known as Pinkies) that all the women that I have interviewed remember fondly. While the game is in stand-by mode awaiting players, the three player avatars are all Pinkie (the player character designed by Cara Pearson for *She-Town*) but in different coloured uniforms, another nod to the documentation (different departments had different coloured uniforms).

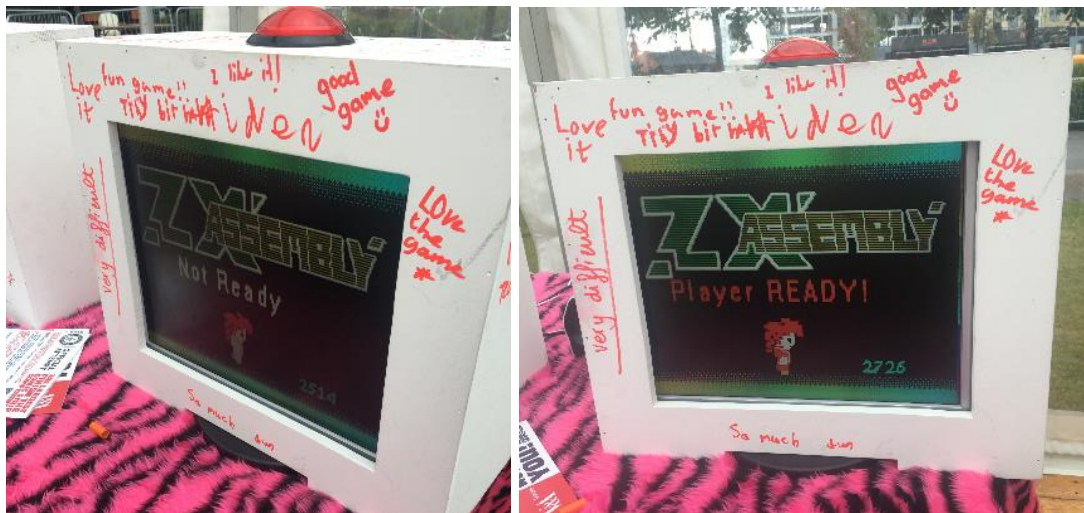


Figure 112 Assembly game states, not ready (left) and ready (right). The photos were taken during the showcasing of the *Generation ZX(X)* at the V&A Dundee launch. The players were encouraged to write on the cabinets.

As the game progresses the speed of the assembly line increases, increasing the level of difficulty. This acceleration alongside the sound design (the chiptune music and arcade sounds also become faster) induces a more frantic style of play during the last 30 seconds of the game. This was observed during the play sessions: players usually stood up as the game accelerated (Figure 113).



Figure 113 Assembly players interacting with the game during the last seconds of gameplay

A counter registered the total number of ZX Spectrums built during a play session; during *Generation ZX(X)* the audience/players cumulatively built over 400.

What every player sees on the screen is a conveyor belt onto which ZX Spectrum components travel at speed from left to right. The player needs to

press the top button exactly at the right time to select the component and then the left button to pass it on to the next player before the next component arrives. This is another design strategy for enhancing social play achieved by hard-coding collaboration in the game mechanics. The game requires three players to run and it requires that the three players work together as a team, pay attention to and to help each other. This is what we have called design for internal semi-spectatorship: “The creation of in-game dependencies and altered player workloads throughout the play experience to encourage team work” (Love and Bozdog, 2018). These in-game dependencies are easy to observe in *Assembly*: if the first player does not manage to get the circuit board by timing the button press right, the second does not have a board to put her components onto. Similarly, if the second player does not pass on the populated motherboard to the third player, she cannot add the keyboard and send the Spectrum to packaging.

The game is big, loud and pink, drawing attention to itself and the players. Spectators can watch other players and learn how to play by watching, so the game is designed to work as a tutorial for future players. But by watching others play and understanding how the game works ahead of playing, the game becomes less intimidating so the barrier to entry is lowered. This makes the game accessible to a larger and more diverse audience. There is no previous skill requirement to pressing a button. Its whimsical design – the game communicates loud and clear that it is to a certain degree a silly game not meant to be taken too seriously – aims to counteract the inhibiting and intimidating effect that technology can sometimes have. All of these elements contributed to the game’s abilities to act as a catalyst for community formation (Love, 2018; Love and Bozdog, 2018), camaraderie, conviviality and togetherness (Wilson, 2012), all in all a “festive occasion” (Wilson, 2012, p. 4).

Designing *She-Town*

She-Town is a single-player platformer in which the player guides an avatar in a pink uniform called Pinkie through five factory levels to collect the five letters that spell ‘Timex’ (see *She-Town* gameplay:

<https://www.performingplay.co.uk/games>). Each letter rewards the player with text that tells the story of She-Town, from its shipbuilding and whaling industries to the jute industry, the manufacturing industries (Timex and NCR) and finally to its most recent creative industries (see *She-Town* text: <https://www.performingplay.co.uk/text-she-town>). In January 2018 when we revised the brief, I had to decide what would be the best way of delivering *She-Town*. I decided that the game could act as a playable teaser if I sent it out to the participants ahead of the event. This way the game would be a taster of what the audience/players might expect at the event as well as introducing some of the underlying themes. Having the game sent out to participants meant that it needed clear instructions/tutorials so that people would know exactly how to play it. This still did not alleviate some of my concerns. Namely, because of the diverse age range and technical abilities of our audience, I was wary of some of them not being able to play the game at home. Furthermore, making these types of assumptions (about the audience being able to play the game at home) was at odds with my aims of creating a game which would be inclusive, and accessible to a diverse audience. I was also aware that people might come to the event without having previously booked, which meant that they would not have had access to the game which is why I wanted to have the game in a playable form at the event. I contacted We Throw Switches who have been commissioning women artists to design custom-made arcades for their 'Games are for Everyone' play parties and ask if their cabinets were available and if we could borrow them for the event. The two cabinets, designed by Ursula Cheng and Alice Carnegie, were both set up during *Generation ZX(X)* so that the participants could play *She-Town* (Figure 114 and 115).



Figure 114 The two arcade cabinets provided by We Throw Switches, designed by Ursula Cheng and Alice Carnegie (left) and an original *Bubble Bobble* (Taito, 1986) cabinet (right).



Figure 115 Players interacting with *She-Town* installed in the two arcade cabinets

The arcade cabinets fulfilled similar aesthetic, dramaturgical and accessibility functions to those of the custom-built installation for *Assembly*: they were colourful and bold, visually reinforcing the themes. The size and angle of the monitors alongside the colourful design and lights invited and supported external and semi-spectatorship by pulling players in and allowing an over-the-shoulder viewing angle, and the arcade aesthetic was familiar and thus less intimidating for a wider demographic. This type of design and curation which encourages semi-spectatorship not only enhances the game's potential for social play leading to bonding and community formation but also reduces the

anxiety and intimidation of participation, making the game more inclusive, inviting and accessible.

The game's aesthetic and design (Figure 116) reference both the ZX Spectrum and arcade games and anchor the audience/players' experience in a certain moment in time and space, namely the early 80s when the ZX Spectrum was built in the Timex factory. The game's nostalgic design and aesthetics paid homage to the heritage of the ZX Spectrum and was intended as a celebration of its influence and impact. Robin Sloan defines a nostalgic video game as "any contemporary game that explicitly incorporates past aesthetics, design philosophies, or emulated technical limitations" (Sloan, 2016a). *She-Town's* visual style, level design, sound design and gameplay conspire to create a nostalgic feeling for the ZX Spectrum games, the joy and sometimes frustration associated with them. The student team were invited to respond to the level design of two games developed for the ZX Spectrum: *Chuckie Egg* (Nigel Alderton, 1983) and *Manic Miner* (Matthew Smith, 1983) (see Appendix 2, Project Briefs). While the visual style (colour palette, shapes, assets, platforms, level border) and level design are an evident homage to these games, the User Interface (UI), gameplay, sound design and "game feel" (Swink, 2009) were directly inspired by arcade games, particularly *Bubble Bobble* (Taito, 1986). *She-Town* uses the 'WASD' control scheme, the 'A' key moves the avatar left, the 'D' key right, whereas 'W' and Backspace are used for vertical and respectively horizontal jumps. This was intended to recreate the keyboard-only control schemes of Spectrum games for the players who were familiar with them, while at the same time to be easy to control for new players.

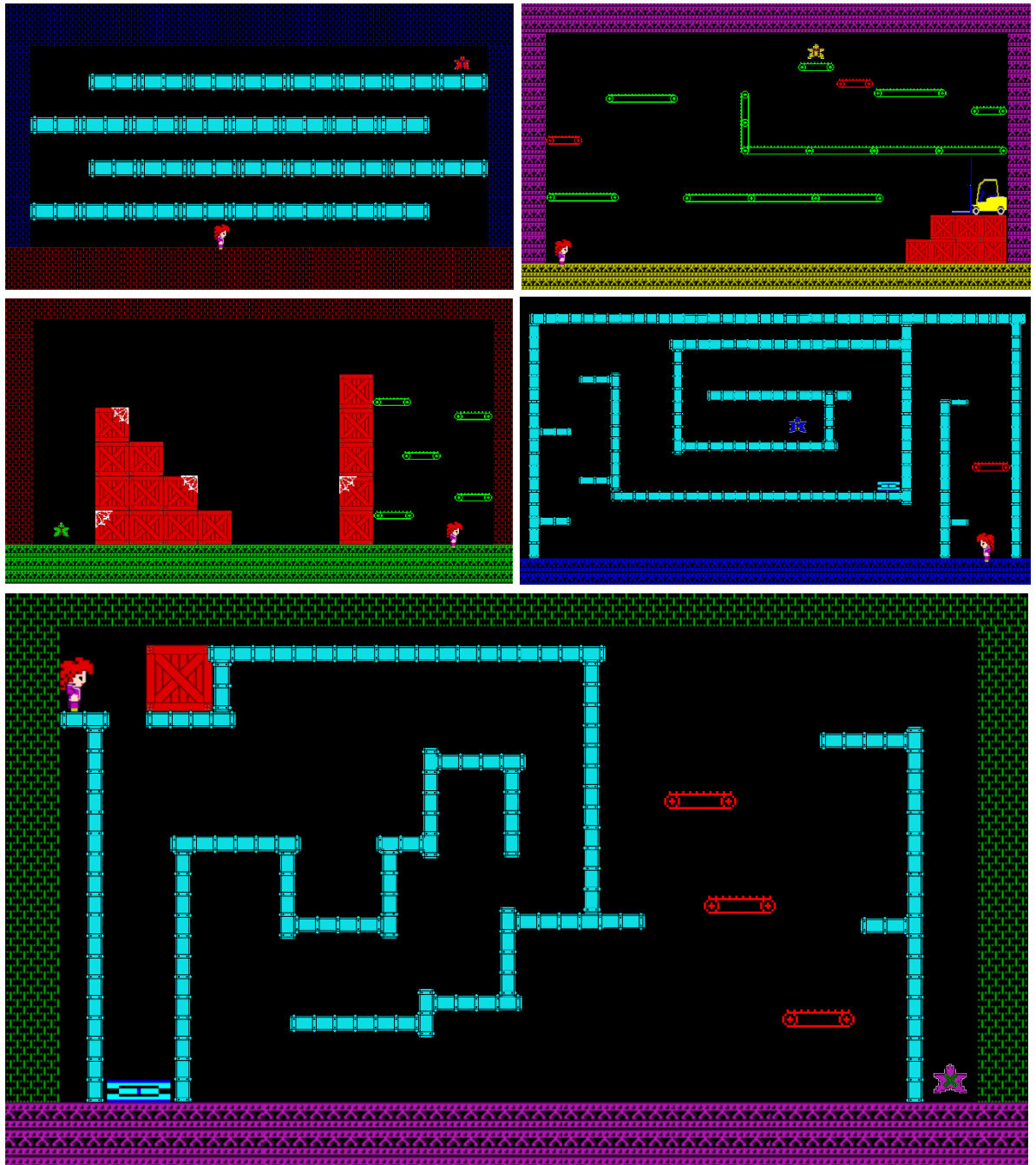


Figure 116 She-Town's nostalgic level design and aesthetic.

Sloan argues that “nostalgic imitations can be regarded as a form of critical engagement with the past framed by personal and collective memory” (2016a) which in turn invites us to reflect on the way we engage with our past in the present. Whilst the ZX Spectrum and its games are fondly remembered and celebrated, the history of the labour behind them is mostly forgotten. Sadly, nearly four decades later, this critique is still timely as player demand, economic

pressure and launch deadlines have created a 'crunch' culture in which the game takes precedence over the developers' health and well-being (see for example the recent discussions about the 'crunch' leading to the launch of *Red Dead Redemption 2*, Rockstar Studios, 2018⁵⁸). *She-Town* can thus be read as a critique of the dissociation between the worker and the work which leads to a celebration of the former (evidenced by the nostalgia design and the blooming retro games scene) whilst the latter is mostly forgotten. This "commodification of videogame nostalgia" (Sloan, 2014, p. 527) can be fruitful if explored not just creatively but also critically, if it challenges the conditions of their production and reception both in the past and in the present.

This type of critical yet human-centred approach is timely as Dundee is starting to celebrate design and its connections with the creative industries. The collective memory has to both remember and celebrate the people who implemented these 'grand designs'⁵⁹, the conditions in which they were developed and the human sacrifice which fuelled them. This is particularly important in a city like Dundee where a thread of female labour weaves together its recent histories. This historical thread was present/visible in text levels, each capturing a different stage in the city's evolution, and the female labour which underpinned it (see *She-Town* text: <https://www.performingplay.co.uk/text-she-town>).

Furthermore, *She-Town* did not aim to recreate a past game in an attempt to elicit what Maria B. Garda (following Boym, 2001) calls "restorative nostalgia" (2013) in video games, but rather to ignite a nostalgic feeling towards past gaming experiences and technologies. This is a reflective type of nostalgia which does not necessarily require personal memories of the past and can instead "be based only on the collective memories about this period that are transmitted by the media" (Garda, 2013, p. 4). Reflective nostalgia is based on a memory of an idealised and glorious past, where this memory is not necessarily lived or embodied, illustrated by the Eastern European 'Ostalgia', a

⁵⁸ <https://kotaku.com/inside-rockstar-games-culture-of-crunch-1829936466>

⁵⁹ https://www.bbc.co.uk/news/resources/idt-sh/dundee_the_city_with_grand_designs

“nostalgia for the everyday life of the old communist East” (Arnold-De Simone, 2015, p. 95). *She-Town* was a simulation of a retro gaming experience facilitated by modern technologies. It was built in the Unity game engine, it was less limited in terms of colour palette (the Spectrum was notorious for its 8 colours palette) and its pixel-art aesthetic was created by importing art assets into a contemporary conversion program. It captured the gameplay feeling of a retro game in terms of both opportunities and limitations without the actual production processes. Most of the students in the team were born in the late 90s so had no direct memories of the games or the socio-cultural background in which they were produced and received. They worked with images and videos as references without playing the emulated games. I would argue that they worked with and from a game ruin, the physical remains and collective memory of a game.

If *Assembly* allowed the audience/players to briefly ‘play’ on a simplified simulation of an assembly line, and through this shared experience of gameplay to create a temporary community, *She-Town* allowed them to reflect on the lacunary, incomplete therefore creative/interpretive nature of memory and history. The gameplay experience, similar to the experience of the ruin, is a constant dance between past, present and future, constantly interrupting and disrupting each other as Arnold-De Simone reminds us: “The past is invading the present and the future, always taking us out of the now, casting us backwards or forwards in time, as a catastrophe that has already happened or will happen: the past as ruinous present, the present as anticipated cataclysmic future.” (2015, p. 95). Nostalgia, memory and ruin are intrinsically connected in the game’s aesthetic and design. Arnold-De Simone argues that the fascination with the ruin resides exactly in the opportunities that it affords for confronting “the fraudulent dichotomies of nature versus culture, aesthetics versus politics, haunting versus nostalgia, and memory versus history” (Arnold-De Simone, 2015, p. 101). *She-Town* foregrounds the incomplete, discontinuous and selective nature of history as it comes into conflict with the lived collective memory. Playing both games on the site of the old Timex factory, now a new factory with a new name, it also foregrounds the conflict between history and collective memory at a time when the former threatens to erase and replace the

latter. The games prompt people to remember just as the site prompts them to recall what they forgot.

Designing Breaking out of the Frame

The idea for *Breaking out of the Frame* (henceforth referred to as *BootF*) started to take shape as soon as I had JTC Furniture Group's permission to use the site for the event, particularly permission to project onto the side of the building. I wanted the community to come together and play *on the building* in which Dundee's video games industry started as a way of paying homage to the women who made it happen. When I discussed with Niall the possibilities of designing a game for a crowd moving together, Niall suggested that we could do so by using a webcam. The webcam could capture the background and then record any changes in the number of pixels, so it can register movement. By splitting the captured area in two, the programme that Niall developed could tell whether the crowd was moving left or right by the shift in the number of pixels to the left or to the right in relation to the middle line. I liked how the game mechanics played with the fluidity of this dividing line, a subtle, symbolic reference to the picket line. We thought that a swipe aesthetic would work as it generally involves left to right movement, and it evokes the mechanics of mobile games but brought to a building-size scale. After our discussion, Niall put together four prototypes: the *Ball*, the *Snake*, the *Crowd* and the *Wipe* (see *BootF* prototypes: <https://www.performingplay.co.uk/games>). In the first one the players send the ball to the opposite side by 'kicking it'; the ball is used to clear smaller balls on the screen, like snooker. The ball goes in the opposite direction to the players, a 'collision-reject' mechanic. In the *Snake* prototype, the players control the snake guiding it to eat as many apples as possible. This is a 'mirroring' mechanic in that the snake movement mirrors the movement of the players. In the third prototype, the players control a crowd to 'gather' more people. This is a 'sticky' mechanic where the new people, represented by circles, stick to the crowd. The crowd mirrors the movement of the players, like the snake prototype, so we could call this a 'sticky mirroring' mechanic. The *Wipe* uses a 'wipe' mechanic, the pixels in the foreground wipe the pixels in the

background to reveal a background image. This is also a 'mirroring' mechanic in that the wiping mirrors the player movement. What I liked about the *Snake* was the intuitiveness of the mirroring mechanic and the swift and smooth movement of the snake across the screen. But I also liked how the wiping action works at a symbolic level as well, a symbolic mechanic that captures the essence of the project: the past is uncovered through movement. I was starting to think how the game could benefit from being projected on site. The physical stubbornness of a found projection 'screen' would pierce through the image and add a particular type of texture and materiality to it (the hypersurface discussed earlier) thus contributing to the overall aesthetic. At the same time, by projecting the game onto the factory would contribute to the overall conceptual framework: the palimpsestic nature of site (Turner, 2004) where all the previous layers of 'writing' are uncovered during the process of 'reading', 'writing', 'moving', and 'playing' the game.

Once we had a satisfying and functioning mechanic we started to think about the movement: what motivates it and what it achieves, and how we could bring together the design strategies that worked the best in the four prototypes. We started thinking about a fifth prototype which would incorporate the intuitive and fluid mirroring mechanic in the *Snake* with the symbolic mechanic of the *Wipe*. This last prototype eventually became *BootF*.

The eating of apples became the catching of the falling ZX Spectrums, and the snake was replaced by Pinkie, a collectively controlled avatar symbolising the women and children of Dundee catching the Spectrums. The falling ZX Spectrums alluded to the myth of ZX Spectrums 'falling out the back of the lorry' and ending up 'in every household in Dundee'.

We decided to incorporate the architecture of the site into the design by projecting onto the factory's reception window, which is formed out of three rows of six windows each, so the projection area was already segmented into 18 squares. The wipe acted as a reward, every ZX Spectrum collected would reveal a square, a line or a column. Through playtesting we realised that revealing a square (a window) or even a column (of windows) would be too small to make out, particularly once the image soaks in the textures of the wall

and windows. Simply put all the detail would be lost at such a small scale which is why we decided to work with the rows. Each ZX Spectrum collected is animated to wipe a row revealing a third of the image hidden behind the background. At this point I had a conversation with Kayleigh MacLeod an artist and lecturer at Abertay University, about whether she would be interested in making the art for the game. Kayleigh was keen to join the project. The easiest way to work for Kayleigh, due to her work commitments, was for me to send her the information and reference images for each 'canvas'. I knew I wanted to take the audience through recent episodes in Dundee's history. The audience/players are actively and collectively 'unveiling' the canvases thus embodying one of the main themes of the project, namely that people of all ages form communities, and that together they make their city's history. This history is not fragmented but a continuous narrative of specialised and skilled labour passed on from generation to generation. This labour was transferable, so it allowed for the industries to adapt, grow and morph into one another. This was reinforced by the visuals where the shipbuilding industry, transforms into the whaling industry, followed by the jute industry and finally the electronics industry with Timex and NCR as the main employers. The final canvas was an image of Dundee with a 'Welcome to She-Town' neon sign, thus bringing together all the narrative threads and themes of the event (see *BootF* gameplay video: <https://www.performingplay.co.uk/games>).

We tested the game at Abertay and realised that we could play with the difficulty levels and increase the satisfying 'feel' of the game (Swink, 2009), what in game design is referred to as the 'juiciness' of a game: "large amounts of audiovisual feedback [which] contribute to a positive player experience" (Hicks et al., 2018; see also Juul, 2012; Swink, 2009). Juiciness is a way of giving feedback to the player who is usually rewarded for progress through bonus music, sounds, particles (fireworks/confetti animation in the Unity game engine), or animation.

Niall introduced a level with increased speed, and another in which the players have to collect the ZX Spectrums while at the same time avoiding the C64 (Commodore's competitive product). In terms of juiciness, Niall introduced sound effects, animation and particles. Observing people play the game we also

realised that they were jumping when the ZX Spectrum was right above them to collect it faster. We decided that we would like to incorporate the jump to encourage further gestural excess from the players.

Playtesting was useful for troubleshooting the game and it informed the final iteration. We realised that we would need to devise a contingency plan as Niall did not take into account the changing light which dramatically influenced how the webcam captured the background. We playtested and observed that illuminating the audience/players from the front and having some of the players wearing high-vis jackets at the front of the crowd improved the calibration process.

BootF brought all my lines of artistic research together. It is the epitome of convivial gameplay which generates togetherness and community; it is spectacular and accessible, inviting everyone to play along; it is performative and through its symbolic and expressive mechanics holds the potential for transformation; it transforms gameplay into an embodied narrative experience as the moving bodies of the players drive it forward; its design aimed to respond to a story but also to a site, constantly adapting to both; and finally it emphasised a truly collaborative, fluid and playful working process showcasing the potential of interdisciplinary design methods and creative communities.

Designing the projection

The symbolic significance of the site

Timex Camperdown building sits atop a hill just off Harrison Road. Harrison Road is a narrow street which, alongside the factory gates, in the winter of 1993, became the theatre of one of Scotland's largest industrial disputes. This space was highly contested and politicised, a space for political debate and action, where people gathered daily to fight for the rights of the community. If Camperdown Park was a space for walking, Harrison Road was the place for standing, showing up each day and standing in solidarity. The factory gates became an impassable border, a physical and symbolic divide between two groups, the 'sacked workers' and the 'scabs'. Crossing the gates, even now

after 25 years, can be a political statement and a charged act. Getting access to the site was very important to the project because it offered the former workers an opportunity for closure and moving on. Crossing those gates to me was important because it meant moving past the strikes, going back to Timex to celebrate its workers, its heritage and its impact on the city.

I wanted to tap into this symbolic significance of the site and the collective memory that surrounds it. The Timex building is a different type of ruin, a perfectly preserved one, a body which has been 'possessed' by a new 'soul'. The inside of the factory has changed, but the outside of the building is still the same. Its previous life still lives in the memory of those who knew it, whose absence is felt in its very physical presence⁶⁰. *Generation ZX(X)* confronted the audience/players with this presence to summon the repressed memories caused by its absence which is why it was important to interact with the façade of the building rather than the inside. The building stands in defiance of time, aided by its B-listed status. This facade forces the city to remember and keeps the collective memory around it alive.

The factory building stands as a symbolic memory of something that has disappeared, Nora's site of memory (1989) which encompasses numerous narratives: the 'golden age' of Dundee's industrial age, a time of economic growth, community and solidarity around workers' rights, a time when workers found a voice and power in union action. However, as Nicholas Balaisis observed, factory nostalgia risks foregrounding a "sanitized version of local industrial history that eschews the consequences of these forces: environmental pollution, worker injuries and bodily toll, and the increasing mobility of global capital that precipitated their flight from the region" (Balaisis, 2014, p. 6). Some of these risks are countered by the predominance of the 'Timex strikes' narrative which foregrounds the unjust treatment of the workers. Nonetheless the increased visibility of this one narrative has overshadowed others,

⁶⁰ Judith Butler beautifully captures the essence of the past as it lives in the collective memory: "And so this past is not actually past in the sense of 'over' since it continues as an animating absence in the presence" (2003, p. 468).

particularly the gender divide in the factory, and the pay, training and opportunities divided along those lines.

Getting access to the site and getting permission to project onto the building were of paramount importance because the site remembers, memory, history and space are intrinsically bound: “Even the landscape takes on a different quality if you are one of those who remember. The scenery is then never separate from the history of the place” (Williams, quoted in Pearson, 2006, p.13) which is why I wanted to facilitate a recovery of those memories, to bring them back to the surface so that they can be discussed, critiqued, made sense of collectively and then written over by new, more hopeful, memories of the site. This is only possible if one envisions the site as an open palimpsest and each occupation of that space as a rewriting: “Each occupation, or traversal, or transgression of space offers a reinterpretation of it, even a rewriting. Thus, space is often envisaged as an aggregation of layered writings – a palimpsest.” (Turner, 2004, p. 373).

In December 2017, after a successful meeting with the general manager of JTC Furniture Group, I was granted permission to host the second part of the event on site, to project onto the building and install a pop-up arcade. This was ground-breaking as it was the first time that the public had access on site since before the Timex strikes, more than 25 years before which is why I wanted the events and activities at the factory to be celebratory and optimistic, to claim back the site and write over the last events enacted there. As Heddon reminds us neither landscape nor self are fixed but “in flux, engaged in a process of co-production” (2012, p.8) which both performance and play, walking and standing can facilitate. I wanted to recover and rediscover playfulness and song, camaraderie and conviviality in a place rewritten with pain and anger, ambition and individualism.

To achieve this rewriting the audience were taken on an emotional path which took them from the boisterous and unruly playfulness of the arcade, to a beautiful moment of choreographed collective gameplay where they experienced the power of solidarity. They then stood together in silence to acknowledge the importance of the women of Timex and their labour. The act of

standing together emphasised the solemnity of the moment: the labour of the women in Timex is celebrated and their influence on the video games industry is acknowledged by Dundee's leading game developers.

The visual style: designing a site-responsive frame

I wanted the projection to respond to the specificity of the site which is why I approached Robin Griffiths, an artist, animator and lecturer at Abertay University to see if we could design an animation which could be mapped onto the window. The window (which acted as the projection screen) was used as a visual metaphor, a window to the inside. Windows are also liminal spaces in between inside and outside, offering a view in but also a view out. They also work as frames, directing, focusing and limiting the gaze. On a conceptual level the framed nature of the image draws attention to its 'staged' nature inviting the audience/players to challenge it, and question what has been left outside of the frame. The Timex visit was a staged event just like its edited documentation: particular aspects were emphasised whereas others were left out. By foregrounding the frame, I wanted to draw attention to the mediated nature of the footage.

Furthermore, as already discussed in relation to the game projection onto the Inchcolm Abbey wall, the hypersurface facilitates the development of a 'vocabulary' for critical assessment and affective interpretation. This critical stance becomes possible particularly because the two frames disrupt each other and draw attention to their 'fiction', constantly reminding the audience/players of the mediation of the image. Projecting the spaces from inside the Timex factory filmed almost four decades before onto its facade forces the two timeframes and narratives to collide. The image was physically pierced by the window frame and the brick wall as it 'moulded' onto the surface. The archival footage was not simply superimposed on a surface, rather it merged with it creating a hybrid surface, or a hypersurface (Giannachi, 2004) which melted image into surface to a degree in which neither could be distinguished from the other.

Following a site-visit I briefed Robin on the visual and audio materials that would be included in the projection and the overall themes of the project and asked her if we could map the projection onto the window. Robin suggested that we could have a conveyor belt running underneath the main frame, where images could roll in and assemble to the sides as collages of photos. The main 'screen' would be used for showing the archival footage, so Robin designed a ZX Spectrum-inspired frame (Figure 117) which foregrounded the edges of the image.

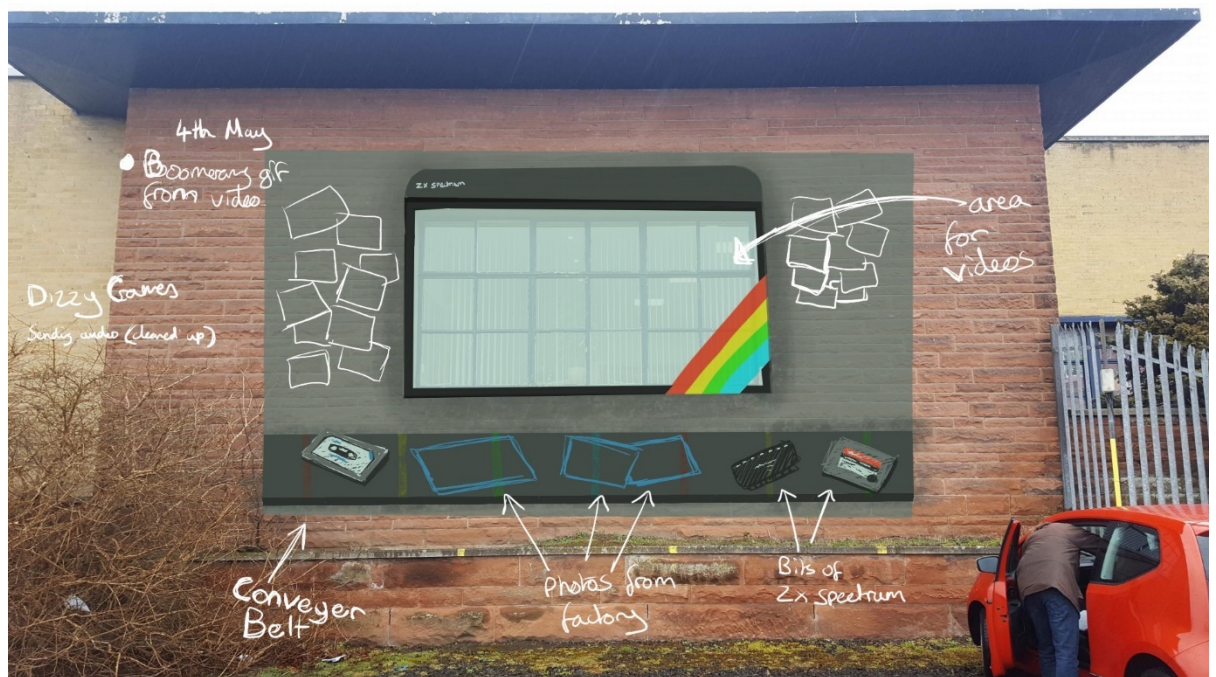


Figure 117 Sketch for the projection design created by Robin Griffiths

Due to Robin's limited available time, the side collages were not implemented in the final iteration. Robin added animated characters from retro games which rolled on the conveyor belt alongside the photos from the McManus Special Collections Archive, from the DC Thomson archive, and from the personal archives of former Timex employees (due to copyright limitations these could not be included in the companion website).

The documentary film

The projected visuals consisted of archival footage (courtesy of STV) of Sir Clive Sinclair's visit to the Timex Camperdown factory to celebrate the

manufacturing of the one millionth ZX Spectrum. The projection performed a process of rendering 'transparent' allowing access to the long ago and to the inside. The projection itself also appealed to visual memory as old photographs donated by former employees 'roll' on the assembly line. Most of the images are from nights out and Timex socials, and are intended as a visual illustration and reminder of the interviews in the park. This 're-calling' of the women's voices was important particularly as most of the voices heard during the film were male (interviews with some of UK's leading video game developers).

I interviewed nine developers: Philip and Andrew Oliver known as The Oliver Twins, a famous game design duo, who during the 80s designed 15 percent of all the games made in the UK, mostly for the Spectrum; Erin Stevenson, a 3D Character Artist and Animator at Puny Astronaut and a Woman in Games Ambassador; Mike Dailly, the Head of Engineering at Yoyo Games and one of the founding members of DMA Design; Paul Farley, the Managing Director of Tag Games, also a DMA veteran; Douglas Hare, the Co-Founder and CEO of Outplay Entertainment; Danny Parker, the Head of Technology at Ninja Kiwi and ZX Spectrum aficionado; and Chris van der Kuyl, the Chairman of 4J Studios and founder of VIS. The audience were witnessing first-hand the theme of the project, the invisibility – in this case silence – of the female labour, as they watched the women silently assemble the computers under the scrutiny of men in positions of power, and under the voices of powerful men piercing through from the future, which is why I believed that it was important that these voices look back and discuss the importance and impact of the Spectrum at both a personal but also an industry level. This allowed me to prompt them to reflect on their personal experience and brought up insightful reflections about the accessibility of the Spectrums in terms of pricing and its build quality which were only possible because of the cheap yet skilled workforce in the Timex.

It was a turning point for lots of us, in that it was the first machine, everyone had one especially in Dundee because they were made here so you could get reject machines and fix them a little bit so there wasn't anyone who didn't have a Spectrum, games were being shared everywhere [...] it was all that people talked about at school. It got everyone programming, got good at programming games. I would almost argue without the Spectrum there would not be any Scottish games industry, it was the Spectrum that kicked it all off, British

games industry really. (Chris van der Kuyl interview in <https://www.performingplay.co.uk/audio-projection>)

Clive Sinclair's whole thing of keeping the price right down made it affordable and that's what really drove it. I was a single child with a single parent, there's no way we would have been able to afford an Apple 2 or PCs back then. Whereas the Spectrum and the ZX81 and the like, were all very cheap and accessible. I think the local workforce it would have been cheap labour that they were doing but it was still highly skilled and that contributed to the price point. If it was more expensive computers would have been more expensive and so it wouldn't have had the same impact. (Mike Dailly interview in <https://www.performingplay.co.uk/audio-projection>)

It was fundamental. Without the ZX 81 and the Spectrum I just wouldn't be here. (Mike Dailly interview in <https://www.performingplay.co.uk/audio-projection>)

I asked the developers to send a message to the women of Timex who would attend the event. The responses were moving and stemmed from a genuine gratitude and appreciation for the women's hard, underpaid yet high quality work:

Although I didn't have a ZX Spectrum I knew lots of people that did and I know lots of people in the games industry who are in very senior positions not just in the UK [...] but in companies across the World, and that started their career and that industry was founded in large part by the opportunity afforded by computers like the Spectrum, and the ZX 81 and the ZX80 before it. It's hard to understate the impact that it's had (Douglas Hare interview in <https://www.performingplay.co.uk/audio-projection>)

Thank you! Thanks for all the hard work. [...] Those industries have set the foundations of what we have now, whether it's life sciences or computer games industry or the creative industries generally in Dundee, it's all built on all that experience or on all that has gone before, so there is a direct connection there and we are very thankful, and I would hope that those that are in the games industry in Dundee recognise that heritage that we have and are appreciative of it because other countries and other cities don't have that heritage so we are very fortunate and very honoured to be in that position. (Paul Farley interview in <https://www.performingplay.co.uk/audio-projection>)

I think the people that assembled it, just like the folk who make successful games, you don't know at the time what it's going to be, but I think that it's something to be proud of that you were a part of it. (Mike Dailly interview in <https://www.performingplay.co.uk/audio-projection>)

They helped the whole games industry grow. UK's games industry is massive and it can trace its roots pretty much back to the Spectrum. And they should be very very proud to have been part of that story of an awesome industry. [...] But the Spectrums last forever. They just worked. People fondly remember their Spectrum. People wouldn't put their Spectrum in the bin, you put it in the loft. People loved their Spectrums. They're a real icon of the UK. When people remember the 80s the Spectrum is right there up, one of the icons of the 80s. (The Oliver Twins interview in <https://www.performingplay.co.uk/audio-projection>)

It feels cheesy but it's the only thing I really want to say is thank you. It's a waterfall effect: these incredible women will have inspired me and few other women who will inspire even more women. And it has it's played a huge part even though maybe then they wouldn't have noticed. (Erin Stevenson interview in <https://www.performingplay.co.uk/audio-projection>)

The message from me would be pretty simple, without that machine without them building that machine in Dundee there would be no games industry in Dundee, they should be proud of that. And even if they didn't realise it at the time, realise now that they were the reason why we ended up doing this in Dundee. So thank you! (Chris van der Kuyl interview in <https://www.performingplay.co.uk/audio-projection>)

The simplest answer is just basically: thank you. A lot of my childhood was spent on that machine, and not necessarily just playing games, it was discovering how things worked, it was taking things apart, it was a machine that let you discover technology and discover programming. It sparked something inside me that I now do for a living. And I really enjoy and I have always enjoyed. And without that machine and without them making that machine I have no idea where I would be today. Genuinely. It's down to that, it's down to an amazing small little thing that opened up the possibilities to a small kid. So I thank you! That's the only thing you can say. Thank you! (Danny Parker interview in <https://www.performingplay.co.uk/audio-projection>)

The developers were acknowledging the women's contribution and the vital role that their labour has played in the birth of the video games industry, not just in Dundee, or in Scotland but in Britain and the world at large. Nonetheless none of these forerunners were women. This moment of genuine recognition was important because I believe that the saddest moment for me during this project was realising the extent of the women's self-deprecation, lack of pride in the work and lack of awareness about their contribution to the world's fastest growing entertainment industry.

Erin's observation about how these "incredible women" have inspired a new generation of women to work in games is an important one because it addresses my motivation for this project, to uncover and preserve these narratives, to make them as visible as possible. Perhaps more important than their contribution to the video games industry is that uncovering their stories could inspire a new generation of women who will not be silenced, who are fearless and powerful, and who are constantly challenging the myth of a gendered labour market.

Designing the finale

The logic behind working with choirs

I wanted to end the event by returning to the voices of women. After the projection, there was a reversal of power as almost 80 women's voices resounded united in song. The three choirs: Loadsaweeminsingin', Lochee Linties and East Side Youth Choir came together under the direction of Alice Marra. The choirs performed *Women o Dundee*, a Sheena Wellington song which pays tribute to the working women of Dundee: "They didnae wark for freedom, independence or the rest, They just warked tae get some kitchen tae their kail" (1990). *Women o Dundee* appears on Sheena Wellington's 1990 album *Clearsong* along with the following dedication

My home town of Dundee was for many years dependent on the jute trade. Women were the mainstay of the labour force, partly through aptitude and partly because they could be paid less than men. The working conditions were bad, noisy and dirty - the fine jute stoor (dust) got in hair, eyes, clothes and lungs - but the women survived by strength, spirit and solidarity. In 1906, dissatisfied with the male-dominated Textile Workers Union, they formed their own Jute and Flax Workers Union, half of whose Executive Committee had to be women. They also managed to raise fine families, often in appalling slum conditions. This song is for these Women of Dundee, particularly of my own family, with respect and love. (Wellington, 1990)

Sheena Wellington's words were echoed in the text of *She-Town* through which I wanted to express my own admiration and show that 28 years later, their labour still inspires new generations of women.

What's certain is that it is the magic of their hands that built the city.
And their hands were like the cloth they spun, coarse but strong.

They wore cracks and wounds instead of rings. These hands cradled and comforted like they spun and weaved, with a firm yet gentle touch.

Alas, the magic running through their hands does not come cheap. And they all paid. Songs often fell on deaf ears, smiles often wasted on blind eyes, breaths often cut short by fevered lungs. Their youth fed She-Town, and She-Town bloomed. (Bozdog, 2018)

As the women voices rose in song their arms lifted the positive picket-signs made by women of all ages during the two workshops. The messages were written in big and bold letters, messages of love to mothers and grannies, messages of Dundonian pride and messages of hope for a better, happier and more inclusive future (Figure 118).



Figure 118 The female choirs performing *Women o Dundee*

The conceptual theme of women's voices was an integral part of the project from the very beginning. I had an initial meeting with Alice in September 2017, when the project was still in its early stages. We discussed the possibility of bringing together all of her female choirs for a musical performance which would complement an event about the women in Timex. Alice was keen to join the

project, so she arranged for me to attend several rehearsals and present the idea to the choirs. Many of the women in the choirs had either worked in Timex themselves, or knew people who had, so there was a large amount of interest in the project. I knew that one of Alice's choirs, Loadsaweeminsingin' sang in Dundee Rep's theatrical production *On The Line* so we discussed the possibility of using *Alice's Song* from the production's soundtrack composed by Ricky Ross. I also saw the choir performing old jute mill songs during *Remembering Witch's Blood*⁶¹ so I asked Alice if it would be possible to also listen to a couple of jute mill songs. During the rehearsal, I realised that although *Alice's Song* was beautifully matched to the women's voices, it was very specific to the Timex strikes and it was a lament rather than an empowering anthem which is why I felt that it was not conveying the themes and tone that I had envisioned. Alice had also rehearsed with the choir *Oh Dear Me* or *The Jute Mill Song* by Mary Brooksbank and *Women o Dundee* by Sheena Wellington. When the women were singing *Women o Dundee* the energy in the room changed. Their voices were strong and powerful, they were enjoying the song and identifying with the lyrics. During the last chorus they all stood up and started stomping their feet: "And they walked tae mills and factories and they wrought fae seven tae four/ And the women kept the bairns o' Dundee fed" (Wellington, 1990). It had to be *Women o Dundee*. I felt that the song perfectly echoed and amplified the themes and the feeling of the project. During the performance at *Generation ZX(X)* we projected the lyrics of the chorus onto the factory building as an open invitation for all to join in to a final ode to all the women of Dundee.

The workshops

Alongside Clare Brennan, a curator and lecturer at Abertay University, with the support of Weave by Abertay (Abertay's creative outreach programme), we organised and delivered two visual arts workshops that were intended to

⁶¹ Part of Ignite Festival 2016. <https://creativendundee.com/2016/05/remembering-witches-blood/>

facilitate inter-generational dialogue and exchange. The first workshop took place on the 5th of September in the Douglas Community Centre and Library. I wanted to run the workshop in Douglas as I had been working with two of their groups: the Timex History Group and the Mosaic Group, a women's group who meet weekly to make mosaics, whose participants (Ellen, Lynn and Liz) have been interviewed for the project. My motivation was two-fold, I wanted to give back to the community and to facilitate the group's participation in the workshops by organising them in a space that was easily accessible and familiar to them. The second workshop took place on the 26th April and it was organised in partnership with the Hot Chocolate Trust, a Youth Work organisation based in Dundee. We ran the workshop at the Hot Chocolate headquarters in The Steeple Church. Similar to Douglas, we wanted to facilitate the young people's participation by organising the workshops in a location that they were familiar and comfortable with.

Clare and I decided to continue the themes of the project by facilitating inter-generational dialogue around an activity related to Timex. We decided that making picket-signs would be a fun activity accessible to all ages and skill levels. Furthermore, by encouraging participants to create positive signs about their city and its women we were aiming to focus the discussion around the positive aspects of Dundee and its future as well as its past. During the sign making workshops we encouraged the participants to move past the picket-sign aesthetic and think about the city's past and its future, the inspiring women who built it and the people who make it. By rewriting the traditional message of the picket sign we were inviting them to perform a restructuring of their views on the city. Picket-signs were closely associated with the Timex strikes which is why we wanted to subvert the expectations by playing with the picket-sign message. The picket-signs which were held up at the former Timex factory on the 4th of May 2018 were very different to the ones held up in the same place 25 years earlier. By inviting the audience/players to have a closer look at the signs and discover that the messages were rewritings of the picket-sign form (and expected aesthetic), we also prompted them to take a closer and more attentive look beyond the strikes and positively rewrite the site by shifting the focus from the strikes to the women workers, their labour, and its impact on the city.



Figure 119 Positive picket-signs in Douglas (top left) at Hot Chocolate (top right) and at Camperdown (bottom)

The picket signs were painted in bright and bold colours in large letters or symbols and were conveying messages of solidarity with the women of Dundee and women in games, reflecting the city's past and present industries and achievements (jute, Timex, games) or the Spectrum aesthetic and pixel-art style (Figure 119, Figure 120).



Figure 120 Positive picket-sign making workshops

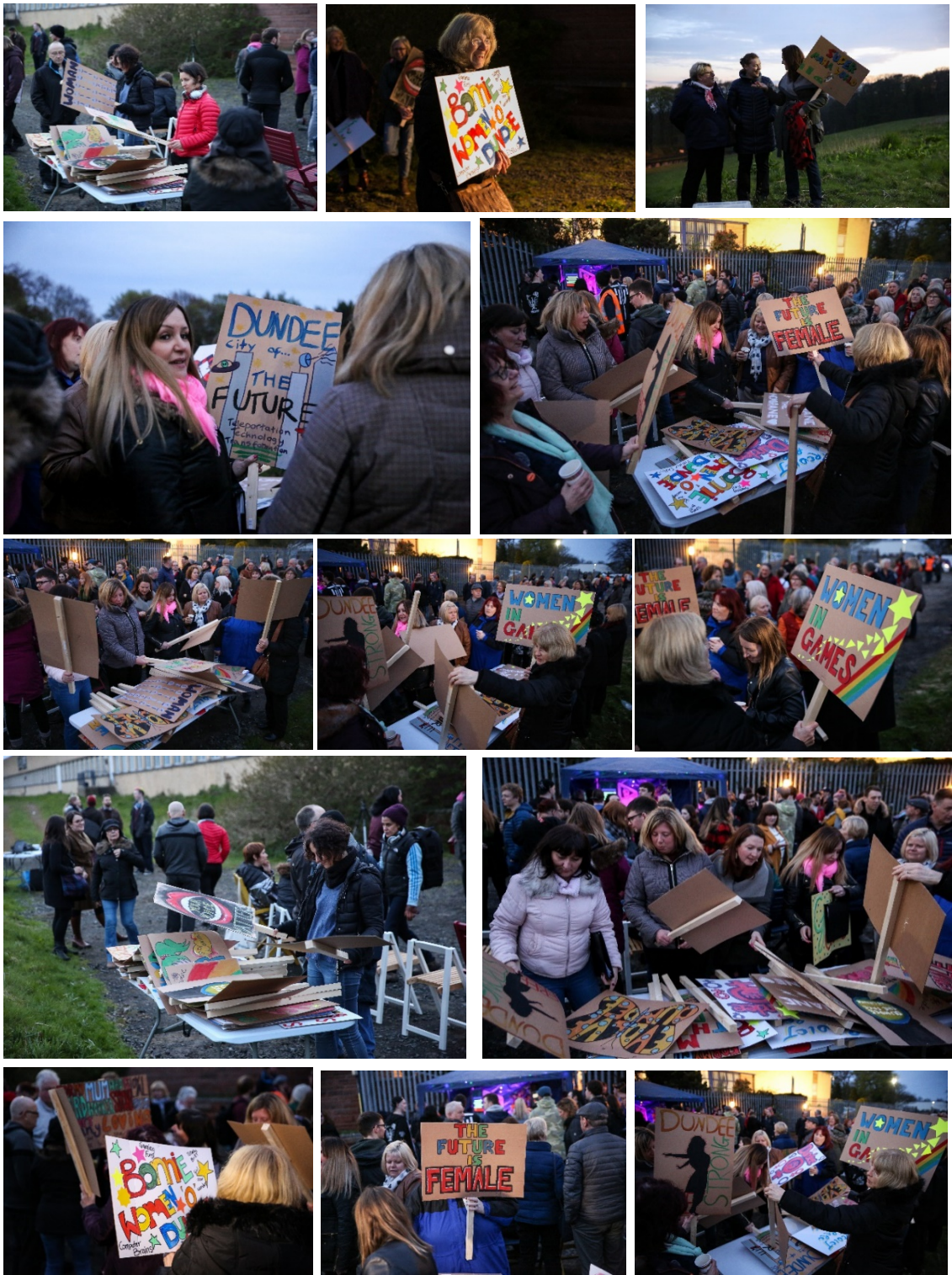


Figure 121 Audience/players choosing their picket signs

The picket signs were placed on a table at the factory site and we invited the audience/players and the women in the choirs to look through them and chose one (Figure 121).

Thus, beyond their symbolic significance, the picket signs also contributed to the visual aesthetic of the event. The audience/players chose the signs which they liked or empathised with more, wearing their message throughout the night for all to see. The audience/players with their chosen picket signs contributed to the overall aesthetic of the event and to the narrative and aesthetic experience of each other. I have discussed how similar 'place ballets' (Seamon, 1979) shaped the narrative and aesthetic experience of *Inchcolm Project* reinforcing the theme of the isolated walkers, the ghosts which haunt the island. In *Generation ZX(X)* the audience/players with their picket signs performed the new community of Timex, a community which remembers but which also looks forward with hope.

Dramaturgy of assemblage and the aesthetics of the palimpsest

In *Generation ZX(X)* a dramaturgical process ensured the coherence of themes across multiple media (audio, performance, games, live music, projection) and across multiple spaces. Similar to *Inchcolm Project* the development process was paralleled by the dramaturgical process which unfolded at both macro and micro levels. I have previously stated that the dramaturgical process consists in the addition or subtraction of elements, devising and respectively pruning. The process of meaning making is designated/delegated to the body as it moves through various narrative and sensory-rich spaces either virtual or physical. The body assembles these stimuli through (syn)aesthetics, a dual process of sense-making and making-sense (Machon, 2009). Furthermore, the moving body exposes the layers of narratives and memories inherent in the space just as by moving through it, it is writing its own. The site's palimpsestic nature is emphasised by the work, 'the ghost' acting as a focusing lens, a filter which renders visible the hidden layers of writing. The audience came to witness and complete the work, but also to perform solidarity, play, memory, site and community. They temporarily built a new Timex from the ruins and memories of the old.

The themes which run throughout the project were the invisibility of female labour and women's voices (both in the games industry and in Timex's recent history), the fragmented nature of memory, the conflict between history and

collective memory, conviviality, solidarity and 'sisterhood', boisterousness and playful irreverence and subversions of power and inter-generational dialogue and exchange. These themes make manifest the "set of governing aesthetics, ideologies, techniques and technologies" (Pearson and Shanks, 2001, p. 55) which inform the work. As previously discussed, following Pearson and Shanks I approach dramatic structure as a stratigraphy, a layering of distinct but interconnected strata (2001, p. 24) each with the potential to convey different themes at different times. This stratigraphy creates the aesthetic of the palimpsest with its doubled pleasure of simultaneously experiencing more than one text (Hutcheon and O'Flynn, 2012, p. 116). These 'texts' are assembled/'read' in performance by the moving and meaning-making body of the audience/players. In performing the space, they encounter a second aesthetic, temporal this time, that of the ruin. The ruin prompts and foregrounds the playful and creative nature of interpretation and the dance between past, present and future, between history (a grand 'official' and unified narrative) and collective memory (a plurality of diverse and sometimes conflicting personal narratives), between reflective nostalgia and a critical engagement with the past.

In *Generation ZX(X)* I assembled oral histories and archival materials relating to the women's labour in the Timex: photographs, videos, audio recordings and interview transcripts, but also places with their narratives and sensory identities, picket signs, games and songs. These were carefully dispersed "across multiple delivery channels for the purpose of creating a unified and coordinated entertainment experience" (Jenkins, 2007) which is, not coincidentally, Jenkins' definition of transmedia storytelling. In transmedia storytelling "each medium makes its own unique contribution to the unfolding of the story." (ibid.). As discussed throughout this chapter each of the designed components of *Generation ZX(X)* used its medium-specific strengths to convey the themes of the work. Furthermore, they are in a relationship of interdependency by which each component has the potential to shape and focus the reading and interpretation of all the others and of the whole, as Pearson and Shanks argue: "they are read and interpreted onto, into and through each other, whether they have natural affinities or not" (2001, p. 25).

The voices of the women who worked in Timex were encountered in the park as the audience/players enacted their walk to work. The presence of the disembodied voices was intended as a reminder of their absence, mirroring their invisibility in the official histories of both Timex and the games industry. The interviews were fragmented and dispersed through the park creating a sonic ruin. The audience/players assembled their own narratives based on the sound files that they encountered which aimed to prompt reflection on the subjective nature of memory but also the value of each personal story (the women and their own). As they explored together the memories of Timex they were invited to perform conviviality, solidarity and community thus enacting what Timex was (and temporarily still is) in the collective memory of those who lived through it. This was supported by the technology and the invitation to walk together. The phones facilitated group formation and inter-generational exchange as audience/players gathered around them to listen. Walking together was aimed to facilitate dialogue and bonding as the audience/players adjusted their pace, rhythm and direction to accommodate each other and to share their own memories and experiences of Dundee. A process of dramaturgy also underpinned the design of sensory journeys which maximised the encounter with the 'host' and its narrative, physical, symbolic and sensory identity. Dramaturgy thus becomes an act of choreographing the site and the work, the 'host' and the 'ghost', balancing their individual 'solos' with the moments in which they converge to reveal, emphasise, complement or contradict each other. Verbatim and storywalk techniques were combined in the collection and editing of oral histories and their 'plotting' and arrangement in the space. This dramaturgical decision was taken to counter some of the individual risks and challenges posed by both methods while taking advantage of the opportunities and affordances of both.

The laughter, playfulness and singing that accompanied the work on the assembly line returned to the factory 25 years after the factory closed. The games facilitated community formation and conviviality through a performative design which supported spectatorship, and a co-located, collaborative and physical play experience. The projection captured the theme of the invisibility of the women's labour, as the audience/players watched the women working while

men in positions of power were either observing (in the video) or talking (in the audio).

Crossing the factory gates became an opportunity to write over the memories of the strikes by unearthing older memories of conviviality and sisterhood, of a factory where nearly 2000 women worked together. But also, the chance to create new memories for the women of Timex, of the industry's acknowledgement and gratitude for their labour and potentially of a new-found pride in witnessing the heritage and impact of their work. The site's complexity invited multiple readings: a depository of collective memory, a palimpsest, a ruin, a ghost, the last bastion of union action in Scotland, the cradle of Scotland's video games industry, a factory divided across gender lines, a utopian space where women created their own structures of power within and despite official structures or a dystopian space where women's access to knowledge, training and equal pay was tightly controlled by the powerful few. Any one of these readings is as valuable and important as the next, and none takes precedence over the other.

I would argue that embracing an open dramaturgy can help to negotiate and foreground the complexity of these types of spaces which resist singular interpretation. The dramaturgy of assemblage is performed both at the production level in the process of devising an open work through the composition and selection of elements and moments of encounter, and at the level of reception, where the audience/players move through these open structures and assemble the fragments in performance.

Conclusion

Developing *Generation ZX(X)* involved complex processes of devising site-responsive and documentary work, game design and dramaturgy which demanded that various design strategies, techniques and tools were deployed in the creation of the work. Like *Inchcolm Project*, *Generation ZX(X)* was a hybrid of live and virtual components, which meant that the interdisciplinary working methods developed during the design of the former, had been adapted

and improved during the latter. These strategies and methods originated from both game design and performance practice. The design process had four stages: designing the audiowalk, designing the games, designing the projection and designing the final musical performance, all underlined by a dramaturgical process which ensured continuity and coherence across all the project's components. These four stages developed simultaneously and informed each other.

The narrative arc was developed as a storywalk. I proposed storywalking as a technique which draws from site-specific performance and game design to combine walking as an aesthetic, critical, and dramaturgical practice of reading and performing an environment, with designing complex, sensory and story-rich environments for a moving, meaning-making body.

The games design process was iterative, collaborative and open. Their design was incorporated in the storywalk and was constantly adapted to respond to the spatial, conceptual, symbolic, technological and thematic constraints. This was only possible because the game and the performance developed in parallel and the storywalking design process was flexible enough to allow for both iteration and change. Unlike *Inchcolm Project*, the relationship between the games and the performance was dialogical, they could respond to another and adapt to each other's design. The design strategies and methods were cross-disciplinary which meant that they could shape the content generation of both the games and the performance. The dramaturgical process ensured that the overall themes and aesthetic concepts of the project are present and discernible in each of the project's individual components but expressed in ways which take advantage of each medium's unique opportunities.

The projection captured the theme of the invisibility of the women's labour, as the audience/players powerlessly watched as the women worked silently on the assembly line. The audience/players' agency was removed during the viewing to invite reflection on this power dynamic and on the women's limited agency and power within a Timex divided along gender lines. It took 25 years for the labour of the women and its impact on the video games industry to be finally acknowledged, but I am truly happy it happened while some of them were still

alive to witness it. The women of Timex subverted the power structures by developing their own creative outlets and structures within the 'official' ones. They found power in solidarity and 'sisterhood' which is why I wanted the final musical performance to capture the ultimately hopeful and empowering effects of Timex, when all else was gone the women had themselves and each other. The memories of Timex that the audience/players explored in the park were available to only those who attended. Although this was a promising start I would have liked for them to remain available in the park after the event for all to listen. This is something that I am looking at addressing in future work. One of the directions that I did not explore during *Generation ZX(X)* due to time, budget and skill limitations was the potential that walking simulators have for 'staging' Verbatim text. The walking simulator form is particularly suited for exploring voices because it couples spatial and narrative progression, interaction and player agency with storytelling. The creative editing of the material would be delegated to the moving body of the player as it chooses how to explore the environment. The game could facilitate wide access to oral histories and counter the bias inherent in the Verbatim form by inviting the player to structure the material into a narrative experience through movement. Another frustration is the lack of aesthetic and gameplay complexity of *Assembly* and *She-Town*. Due to limited time the games have not been 'polished'. The levels of *She-Town* could respond visually to the text levels, for example the first text level introduces the player to She-Town and the female labour and sacrifice which supported its development.

[T]he river Tay lies sparkling before you.
You cross the bridge with growing excitement as the first buildings of She-Town are starting to take shape. She-Town, just as you remember it, beautiful and brutal...no place for the faint-hearted or the dainty-handed.

You know that you'll be safe here, She-Town belonged to them. And that's the way it's been since those first bales of jute docked in 1820. Even further back, to the women weaving linen in the flax mills. Perhaps even further back to the housewives who spun and sold their yarns at markets. There's no sure way of knowing how far back the story of She-Town stretches.

What's certain is that it is the magic of their hands that built the city. And their hands were like the cloth they spun, coarse but strong.

They wore cracks and wounds instead of rings. These hands cradled and comforted like they spun and weaved, with a firm yet gentle touch.

Alas, the magic running through their hands does not come cheap. And they all paid. Songs often fell on deaf ears, smiles often wasted on blind eyes, breaths often cut short by fevered lungs. Their youth fed She-Town, and She-Town bloomed. (Bozdog, 2018)

Despite my repeated prompts to the student development team to embrace the text and create levels which support and complement it at a visual and gameplay level, they had no time to do so. The levels remained a generic and unpopulated factory backdrop throughout the game, with little variation on assets/game objects, in-game actions and characters. Creating coherence between the text and the game would enhance the complexity of both and ground the text in the gameplay experience creating a richer and more meaningful game.

Assembly's gameplay manages to be fun and accessible but sadly most of its aesthetic appeal resides in the colourful installation. The game's visual style is simple and not aesthetically pleasing (see Figure 122). This was a result of the limited number of artists on the team and could be easily redressed in the future.

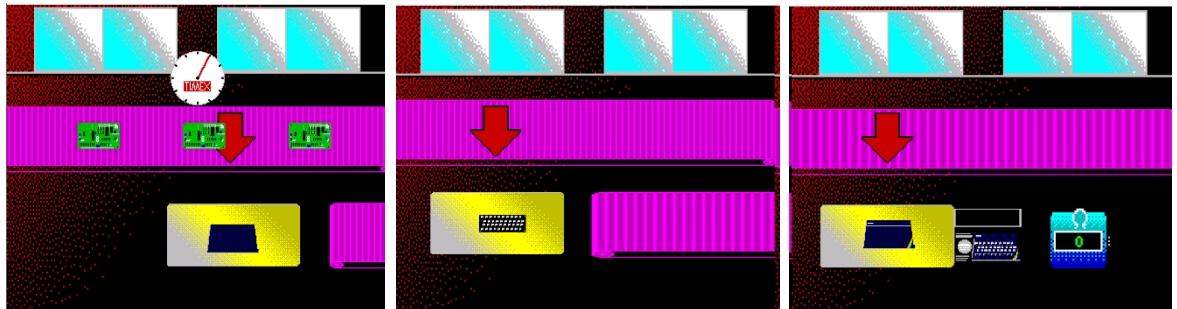


Figure 122 *Assembly* game screenshots

The audience/players moved through physical, virtual and hybrid spaces to uncover fragments of narratives, voices and memories. The journey invited them to listen, watch, sense, witness, play and eventually complete the work by contributing their own interpretation, memories and narratives. *Generation ZX(X)* was a beginning in terms of exploring video games and performance

aesthetics and design methods and like *Inchcolm Project* before it, it aimed to design a meaningful narrative experience for the moving body and all its sense and meaning-making abilities.

CONCLUSIONS

General Conclusions

This research project explored and developed through practice and theoretical inquiry interdisciplinary design strategies which combined performance and video games design methods, aesthetics and modes of engagement. I have argued that the interdisciplinary study and application of performance practices and video game design can lead to the development of hybrid experiences which capitalise on the opportunities afforded by both technology and the body, narrative and interaction.

Two such experiences were developed as part of this research project: *Inchcolm Project* and *Generation ZX(X)* hybrid in their structure (with mixed-media and mixed-reality components) and inter-disciplinary in their design (video game design and site-specific performance practice). Both projects were staged in public spaces to which they responded by engaging with their physical (structural and sensory), narrative or symbolic identity. And both projects were devised using a dramaturgy of assemblage by which an archive containing varied types of resources informed and shaped the work. The audience/players were invited to complete the work, performing their own process of assemblage by reading (and writing), walking and playing its environments. Walking was foregrounded throughout as a (syn)aesthetic process through which the audience/players can simultaneously make meaning and sense.

I aimed to foreground an 'open' dramaturgy centred around the aesthetic of the ruin and the aesthetic of the palimpsest: the work, just like the environment which hosts it, is open, broken and fragmented, but also layered and stratified. These aesthetics allowed me to explore hybrid ways of storytelling which combine meaningful stories (narrative), with sensory, aesthetic and narrative-rich environments to stimulate, facilitate and foreground the meaning- and sensory-making skillsets of the audience/players (agency). The work and the environment in both projects are organically bound in an interdependent relationship of enhancing, complementing and drawing attention to one another.

Each of the two projects embraced a different framework: *Inchcolm Project* explored the creative potential of adaptation, whereas *Generation ZX(X)* explored the possibilities of creating multi-media content. Nonetheless, *Inchcolm Project's* design functioned as a blueprint for the design and development of *Generation ZX(X)* illustrating the flexibility and adaptability of the design methods.

Throughout the research I have focused on two main directions of inquiry: designing for the moving, sense- and meaning-making body, and engaging with the narrative, structural and symbolic abilities of the site. The body and the site can be physical, virtual and/or both. I argue that this is where the potential for true emergence lies, in the space where site, performance, video games and the moving body merge in what I have defined as a storywalk.

I developed storywalking as a technique which draws from site-specific performance and game design to combine walking as an aesthetic, critical, and dramaturgical practice of reading and performing an environment, with designing interactive, complex, sensory and story-rich environments for a moving, meaning-making body. Storywalking is a design process that can be applied to work that is structurally hybrid (with mixed-media and mixed-reality components) and inter-disciplinary in its design (video game design and site-specific performance practice). The audience/players perform a dual process of meaning and sense-making (assembling narrative and sensory elements) as they journey through complex, sensory and story-rich environments, both physical and digital.

The *Inchcolm Project* storywalk had three components: a promenade performance, a gameplay projection and a live musical performance. It responded equally to a site (Inchcolm island) and a game (*Dear Esther*). In *Inchcolm Project* I wanted to see how I could adapt *Dear Esther's* design into a live performance, which is why I reverse-engineered its design, going behind the gameplay experience to analyse the design strategies which underpinned its visual style and environments, its narrative, sound and interaction design. These design strategies were then adapted to Inchcolm island, filtered through Inchcolm's narrative, sensory, structural and symbolic presence.

The process of adaptation consisted of four stages: selection of a game (*Dear Esther*) and a site (Inchcolm) which are evocative of and enhance one another, familiarity with the game through repeated playthroughs, a selection of elements from the game that would be interesting to explore in practice, deconstruction of *Dear Esther's* design followed by the implementation of these environmental, narrative, sonic and interactive design methods (distilled from the analysis) in the design of *Inchcolm Project*. The last stage was a dialogue of sorts between *Dear Esther*, Inchcolm island, and the work which equally responded to both.

The process of devising the work was supported by a process of dramaturgy which ensured that the overall themes and aesthetics of the game and the work echo each other. At a dramaturgical level I wanted to engage the audience/players in a (syn)aesthetic (Machon, 2009) process which stimulates the body's dual meaning-making abilities: sensory and cognitive. This was achieved through sensory design and which amplified Inchcolm's sensory, symbolic, and narrative voice. The design combined the environmental, narrative, sound and interaction design strategies originating in *Dear Esther* with the site-specific constraints and opportunities afforded by Inchcolm island. This turned the work and the site into co-creators, and Inchcolm became an active component in the creation of performative meaning. The installations, the sound, the text and the journeys were a constant negotiation between the work and Inchcolm. The development process was supported by extensive research into the game, its development, and its 'world', but also into the site, its history ('official' accounts and 'unofficial' legends and stories) and its sensory identity. The site-visit (of both *Dear Esther* and Inchcolm) is a vital component of site- and game-responsive design as it allows for the site's and the game's identities to 'infuse' the work.

The process of dramaturgy ensured the coherence of meaning across different types of environments (physical and virtual), and mixed-media components (promenade performance, projection, musical performance). The overall themes (refuge, guilt, redemption) were developed at a macro (across all components of the project: performance, projection, musical performance) and micro level (narrative, environment, sound, interaction). This ensured that the overall

aesthetics, the palimpsest, the ruin and (syn)aesthetics, were coherent and developed across the *Inchcolm Project* experience.

Like *Inchcolm Project*, *Generation ZX(X)* was a hybrid of live and virtual components: an audio audio-walk through Camperdown Park, an arcade gaming experience (three games were installed and played in the pop-up arcade and projected on the Timex factory), a documentary film projection on the former Timex building, and a live musical all-female performance. In terms of working with (memory) sites (Camperdown Park, Harrison Road, Timex Camperdown factory building) I was constantly trying out configurations for the audiowalk, the pop-up arcade, the projection and the choral performance. I decided to follow the running order developed for *Inchcolm Project* (audiowalk, gameplay, projection, musical performance) because it ensured a logical progression from individual to collective experience, echoing some of the site's past narratives: the women walking to work through the park, up Harrison Road, to the Timex factory; the solidarity march through the park up Harrison Road, to the factory.

Developing *Generation ZX(X)* involved complex processes of devising site-responsive and documentary work, game design and dramaturgy. The design process had four stages: designing the audiowalk, designing the games, designing the projection and designing the final musical performance, similarly underlined by a dramaturgical process which ensured continuity and coherence across all the project's components at micro and macro levels. These four stages developed simultaneously and informed each other.

The audio-walk allowed the audience/players to compose the story by moving through the park and 'gather' audio snippets, fragments of interviews with women who worked in Timex on the ZX Spectrum assembly lines. As they explored together the memories of Timex they were invited to perform conviviality, solidarity and community thus enacting what Timex was in the collective memory. This was supported by the technology and the invitation to walk together. Sharing phones facilitated group formation and inter-generational exchange as audience/players gathered around them to listen. Convivial walking (Lee and Ingold, 2006; Heddon, 2012; Heddon and Turner, 2012;

Myers, 2010) aimed to facilitate dialogue and bonding as the audience/players adjusted their pace, rhythm and direction to accommodate each other and to share their own memories and experiences of Dundee.

The games facilitated community formation and conviviality through a performative design (design for spectatorship), and a co-located, collaborative and physical play experience. The projection captured the theme of the invisibility of the women's labour, as the audience/players powerlessly watched as the women worked silently on the assembly line. The audience/players' agency was removed during the viewing to invite reflection on this power dynamic and on the women's limited agency and power within a Timex divided along gender lines.

The games design process was iterative, collaborative and open. Their design was incorporated in the storywalk and was constantly adapted to respond to the spatial, conceptual, symbolic, technological and thematic constraints. This was only possible because the game and the performance developed in parallel and the storywalking design process was flexible enough to allow for both iteration and change.

Unlike *Inchcolm Project*, the relationship between the games and the performance was dialogical, they could respond to another and adapt to each other's design. The design strategies and methods were cross-disciplinary which meant that they could shape the content generation of both the games and the performance. The dramaturgical process ensured that the overall themes and aesthetic concepts of the project are present and discernible in each of the project's individual components but expressed in ways which take advantage of each medium's unique opportunities. Developing the games and the performance in parallel allowed me to design elements of continuity: narrative (the many aspects related to Timex: work in Timex, the strikes, assembling the ZX Spectrum, the ZX Spectrum heritage and its impact on the games industry), visual (the character Pinkie, the picket-signs, the girly punk aesthetic, the ZX Spectrum aesthetic), conceptual (women's voices, memory sites, palimpsest, ruin, nostalgia, collective memory).

Through *Generation ZX(X)* I discovered that some aspects of the archive lend themselves better to gameplay (the monotony and repetitiveness of work, historical context, visual references, conviviality, unruliness and playfulness) whereas others could come to life through performance (the texture of voices and richness of dialect and speech, community, intimacy, confession, memory). The moments of gameplay aimed to support conviviality, camaraderie and social play through design for spectatorship (Love and Bozdog, 2018). In turn, the performance created an overall framework for the experience launching an invitation to embodied interaction and giving the audience/players 'permission' to play. Performance and gameplay thus supported, contextualised and expanded each other narratively and aesthetically.

The project aimed to start a dialogue about the invisibility of women's labour, to challenge the 'official' Timex history and the 'official' local games industry history, to amplify women's voices and stories as alternatives to 'official' histories and replace 'History' with 'Herstories', and finally to celebrate the ZX Spectrum, the women who built it and its impact on the city.

Crossing the factory gates became an opportunity to write over the memories of the strikes by unearthing older memories of conviviality and sisterhood, of a factory where nearly 2000 women worked together. But also, the chance to create new memories for the women of Timex, of the industry's acknowledgement and gratitude for their labour and potentially of a new-found pride in witnessing the heritage and impact of their work. The site's complexity invited multiple readings: a depository of collective memory, a palimpsest, a ruin, a ghost, the last bastion of union action in Scotland, the cradle of Scotland's video games industry, a factory divided across gender lines, a utopian space where women created their own structures of power within and despite official structures or a dystopian space where women's access to knowledge, training and equal pay was tightly controlled by the powerful few. Any one of these readings is as valuable and important as the next, and none takes precedence over the other.

I argue that embracing an open dramaturgy can help to negotiate and foreground the complexity of these types of spaces which resist singular

interpretation. The dramaturgy of assemblage is performed both at the production level in the process of devising an open work through the composition and selection of elements and moments of encounter, and at the level of reception, where the audience/players move through these open structures and assemble the fragments in performance.

I was trying to accommodate the sites as much as possible, to reflect on the stories that the sites tell and to design moments of silence where those voices and stories of places can pierce through the designed experience. These aspects are discussed in relation to the design choices that I made, the strategies and techniques deployed in their implementation, and through the thematic, conceptual and aesthetic threads which run through the work. The resulting methodology blends the processes of making, critical composition or dramaturgy, and reflection foregrounding a way of designing hybrid stories which unfold over a mixed-reality space and are assembled by the moving body.

In developing the work, I drew primarily from forms of contemporary practice that, like video games, focus on designing an experience (narrative or sensory) for the moving body: immersive theatre, site-specific performance, walking performance and mixed-reality practices. In the realm of gaming, I focused on walking simulators, retro gaming, design for spectatorship, and games which foreground social, anticipatory and interpretive play and which use player's physical space in interesting ways. I constantly tried to explore the areas where the two fields overlap in terms of their engagement with space, with mixed-reality technology, or with game mechanics. This resulted in a melange of methods: devising, sensory design, dramaturgy and playwriting, geo-tagging and augmenting reality through sound, Verbatim, design for spectatorship, critical play, adaptation, re-mediation, trans-media storytelling, game design, custom controllers and installation design.

The design methods which underpinned the two projects are not exemplary or perfect but methods which have been implemented and tested in practice. They are put forward as experiments which could guide, and hopefully inspire new generations of practitioners and academics. They are utterly shaped by my

creative background, artistic interests and abilities but also informed by theoretical frameworks and design strategies originating in both fields. In this they are foregrounded as interdisciplinary design methods which originate in video games design and performance practice but whose hybridity positions them at the fringes of both.

The research is rooted in practice and its findings are rendered visible through the three research outcomes: the two projects and this thesis. The critical reflection on the projects and the design processes which underpin them contributes to the understanding of these types of hybrid practices and shows how interdisciplinary approaches to design can enrich the fields of game design and contemporary performance by opening new areas for practice and by proposing new strategies, techniques, skills and toolkits to practitioners in both fields. The two reflection chapters formalise the creative design processes and strategies, the concepts and themes which run through both works, and the critical lenses which focused them.

The interdisciplinary nature of the research is captured in the thesis title which draws attention to its experimental and experiential identities and which challenges the 'traditional' modes of engagement in both disciplines: playing with performance and performing play. I embrace the '/' because it democratises the processes and situates play and performance on equal footing. It also showcases the creative potential which resides in cross-disciplinary research and in playfully exploring the fringes of both forms, and the spaces in between.

This challenge has been productive and fruitful in my own practice research, and I can only hope that others will take it on and further.

Returning to the hopscotch anecdote which began this journey, I believe that this research benefits game and performance design by shifting the emphasis from "What if they talk back?" to "What if it talks back?". In this it proposes a user-centred design which focuses on the multi-layered experience of the audience/players (narrative, sensory, interpretive, emotional). The work responds to the 'talking' of the audience/players (be it moving in digital or

physical environments, writing on a paper boat, or smashing a button) and not the other way around. The hopscotch playground outgrew the performance space giving the audience/players the license to play, to perform, to listen, to talk, to question, to sing.

Research Outcomes

The research project demonstrated the potential of interdisciplinary design methods for the development of video games, contemporary performance practice, and hybrid experiences which combine the two. This research puts forward a method for combining meaningful agency with narrative design (traditional narratives are abandoned in favour of fragmented story pieces which are embedded in the environment) and with a cognitive and visceral dramaturgy, meaning and sense-making are entrusted to the moving body of the audience/players.

Contemporary performance can borrow from game design techniques, technologies and strategies to blend meaningful agency with moments of authored narrative. Drawing from game design I have demonstrated how interaction can work alongside traditional storytelling as well as environmental storytelling to create emotional and compelling stories and meaningful sensory journeys. By adapting the design of a walking simulator to a live performance, I have shown how I can design meaningful agency, not by increasing the number, intensity or frequency of choice, but by creating responsive and rich environments in which each choice/movement is rewarded and matters for the audience/players. This meaningful interaction (not necessarily increased interaction) is achieved through alternating modes of engagement (walking, sensing, playing, performing, watching, listening) with varied types of environments (narrative, sensory-scapes, soundscapes, natural and designed) to create complex experiences. Therefore, video games can teach us how stories can unfold over space rather than over time: narrative development is coupled with spatial progression while chronology loses its prominence. This is not just creatively liberating for the artist but also for the audience/players who are free to roam and uncover storylines which are assembled by moving

through the environment, thus they become spatially rather than chronologically structured.

The fragmented narratives (Lego puzzle pieces scattered around fictionalised environments: physical and virtual) encourage active meaning-making and problem solving. What helps the process of meaning-making is the theme or the concept of these narrative playgrounds, the 'fiction' which unites the physical and virtual worlds. Audience/players will assemble these Lego pieces in such a way as to fit the fiction in a creative and emergent process of storywalking, not just reading a story but walking a story, incorporating the environment and its sensory, semiotic and narrative information and the moving body, and its meaning- and sense-making abilities.

Furthermore, *Inchcolm Project* showcased how game technology and geo-tagging can be used within a performance event, and their potential advantages for site-specific and promenade work. This research is a first attempt of adapting a video game as a live performance within a practice-as-research environment, which is why the findings and insights relating to adaptation and re-mediation are valuable to both practitioners and academics.

Due to their emphasis on action rather than story video games foreground visual, sonic and interactive storytelling rather than 'traditional' written or spoken forms. As a playwright and dramaturg, I believe that balancing my background with this challenge of finding alternative modes of expression has been most creative, rewarding, stimulating and educational. My practice has grown and now incorporates multi-media, mixed-media and immersive experience design.

The research also demonstrated the potential of performance practice techniques (Verbatim, devising, assembling, site-responsive and site-sympathetic writing and design), strategies (dramaturgy, site-responsive, site-specific, immersive, walking) and aesthetics (palimpsest, ruin, (syn)aesthetics) for game design. Through this research I demonstrated that contemporary performance practices can contribute to a better understanding of video games, particularly genres of games which foreground alternative aesthetics (walking simulators, co-located physical games, retro games), and open new directions

and areas for exploration thus contributing to their evolution. Some of these directions include embodied ways of meaning- and sense-making, engagement with a site's potential to act as symbol, structure and storyteller (Wilkie, 2002), ways to engage with walking as an aesthetic and (syn)aesthetic practice, methods for designing for all the senses, site-sympathetic and site-responsive design and game-responsive design. Video games are pushing at their boundaries with art games, personal and indie games starting to tackle serious and sensitive topics (Romero, 2011; Romero, 2019). Performance practice and theatre have a long tradition of engaging with meaningful topics, with what it is that makes us human and with ways of eliciting emotion and empathy. Video games can learn from performance practice how these types of topics can be tackled with respect, ethical responsibility and sensitivity.

Both projects engaged with memory sites and put forward a way of engaging with site and memory through experience design. Inchcolm's legends and symbolic significance as a refuge and Dundee's herstories and Timex's significance as the cradle of the local games industry came to life through storywalking. Walking gained symbolic significance, a walk of penitence, redemption and absolution in Inchcolm, and a recreation of the women's walk to work through Camperdown Park, up Harrison Road and through the factory gates. The audience/players performed the walks, the environments and the stories as a group, adding their own layers of stories, memories and meaning to the sites. The games that we co-designed for *Generation ZX(X)* engaged with collective memory and oral histories as well as memory sites (the arcade was set up at the factory and *BootF* was played on the building) offering insight into how game design and curation can respond to sites in multiple ways (their physicality, their hidden narratives, their symbolic significance). This demonstrated how the proposed methodology can be applied in a heritage setting and for facilitating/democratising access to oral history archives. It also demonstrated novel ways of presenting these types of archives allowing the audience/players to engage with them in varied ways (listening, playing) and in locations which are relevant to the topic thus contributing to how they are received, interpreted and embodied. The sites in which they were experienced contributed their own aesthetic, sensory and narrative layers to the archive.

In designing these hybrid experiences, I have demonstrated the creative and mutually beneficial impact of interdisciplinary design for video games and performance practice as well as applying novel cross-disciplinary methodology for designing hybrid and mixed reality performance. Inchcolm Project and Generation ZX(X) stand as proof of concept as well as research outcomes, demonstrating how the interdisciplinary study and practice of game design and performance practice can lead to unique and innovative hybrid practices.

The storywalking technique showcases the features of a hybrid and interdisciplinary approach which assembles a variety of processes, methods, techniques, strategies and aesthetics from game design and contemporary performance practices:

- an open dramaturgy which accommodates and facilitates a multiplicity of 'readings' and foregrounds a multiplicity of voices, of people and of sites
- the aesthetic of the ruin and the aesthetic of the palimpsest in video games and performance, and how they invite the audience/player to complete the work by focusing their attention on what is missing, or has been erased or threatened by erasure or rewriting
- the complex relationship between the work and the site, the 'ghost' and the 'host'
- walking as an aesthetic and (syn)aesthetic practice
- (syn)aesthetics as a style of production and reception
- Dramaturgy of assemblage in production (devising), reception (walking as a (syn)aesthetic practice) and documentation (assemblage of traces and memories)
- Convivial design: embracing social play and knowledge/experience exchange

Storywalking is a hybrid design strategy which combines processes, practices, aesthetics and modes of engagement for moving bodies across physical and virtual environments. It draws from two fields: performance practice and game design and contributes to the development of both whilst in the same time

creating its own hybrid aesthetic and storytelling techniques: the story unfolds across multi-media and mixed-reality components.

Processes	<p>Dramaturgy</p> <p>Devising</p> <p>Assemblage</p> <p>Pruning</p> <p>Narrative Design/ Creative Writing/ Playwriting</p> <p>Verbatim and Documentary Techniques</p> <p>Critical Play</p> <p>Deconstructing/ Reverse-Engineering Design</p> <p>Ambiguity and Open-ness (in design and writing)</p> <p>Design for Spectatorship</p> <p>Sensory Design</p> <p>Remediation</p> <p>Adaptation</p> <p>Trans-media storytelling</p> <p>Game-responsive design</p> <p>Site-responsive design</p> <p>Creating a world (in-its-own-world aesthetic) or a lens: refocusing attention to the world by adding to it</p>
Aesthetics	<p>(Syn)aesthetics</p> <p>Walking</p> <p>Palimpsest</p> <p>Ruin</p> <p>Nostalgia</p> <p>Mythogeography</p> <p>Storywalking</p>
Practices	<p>Performance Practices:</p> <ul style="list-style-type: none"> • Immersive Theatre • Site-specific Performance • Walking Performance • Mixed-Reality Practices <p>Game Design</p> <ul style="list-style-type: none"> • Walking Sims

	<ul style="list-style-type: none"> • Retro Games • Co-located games • Custom and alternative controllers
Modes of Engagement	<p>Walking</p> <p>Playing</p> <p>Listening</p> <p>Reading</p> <p>Performing</p> <p>Sensing</p> <p>Watching</p>

Research Impact

The extensive media and social media coverage ([Inchcolm Project](#) and [Generation ZX\(X\)](#)) that both projects enjoyed testifies to the interest in the research while at the same time increasing its visibility. The projects have been covered by the BBC, Gamasutra, BBC Scotland, The Courier, The Evening Telegraph, The National.

The numerous partners (see <https://www.performingplay.co.uk/partners> and <https://www.performingplay.co.uk/partners-1>) involved in both projects' development shows an interest from heritage organisations, academic institutions, non-profit and community groups and charities, local councils, cultural festivals and creative hubs. Beside academic conferences and symposia, I have been invited to present the research at Abertay's University public engagement events in front of city officials, Members of Parliament, industry professionals, fellow artist researchers and students, school children, international delegates and the general public.

The practitioner critical reflection on *Inchcolm Project* has been reviewed and published in the Scottish Journal of Performance (vol 4, 1), and presented at Game Think 2.0 Conference (Glasgow), Literature and Video Games: Beyond Stereotypes Conference (St. Andrews), Gaming and the Arts of Storytelling Symposium (Abertay University, Dundee). Reflections on the research, its outcomes and impact for future practices will be presented at

the Electronic Literature Organisation Conference and Media Arts Festival (Cork, July 2019), Wandering Games (Bangor, July 2019) and DEVELOP Research (Brighton, July 2019).

The two events were open to the public, and the documentation is openly available on the companion website.

Brenda Romero has included the herstories from *Generation ZX(X)* and a short overview of the project in her talk at We Are Developers⁶² (Berlin, 2019).

Following the discussion of the research on a panel organised by the Im/Material Network (University of Glasgow, The Royal Society of Edinburgh) on Immersive Experiences called Virtual Encounters with Material Worlds⁶³ I have started conversations about possible future collaborations with heritage partners exploring landscape, history, archaeology through immersive experience design and storywalking.

The research is particularly timely as various organisations and industries are increasingly focusing on Immersive Experiences. Up until this moment this conversation seems to have been driven by an understanding of immersive experiences as immersive technologies. However, as illustrated by the conversations in the above-mentioned panel and the directions for funding referenced earlier on, there seems to be a renewed interest in storytelling and how technology can be used to assist rather than drive the experience design. It is here that storywalking can make a real contribution to the field of experience and immersive design and its applications in various cultural and entertainment area (heritage sites, museums, archives, festivals etc).

Future Directions

I will continue to explore the overlaps and fringes of both fields and to incorporate and develop site- and game-responsive design methods through my practice research. I also intend to create a digital version of the Camperdown storywalk as a walking sim to explore an alternative way of presenting and

⁶² <https://events.wearedevelopers.com/>

⁶³ <https://www.gla.ac.uk/research/az/immaterial/>

preserving oral histories and collective memory. This would also allow me to further explore the aesthetic of the palimpsest and the aesthetic of the ruin in relation to collective memory through the medium of a video game. The research journey would thus go full circle by adapting a performance to a video game expanding the existing methods and the applicability of the research.

This research makes a significant contribution to the research and practice of game design, performance, mixed-reality practices and experience design as it formalises and rigorously deconstructs the design process of two hybrid experiences with mixed-media and mixed-reality components. Furthermore, these projects show how the methods can be applied in the fields of heritage, history, archaeology and anthropology to capture and present local histories, collective memory or oral histories in engaging and interactive ways.

Further research could be undertaken into the applicability of the storywalk methodology and hybrid storytelling in cinema and interactive cinema. Live Cinema experiences like *Secret Cinema* are already exploring how the fictional world of the film can be expanded into the 'real' world, creating an interactive theme-park which surrounds each of the film screenings. This "collective experience" foregrounds the same neo-liberal discourses of commodification of experience as immersive theatres (Kennedy, 2017) which is why storywalking could propose alternative body- and site-centred aesthetics.

The documentation strategies proposed by this research can make a real contribution to game curation and preservation, where issues relating to documentation and capture of the gameplay experience are becoming increasingly pressing in the age of Youtube and Let's Play channels. Further research could offer insight into how documentation practices within contemporary performance and within practice-based research (both are fields which are concerned with issues of capturing a fleeting experience or moment of insight) can answer some of the questions surrounding gameplay experience, its capture, preservation and presentation.

The applicability of this research to the field of education, and public events and festivals is intuitively asserted and constitutes a further direction for my practice and research. I aim to continue to investigate how storywalking could be further

developed/adapted for younger and elderly audiences in an education setting, particularly in relation to cultural studies, history and heritage, anthropology and archaeology thus continuing to explore how storywalking and social play can facilitate inter-generational dialogue and knowledge exchange.

A direction that I would also like to pursue going further is how sensory information can be attached to gameplay (particularly smell, taste and skin-sense) through storywalking. I have already started to look at how sense-making and technology can be harnessed to this end in a workshop/game jam setting but I would like to further this direction in my practice.

BIBLIOGRAPHY

Referenced Works

- All the Right People Come Here* by Recorded Delivery (2005) directed by Alecky Blythe [theatrical performance at New Wimbledon Studio], London, UK.
- Allegue Fuschini, L., Piccini, A., Jones, S. and Kershaw, B. (eds) (2009) *Practice-as-research in performance and screen*. Basingstoke: Palgrave Macmillan.
- Alston, A. (2016a) *Beyond Immersive Theatre Aesthetics, Politics and Productive Participation*. London: Palgrave Macmillan UK: Imprint: Palgrave Macmillan.
- Alston, A. (2016b) 'Making Mistakes in Immersive Theatre: Spectatorship and Errant Immersion', *Journal of Contemporary Drama in English*, 4(1). doi: 10.1515/jcde-2016-0006.
- Alston, A. (2013) 'Audience Participation and Neoliberal Value: Risk, agency and responsibility in immersive theatre', *Performance Research*, 18(2), pp. 128-138. doi: 10.1080/13528165.2013.807177.
- Apperley, T.H. (2013) 'The body of the gamer: game art and gestural excess', *Digital Creativity*, 24(2), pp. 145-156. doi: 10.1080/14626268.2013.808967.
- Arnold-de Simone, S. (2015) 'The Ruin as Memorial – The Memorial as Ruin', *Performance Research*, 20(3), pp. 94-102. doi: 10.1080/13528165.2015.1049040.
- Austin, J.L. (2013) 'Performative utterances', *The Semantics-Pragmatics Boundary in Philosophy*, 21.
- Austin, J.L. (1975) *How to do things with words*. 2nd ed. Edited by J.O. Urmson and Sbisà, M. edn. Oxford: Clarendon.
- Bachelard, G. (1969) *The Poetics of Space*. Boston, Mass.: Beacon Press.
- Balaisis, N. (2014) 'Factory Nostalgia: Industrial Aesthetic in the Digital City'. *Mediated City Conference*, Los Angeles, CA, October 2014. Available at: <http://architecturemps.com/wp-content/uploads/2013/09/BALAISIS-NICHOLAS-FACTORY-NOSTALGIA-INDUSTRIAL-AESTHETICS-IN-THE-DIGITAL-CITY.pdf> (Accessed: 14 November 2018).
- Baldacchino, G. (2005) 'Editorial: Islands - Objects of representation', *Geografiska Annaler, Series B: Human Geography*, 87(4), pp. 247-251. doi: 10.1111/j.0435-3684.2005.00196.x.
- Baldacchino, G. (2008) 'Studying islands: on whose terms? Some epistemological and methodological challenges to the pursuit of island studies'. *Island Studies Journal*, 3(1), pp. 37-56.
- Baldacchino, G. (2012) 'The Lure of the island: A spatial analysis of power relations' in *Journal of Marine and Culture Studies*, 1(2), pp. 55-62. Available at:

<https://www.sciencedirect.com/science/article/pii/S2212682112000273>

(Accessed: 14 November 2018).

Banes, S. and Lepecki, A. (eds.) (2007) *The senses in performance*. New York; Abingdon: Routledge.

Banes, S. (2007) 'Olfactory Performances' in Banes, S. and Lepecki, A. (eds.) *The senses in performance*. New York; Abingdon: Routledge, pp. 29-37.

Barker, J.M. (2009) *The tactile eye: touch and the cinematic experience*. London; Berkeley: University of California Press.

Barrett, E. and Bolt, B. (eds.) (2010) *Practice as research: approaches to creative arts enquiry*, London: I. B. Tauris, pp.135-146.

Barrett, E. (2010a) 'Introduction: art as the production of knowledge'. In Barrett, E. and Bolt, B. (ed) *Practice as research: approaches to creative arts enquiry*, I.B Tauris, London, England, pp.1-13.

Barrett, E. (2010b) 'Foucault's 'What is an author': towards a critical discourse of practice as research'. In Barrett, E. and Bolt, B (eds), *Practice as research: approaches to creative arts enquiry*, London: I. B. Tauris, pp.135-146.

Barrett, E. (2010c) 'Aesthetic experience and innovation in practice-led research'. In *ACUADS 2010: Proceedings of the Australian Council of University Art and Design Schools: A View into the Future of Australian Art and Design Schools*, Australian Council of University Art and Design Schools (ACUADS), Launceston, Tas., pp. 1-9.

Barrett, E. and Bolt, B. (eds.) (2014) *Material inventions applying creative arts research*, London: I. B. Tauris.

Barrett, E. (2014) 'Introduction: Extending the field: Invention, application and innovation in creative arts enquiry'. In Barrett, E. and Bolt, B (eds) *Material inventions applying creative arts research*, London: I. B. Tauris, pp. 1-22.

Barthes, R. (1975) 'An Introduction to the Structural Analysis of Narrative'. *New Literary History*, 6(2), pp. 237-272. doi:10.2307/468419.

Barthes, R. (1986) *The Rustle of Language*. Translated by Richard Howard. Berkeley and Los Angeles: University of California Press.

Baum, T. G. (1997) 'The fascination of islands: a tourist perspective' in D.G. Lockhart, D. Drakakis-Smith (Eds.), *Island Tourism: Problems and Perspectives*, London: Mansell, pp. 21-35.

Benford, S. and Giannachi, G. (2011) *Performing mixed reality*. London; Cambridge, Mass.: MIT Press.

Bennett, L. (2011) 'Bunkerology—A Case Study in the Theory and Practice of Urban Exploration', *Environment and Planning D: Society and Space*, 29(3), pp. 421-434. doi: 10.1068/d13410.

Bergson, H. (1988) *Matter and Memory*. Translated by N.M. Paul, W.S. Palmer. New York: Zone Books; Cambridge, Mass.: MIT Press.

Bernhaupt, R. (ed.) (2015) *Game User Experience Evaluation*. London: Springer.

- Beswick, K. (2015) 'Ruin Lust and the Council Estate', *Performance Research*, 20(3), pp. 29-38. doi: 10.1080/13528165.2015.1049034.
- Bial, H. and Brady, S. (eds.) (2016) *The Performance Studies Reader*. 3rd Edition. New York; Abingdon: Routledge.
- Birch, A. and Tompkins, J. (2012) *Performing Site-Specific Theatre. Politics, Place, Practice*. Basingstoke: Palgrave Macmillan.
- Bishop, C. (2006) *Participation*. London: MIT Press/Whitechapel Documents of Contemporary Art.
- Black Watch* by Gregory Burke (2006) directed by John Tiffany [theatrical performance premiered at Edinburgh Fringe, The National Theatre of Scotland], Edinburgh, UK.
- Blythe, A. (2008) 'Alecky Blythe' in Hammond, W. and Steward, D. (eds.) *Verbatim Verbatim*. London: Oberon Books, pp. 77-102.
- Bogost, I. (2007) *Persuasive games the expressive power of videogames*. Cambridge, MA: MIT Press.
- Bolt, B. (2006) 'Materializing pedagogies'. *Working Papers in Art and Design* (No 4). Available at: http://sitem.herts.ac.uk/artdes_research/ (Accessed: 12 November 2018).
- Bolt, B. (2009) 'A Performative Paradigm for the Creative Arts'. *Working Papers in Art and Design* (5).
- Bolt, B. (2016) 'Artistic Research: A Performative Paradigm', *Parse Journal* (No 3), pp. 129 – 142.
- Bourriaud, N. (1998) *Relational Aesthetics*. In Bishop, C. (2006) *Participation*. London; Cambridge, Mass.: Whitechapel; MIT Press, pp. 160-171.
- Bozdog, M. (2013) *The Artist as Mediator in Verbatim Theatre*. MLitt dissertation. University of Glasgow.
- Bozdog, M. (2016) *Dear Rachel* [performance text]. Available at: <https://www.performingplay.co.uk/text> (Accessed: 9 February 2019).
- Bozdog, M. (2018) *She-Town* [game text]. Available at: <https://www.performingplay.co.uk/text-she-town> (Accessed: 9 February 2019).
- Bratt, C. (2016) 'What do the creators of Dear Esther think about the term Walking Simulator?'. Interview with the Chinese Room for Eurogamer, 6 October [video]. Available at: <https://www.eurogamer.net/articles/2016-10-06-watch-what-do-the-creators-of-dear-esther-think-about-the-term-walking-simulator> (Accessed: 14 November 2018).
- Breel, A. (2015) 'Audience agency in participatory performance: A methodology for examining aesthetic experience'. In *Participations*, 12(1), pp. 368-387
- Brin, S. and Carbo-Mascarell, R. (2018) 'Psychogeography, Games, Play', *Freeplay 2018* [video talk]. Available at: <https://www.youtube.com/watch?v=mp71qigjvIU> (Accessed: 14 November 2018).

- Briscoe, R. (2012a) 'The Art of *Dear Esther*: Building an Environment to Tell a Story', *Game Developers Conference*, San Francisco [recorded conference talk]. Available at: <https://www.gdcvault.com/play/1015839/The-Art-of-Dear-Esther> (Accessed: 12 November 2018).
- Briscoe, R. (2012b) 'Up Close with *Dear Esther* Level-Designer Robert Briscoe'. Interview with Robert Briscoe. Interviewed by Zohra Ashpari for PC World, 8 March. Available at: https://www.pcworld.com/article/251408/up_close_with_dear_esther_level_designer_robert_briscoe.html (Accessed: 12 November 2018).
- Broadhurst, S. and Machon, J. (2012) *Identity, Performance and Technology Practices of Empowerment, Embodiment and Technicity*. London: Palgrave Macmillan.
- Broadhurst, S. and Machon, J. (2006) *Performance and Technology Practices of Virtual Embodiment and Interactivity*. Paperback edn. London: Palgrave Macmillan.
- Brown, M. (2015) 'Why Nathan Drake Doesn't Need a Compass', *Game Maker's Toolkit* [vodcast], 26 October. Available at: https://www.youtube.com/watch?v=k70_jvVOcG0 (Accessed: 14 November 2018).
- Butler, J. (2003) 'Afterword: After Loss, What Then?' in Eng, D. I. and Kazanjian, D. (eds.) *Loss. The Politics of Mourning*. Berkeley: University of California Press, pp. 467-474.
- Calleja, G. (2011) *In-game from immersion to incorporation*. Cambridge, MA: MIT Press.
- Campbell, J. (1949) *The Hero with a Thousand Faces*. 1st edition, Princeton: Bollingen Foundation.
- Carbo-Mascarell, R. (2016) 'Walking Simulators: The Digitisation of an Aesthetic Practice' in *DiGRA/FDG '16 - Proceedings of the First International Joint Conference of DiGRA and FDG*, 1(13), Dundee, August 2018. Available at: <http://www.digra.org/digital-library/publications/walking-simulators-the-digitisation-of-an-aesthetic-practice/> (Accessed: 14 November 2018).
- Careri, F. (2017 [2002]) *Walkscapes: walking as an aesthetic practice*. Ames, IA: Culicidae Press.
- Carey, J. (1999) *The Faber book of utopias*. London: Faber and Faber.
- Certeau, M., d. (1984) *The practice of everyday life*. Berkeley; Los Angeles, CA: University of California Press.
- Chion, M. (1999) *The voice in cinema*. Chichester: Columbia University Press.
- Classen, C., Howes, S. and Synnott, A. (1994) *Aroma. The Cultural History of Smell*. London: Routledge.
- Coleman, S. and Collins, P. (2006) *Locating the Field. Space, Place and Context in Anthropology*. Oxford: Berg.
- Come out Eli* by Recorded Delivery (2003) directed by Alecky Blythe [theatrical performance at Arcola Theatre], London, UK.

- Crawford, C. (2013) *Chris Crawford on interactive storytelling*. 2nd edn. Berkeley, CA: New Riders.
- Cresswell, T. (2006) *On the move: Mobility in the modern western world*. New York; London: Routledge.
- Csikszentmihalyi, M. (2000) *Beyond boredom and anxiety. Experiencing Flow in Work and Play*. San Francisco: Jossey-Bass Publishers.
- Curry, J. (2013) 'The Music of *Dear Esther*: Creating Powerful Scores with Limited Resources', *Game Developers Conference*, San Francisco [recorded conference talk]. Available at: <https://www.gdcvault.com/play/1017704/The-Music-of-Dear-Esther> (Accessed: 12 November 2018).
- Dailly, M. (2004) 'The Complete History of DMA Design' [web post]. Available at: <http://www.dmadesign.org/> (Accessed: 14 November 2018).
- Davis, T. (1995) 'Performing and the Real Thing in the Postmodern Museum'. *TDR (1988-)*, 39(3), pp. 15-40. doi:10.2307/1146462.
- Deleuze, G. (2004) *Desert Islands and Other Texts, 1953-1974*. Translated by Taormina, M., London; Cambridge, Mass.: MIT Press.
- Delmas, G., Champagnat, R. and Augeraud, M. (2007). 'Bringing Interactivity into Campbell's Hero's Journey' in Cavazza, M. and Donikian, S. (Eds.) *Virtual Storytelling. Using Virtual Reality Technologies for Storytelling 4th International Conference, ICVS 2007, Saint-Malo, France, December 5-7, 2007. Proceedings*. Berlin, Heidelberg: Springer Berlin Heidelberg, pp. 187-195, doi: 10.1007/978-3-540-77039-8_17.
- Dena, C. (2009) *Transmedia Practice: Theorising the Practice of Expressing a Fictional World across Distinct Media and Environments*. PhD Thesis. University of Sydney. Available at: https://www.researchgate.net/profile/Christy_Dena/publication/256600225_Transmedia_Practice_Theorising_the_Practice_of_Expressing_a_Fictional_World_across_Distinct_Media_and_Environments/links/587aedef208ae4445c0630c74/Transmedia-Practice-Theorising-the-Practice-of-Expressing-a-Fictional-World-across-Distinct-Media-and-Environments.pdf (Accessed: 14 November 2018).
- DeNora, T. (2000) *Music in Everyday Life*. Cambridge: Cambridge University Press.
- Di Benedetto, S. (2010) *The provocation of the senses in contemporary theatre*. New York; Abingdon: Routledge.
- Dillon, B. (2011) *Ruins*. London: MIT Press/Whitechapel Documents of Contemporary Art.
- Dixon, S. (2007) *Digital Performance. A History of New Media in Theater, Dance, Performance Art, and Installation*. Cambridge, Mass: MIT Press.
- Drobnick, J. (2002) 'Toposmia: Art, Scent, and Interrogations of Spatiality', *Angelaki*, 7(1), pp. 31-47, doi: 10.1080/09697250220142047.
- Drobnick, J. (2005) 'Volatile Effects: Olfactory Dimensions of Art and Architecture' in Howes, D. (ed.) *Empire of the senses*. Oxford: Berg, pp. 265-280.

- Dunniway, T. (2000) 'Using the Hero's Journey in Games' in *Gamasutra*, Feature, 27 November. Available at: https://www.gamasutra.com/view/feature/131527/using_the_heros_journey_in_games.php?page=2 (Accessed: 14 November 2018).
- Eco, U. (1989) *The Open Work*. Trans. Anna Cancogni. Cambridge, Mass.: Harvard University Press.
- Edensor, T. (2000a) 'Staging tourism: Tourists as performers'. *Annals of Tourism Research*. 27(2), pp. 322-344.
- Edensor, T. (2000b) 'Walking in the British countryside: reflexivity, embodied practices and ways to escape'. *Body & Society*, 6(3-4), pp. 81-106.
- Edensor, Tim (2005) *Industrial Ruins: Space, aesthetics and materiality*, Oxford: Berg.
- Edensor, T. (2008) 'Walking Through Ruins', in Ingold, T. and Lee Vergunst, J. (eds.) *Ways of Walking. Ethnography and Practice on Foot*. Farnham: Ashgate Publishing, Ltd, pp. 123-142.
- Edensor, T. (2010) 'Walking in rhythms: place, regulation, style and the flow of experience'. *Visual Studies*, 25(1), pp. 69-79.
- Etchells, T. (1999) *Certain Fragments: Contemporary Performance and Forced Entertainment*. London: Routledge.
- Etchells, T. (2007) *Echoes, Fragments and Mutations*. Available at: <http://timetchells.com/echoes-fragments-and-mutations/> (Accessed: 12 November 2018).
- Farley, P. and Symmons Roberts, M. (2012) *Edgelands. Journeys into England's True Wilderness*. London: Vintage.
- Feld, S. (2005) 'Places sensed, senses placed: towards a sensuous epistemology of environments' in Howes, D. *Empire of the senses*. Oxford: Berg, pp. 179-191.
- Fischer-Lichte, E. (2008) *The transformative power of performance: a new aesthetics*. Abingdon; New York; New York: Routledge.
- Flaherty, J. (2014) Dreamers and Insomniacs: Audiences in Sleep No More and The Night Circus. In *Comparative Drama*, 48 (1&2), pp. 135-154, 2014.
- Foucault, M. (1986) 'Of other spaces', Translated by Miskowiec, J., *diacritics*, 16(1), pp. 22-27. Available at: <https://foucault.info/documents/heterotopia/foucault.heteroTopia.en/> (Accessed: 13 November 2018).
- Franěk, M., van Noorden, L., & Režný, L. (2014) 'Tempo and walking speed with music in the urban context', *Frontiers in psychology*, (5) 1361. doi:10.3389/fpsyg.2014.01361.
- Franks, J. (2006) *Islands and the Modernists. The Allure of Isolation in Art, Literature and Science*. Jefferson: McFarland & Company, Inc.
- Frieze, J. (2016) *Reframing Immersive Theatre. The Politics and Pragmatics of Participatory Performance*. London: Palgrave Macmillan UK: Imprint: Palgrave Macmillan.

- Galloway, A.R. (2006) 'Warcraft and utopia', *CTheory*. Available at: <http://www.ctheory.net/articles.aspx?id=507> (Accessed: 14 November 2018).
- Garda, M.B. (2013) 'Nostalgia in Retro Game Design'. In *DiGRA '13 - Proceedings of the 2013 DiGRA International Conference: DeFragging Game Studies*, Atlanta, Georgia, USA. Available at: <http://www.digra.org/digital-library/publications/nostalgia-in-retro-game-design/> (Accessed: 14 November 2018).
- Genette, G. (1997) *Palimpsests: Literature in the Second Degree*. Trans. Channa Newman and Claude Doubinsky. Lincoln: University of Nebraska Press.
- Giannachi, G. (2004) *Virtual theatres: An introduction*. London: Routledge.
- Giannachi, G and Kaye, N. (2011) *Performing Presence. Between the Live and the Simulated*. Manchester: Manchester University Press.
- Gray, C. (1998) 'Inquiry Through Practice: Developing Appropriate Research Strategies'. Keynote in: *No Guru, No Method? Discussions on Art and Design Research*, University of Art & Design, UIAH, Helsinki, Finland. Pp 82 - 95 ISBN: 951-558-020-X. Available at: <http://carolegray.net/Papers%20PDFs/nqnm.pdf> (Accessed: 12 November 2018).
- Hache, J. D. (1998) 'Towards a political approach to the island question' in Baldacchino, G. and Greenwood, R. (eds) *Competing Strategies of Economic Development for Small Islands*, Charlottetown, Prince Edward Island, Institute of Island Studies, pp. 31–68.
- Hammond, W. and Steward, D. (eds.) (2008) *Verbatim Verbatim*. London: Oberon Books.
- Hammond, W. and Steward, D. (2008) 'Introduction' in Hammond, W. and Steward, D. (eds.) *Verbatim Verbatim*. London: Oberon Books, pp. 7-14.
- Hare, D. (2007) *The Permanent Way*. London: Faber and Faber.
- Hare, D. and Stafford-Clark, M. (2008) 'David Hare & Max Stafford-Clarke' in Hammond, W. and Steward, D. (eds.) *Verbatim Verbatim*. London: Oberon Books, pp. 45-76.
- Haseman, B. (2006) 'A Manifesto for Performative Research', *Media International Australia*, 118(1), pp. 98-106. doi: 10.1177/1329878X0611800113.
- Haseman, B. (2010) 'Rupture and Recognition: Identifying the Performative Research Paradigm' in Barrett, E and Bolt, B. (eds.) *Practice as Research: Approaches to Creative Arts Enquiry*, London: I.B. Tauris, pp. 147-158.
- Heddon, D. and Milling J. (2006) *Devising performance: a critical history*. Basingstoke; New York: Palgrave Macmillan.
- Heddon, D. (2007) *Autobiography and Performance: Performing Selves*. Basingstoke: Palgrave Macmillan.
- Heddon, D. and Turner, C. (2010) 'Walking Women: Interviews with artists on the move', *Performance Research*, 15(4), pp. 14-22. doi: 10.1080/13528165.2010.539873.

- Heddon, D. (2012) 'Turning 40: 40 Turns: Walking and friendship', *Performance Research*, 17(2), pp. 67-75. doi: 10.1080/13528165.2012.671075.
- Heddon, D. and Turner, C. (2012) 'Walking Women: Shifting the Tales and Scales of Mobility', *Contemporary Theatre Review*, 22(2), pp. 224-236. doi: 10.1080/10486801.2012.666741.
- Heddon, D. and Myers, M. (2014) 'Stories from the Walking Library', *Cultural Geographies*, 21(4), pp. 639-655. doi: 10.1177/1474474014521361.
- Heddon, D. (2015) 'Going for a walk: a verbatim play', *Studies in Theatre and Performance*, 35(3), pp. 1-12. doi: 10.1080/14682761.2015.1067387.
- Henshaw, V. (2014) *Urban Smellscapes: Understanding and Designing City Smell Environments*. London and New York: Routledge.
- Henshaw, V., McLean, K., Medway, D., Perkins, C. and Warnaby, G. (2018) *Designing with smell: Practices, techniques and challenges*. New York; Abingdon: Routledge.
- Hicks, K., Dickinson, P., Holopainen, J. and Gerling, K. (2018) 'Good Game Feel: An Empirically Grounded Framework for Juicy Design'. In *DiGRA 2018 conference proceedings*, Turin, Italy. Available at: <http://www.digra.org/digital-library/publications/good-game-feel-an-empirically-grounded-framework-for-juicy-design/> (Accessed: 14 November 2018).
- Hill, L. and Paris, H. (2014) *Performing Proximity. Curious Intimacies*. Basingstoke: Palgrave Macmillan.
- Hocking, C. (2007) 'Ludonarrative Dissonance in Bioshock', 07 October 2007. Available at: https://clicknothing.typepad.com/click_nothing/2007/10/ludonarrative-d.html (Accessed: 14 November 2018).
- Hodge, S., Persighetti, S, Smith, P. and Turner, C. (2004) 'Mis-guiding the City Walker', *Cities for People: The Fifth International Conference on Walking in the 21st Century*, Wrights & Sights [presentation], Copenhagen. Available at: <http://mis-guide.com> (Accessed: 14 November 2018).
- Hopfinger, S. (2017) *Performance (in) ecology: A practice-based Approach*. PhD thesis. University of Glasgow. Available at: <http://theses.gla.ac.uk/8040/> (Accessed: 12 November 2018).
- Howes, D. (ed.) (2005) *Empire of the senses*. Oxford: Berg.
- https://developer.valvesoftware.com/wiki/Dear_Esther [the *Dear Esther* developer page] (Accessed: 12 November 2018).
- <https://steamcommunity.com/app/203810/discussions/> [list of forums on *Dear Esther* on Steam] (Accessed: 12 November 2018).
- Huizinga, J. (1955) *Homo ludens: a study of the play-element in culture*. Boston: Beacon Press.
- Hulton, D. (2007) 'The One Square Foot Project'. *Studies in Theatre and Performance*, 27(2), pp. 155-168.
- Hutcheon, L. and O'Flynn, S. (2012) *A Theory of Adaptation*. 2nd edn. Abingdon: Routledge.

- Ingold, T. (1993) 'The Temporality of the Landscape', *World Archaeology*, 25(2): pp. 152-174.
- Ingold, T. (2016) *Lines: A brief history*. Routledge Classics edn. Abingdon, Routledge.
- Ingold, T. and Lee Vergunst, J. (2008) *Ways of walking: Ethnography and practice on foot*. Farnham: Ashgate Publishing, Ltd.
- Isbister, K. (2010) 'Enabling social play: a framework for design and evaluation', in Regina Bernhaupt (ed.) *Evaluating user experience in games: concepts and methods*, London: Springer, pp 11–22.
- Isbister, K. (2016) *How Games Move Us: Emotion by Design*. London: The MIT Press.
- Jenkins, H. (1992) *Textual poachers: television fans & participatory culture*. London: Routledge.
- Jenkins, H. (2004) 'Game Design as Narrative Architecture' in Wardrip-Fruin, N. and Harrigan, P. (Eds.) *First person: new media as story, performance, and game*. London: MIT Press, pp. 118-130.
- Jenkins, H. (2006a) *Convergence culture: where old and new media collide*. London; New York: New York University Press.
- Jenkins, H. (2006b) *Collective Intelligence vs. the Wisdom of Crowds*. Available at: http://henryjenkins.org/blog/2006/11/collective_intelligence_vs_the.html (Accessed: 12 November 2018).
- Jenkins, Henry (2007) 'Transmedia Storytelling 101'. Available at: http://henryjenkins.org/blog/2007/03/transmedia_storytelling_101.html (Accessed: 12 November 2018).
- Johns, C. (1995) 'Framing learning through reflection within Carper's fundamental ways of knowing in nursing', *Journal of Advanced Nursing*, vol. 22 (2), pp. 226-234.
- Juul, J. (2005) *Half-real: video games between real rules and fictional worlds*. London: MIT Press.
- Juul, J. (2007) 'Without a goal'. In T. Krzywinska and B. Atkins (eds) *Videogame/Player/Text*. Manchester: Manchester University Press. Available at: <http://www.jesperjuul.net/text/withoutagoal/> (Accessed: 14 November 2018).
- Juul, J. (2012) *A casual revolution: reinventing video games and their players*. London: MIT Press.
- Juul, J. (2013) *The art of failure: an essay on the pain of playing video games*. London; Cambridge, Mass.: MIT Press.
- Katz, H. (2010) *The Media Handbook: A Complete Guide to Advertising Media Selection, Planning, Research, and Buying*. 4th edition, Abingdon: Taylor & Francis.
- Kaufman, M. and the members of Tectonic Theatre Project (2001) *The Laramie Project*. New York: Vintage Books.

- Kaye, N. (2000) *Site-specific art*. Oxon: Routledge.
- Kemmis, S., McTaggart, R. and Nixon, R. (2014) *The action research planner: doing critical participatory action research*. Singapore: Springer.
- Kemmis, S., Wilkinson, J., Edwards-Groves, C., Hardy, I., Grootenboer, P., & Bristol, L. (2014). *Changing practices, changing education*. Singapore: Springer.
- Kennedy, H. W. (2017) 'Join a cast of 1000s, to sing and dance in the Revolution: the Secret Cinema 'Activist' brand and the commodification of affect within 'experience communities'. In *Participations*, vol 14(2). Available at: <http://www.participations.org/Volume%2014/Issue%202/35.pdf> (Accessed 10 June 2019)
- Kershaw, B. (2009) Performance Practice as Research: Perspectives from a Small Island, in Shannon Rose Riley and Lynette Hunter (eds.) *Mapping Landscapes for Performance as Research: Scholarly Acts and Creative Cartographies*, pp. 3-14.
- Kershaw, B. and Nicholson, H. (eds.) (2013) *Research methods in theatre and performance*. Reprint. edn., Edinburgh: Edinburgh University Press.
- Kershaw, B. and Nicholson, H. (2013) 'Introduction: Doing Methods Creatively' in Kershaw, B. and Nicholson, H. (eds.) *Research methods in theatre and performance*. Reprint. edn., Edinburgh: Edinburgh University Press, pp. 1-16.
- Kershaw, B., Miller, L., Lee, R. and Pollard, N. (2013) 'Practice as research: Transdisciplinary innovation in action' in Kershaw, B. and Nicholson, H. (eds.) *Research methods in theatre and performance*. Reprint. edn., Edinburgh: Edinburgh University Press, pp. 63-86.
- Kincaid, P. (2007) 'Islomania? Insularity? The Myth of the Island in British Science Fiction', *Extrapolation (pre-2012)*, 48(3), pp. 462-471.
- Koleva, B., Schnädelbach, H., Benford, S. and Greenhalgh, C. (2000) 'Traversable interfaces between real and virtual worlds'. In *Proceedings of the SIGCHI conference on Human Factors in Computing Systems (CHI '00)*. New York: ACM, pp. 233-240.
DOI=<http://dx.doi.org.libproxy.abertay.ac.uk/10.1145/332040.332437>
- Kristeva, J. (1969) *Séméiotiké: recherches pour une sémanalyse*, Paris: Edition du Seuil.
- Kristeva, J. (1980) *Desire in language: A semiotic approach to literature and art*. Oxford: Blackwell.
- Laera, M. (ed.) (2014) *Theatre and adaptation. Return, Rewrite, Repeat*. London: Bloomsbury.
- Laurel, B. (2014) *Computers as theatre*. 2nd edn. London: Addison-Wesley.
- Lavery, C. (2009) 'Mourning Walk' in Mock, R. (ed.) *Walking, Writing and Performance: Autobiographical Texts by Deirdre Heddon, Carl Lavery and Phil Smith*. Bristol; Chicago: Intellect Books, pp. 27-40.
- Lavery, C. (2009b) 'Mourning Walk and Pedestrian Performance: History, Aesthetics and Ethics' in Mock, R. (ed.) *Walking, Writing and Performance*:

- Autobiographical Texts by Deirdre Heddon, Carl Lavery and Phil Smith*. Bristol; Chicago: Intellect Books, pp. 41-56.
- Lawson, M. (2012) How I learned to love immersive theatre. *The Guardian*, 20th September. Available at: <https://www.theguardian.com/stage/2012/sep/20/immersive-theatre-robert-wilson-walking> [Accessed 1 March 2019].
- Lee, J. and Ingold, T. (2006) 'Fieldwork on Foot: Perceiving, Routing, Socializing', in Coleman, S. and Collins, P. (eds.) *Locating the Field. Space, Place and Context in Anthropology*. Oxford: Berg, pp. 67-86.
- Lefebvre, H. (2004) *Rhythmanalysis: Space, Time and Everyday Life*. London: Continuum.
- Lévesque, L. (2002) The 'terrain vague' as material: some observations. Available at: http://www.amarrages.com/textes_terrain.html (Accessed: 13 November 2018).
- Levine, K. (2008) 'Storytelling in *BIOSHOCK*: Empowering Players to Care about Your Stupid Story', *Game Developers Conference*, San Francisco [audio]. Available at: <https://www.gdcvault.com/play/301/Storytelling-in-BIOSHOCK-Empowering-Players> (Accessed: 14 November 2018).
- Lewin, K. (1946) 'Action research and minority problems', *Journal of Social Issues*, 2(4), pp. 34-46.
- Lorimer, H. and Murray, S. (2015) 'The Ruin in Question', *Performance Research*, 20(3), pp. 58-66. doi: 10.1080/13528165.2015.1049037.
- Love, L. H. C. (2018) *Playing games together: play interventions for community and communal play*. PhD Thesis. Abertay University.
- Love, L. H. C., & Bozdog, M. (2018) 'A three person poncho and a set of maracas: designing Ola De La Vida, a co-located social play computer game'. In *DiGRA 2018 conference proceedings*, Turin, Italy. Available at: <http://www.digra.org/digital-library/publications/a-three-person-poncho-and-a-set-of-maracas-designing-ola-de-la-vida-a-co-located-social-play-computer-game/> (Accessed: 14 November 2018).
- Macauley, Rose (1953) *Pleasure of Ruins*, London: Thames & Hudson.
- Machon, J. (2009) *(Syn)aesthetics: Redefining visceral performance*.
- Machon, J. (2013) *Immersive theatres: intimacy and immediacy in contemporary performance*. Basingstoke: Palgrave Macmillan.
- Machon, J. (2016) 'Watching, Attending, Sense-making: Spectatorship in Immersive Theatres', *Journal of Contemporary Drama in English*, 4(1), pp. 34-48. doi: 10.1515/jcde-2016-0004.
- Maples, H. (2016) 'The Erotic Voyeur: Sensorial Spectatorship in Punchdrunk's The Drowned Man', *Journal of Contemporary Drama in English*, 4(1). doi: 10.1515/jcde-2016-0010.
- Martin, C. (ed.) (2010) *Dramaturgy of the real on the world stage*. Basingstoke; New York: Palgrave Macmillan.

- Martin, C. (2010) 'Bodies of Evidence' in Martin, C. (ed.) *Dramaturgy of the real on the world stage*. Basingstoke; New York: Palgrave Macmillan, pp. 17-26.
- Márquez Segura, E., and Isbister, K. (2015) 'Enabling Co-Located Physical Social Play'. In Regina Bernhaupt (ed.) *Game User Experience Evaluation*, London: Springer, pp. 209-238.
- McGonigal, J. (2010) 'Gaming can make a better world' *TED 2010*. Available at: https://www.ted.com/talks/jane_mcgonigal_gaming_can_make_a_better_world (Accessed: 14 November 2018).
- McGonigal, J. (2012) *Reality is broken: why games make us better and how they can change the world*. London: Jonathan Cape.
- McGonigal, J. (2015) *Super Better*. London: Thorsons.
- Milgram, P. and Kishino, F. (1994) 'A taxonomy of mixed reality visual displays', *IEICE Transactions on Information and Systems*, 77(12), pp. 1321-1329.
- Mock, R. (ed.) (2009) *Walking, Writing and Performance: Autobiographical Texts by Deirdre Heddon, Carl Lavery and Phil Smith*. Bristol; Chicago: Intellect Books.
- Montola, M., Stenros, J. and Waern, A. (2009) *Pervasive games: theory and design*. Burlington, MA: Morgan Kaufmann Publishers, Elsevier.
- Moody, K. A. (2014) *Modders: changing the game through user generated content and online communities*. PhD Thesis. University of Iowa. Available at: <https://ir.uiowa.edu/etd/4701/> (Accessed: 12 November 2018).
- Mueller, F., Stellmach, S., Greenberg, S., Dippon, A., Boll, S., Garner, J., Khot, R., Naseem, A., and Altimira, D. (2014) 'Proxemics Play: Understanding Proxemics for Designing Digital Play Experiences'. In *Proceedings DIS '14*, June 21 - 25, ACM. Vancouver, BC, Canada.
- Murray, J.H. (2001) *Hamlet on the Holodeck: the future of narrative in cyberspace*. Cambridge: MIT Press.
- Murray Schafer, R. (1994) *The soundscape: our sonic environment and the tuning of the world*. Rochester, Vt.: Destiny Books.
- Muscat, A., Goddard, W., Duckworth, J. and Holopainen, J. (2016) 'First-Person Walkers: Understanding the Walker Experience through Four Design Themes' in *DiGRA/FDG '16 - Proceedings of the First International Joint Conference of DiGRA and FDG*, 1(13), Dundee, August 2018. Available at: <http://www.digra.org/digital-library/publications/first-person-walkers-the-walker-experience-u-tnhdroerusgtha-nfdoiunrg-design-themes/> (Accessed: 14 November, 2018).
- Myers, M. (2006) 'Along the way: Situation-responsive approach to education and participation'. *International Journal of the Arts in Society*, 1(2), pp. 1-6.
- Myers, M. (2008) 'Situations for living: Performing emplacement'. *Research in Drama Education*, 13(2), pp. 171-180.
- Myers, M. (2010) 'Walk with me, talk with me': the art of conversive wayfinding', *Visual Studies*, 25(1), pp. 59-68. doi: 10.1080/14725861003606894.

- Nelson, R. (2013) *Practice as Research in the Arts Principles, Protocols, Pedagogies, Resistances*. London: Palgrave Macmillan UK.
- Nitsche, M. (2008) *Video game spaces: image, play, and structure in 3D game worlds*. Cambridge, Mass.; London: MIT Press.
- Nora, P. (1989) 'Between Memory and History: Les Lieux de Mémoire', *Representations*, 26(26), pp. 7-24. doi: 10.2307/2928520.
- Nora, P. (1996) *Realms of Memory: Rethinking the French Past*. New York: Columbia University Press.
- Nyman, E. (2013) 'The Island as Container: Islands, Archipelagos, and Player Movement in Video Games', *Island Studies Journal*, 8(2), pp. 269.
- Nyman, E. and Teten, R.L. (2018) 'Lost and Found and Lost Again: Island Utopias and Dystopias in the BioShock Series', *Games and Culture*, 13(4), pp. 370-384. doi: 10.1177/1555412015616510.
- Orr, M., (2010) 'Intertextuality'. *The Encyclopedia of Literary and Cultural Theory*. Wiley online Library. Available at: <https://doi.org/10.1002/9781444337839.wbelctv2i002> (Accessed: 12 November 2018).
- Paget, D. (1987) "Verbatim Theatre': Oral History and Documentary Techniques', *New Theatre Quarterly; New Theatre Quarterly*, 3(12), pp. 317-336. doi: 10.1017/S0266464X00002463.
- Parker, L., Parker, D., Pass, A., and Bozdog, M. (2017) *Ola de la Vida - a social play game* [design document] Available at: <https://rke.abertay.ac.uk/en/publications/ola-de-la-vida-a-social-play-game> (Accessed: 14 November 2018).
- Pearce, C. (2009) *Communities of play: emergent cultures in multiplayer games and virtual worlds*. Cambridge, Mass.: MIT Press.
- Pearson, M. and Shanks, M. (2001) *Theatre/archaeology—The (re)articulation of fragments of the past as real-time event*, London and New York: Routledge.
- Pearson, M. (2006) *"In Comes I": Performance, Memory, and Landscape*. Exeter: University of Exeter Press.
- Pearson, M. (2010) *Site-specific performance*. Basingstoke: Palgrave MacMillan.
- Pearson, M. (2012) 'Haunted House: Staging *The Persians*' with the British Army' in Anna Birch and Joanne Tompkins (eds.) *Performing Site-Specific Theatre. Politics, Place, Practice*, pp. 69-83. Basingstoke: Palgrave Macmillan.
- Perlmutter, T. (2014) 'The interactive documentary: A transformative art form' in *Policy Options Politique. The public forum for the public good*, 2 November [blog post]. Available at: <http://policyoptions.irpp.org/magazines/policyflix/the-interactive-documentary-a-transformative-art-form/> (Accessed: 14 November 2018).
- Phelan, P. (1993) *Unmarked: The Politics of Performance*. London: Routledge.
- Phelan, P. and Hart. L. (eds.) (1993) *Acting Out: Feminist Performances*. Ann Arbor: University of Michigan Press.

- Phelan, P. (1997) *Mourning Sex: Performing Public Memories*. London: Routledge.
- Phelan, P. (2001) *Art and Feminism*. London: Phaidon Press.
- Phillips, A. (2012) *A Creator's Guide to Transmedia Storytelling*. New York: McGraw Hill.
- Piccini, A. (2002) 'An Historiographic Perspective on Practice as Research'. Unpublished. Available at: https://www.bristol.ac.uk/parip/t_ap.htm (Accessed: 12 November 2018).
- Piccini, A. and Rye, C. (2009) 'Of fevered archives and the quest for total documentation'. In L Allegue, S Jones, B Kershaw & AA Piccini (eds.) *Practice-as-Research in Performance and Screen*. Basingstoke: Palgrave Macmillan, pp. 34 - 49.
- Pinchbeck, D. (2012a) 'Dear Esther: Making an Indie Success Out of an Experimental Mod', *Game Developers Conference*, San Francisco [recorded conference talk]. Available at: <https://www.gdcvault.com/play/1015529/Dear-Esther-Making-an-Indie> (Accessed: 12 November 2018).
- Pinchbeck, D. (2012b) 'Ambiguity and Abstraction in Game Writing: Lessons from *Dear Esther*', *Game Developers Conference Europe*, Cologne, Germany [recorded conference talk]. Available at: <https://www.gdcvault.com/play/1016695/Ambiguity-and-Abstraction-in-Game> (Accessed: 12 November 2018).
- Pinchbeck, D. (2013) 'Some old *Dear Esther* stuff', *The Chinese Room blog*, 6 September. Available at: <http://www.thechineseroom.co.uk/blog/blog/some-old-dear-esther-archive-stuff> (Accessed: 14 November 2018).
- Pinchbeck, D., Curry, J. and Brisoë, R. (2017) 'Director's Commentary', *Dear Esther Landmark Edition - Microsoft Windows* [video game], The Chinese Room.
- Plyler, J. (2013) 'Video Games and the Hero's Journey'. Available at: https://writingandrhetoric.cah.ucf.edu/stylus/files/5_1/Stylus_5_1_Plyler.pdf (Accessed: 14 November 2018).
- Porteous, D. J. (1985) 'Smellscape'. *Progress in Physical Geography: Earth and Environment*, 9(3), pp. 356–378. <https://doi.org/10.1177/030913338500900303>.
- Postigo, H. (2007) 'Of Mods and Modders: Chasing Down the Value of Fan-Based Digital Game Modifications', *Games and Culture*, 2(4), pp. 300–313. doi: 10.1177/1555412007307955.
- Pungetti, G. (2012) 'Islands, culture, landscape and seascape', *Journal of Marine and Island Cultures*, 1(2), pp. 51-54. Available at: <https://doi.org/10.1016/j.imic.2012.11.007> (Accessed: 13 November 2018).
- Quercia, D., Schifanella, R., Aiello, L. and Mclean, K. (2015) 'Smelly Maps: The Digital Life of Urban Smellscapes', in *Ninth International Association for the Advancement of Artificial Intelligence Conference on Web and Social Media*, Oxford, May 2015.

- Reason, M. (2006) *Documentation, Disappearance and the Representation of Live Performance*. Basingstoke: Palgrave Macmillan.
- Reeves, S., Benford, S., O'Malley, C., and Fraser, M. (2005) 'Designing the spectator experience'. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '05)*. New York: ACM, pp. 741-750. DOI=<http://dx.doi.org/10.1145/1054972.1055074>.
- Reeves, S. (2012) *Designing interfaces in public settings: understanding the role of the spectator in human-computer interaction*. London: Springer.
- Riley, S.R. and Hunter, L. (2009) *Mapping Landscapes for Performance as Research Scholarly Acts and Creative Cartographies*. London: Palgrave Macmillan.
- Romero, B. (2011) *Gaming for Understanding* [talk]. TedTalks. Phoenix, November 2011. Available at: https://www.ted.com/talks/brenda_brathwaite_gaming_for_understanding?language=en (Accessed 11 June 2019)
- Romero, B. (2019) *The Emotional Power of Games in Education* – [talk]. V&A Dundee Lunchtime Talks. 30 May 2019.
- Rouse III, R. (2001) *Game Design - Theory and Practice: The Elements of Gameplay*. Gamasutra, 27 June 2001. Available at: https://www.gamasutra.com/view/feature/131472/game_design_theory_and_practice.php
- Ryan, M. (2015) *Narrative as virtual reality 2: revisiting immersion and interactivity in literature and electronic media*. 2nd edn. Baltimore, Md.: Johns Hopkins University Press.
- Salen, K. and Zimmerman, E. (2004) *Rules of Play. Game Design Fundamentals*. Cambridge, Massachusetts: MIT Press.
- Sanders, J. (2016) *Adaptation and appropriation. The New Critical Idiom*. Abingdon: Routledge.
- Schatzki, T. R., Knorr, C. K., and Savigny, E. (eds.) (2000) *The Practice Turn in Contemporary Theory*, London: Routledge.
- Schechner, R. (1973) 'Drama, script, theatre, and performance', *Drama Review*, special issue on 'Theatre and the Social Sciences', 17 (3), pp. 5-36.
- Schechner, R. (1977) *Essays on Performance Theory*, New York: Drama Book Specialists.
- Schechner, R. (1988) *Performance Theory*, rev. edn, London: Routledge.
- Schechner, Richard (1992), 'A new paradigm for theatre in the academy', *Drama Review*, 36 (4), pp. 7-10.
- Schechner, R. (2000) 'Theatre alive in the new millennium', *Drama Review*, 41 (4), pp. 5-6.
- Schechner, R. (2006), *Performance Studies: An Introduction*, rev. edn. London: Routledge.

- Schneider, M. (1982). 'On Gregorian Chant and the Human Voice'. *The World of Music*, 24(3), 3-22. Available at: <http://www.jstor.org/stable/43560848> (Accessed: 14 November 2018).
- Schulzke, M. (2014) 'The Critical Power of Virtual Dystopias'. *Games and Culture*, 9(5), 315–334. <https://doi.org/10.1177/1555412014541694>.
- Seamon, D. (1979) *A Geography of the Lifeworld: Movement, Rest & Encounter*. London: Croom Helm.
- Seamon, D. and Nordin, C. (1980) 'Marketplace as Place Ballet: A Swedish Example', *Landscape*, 24(3), pp. 35.
- Shakespeare, W. (2006) 'Macbeth' in The Alexander Text introduced by Peter Ackroyd, *The Complete Works of William Shakespeare*, pp. 1049-1078. Glasgow: HarperCollins Publishers.
- Shearing, D.R. (2015) *Audience immersion and the experience of scenography*. PhD Thesis. University of Leeds.
- Sheff, D. (1999) *Game Over: Nintendo's Battle to Dominate Videogames*. London: Hodder and Stoughton.
- Simon, B. (2009) 'Wii are Out of Control: Bodies, Game Screens and the Production of Gestural Excess'. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1354043 (Accessed: 14 November 2018).
- Sklar, M. (2013). *Dream it! Do it!: My half-century creating Disney's Magic Kingdoms*. New York: Disney Editions.
- Sloan, R. J. S. (2016a) 'Nostalgia videogames as playable game criticism'. *GAME*, 5. Available at: <https://www.gamejournal.it/sloan-nostalgia-videogames/> (Accessed: 14 November 2018).
- Sloan, R. J. S. (2016b) 'An impression of home: player nostalgia and the impulse to explore game worlds'. in S Björk, C O'Donnell & R Bidarra (eds), *Proceedings of 1st International Joint Conference of DiGRA and FDG*. DIGRA, 1st joint international Conference of DIGRA and FDG, Dundee, United Kingdom, August 2016.
- Sloan, R. J. S. (2014) 'Videogames as remediated memories: commodified nostalgia and hyperreality in Far Cry 3: Blood Dragon and Gone Home'. *Games and Culture*, 10(6), pp. 525-550. <https://doi.org/10.1177/1555412014565641>.
- Smalley, D. (2007) 'Space-form and the acousmatic image', *Organised Sound; Org.Sound*, 12(1), pp. 35-58. doi: 10.1017/S1355771807001665.
- Smith, H. and Worch, M. (2010) 'What Happened Here? Environmental Storytelling'. *Game Developers Conference*, San Francisco [talk slides]. Available at: <https://www.gdcvault.com/play/1012647/What-Happened-Here-Environmental> (Accessed: 14 November 2018).
- Smith, P. (2008) 'Crab Walking and Mythogeography' in Mock, R. (ed.) *Walking, Writing and Performance: Autobiographical Texts by Deirdre Heddon, Carl Lavery and Phil Smith*. Bristol; Chicago: Intellect Books, pp. 81-114.

- Smith, P. (2015) 'Sites of Dereliction: Beginnings and allies of performance', *Performance Research*, 20(3), pp. 67-74. doi: 10.1080/13528165.2015.1049038.
- Smith, H. and Dean, R. T. (eds) (2009) *Practice-led Research, Research-led Practice in the Creative Arts*, Edinburgh: Edinburgh University Press.
- Soans, R. (2008) 'Robin Soans' in Hammond, W. and Steward, D. (eds.) *Verbatim Verbatim*. London: Oberon Books, pp. 15-44.
- Solnit, R. (2002) *Wanderlust: a history of walking*. London: Verso.
- Solnit, R. (2006) *A Field Guide to Getting Lost*. Edinburgh: Canongate Books.
- Stephanides, S. and Bassnett, S. (2008) 'Islands, Literature, and Cultural Translatability', *Transtext(e)s Transcultures 跨文本跨文化*, Hors series, pp. 5.
- Stewart, R. (2010) 'Creating New Stories for Praxis: Navigations, Narrations, Neonarratives', in Barrett, E and Bolt, B. (eds.) *Practice as Research: Approaches to Creative Arts Enquiry*, London: I.B. Tauris, pp. 123-134.
- Stout, M. (2012) 'Learning from the Masters: Level Design in the *Legend of Zelda*' in *Gamasutra*, 3 January. Available at: http://www.gamasutra.com/view/feature/134949/learning_from_the_masters_level.php (Accessed: 14 November 2018).
- Stuart, K. (2016) 'How walking sims became as important as the first-person shooter', *The Guardian*, 20 September. Available at: <https://www.theguardian.com/technology/2016/sep/20/how-walking-sim-first-person-shooter-dear-esther> (Accessed: 14 November 2018).
- Sullivan, G. (2010) *Art practice as research: inquiry in visual arts*. 2nd edn. London: SAGE.
- Swink, S. (2009) *Game Feel. A Game Designer's Guide to Virtual Sensation*. Burlington: Morgan Kaufmann.
- The Laramie Project* by Moisés Kaufman and the Tectonic Theatre Project (2000) [The Ricketson Theatre].
- Tompkins, J. (2014) *Theatre's Heterotopias. Performance and the Cultural Politics of Space*. Basingstoke: Palgrave Macmillan.
- Tompkins, J. (2012) 'The 'Place' and Practice of Site-Specific Theatre and Performance' in Anna Birch and Joanne Tompkins (eds.) *Performing Site-Specific Theatre. Politics, Place, Practice*, pp. 1-20. Basingstoke: Palgrave Macmillan.
- Trimingham, M. (2002) 'A Methodology for Practice as Research', *Studies in Theatre and Performance*, 22(1), pp. 54-60. doi: 10.1386/stap.22.1.54.
- Turner, C. (2004) 'Palimpsest or Potential Space? Finding a Vocabulary for Site-Specific Performance', *New Theatre Quarterly; New Theatre Quarterly*, 20(4), pp. 373-390. doi: 10.1017/S0266464X04000259.
- Turner, C. and Behrnt, S. K. (2008) *Dramaturgy and Performance*. Basingstoke: Palgrave Macmillan.
- Upton, B. (2015) *The aesthetic of play*. London; Cambridge, Mass.: MIT Press.

- Urry, J. (1990) *The tourist gaze: leisure and travel in contemporary societies*. London: Sage.
- Urry, J. (1992) 'The Tourist Gaze "Revisited."' *American Behavioral Scientist*, 36(2), pp. 172–186. <https://doi.org/10.1177/0002764292036002005>.
- Voegelin, S. (2010) *Listening to noise and silence: towards a philosophy of sound art*. London; New York: Continuum.
- Voegelin, S. (2014) *Sonic Possible Worlds. Hearing the Continuum of Sound*. New York; London: Bloomsbury Academic.
- Vosmeer M., Schouten B. (2014) 'Interactive Cinema: Engagement and Interaction'. In: Mitchell A., Fernández-Vara C., Thue D. (eds) *International Conference on Interactive Digital Storytelling*, pp. 140-147. Springer, Cham.
- Wardrip-Fruin, N. and Harrigan, P. (Eds.) (2004) *First person: new media as story, performance, and game*. London: MIT Press.
- Webber, J. E. and Griliopoulos, D. (2017) *Ten Things Vide Games Can Teach Us (About Life, Philosophy and Everything)*. Edinburgh: Robinson.
- Wellington, S. (1990) *Women o Dundee* [song]. Dunkeld Records.
- White, G. (2013) *Audience Participation in Theatre Aesthetics of the Invitation*. 1st edn. London: Palgrave Macmillan UK.
- White, G. (2012) 'On Immersive Theatre', *Theatre Research International; Theatre Research International*, 37(3), pp. 221-235. doi: 10.1017/S0307883312000880.
- Wilkie, F. (2002) 'Mapping the terrain: a survey of site-specific performance in Britain', *New Theatre Quarterly*, 18(2), pp. 140-160.
- Wilson, D.E. (2012) *Designing for the Pleasures of Disputation-or-How to make friends by trying to kick them!* PhD Thesis. IT University of Copenhagen, Innovative Communication.
- Wilson, H. (2003) *The Guide: Pipe down: Some men enjoy nothing more at the weekend than roaming drains in search of adventure. Hugh Wilson dips into the strange, silent world of urban explorers*. Guardian Features Pages, 5 July 2003 (8).
- Wozniak, J. (2015) The value of being together? Audiences in Punchdrunk's *The Drowned Man*. In *Participations*, 12(1), pp. 318-332
- Wrights & Sites (2006) 'A Manifesto for a New Walking Culture: 'Dealing with the city'', *Performance Research*, 11(2), pp. 115-122. doi: 10.1080/13528160600812083.
- Wunderlich, F.M. (2013) 'Place-Temporality and Urban Place-Rhythms in Urban Analysis and Design: An Aesthetic Akin to Music', *Journal of Urban Design*, 18(3), pp. 383-408. doi: 10.1080/13574809.2013.772882.

Zaiontz, K. (2012) 'Ambulatory Audiences and Animate Sites: Staging the Spectator in Site-Specific Performance' in Anna Birch and Joanne Tompkins (eds.) *Performing Site-Specific Theatre. Politics, Place, Practice*, pp. 167-181. Basingstoke: Palgrave Macmillan.

Zimmerman, M. (2005) 'The Archaeology of Performance' in Bial, H. and Brady, S. (eds.) *The Performance Studies Reader*. 3rd Edition. New York; Abingdon: Routledge, pp. 313-321.

Ludography

Barlow, Sam (2015) *Her Story* – Microsoft Windows [video game], Sam Barlow. Available at: https://store.steampowered.com/app/368370/Her_Story/ (Accessed: 09 November 2018).

Bithell, Mike (2012) *Thomas was Alone* – Microsoft Windows [video game], Mike Bithell. Available at: https://store.steampowered.com/app/220780/Thomas_Was_Alone/ (Accessed: 09 November 2018).

Blow, Jonathan and Thekla, Inc. (2016) *The Witness* – Microsoft Windows [video game], Thekla Inc. Available at: https://store.steampowered.com/app/210970/The_Witness/ (Accessed: 09 November 2018).

Campo Santo (2016) *Firewatch* – Microsoft Windows [video game], Campo Santo. Available at: <https://store.steampowered.com/app/383870/Firewatch/> (Accessed: 09 November 2018).

Cardboard Computer (2013) *Kentucky Route Zero* – Microsoft Windows [video game], Cardboard Computer. Available at: https://store.steampowered.com/app/231200/Kentucky_Route_Zero/ (Accessed: 09 November 2018).

Cyan, Inc. (1993) *Myst* – Microsoft Windows [video game], Brøderbund. Available at: https://store.steampowered.com/app/63660/Myst_Masterpiece_Edition/ (Accessed: 09 November 2018).

DMA Design (1991) *Lemmings* – Microsoft Windows [video game], Psygnosis.

DMA Design (1997) *Grand Theft Auto* – Microsoft Windows [video game], BMG Interactive.

Dontnod Entertainment (2015) *Life is Strange* – Microsoft Windows [video game], Square Enix. Available at: https://store.steampowered.com/app/319630/Life_is_Strange_Episode_1/ (Accessed: 09 November 2018).

Fullbright (2013) *Gone Home* – Microsoft Windows [video game], Fullbright. Available at: https://store.steampowered.com/app/232430/Gone_Home/ (Accessed: 09 November 2018).

Galactic Café (2013) *The Stanley Parable* – Microsoft Windows [video game], Davey Wreden, Galactic Café. Available at: https://store.steampowered.com/app/221910/The_Stanley_Parable/ (Accessed: 09 November 2018).

Game Oven (2014) *Bounden* – iOS [mobile dancing video game], Aadrian de Jongh. Available at: <https://itunes.apple.com/gb/app/bounden/id850456491?mt=8> (Accessed: 09 November 2018).

Giant Sparrow, SCE Santa Monica Studio (2012) *The Unfinished Swan* – PlayStation Network [video game], Sony Computer Entertainment. Available at:

https://store.playstation.com/en-us/product/UP9000-CUSA00695_00-UNFINISHEDSWANP4 (Accessed: 09 November 2018).

Giant Sparrow (2017) *What Remains of Edith Finch* – PlayStation 4 [video game], Annapurna Interactive. Available at: https://store.playstation.com/en-gb/product/EP2333-CUSA07974_00-WHATREMAINSFINCH (Accessed: 09 November 2018).

Giant Squid Studio (2016) *ABZÛ* – PlayStation 4 [video game], 505 Games. Available at: https://store.playstation.com/en-gb/product/EP4040-CUSA03364_00-ABZUGAME00000000 (Accessed: 09 November 2018).

Jackbox Games (2014) *Jackbox Party Packs* – Microsoft Windows [party video game], Jackbox Games. Available at: https://store.steampowered.com/app/331670/The_Jackbox_Party_Pack/ (Accessed: 09 November 2018).

Kanaga, David and Key, Ed (2013) *Proteus* – Microsoft Windows [video game], Curve Digital, Twisted Tree. Available at: <https://store.steampowered.com/app/219680/Proteus/> (Accessed: 09 November 2018).

Kirsty Keatch (2017) *Move Bitch* – VR Game Installation [video game]. Played at Arcadia, Dundee, September 2017.

Konami, Team Silent (2001) *Silent Hill 2* – PlayStation Network [video game], Konami. Available at: https://store.playstation.com/en-us/product/UP0101-BLUS30810_00-SILENTHILLCOLLEC (Accessed: 09 November 2018).

Krillbite (2014) *Among the Sleep* – Microsoft Windows [video game], Krillbite. Available at: https://store.steampowered.com/app/250620/Among_the_Sleep_Enhanced_Edition/ (Accessed: 09 November 2018).

LKA (2016) *The Town of Light* – Microsoft Windows [video game], LKA, Wired Productions. Available at: https://store.steampowered.com/app/433100/The_Town_of_Light/ (Accessed: 12 November 2018).

Matthew Smith (1983) *Manic Miner* – ZX Spectrum [video game], Bug-Byte.

Niantic (2013) *Ingress* – iOS [mobile AR game], Niantic. Available at: <https://itunes.apple.com/gb/app/ingress/id576505181?mt=8> (Accessed: 09 November 2018).

Niantic (2016) *Pokemon Go* – iOS [mobile AR game], Niantic. Available at: <https://itunes.apple.com/gb/app/pok%C3%A9mon-go/id1094591345?mt=8> (Accessed: 09 November 2018).

Nigel Alderton (1983) *Chuckie Egg* – ZX Spectrum [video game], Nigel Alderton and A'n'F Software.

Night School Studio (2016) *Oxenfree* – Microsoft Windows [video game], Night School Studio. Available at: <https://store.steampowered.com/app/388880/Oxenfree/> (Accessed: 09 November 2018).

Nintendo (1981) *Donkey Kong* – Arcade [video game].

Number None (2008) *Braid* – Microsoft Windows [video game], Number None. Available at: <https://store.steampowered.com/app/26800/Braid/> (Accessed: 09 November 2018).

Numinous Games (2016) *That Dragon, Cancer* – Microsoft Windows [video game], Numinous Games. Available at: https://store.steampowered.com/app/419460/That_Dragon_Cancer/ (Accessed: 09 November 2018).

Playdead (2010) *Limbo* – Microsoft Windows [video game], Playdead. Available at: <https://store.steampowered.com/app/48000/LIMBO/> (Accessed: 09 November 2018).

Playdead (2016) *Inside* – PlayStation 4 [video game], Playdead. Available at: https://store.playstation.com/en-gb/product/EP2054-CUSA02754_00-INSIDE0000000000 (Accessed: 09 November 2018).

Pope, Lucas and 3909 (2013) *Papers, Please* – Microsoft Windows [video game], 3909. Available at: https://store.steampowered.com/app/239030/Papers_Please/ (Accessed: 09 November 2018).

Quantic Dream (2010) *Heavy Rain* – PlayStation 4 [video game], Sony Computer Entertainment. Available at: <https://www.playstation.com/en-gb/games/heavy-rain-ps4/> (Accessed: 09 November 2018).

Recursive Arts (2012) *Sonic Maps* – Microsoft Windows [audio geo-tagging application]. No longer available. Publisher site: <http://sonicmaps.org/>.

Rockstar Studios (2018) *Red Dead Redemption 2* – PlayStation 4 [video game], Rockstar Games. Available at: <https://www.playstation.com/en-za/games/red-dead-redemption-2-ps4/> (Accessed: 14 November 2018).

Romero, B. (2008) *The Mechanic is the Message* [board game series]. More at: <http://brenda.games/work-1> (Accessed: 7 March 2019).

Simogo (2013) *Year Walk* – Microsoft Windows [video game], Simogo. Available at: https://store.steampowered.com/app/269050/Year_Walk/ (Accessed: 09 November 2018).

Starbreeze Studios (2013) *Brothers: A Tale of Two Sons* – Xbox 360 [video game], 505 Games. Available at: <https://www.microsoft.com/en-us/p/brothers-a-tale-of-two-sons/c4q29cmj31nx?activetab=pivot:overviewtab> (Accessed: 09 November 2018).

Taito (1986) *Bubble Bobble* – Arcade [video game], Taito.

Tale of Tales (2008) *The Graveyard* – Microsoft Windows [video game], Apple, Tale of Tales, Valve Corporation. Available at: https://store.steampowered.com/app/27020/The_Graveyard/ (Accessed: 09 November 2018).

Tale of Tales (2009) *The Path* – Microsoft Windows [video game], Tale of Tales, 1C Company, Findev, Zoo Corporation. Available at:

https://store.steampowered.com/app/27000/The_Path/ (Accessed: 09 November 2018).

Tale of Tales (2012) *Bientôt l'été* – Microsoft Windows [video game], Tale of Tales. Available at: https://store.steampowered.com/app/229600/Bientt_It/ (Accessed: 09 November 2018).

Tale of Tales (2015) *Sunset* – Microsoft Windows [video game], Tale of Tales. Available at: <https://store.steampowered.com/app/287600/Sunset/> (Accessed: 09 November 2018).

Tequila Works (2017) *Rime* – Microsoft Windows [video game], Grey Box, Six Foot. Available at: <https://store.steampowered.com/app/493200/RiME/> (Accessed: 14 November 2018).

Thatgamecompany (2012) *Journey* – PlayStation 4 [video game], Sony Computer Entertainment. Available at: <https://www.playstation.com/en-gb/games/journey-ps4/> (Accessed: 09 November 2018).

The Astronauts (2014) *The Vanishing of Ethan Carter* – Microsoft Windows [video game], The Astronauts. Available at: https://store.steampowered.com/app/258520/The_Vanishing_of_Ethan_Carter/ (Accessed: 09 November 2018).

The Chinese Room (2012) *Dear Esther* – Microsoft Windows [video game], The Chinese Room. Available at: https://store.steampowered.com/app/203810/Dear_Esther/ (Accessed: 09 November 2018).

The Chinese Room (2013) *Amnesia: A Machine for Pigs* – Microsoft Windows [video game], The Chinese Room. Available at: https://store.steampowered.com/app/239200/Amnesia_A_Machine_for_Pigs/ (Accessed: 09 November 2018).

The Chinese Room (2016) *Everybody's Gone to the Rapture* – PlayStation 4 [video game], The Chinese Room, SIE Santa Monica Studio. Available at: <https://www.playstation.com/en-gb/games/everybodys-gone-to-the-rapture-ps4/> (Accessed: 09 November 2018).

The Chinese Room (2017) *Dear Esther Landmark Edition* – Microsoft Windows [video game], The Chinese Room. Available at: https://store.steampowered.com/app/520720/Dear_Esther_Landmark_Edition/ (Accessed: 09 November 2018).

Valve Corporation (2004) *Source Engine* – Microsoft Windows [video game engine]. Available at: https://developer.valvesoftware.com/wiki/SDK_Installation (Accessed: 09 November 2018).

Valve Corporation (2004) *Half-Life 2* – Microsoft Windows [video game], Valve Corporation. Available at: https://store.steampowered.com/app/220/HalfLife_2/ (Accessed: 09 November 2018).

Valve Corporation (2011) *Portal 2* – Microsoft Windows [video game], Valve Corporation. Available at: https://store.steampowered.com/app/620/Portal_2/ (Accessed: 09 November 2018).

Wreden, Davey (2015) *The Beginner's Guide* – Microsoft Windows [video game], Davey Wreden, Everything Unlimited Ltd. Available at: https://store.steampowered.com/app/303210/The_Beginners_Guide/ (Accessed: 09 November 2018).

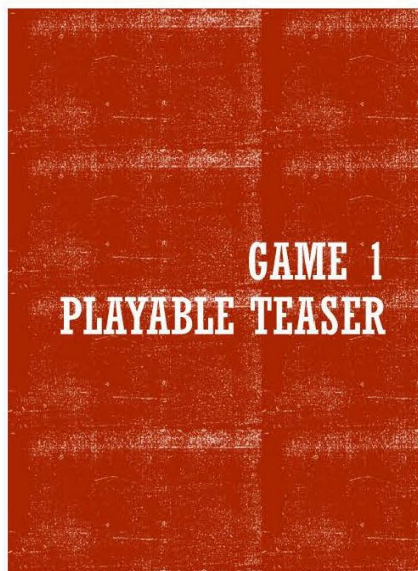
2K Boston and 2K Australia (2007) *BioShock* – Microsoft Windows [video game], 2K Games. Available at: <https://store.steampowered.com/app/7670/BioShock/> (Accessed: 14 November 2018).

APPENDIX

Game Development Briefs



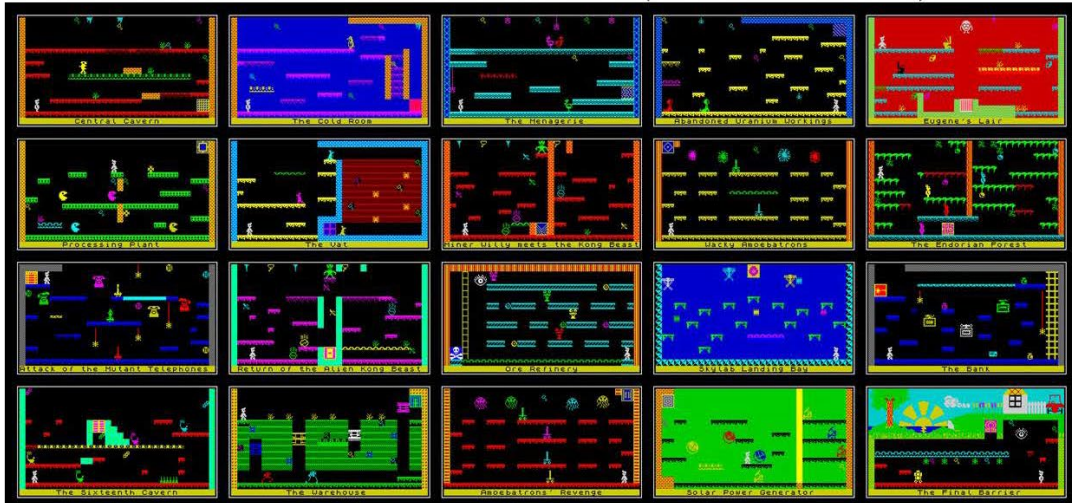
Revised Brief



- 5 single frame levels for PC
- 2D
- Very accessible, and easily completed
- Each level's objective: collect the letter (spell TIMEX)
- Each letter collected opens a pop-up text screen giving background information (Mona will provide the text)
- 'X' leads to X on the map, and link to the Eventbrite page
- PC woman, pink uniform
- Baddies suggestion: oversized Maggie Thatcher head, watches, or any other absurd imagery that you can think of (see some examples below in Manic Miner)



REFERENCES FOR LEVEL LAYOUT (MANIC MINER)

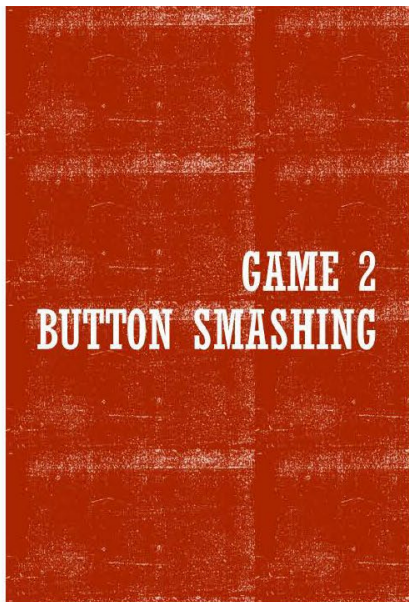


Smith, Matthew (1983) *Manic Miner* – ZX Spectrum [video game], Matthew Smith, Jester Interactive.

REFERENCES FOR LEVEL LAYOUT (CHUCKIE EGG)



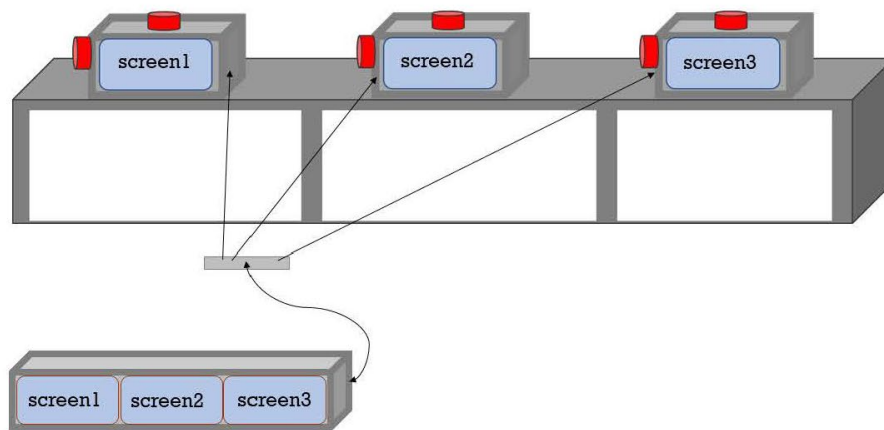
Alderton, Nigel (1983) *Chuckie Egg* – ZX Spectrum [video game], Nigel Alderton, A'n'F Software



- 3-player game for PC. Played in an installation: custom built 3-player arcade/assembly line
- 2D
- Fun rhythm game
- Level's objective: work together to ship as many complete ZX Spectrums as possible in the allocated time (3min?)
- 2 button presses: top button lock the piece, left button pass to the player on your right (the third player's left button is the ship/counter button)
- UI: look at the Bubble Bobble references below
- Arcade, funfair style. Cartoony. Colourful. Squidgy. Bubbly. Challenge: to make the ZX Spectrum look bubbly...
- Do we want to think about arcade style collectibles and bonuses? Bubble Bobble had fruit and letters. Maybe funky watches, cameras, cutlery. A bit of research into all the things that got produced at TIMEX?



GAME 2, INSTALLATION



AESTHETIC REFERENCES (BUBBLE BOBBLE)



Taito (1986) *Bubble Bobble* [arcade game], Taito.

AESTHETIC REFERENCES: RAINBOW ISLANDS



Taito (1987) *Rainbow Islands: The Story of Bubble Bobble 2* [arcade game], Taito, Bandai.

