

Twinstallation: An interactive video installation

By Laura Wright

**A thesis exhibition presented to OCAD University in partial
fulfillment of the requirements for the degree of**

Master of Fine Arts

in

The Digital Futures Initiative

49 McCaul Street Gallery, April 17-21, 2015

Toronto, Ontario, Canada, May, 2015

© Laura Wright 2015

Author's declaration

I hereby declare that I am the sole author of this thesis.

This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I authorize OCAD University to lend this thesis to other institutions or individuals for the purpose of scholarly research.

I understand that my thesis may be made electronically available to the public.

I further authorize OCAD University to reproduce this thesis by photocopying or by other means, in total or in part, at the request of other institutions or individuals for the purpose of scholarly research.

Abstract

Twinstallation: an interactive video installation

Master of Fine Arts 2015, Laura Wright, Digital Futures Initiative, OCAD

University

Twinstallation is a series of loosely knit discussions about how being a twin has affected my life and my twin sister Meredith's life. The user's physical movements dictate the flow of the videos through an algorithmic structure, thus creating an opportunity for an embodied experience of the story. I draw on Freud's concept of the "uncanny" to engage with the affective dimensions of twinning. I include Lev Manovich's framework for viewing interactive media to understand the psychological connections users make when viewing new media work. I suggest that, by combining interactivity in non-linear storytelling and the act of participating in an installation, the user's experience may be enhanced and they may experience a greater sense of agency.

Keywords

Algorithmic structure, embodiment, false memory, identity, interactive storytelling, installation, Kinect, non-linear narrative, twins, uncanny.

Acknowledgements

I would like to thank my primary advisor Judith Doyle and my secondary advisor Suzanne Stein for their support and guidance throughout the creation of both this thesis document and the artwork it supports, *Twinstallation*. I would also like to thank Chao Feng, who was instrumental in helping me to program the underlying structure for the installation. And thank you to Adam Tindale for extra technical support.

Thank you to Katie Kotler, Lesley Johnson and Charlotte Thuot for the help with filming.

Thank you to my family and friends for your support throughout my time at OCAD. Thank you to Meredith for your continued support, and for being a creative partner on this project. This project would not have been the same without your input and collaboration. Lastly, thank you to my Digital Futures Initiative colleagues for their support and inspiration.

Table of Contents

Title page: <i>Twinstallation: An interactive video installation</i>	i
By Laura Wright.....	i
Author's declaration	ii
Abstract	iii
Keywords	iii
Acknowledgements	iv
Table of Figures & Images	vii
1. Introduction	2
What is <i>Twinstallation</i> ?	3
2. Literature Review	10
Media installation art.....	10
Non-linear & Interactive Storytelling.....	13
Humour in Artworks	21
Twins	22
The uncanny	25
Twins and Memory	30
Twins and Identity.....	33
3. Methodology: Studio-based art practice	36
Research Question: How might the use of interactivity in storytelling enhance or activate user participation and agency?	36
Videography	37
Experimentation with Programming	37
Algorithmic Structure	38
Embodiment and Interactivity.....	45
User Testing	47
4. The Prototypes	48
Prototype 1: September 2014	48
i. Description.....	48
ii. Reflection.....	50
Prototype 2: December 2014	51
i. Description.....	51
ii. Reflection.....	53
Prototype 3: February 2015	54
i. Description.....	54
ii. User Testing	57
iii. Reflection.....	62
6. Conclusion	64
7. References	68

8. Appendix.....	74
A) Code.....	74
B) Industry Report: Expert Interviews.....	89
C) Interview Questions for Twins.....	94

Table of Figures & Illustrations

Figure 1: Title image for <i>Twinstallation</i> with my twin sister Meredith (above the text) and myself, (below the text).	1
Figure 2: A still image of what the user sees projected in front of them in Prototype 3. In the final version, my videos will be in an outdoor setting representative of a typical downtown Toronto backyard.....	5
Figure 3: A still image of the video projection in prototype 2 of <i>Twinstallation</i> . The use of a split screen infuses a sense of doubling and twinning into the digital projection. A sense of the uncanny is achieved with the twins wearing the same outfit.....	24
Figure 4: This chart shows the interplay between the user events, the different video types and the time. The videos are colour-coordinated for distinction.	42
Figure 5: A still of the projected video of myself (right) and my twin sister (left) from my first prototype.	48
Figure 6: A still from the video I shot for Prototype 1. I experimented with a range of shots, from full-body to traditional documentary style head and shoulders.	49
Figure 7: The second prototype, filmed in a black-box setting. I experimented with the use of a blue dot that followed the user's center of mass. This enabled me to have a more clear idea of how the interaction was working.	52

Twinstallation:
An interactive video installation



Figure 1: Title image for *Twinstallation* with my twin sister Meredith (above the text) and myself, (below the text).

1. Introduction

Twinstallation is an exploration into new methods of interactivity in non-linear storytelling. The combination of embodiment, agency, interactivity and an algorithmic structure creates an opportunity for the audience to learn about how my life and my sister's life have been affected by our experience of being a twin. The interactivity in this installation was designed to enhance the user's physical and psychological connection to this work. This section will introduce key concepts and explain how they relate to the creation and concept of *Twinstallation*.

My main question is how might the use of interactivity in non-linear storytelling enhance or activate user participation and agency? I explore this question by explaining the artwork I created, *Twinstallation*. Following this description, I examine core concepts in media installation art, interactivity, and humour in artworks. I also examine psychological studies about twins and their particular relationship to identity and memory.

In the next chapter I explore the studio-based methods with which I created this installation, which includes research into interactive storytelling, the narrative mosaic as defined by K. Margaret McVeigh, embodiment, algorithmic structures and the uncanny as it relates to doubling and twins.

Following this discussion on methodology, I discuss the three prototypes I made, resulting in the final iteration of *Twinstallation*.

What is *Twinstallation*?

Twinstallation consists of full-body videos of my twin sister Meredith (Twin B) and myself (Twin A) that are projected side by side onto a wall. When twins are born, nurses label them this way for easy identification in their official birth documents. Usually, the firstborn twin is called Twin A. Somewhat mysteriously, this is not the case for my sister and I; I was born first, yet I am Twin B. This is likely due to an error by a nurse or by my parents. This is important to note because my sister and I have defined our roles as twins with myself being the older, more responsible twin, while she has always been considered by our family to be the younger and more carefree twin. This distinction comes naturally due to our personalities, and we would regularly draw on the assumed fact that I was older when discussing these above-mentioned traits. However, these distinctions have been thrown into question since finding out that Meredith might be the older twin. While this does not have a large impact on our lives, it has been interesting for our family to contemplate whether our lives would have been different had we assumed Meredith was the older twin. I play with this fact in this paper by referring to myself as Twin A. While there is no way to discover the truth of the

matter, I am reclaiming this title for myself in an attempt to right what I consider to be the incorrect birth certificate.

In the installation videos, we are wearing similar simple outfits. We are sororal twins (the term sometimes used for non-identical female twins) and while we do have similar features, we do not look exactly alike and are easy to tell apart. I chose to heighten our similarities as much as possible with our clothing so as to avoid confusion about our relationship to one another. We appear to stand side by side, although we were filmed separately. This separation is reflected clearly in the backgrounds; I am in Toronto and my sister is in Los Angeles. This geographical distance is one part of our relationship that is exploited in the piece; we reflect on what it is like when we live in the same city and when we do not, and how living in very different parts of the world has an impact on our relationship. The videography decisions are discussed further in the prototype section of this paper.

In the videos, we discuss themes around twinship, identity and memory. The overall tone of the work is light-hearted and humorous; we poke fun at each other throughout the videos. However, there is an analytical tone added to the installation because my sister and I reflect on how our experience as twins has affected different parts of our lives.

My installation supports one user at a time. When the user stands in front of the projected videos, a Microsoft Kinect sensor determines their location. Different video clips with different stories play based on the user's movements.



Figure 2: A still image of what the user sees projected in front of them in Prototype 3. In the final version, my videos will be in an outdoor setting representative of a typical downtown Toronto backyard.

The order of the videos the user sees is directly related to their physical movements. For example, when the user stands in front of Twin A for an extended period of time, they will hear that twin's thoughts on a particular topic. When one twin speaks, the other twin is still projected on screen, but she is silent and idle, sometimes texting someone on her phone or fiddling with her hair; in

essence, she waits for someone to interact with her. However, if the user does not move in some way in order to hear what Twin B has to say, an ‘interrupting’ video of Twin B will play where she says something like “don’t listen to her,” or “she’s boring”. This reactive response from Twin B is meant to prompt the user to move in order to hear Twin B’s story.

The movement left-to-right in front of the video projections of Twin A and Twin B is related to the content because the user is forced to choose between the twins. The user will be able to trigger other videos of the twins with a variety of actions, including if they raise their arms, if they stand in between the twins for an extended period of time, and when the user waves at the twins. The reasons for using these particular interactions will be further discussed in the prototypes section of this paper.

This element of competition between the twins is important for the installation because it forces the user to choose which twin they want to hear from. This pits the twins against each other in a competition for the user’s attention. This is not unlike my relationship with my twin sister because there is always an underlying feeling of competition with each other in everything we do, even as adults. I am trying to explain this element of competition by bringing the user into this installation setting and encouraging them to listen to what the twins have to say about twinship.

The videos comprise the main story elements of this installation. In these videos, my sister Meredith and I talk about topics related to the impact that being a twin has had on our lives. These topics range from the ability to form our own personalities, to other peoples' response to finding out we are twins, to our first encounter with a major long-term separation, and to how we continue to have a relationship while living on opposite sides of the continent. The purpose of exploring these topics as they relate to my personal life, and my twin sister's personal life, is twofold: firstly, it is an attempt to explain the most common question I've been posed throughout my life: what is it like to be a twin? The second purpose of this work is to explore how memory and identity are not solid concepts; false memory is a very common phenomenon with twins, which is discussed further in the literature review. I'm encouraging the audience to reflect on their own experience with both memory and identity-formation by shining a light on the process my sister and I went through. The process of identity-formation can perhaps be more complicated with twins than with non-twins because of many factors, such as how twins often look alike and have had many of the same milestone life experiences at the same time. These concepts are further discussed in this paper's literature review.

Another key topic I explore in the literature review is interactivity. This is important to define because, as Margot Lovejoy writes, the term has come to

mean anything from point-and-click navigation on a computer screen, to an open dialogic system that creates opportunities for collaboration between the author and the audience¹. Lovejoy says the term has “become so loaded with meaning that it is by now virtually meaningless,”². This thought is echoed by new media theorist Lev Manovich. He says he avoids using the term ‘interactive’ because he says the concept is “too broad to be useful”³. Electronic musician Brian Eno has gone so far as to say ‘interactive’ works should be called ‘unfinished’ because the work is not complete until the viewer, user or reader takes some kind of participatory action in the work⁴. For my purposes, the term ‘interactive’ means that the physical actions of the user directly influence the artwork itself: my installation is not complete until the user engages with it.

My literature review also examines key concepts from media installation art, drawing on Kate Mondloch’s comprehensive research in the field. In particular, her examination of time-based media and the physical settings in which the installations are located were useful for informing my own installation.

There have been many psychological and scientific studies done about twins. I examine several long-term, comprehensive studies about twins and memory, identity and personality. I used these studies while forming the underlying concept of *Twinstallation*, which is the ways in which twins form their own identities and personalities in light of living very similar lives.

The literature review also includes a section on humour in artworks. I included this research because it has informed my installation, which is meant to be fun and playful.

Following the literature review, I explain my methodology for creating *Twinstallation*. This studio-based methods I used included videography, viewing other interactive projects, and experimentation with programming. I also conducted research into the fields of film, interactive narrative, mosaic storytelling, algorithmic structures used in new media works, and Sigmund Freud's concept of the uncanny as it relates to doubling.

After a discussion of my methodology and its impact on my installation, I describe my three prototypes and how I made them. This section describes each prototype and I explain how these different versions informed the final iteration. Feedback from user testing is included in this section.

This paper's conclusion includes the lessons I learned throughout the process of making *Twinstallation*. It includes unanswered questions that remain and states the next steps I will take in this project.

2. Literature Review

Twinstallation touches on several different fields of work, such as media installation art, interactivity, and humour. It also examines how twins form their personalities in light of well-documented instances of difficulties with memory. This literature review encompasses all of these topics.

Media installation art

As part of my studio-based art practice, I studied media installation art, which by nature is interactive. As Kate Mondloch writes, “the interface ‘matters’ for media installation art... Installation artworks are participatory sculptural environments in which the viewer’s spatial and temporal experience with the exhibition space and the various objects within it forms part of the work itself,”⁵. The work is not complete if it is contained in a vacuum where no one will engage with it.

In my installation, I work with the elements of time and space. Time is an important element in my work for several reasons. Firstly, the videos that play are dependent on the user’s movements, but also on the amount of time the user spends in front of the installation. Secondly, the user who spends longer in front of the installation will be rewarded with special footage they otherwise would not see if they did not stay for a long enough time, also known as ‘Easter eggs’.

New media installation artists frequently work with the element of time. For many artists, it is important that the user, or viewer or audience, can enter and leave the installation setting whenever they choose – they can remain for as long or as short as they wish. Quoting artist Paul Sharits, Mondloch writes, “Film, according to Sharits, can overcome the passive spectatorship conditions of cinema and ‘manifest democratic ideals’ if, and only if, ‘the form of presentation does not prescribe a definite duration of respondents’ observation”⁶. These works are democratic in the sense that the viewer can choose how much time they want to spend with the work. The viewer is also able to enter and leave the installation setting at any point instead of having to enter at the beginning and stay until the end like in a traditional theatre setting. In these time-based works, it is important to the artist that the viewer has a choice in how long they engage with the work. In my work, it is also a choice; the user may enter and leave whenever they choose. But the work becomes less democratic, in the way Sharits described, because *Twinstallation* rewards long engagement over short engagement.

Space is the second key ingredient for *Twinstallation* because the installation is dependent on where and how the user stands in a physical space. Many installation artists have used the layout of the location of their installation to encourage the viewer to behave in a certain way. In Bruce Nauman’s ‘*Corridor*’, for example, he encouraged viewers to walk through a very narrow hallway or

corridor to the end where two televisions were stacked on top of each other on the floor. The placement of the televisions at the end of the corridor was a way to entice the viewer to walk towards it; most people can't resist the glow of a television. When the viewer approached the end, they could discover that they were being video recorded and broadcast on the televisions⁷.

In *Twinstallation*, I used subtle signals to encourage the user to stand directly in front of the installation. I ensured there was nothing obstructing the area in front of the projected videos that would dissuade the user from standing and moving around in front of it. I outlined a square box on the floor for the user to stand in, and I put left and right arrows at the top to indicate a left to right movement is needed to trigger the installation. I also made use of the fact that myself and my sister, the twins, were projected life-sized. When the user first enters the space of the installation, the twins are idle – moving slightly but not doing much. This is a subtle encouragement to the user to do something – to move about – in order to get some kind of reaction from the twins, and therefore start the interactive part of the installation. I am forcing users to take sides in a very literal way by making them stand in front of one twin and then move to the side to hear the other twin. The user has to choose which twin they want to hear speak and which will be silenced. This system conditions the user to have agency over which twin they will listen to and which twin they will ignore. This highlights the element of competition I have with my twin sister; we are always competing for the user's

attention. This competition also highlights the uncomfortable fact that my twin sister and I are always compared to each other. In the videos, we discuss how people attempt to compare and contrast us with each other all the time. This is uncomfortable because we would both like to be seen as independent people, not as a unit. However, it is common for people to compare us solely because we are twins. I make the user aware of this discomfort we both have in the content of the videos, but I amplify the element of comparison we experience by projecting the videos of us side by side.

This left-right movement also serves to include the users in a kind of social experience; they get the sense that they are in a conversation with the twins. This social experience is heightened by the fact that the installation is not only interactive but responsive because the ignored twin will interrupt to get the user's attention. This is representative of my relationship with my twin sister because in a conversational setting, we are constantly interrupting each other and talking over each other to get our friends' attention.

Non-linear & Interactive Storytelling

In *Twinstallation*, the story elements do not follow a traditional story format with a beginning, middle and end. Instead, every user will make their own narrative mosaic because their physical movements will dictate how the videos are

arranged. This mosaic, as defined by K. Margaret McVeigh⁸ who was expanding on Lev Manovich's⁹ works on interactive narrative, informs the piece and allows the user to make their own narrative connections between the different video clips they see displayed. McVeigh explains:

A key factor in creating any potential interaction in an interactive digital medium is the concept of the database and the encoding of both the fragments of potential narrative material ... and the algorithm that enacts the story via the operation of what can be regarded as a meta narrative search engine. Essential to the linking of these database fragments is a consideration of what happens at the point of interaction ... and the formal and structural processes of storytelling which must be drawn upon in order to determine 'what comes next?' Both these elements form part of a mosaic narrative framework which provides a scenario whereby a variety of questions may be asked and answered by the designer as they create and anticipate the interactive possibilities of a new media narrative which is rendered by what I term the Mosaic Narrative form.¹⁰

The 'mosaic narrative form' in *Twinstallation* presents the story – the experience of being a twin – in short video segments. When the user participates in the installation, the 'what comes next?' part is determined by their movements. The piece's database and algorithm determine what video comes next. This ensures that the user interacting with the installation creates their own meaning by associating the different video clips with one another.

McVeigh's concept stems from Manovich's ideas of the digital narrative syntagma¹¹; interactive interfaces are generally constructed in a linear way. He writes:

Although the user is making choices at each new screen, the end result is a linear sequence of screens that she follows. This is the classic syntagmatic experience. In fact, it can be compared to constructing a sentence in a natural language. Just as a language user constructs a sentence by choosing each successive word from a paradigm of other possible words, a new media user creates a sequence of screens by clicking on this or that icon at each screen.¹²

This applies to *Twinstallation* because, even though there are generally two videos playing at once (usually one twin is talking while the other is idle and silent), each clip follows the other in a linear way.

This method of constructing an interactive experience, this ‘mosaic narrative’, has its roots in traditional cinema, which Manovich calls “the dominant semiological order to the twentieth century”¹³. This tradition, which has been honed over the past 100 years, has given users or people who watch films and television an almost innate knowledge of film editing; most people inherently understand that two distinct video clips are related to one another based on the simple fact that one comes after the other. Our knowledge of film montage allows us to “bridge quickly the mental gaps between unrelated images”¹⁴.

This psychological bridging is central to *Twinstallation*. The traditional narrative flow is interrupted because the installation consists of 63 different video clips that play in different orders based on the user’s movements. This gives the installation freedom: there is room for each user to have a unique narrative experience based on the combination of video clips they see. Expanding on Manovich, McVeigh

says “Manovich’s observation that the database is a ‘structured collection of data’ that can be indexed and cross-referenced any number of times makes Manovich’s theory so important as a basis for informing a poetics of storytelling in new media,”¹⁵. The videos (the data) are categorized by type: Laura Talk, Meredith Talk, Laura Quiet, Meredith Quiet, Laura Interrupt, Meredith Interrupt. The system is structured so that the videos are randomly cycled through each category’s array, which can be thought of as a content bin. This means that when one video ends, the next video is randomly chosen from the remaining selection in the array or bin. There will always be at least two arrays of videos working at the same time. For example, the video array of Laura Talk will play at the same time as the video array of Meredith Quiet. The user’s movements (or lack thereof in the case of the interruption video arrays) will trigger a video from another array to play, selected at random.

In the final iteration, I will re-order these videos so that they play in a more logical, authored way instead of this random selection. I will do this because, after user tests, the users who experienced a more logical flow from video to video said they enjoyed the work more than those who experienced a more random flow of videos. By logical, I mean I will structure the installation so that the videos of Twin A and Twin B will be organized in the same way by topic. This will mean the user who moves back and forth between the twins will hear them talk about

the same topics one after the other. I will further explain this decision in the prototypes section.

The user's psychological interactions come into play in the work; because it is a mosaic of different video clips, the user is encouraged to make their own cognitive connections between the clips they see on the screen. As Manovich writes, this psychological connection is crucial for a work to be truly interactive.

When we use the concept of 'interactive media' exclusively in relation to computer-based media, there is the danger that we will interpret 'interaction' literally, equating it with physical interaction between a user and a media object (pressing a button, choosing a link, moving the body), at the expense of psychological interaction. The psychological processes of filling-in, hypothesis formation, recall, and identification, which are required for us to comprehend any text or image at all, are mistakenly identified with an objectively existing structure of interactive links.¹⁶

Each user who experiences *Twinstallation* will have a different experience based on the fact that there are 63 videos they can see, all of which can appear at different times depending on their interaction. The user will also almost always see both twins on screen at the same time, and the twins' reactions to each other also varies depending on the user's interaction. This adds another layer to the mosaic narrative; because there are so many possible combinations of videos, the user will create their own, relatively unique, narrative links between the clips they see.

Interactive art takes the concept of installation art a step further: the work is not complete until the user, viewer or audience takes steps to engage with the artwork, which then generates some kind of reaction or change in the artwork itself. The kind of non-linear interactive storytelling in *Twinstallation* changes the dynamic between the storyteller and the person listening to or viewing the story. Interactive storytelling offers the user a sense of control because the reader or viewer is able to affect, choose or change the plot. “The reader becomes the investigator, vested with that perspective, making efforts, meanwhile, to understand the perspective of the author”¹⁷. Authors Stacey Hand and Duane Varan argue that interactivity gives the audience or user agency: a satisfying power to change something¹⁸.

Interactive new media work can often hinge on the balance between the amount of control the artist and user have over the work. Lovejoy asserts that artists who make interactive pieces are designing a frame or ethnographic structure in which the user is invited to participate¹⁹.

Interactive structures must leave the artist some control, otherwise the work can spin into confusion. In the early development of interactive games, “... game designers soon found out that [allowing players to move freely throughout a game] came at the expense of story control – the free movement in virtual space tended to generate random narrative arches”²⁰. Hand and Varan suggest that an

interactive experience must be an authored rather than entirely collaborative practice in order to be successful.

For *Twinstallation*, I decided to give the user some control over the videos they saw by allowing their physical movements to dictate the order in which they saw the videos. However, I wanted to retain some control over the installation because I did not want it to become a confusing experience for the user because, as Hand and Varan suggest, some authoring is needed in order for the work to retain a sense of cohesion. In order to insert some structure into this work, I included a non-interactive introduction video segment that plays when the user first enters the installation space. This introduction video cannot be interrupted by any kind of movement from the user. Another way I retain control over the installation is the aforementioned logical ordering of the videos.

This element of control is not meant to be completely obvious to the user from the start. Instead, I want the user to learn how they have control over the videos as they interact with the installation. The user is able to control the videos with their body; they can listen to a video play through until it is finished, or they can move partway through to listen to the other twin.

In “Interactive Narratives: Processes and Outcomes in User-Directed Stories”, Melanie C. Green and Keenan M. Jenkins suggest that interactive

narratives can evoke psychological responses that traditional narratives cannot. This research says, “the role of the self may differ from traditional narrative engagement, and readers of interactive narratives may have increased feelings of responsibility for a character’s actions”²¹. The sense of responsibility for a character’s actions disrupts the traditional storytelling format because it suggests that interactive narratives have a powerful influence on users.

Hand and Varan also argue that interactivity creates stronger links between a user and the story because it deepens audience immersion and gives the user a sense of agency²². They suggest that when a user interacts with a narrative rather than just passively watching it unfold on a screen they more deeply internalize and personalize the narrative.

Interactive narrative can have a powerful immersive effect, which is the sense in a user that the characters are real and the situations in the story are happening.

Green and Jenkins define the effect interactive narrative can have as “transportation into a narrative world... a cognitive and emotional immersion in a story, accompanied by vivid mental imagery”²³. This immersive affect is powerful because it has been shown to influence how people behave in the real world after they experience an immersive story experience. This transportation, as Green and Jenkins describe, “leads to attitude, belief or behaviour change through several

processes, including evoking vivid mental imagery, reducing counterarguing, and creating connections with story characters”²⁴.

This transportive quality of interactive narrative presents the opportunity for change in storytelling. It has the power to breathe new life into storytelling by creating affective, emotional responses in the user.

Humour in Artworks

The use of humour in my work is important to me. Art that takes on a humorous edge can be just as powerful, if not more, than art with a very serious purpose and perspective. The blending of humour and seriousness is important to my work because it is an accurate reflection of my relationship with my twin sister; sometimes things are simultaneously humorous and serious or sad. This blending reflects the subtleties of life.

Dominic Molon and Michael Rooks write that humour makes people responsible for their own foolishness, greed, hatred and other shortcomings by mocking the personal and familiar. The authors write that humour is not always taken as seriously as other forms of art; it is “often incorrectly viewed as a diversion from a more meaningful meditation on the state of things”²⁵. But they say humour can be a powerful tool that “exposes the individual and collective horror and regret

that our personal failings cause, and laughter provides a cathartic release from them, though it can also be unforgiving”²⁶.

The video content in *Twinstallation* touches on themes about identity, memory and confusion. The relationship between my twin and myself is often playful and we both gently (and sometimes not so gently) tease different elements about each other. This results in a naturally humorous dynamic between us, which I exploit in the installation.

For example, in one anecdote, my sister explains how she read my diary without my permission. She clearly finds this story amusing because she smiles and laughs, gleefully recalling her betrayal of my trust. In another story, I explain an incident where my sister and I talked to each other in our sleep, an event which was witnessed by our older sister. This is an amusing story because of its strangeness.

Twins

I chose to make an installation about my experience with memory, identity and twinship because, as a twin, it is a topic I have always wanted to explore. Twins are naturally interesting because of their similarities, and this is particularly true with identical twins. It is a visually jarring experience to see two people who look exactly the same.

Leora Eisen, a journalist and documentarian, made the documentary *'Two of a Kind'*²⁷ about twins, including herself and her twin Linda Lewis. In an interview, she said she wanted to make the documentary because she wanted to explore this fascination many people, herself included, have with twins.

“As humans we want to have a soul mate. You know, who doesn't want to have a friend on a sleepover every night when you're little girls? We spend our whole lives looking for someone who understands us and gets you. Whether you like it or not, your twin gets you,” says Eisen²⁸.

Twins have been represented in storytelling for thousands of years in folktales and songs all around the world. It is very common for twins to be used as more literal character foils; one twin is usually considered evil. Doppelgangers are used in literature in similar ways. Shakespeare's *'Comedy of Errors'*²⁹, Dostoyevsky's *'The Double'*³⁰, and Edgar Allan Poe's *'William Wilson'*³¹ are just some of the many examples of twins, doubles and doppelgangers used in classic literature.

The theme of twins is more than just an interesting topic for me; I see it as a prime storytelling device to use specifically in interactive storytelling. There are automatically two points of view from which to tell a story when twins are involved.



Figure 3: A still of the video projection in prototype 2 of Twinstallation. The use of a split screen infuses a sense of doubling and twinning into the digital projection. A sense of the uncanny is achieved with the twins wearing the same outfit.

I worked with this natural doubling throughout the piece: I used the same amount of videos of each twin, I ensured we wore similar outfits so as to look as similar as possible and I framed the videos to display side-by-side, instilling a natural doubling in the installation's design, as evidenced by the image in Figure 3.

The uncanny

A major theme throughout this installation is the use of Sigmund Freud's concept of the "uncanny". Freud's essay, "The Uncanny" offers a hypothesis as to why certain phenomena give us a sense of unease and dread, which he calls "uncanny"³². One of the elements Freud suggests creates this kind of feeling is doubling. He writes that people attach events like repetition and patterns with ideas of destiny and mysticism. Rather than investigate these events in a logical way, people instead repress them and see them as uncanny, unnatural and something to be feared³³. I interpret twins to be a personification of Freud's concept of the uncanny. Freud says that when we see people who look alike, we are tempted to believe they can share thoughts. While I cannot share thoughts with my twin sister Meredith, we have both experienced instances where people believe we can do this simply because we are twins. I use *Twinstallation* as an opportunity to explore why doubling, which is a natural, even ordinary part of life for twins, can have a strong affective quality for twins and non-twins alike.

Freud's essay lays out several instances of uncanny events, one of which is the idea of the double. He writes, "... we have characters who are to be considered identical because they look alike. This relation is accentuated by mental processes leaping from one of these characters to another – by what we should call telepathy – so that the one possesses knowledge, feelings and experience in common with the other"³⁴. This idea that people who look alike have mystical qualities is intriguing; people think doubles do, or possibly can, share thoughts.

This is a phenomenon that I am not, as a twin, privy to, if it does exist. However, throughout my life some people have attempted to ascribe a kind of telepathic quality to myself and my twin. For example, my sister and I had to get a blood test done when we were about 13 years old. My sister went first, and I was waiting outside, unaware of any of the events happening inside the room. When it was my turn, I did not have a chance to see my sister after – therefore I was still unaware of anything that might have happened between her and the nurse. Upon my arrival into the room, the nurse began to apologize profusely to me, telling me she was so sorry and that "it must have hurt". Bewildered, I asked her "what do you mean?" and she explained, with a confused look on her face, that she had missed the vein in my sister's arm when she was trying to do her blood test, which was quite painful for my sister. Because we are twins, the nurse assumed that I would have sensed and shared my sister's physical pain from the botched blood test (I did not).

As mentioned before, my twin sister and I do not look very similar. We also have very different personalities. Despite these facts, we have had certain experiences that can only be attributed to the fact that we are twins. For example, we would frequently get the exact same grades on school tests even if we did not study together or speak about the upcoming test together. Another common experience we have had is that, after a separation of at least a few months, we often end up wearing the exact same thing when we are reunited. We can also easily tell what the other is thinking, but this is not due to any telepathic abilities (despite how fun that might be) – we both attribute the fact that we are particularly attuned to each others' thoughts and feelings simply because we know each other so well, and have spent so many formative years of our life together.

Even though my twin Meredith and I do not look exactly alike, I attempted to enhance our similarities by having us wear the same clothing in the videos. While filming my video content for my second prototype, the interviewer Victoria Ptashnick commented that seeing my sister and myself dressed the same gave her a shudder. She said we looked like *The Shining* twins, a reference to Stanley Kubrick's undead young twin girls who appear to the character Danny in the 1980 film. Notably, Kubrick is said to have studied Freud's essay about the uncanny while he was writing the screenplay for *The Shining*³⁵. Kubrick used doubling, repetition and patterns throughout the film, as noted by the website "The Kubrick

Corner”. The author states doubling can be found in “Danny and Tony, the Grady twins, the mirrors, the dual compositions, the two boilers, the two Snowcats, the two Volkswagen’s, the two women, the two butlers, the two bears”³⁶. It can also be found in the Overlook Hotel’s elaborate patterned carpet.

I tried to encourage the development of a sense of unease in the user at seeing two people who look very similar standing in front of them. I wanted this to force the user to reflect on why such a doubling makes them uncomfortable.

In addition to twins and doppelgangers making frequent appearances in literature and popular entertainment, they have also been used in artworks. South African Berlin-based video artist Candice Breitz interviewed seven sets of twins and one set of triplets for her series *Factum*³⁷. In this series, she interviews these twins separately about their lives (yet asks them the same questions)³⁸. The twins are always wearing the same clothing. Breitz mounts these interviews on screens in galleries, often displaying the videos of the twins side-by-side and playing at the same time, like she did at The Power Plant gallery in Toronto in 2009³⁹. This work highlights the similarities between the twins, but also the many differences. It explores their attempts to differentiate themselves from one another (for example, one of the ‘Misericordia’ twins discusses her desire for plastic surgery in order to look differently from her twin sister), as well as their close bond.

This work is very relevant to *Twinstallation* because of the subject matter and style. Breitz is tackling similar questions, such as how do we form our identities, and how large a role do biology and social experiences play in shaping us? I also used a similar format; both myself and my sister answered the exact same questions, and in prototype 2, we were interviewed separately by a neutral interviewer. We also appear side-by-side on screen; in Breitz's work, the twins are sitting down in a documentary-style interview, while my sister and I are standing and shown full-size in my work. In the final prototype, I interviewed my sister and a friend interviewed me. Breitz's work is not interactive in the sense that my installation is; a viewer or user's movements do not trigger any change in the piece.

In *Factum*, the twins are dressed exactly the same. This highlights the similarities between the twins, which is already striking because they are identical. However, adult twins rarely dress exactly the same as each other. While I did try to dress the same as my twin sister in my work, I did this because we do not look identical. If we looked more alike, I would have preferred us to dress how we would normally dress – since we never wear exactly the same thing, this would have ensured we were dressed differently.

Another element where *Factum* differs from my work is in the editing. Breitz heavily edited the interviews of the twins and pieced them together so that they

were talking about the same topics at the same time. While one twin is talking, the other is frozen on screen or sitting with relatively neutral expressions. Because it is a non-interactive piece, Breitz had control over which videos appeared next to and after each other, creating a specific narrative flow. In my case, the order of the videos greatly depends on the user's movements, so the narrative flow is different for each user.

Twins and Memory

The crux of my use of twins as a theme in my work revolves around issues many twins have with memory. "False memory" or "disputed memory"⁴⁰ is a common phenomenon in which twins have difficulties in distinguishing their memories from one another. The phenomenon has been defined by the researchers as when "twins agree that an event occurred but disagree about who experienced the event"⁴¹.

Researchers say this phenomenon has been found in all sibling types, but that 65-70 per cent of twins have experienced this at least once, compared to about 8 per cent of same-sex non-twin siblings. Identical twins experienced the phenomenon more frequently than fraternal or sororal twins.

There are common factors in the disputed memories, such as age and the kind of event. In most cases, researchers found that disputed memories tended to come

from early childhood or early adolescence. Disputed memories were usually inconsequential events, and the twins had difficulties in producing vivid imagery to describe the event, whereas they had no problem with recalling vivid details from non-disputed memories⁴².

Some of the theories offered by researchers as to why this happens most frequently in identical twins, more frequently in fraternal or sororal twins, and less frequently in same-sex non-twin siblings is what they call the “characteristics of the rememberers”⁴³. They write that twins are often very similar in appearance and behaviour and are often confused by family members and other people. This common confusion contributes to the phenomenon. They write that, “events comprising the narratives of family history may be repeated with each of the twins separately identified as the main actor. The possibility of confusion in the family may be compounded by the fact that they spend a lot of time together, they react to events similarly, and they get similar reactions from their environment”⁴⁴.

Researchers suggest this phenomenon is due to a variety of factors, including environment and biological factors. There is no definitive conclusion about why this happens with twins, but it is “a robust phenomenon that appears under different methods of elicitation”⁴⁵.

In my own experience as a twin, my sister and I would often argue about specific memories. She would often accuse me of “stealing her memories” when I would

retell a story that I believed happened to me, but that she believed happened to her. This was a common frustration for us until we learned about false memory.

I used this concept in my installation as a jumping off point to explore themes of identity. In my early plans for the installation, I was going to include videos of my sister and myself describing instances of false memory. For example, we would both remember an event that happened to us, but we would disagree about which twin it happened to.

This raised some difficulties for my installation. While both my sister and I vividly recall arguing about whose memories belonged to whom, neither of us could recall any specific stories that we disagreed upon. There are several reasons for our inability to recall what events we argued about, and these reasons are supported by the above-mentioned research. Instances of false memory often occur when twins are young. They also often happen to be inconsequential events. The combination of these two factors made it incredibly difficult to recall specific memory events that we had argued about in the past.

Faced with this reality, I had two options. The first option was to lie about our memories in the videos, which is acceptable since it is an artwork, not a documentary. We could recall specific events that happened in our childhood, and talk about how we both believe it was Laura/Meredith who experienced the event, even though it was only possible that one of us did. The second option was to

discuss our experience with false memory more truthfully; that is, to explain what it is and talk about our arguments, but to leave it at that and not add any falsified examples.

I ended up trying both options; I asked my sister to pretend that she remembered a few events from our childhood that happened to me, but to say that she believed they happened to her. I did the same. I ended up discarding these videos in the final installation because the effort of falsifying these statements sounded false and hollow when recorded on video. However, the most compelling reason to discard these videos was that they were simply not very interesting (i.e. I fell off a swing set when I was four years old, resulting in a bruised knee – a story so completely mundane as to be not worth re-telling). I also discarded them because the stories we tell in other videos, about our separation and difficulties growing up so similar, were much more interesting to me. While the idea of false memory is fascinating to me and has indeed played a role in my life as a twin, it was ultimately not yielding interesting enough artistic results to use in that way. In the final installation, both my sister and myself explain what false memory is, but we do not attempt to give any specific examples of this for the aforementioned reasons.

Twins and Identity

A number of factors contribute to the reason many twins, when raised together, are very similar people. This can be due to obvious elements such as being the

same age, having the same parents, being in the same classes at school, and taking part in the same extra-curricular activities. Coupled with the phenomenon of false or disputed memory, it's no surprise that twins often have difficulties in defining their own identity. In my interactive installation, I explore the problem of how twins define their personality and other aspects of their identity when they cannot rely on their own memories.

The Gale Encyclopedia of Psychology defines identity as “a person’s mental representation of who he or she is” and “components include a sense of personal continuity and of uniqueness from other people”⁴⁶. The encyclopedia also states that people form personal identities, as well as group identities based on membership in familial, ethnic, or other kinds of groups⁴⁷.

The concept of identity is central to *Twinstallation*. I am examining what it means to define your own identity when you have a double in the form of a twin, and when, as mentioned before, your memory is not a reliable source with which to recall your lived experiences. Researcher Erik Erikson says people form identity from birth through adulthood, but identity formation becomes more important to people during adolescence when they are undergoing large physical, psychological and social changes⁴⁸.

A group of researchers undertook a comprehensive twin study in Stockholm. The study examined 32 pairs of twins born between 1981 and 1983. The researchers carried out developmental and psychological tests with the twins at different stages of their lives, from birth to the age of 16. One of the study's main goals was specifically to determine if twins had differences in, and difficulty in forming, identity. During the 16-year study, they "...found that twins had very close bonds with each other, which made it difficult for them to develop a feeling of identity"⁴⁹. This difficulty in developing a feeling of identity was more common in mono-zygotic (identical) twins than in di-zygotic (fraternal/sororal) twins⁵⁰.

This research is important for *Twinstallation* because it strongly suggests that all the factors that are at play with twins raised together makes it more difficult for twins to form their own identities.

3. Methodology: Studio-based art practice

Twinstallation is the result of a creative, studio-based process that incorporates feedback from user testing.

Research Question: How might the use of interactivity in storytelling enhance or activate user participation and agency?

As mentioned, *Twinstallation* is an interactive video installation that relies on the Microsoft Kinect sensor. It explores the potential power of non-linear storytelling in an installation setting to affect the user's experience. The goal of this installation was to connect the user to the story with physicality; by moving their body, they would have a greater sense of engagement with the story because they were embodying it. Since embodiment creates a psychological, not just physical, connection between the user and the installation, another level of psychological connection is in play because the piece also explores how people make meaning based on the order in which they see a series of video clips.

My research for *Twinstallation* used studio-based methods, which included videography and experimentation with programming. This research methodology also encompassed the concept of embodiment as it relates to my work. I also

examined the use of an algorithmic structure, which is a key component. Lastly, user testing for my third prototype greatly informed the final installation.

Videography

The film research led to the decision to film outdoors in specific settings for the final iteration (Los Angeles and Toronto). It also led to the style of the shot; the full-body shot mixed with several different kinds of videos. The research into documentary methods informed the questions myself and my sister answered in the videos. The research into documentary also informed the decision to film the final prototype videos in more natural settings, which can play very powerful roles in video. The black box, where I filmed the second prototype videos, is purposely devoid of personality and meaning, but that took away from the vibrancy of our personalities and had an impact on our delivery. For example, in the black box, we answered quietly and calmly to match the setting. In the final videos used for *Twinstallation*, we have more energy and enthusiasm from being outside in a natural environment, which in turn makes the content more engaging. The specific choices I made for the videos in each prototype are further discussed in the prototypes section.

Experimentation with Programming

I reviewed several different options in order to explore possibilities in interactive storytelling. These options ranged from web-based point-and-click interaction, to the use of different physical sensors such as a motion detector or pressure sensor. I eventually settled on the use of the Microsoft Kinect sensor because of its versatility and potential for storytelling. The sensor can detect different elements in its field of vision, such as a person's skeleton or an object or person's center of mass. These elements allowed me to experiment with the power of embodiment, which is discussed below. The Kinect is ideal because since it relies on peoples' bodies, it forces the user to choose in a very clear way which twin they want to hear from based on where the user chooses to stand. This fits with the overall narrative of my relationship with my twin, which often takes on a nature of competition for attention. Once I settled on the technology to use for this installation, I began the process of prototyping, which is also discussed further in this paper.

Algorithmic Structure

In order to execute this installation, I used an algorithmic structure. Programmers and artists have used algorithmic structures to plan and execute their artworks, such as Frank Gillette and Ira Schneider. They made a type of algorithmic structure for their 1969 piece *Wipe Cycle*⁵¹. The piece included nine television sets. Each television's content was dependent on all of the other television sets. In

order to successfully map the flow they wanted, they made a complex diagram. While this work is not interactive, it is an early example of how new media artists have made use of this kind of plan or system in order to make their work. As Leandro Motta Barros and Soraia Raupp Musse explain, “IS [interactive storytelling] systems focus on narratives, and as a result of the players' interactions the systems are expected to produce consistent stories. Given that IS is story-centered, work in this area must concern itself with computer models of stories”⁵². While Barros and Musse were referring primarily to video game structures, it applies to most forms of interactive storytelling, including my own.

An IS system, as Barros and Musse call it, can also be called an algorithmic structure. I used this kind of structure in order to organize and plan the installation's interactions. My installation uses 63 different videos. Some of the videos that play will not be influenced by any kind of user interaction, such as the introduction video. But most of them need to be able to play at any time based on the user's actions. This means there are hundreds of different video combinations in which the user could experience this installation. In order to program this, I made a diagram of the interaction flow and included some of the many possibilities the user would have at each point. Figure 4 is a chart which demonstrates how the algorithmic structure can unfold in one instance for my project. As seen in Figure 5, there are a total of 63 different videos in the

installation. These videos are separated into nine different types, and there is a specific amount of video per type.

- Intro and Wave Prompt (1)
- Wave (1)
- Laura Talk (10)
- Laura Idle (15)
- Laura Rude (5)
- Mer Talk (10)
- Mer Idle (15)
- Mer Rude (5)
- Skype (1)

The main video content is grouped in Laura Talk and Mer Talk, both of which have ten videos. When every one of these videos play, the opposite twin's 'Idle' videos will play. These idle videos are shorter, therefore there are more in this group than in the 'talk' video group. There are only five 'rude' videos per twin because this is an interruption that will not occur frequently. The intro video, the wave video and the Skype video will all only play once.

Figure 5 also indicates some of the various interactions the user can do, called "User Events". The user can:

- Enter
- Wave
- Move Left
- Move Right
- Stay Right
- Stay Left
- Move Left after interruption
- Move Right after interruption
- Move to the middle
- Exit

Figure 5 shows just one example of how the interaction can unfold. In this instance, the user enters, waves, moves to the left, moves to the right, stays on the right, is interrupted, moves to the left, moves to the middle, moves to the right, and exits. As shown in this chart, when a video from the group ‘Laura Talks’ plays, at the same time, a video from the group ‘Mer Idle’ plays. There are always two videos playing at once, with the exceptions of the introduction video, the wave video and the Skype call video.

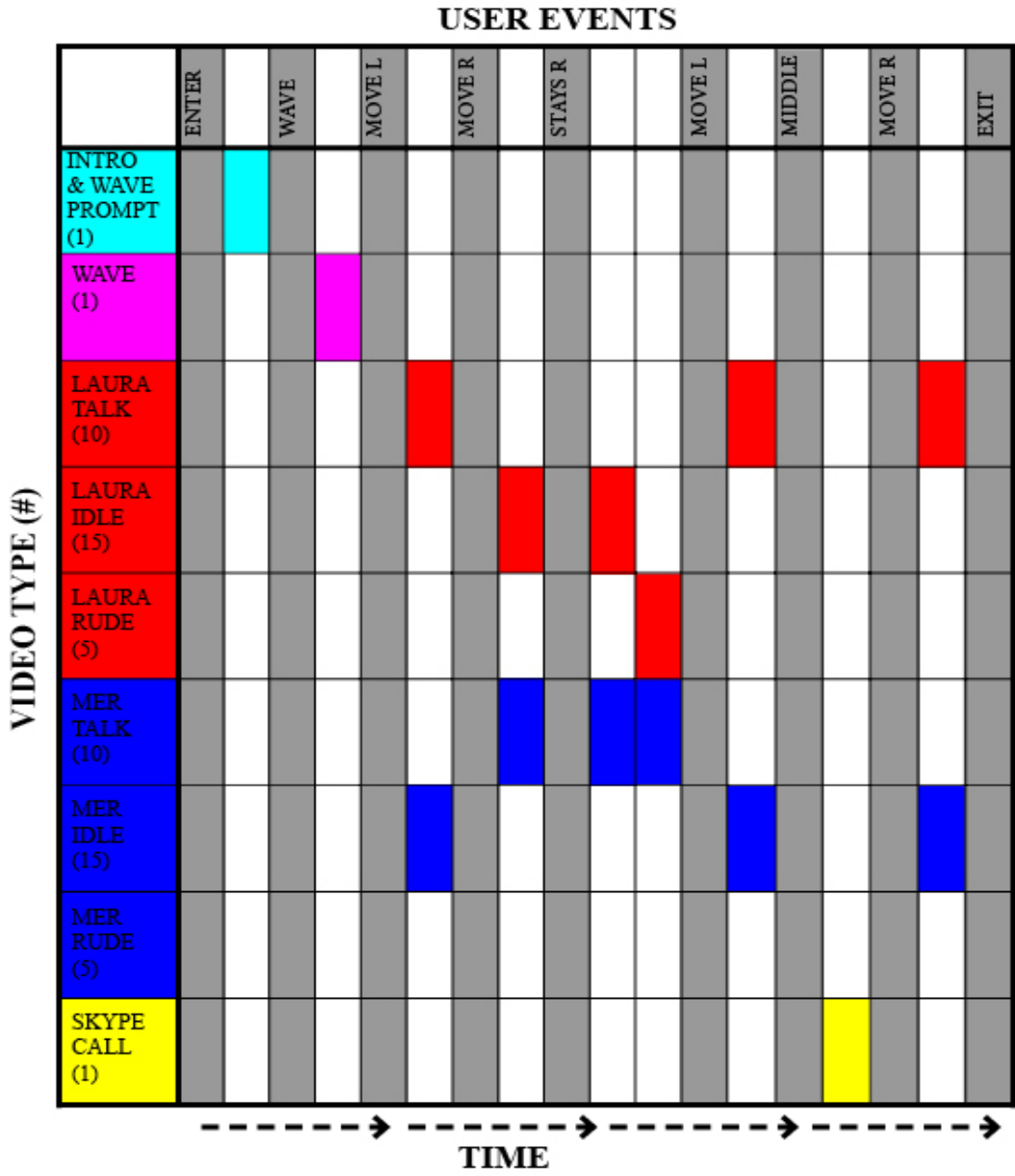


Figure 4: This chart shows the interplay between the user events, the different video types and the time. The videos are colour-coordinated for distinction.

I used the element of time to retain some control over the installation. Without some control, interactive stories can run the risk of becoming incomprehensible, as explained by Duane Varan and Stacey Hand in the section above about interactive narratives.

I used this element of time to program several parts of the installation. In one part, if the user is standing in front of one twin and has not moved from their position for two minutes, this will trigger an ‘interruption’ video from the other twin. This is an attempt to make the installation not only interactive, but reactive and playful. This ‘interruption’ video is meant to be an amusing surprise. It also highlights the element of competition between the twins, who are always competing for the user’s attention.

I also used the element of time when, after watching several of the videos already, the user is standing directly between the twins for a minute. This triggers a recorded Skype video call between me and my sister, and serves again as an amusing surprise for the user. This interaction also serves as a kind of reward for the user who has spent some time with the installation already, and is now attempting to give the twins equal footing by standing in between them.

Another part of the algorithm is the inclusion of randomness. The installation cannot be truly interactive, and the user cannot truly have any impact on the story, if it is tightly controlled by the algorithmic structure. This can be explained by a

further investigation of Manovich and his definition of ‘interactive media’. He says there must be more to an interactive work than a simple physical movement, otherwise the work is not interactive. If there is only physical movement and nothing psychological, he says the user is not making their own connections based on the material they see in an interactive work, they are just following a pre-programmed pattern and “identify[ing] with someone else’s mental structure”⁵³. I agree with Manovich; I want to encourage users who experience *Twinstallation* to make their own connections and assumptions about the narrative as much as possible (although some authoring will always be necessary), rather than imposing only my own. By inviting the user into this embodied discussion about what it is like to be a twin, there are two elements to this installation that are critical for the user to take away. First, I would like them to think critically about their own experiences with memory and identity. Second, I would like users to take away a sense of the innate competition between twins so that they can understand what it might be like to be constantly compared to another person, and how that might affect a person’s life.

As Manovich writes, “the database becomes the center of the creative process in the computer age.”⁵⁴ The database, as Manovich explains, is that which holds the data (which are the videos in the case of *Twinstallation*), and the algorithm is that which executes the data based on the user’s actions⁵⁵. The user ends up making

the non-linear algorithmic structure in *Twinstallation* into a linear montage by their movements in front of the installation.

The algorithmic structure is crucial to the installation because it serves as the tool to connect the user's movements with the content of the videos they see. This makes the user's movements meaningful, and provides an opportunity to enhance their sense of embodiment.

Embodiment and Interactivity

I have a background in journalism and I like telling stories. I wanted to experiment with new forms of interactivity and how they can be employed in a storytelling environment. I chose to work with the Microsoft Kinect because it offers the opportunity for an embodied experience.

My installation makes use of the user's body and mind. I encourage users to move their bodies in order to better understand the content of the videos they see projected. Thus "the body plays an essential part in constructing perceptual and mental processes and the interactions within the environment itself"⁵⁶. The mind and the body are not separate; the actions of the physical body directly affect a person's understanding of their environment.

Renowned embodiment theorist N. Katherine Hayles says the human experience of cognition is culturally and physically constructed. “Emerg(ing) from the complex interactions between the conscious mind and physiological structures that are the result of millennia of biological evolution”⁵⁷, Hayles asserts that cognition is not just something that happens within the brain, but also with the body⁵⁸. With *Twinstallation*, I seek to give the user an opportunity for an embodied experience.

Embodiment is a factor in why metaphor is so important in storytelling. A metaphor is a “word or phrase for one thing that is used to refer to another thing in order to show or suggest that they are similar”⁵⁹. Through metaphor, we compare abstract thoughts to things that are more concrete in order to make sense of the world. Quoting George Lakoff and Mark Johnson in their book ‘Metaphors to Live By’, Katy Waldman says, “they mean not just that physical reality helps us think, but that mental functioning depends on corporeal experience”⁶⁰.

In *Twinstallation*, I have created an embodied storytelling experience so that the content of my interactive video installation will better resonate with users. They have to move their bodies around in a physical space in order to experience the installation; they have to choose which twin they want to hear from in a literal way by moving side to side. Since this movement is linked to what they see on screen, their experience can end up being much more rich and rewarding.

If users were to encounter this story about twins in a more traditional format such as a non-interactive film or a written story, they would not engage with the material in the same way. If the story is intrinsically and meaningfully connected to the user's movements, they are more likely to resonate with the story they are being shown.

User Testing

I carried out user testing on my third prototype with eight volunteers. I asked each user to engage with the installation by moving around in front of it. I did not explain how the installation worked before asking them to engage with it; I wanted to see what they would do without any prompts. Each user engaged with the installation for five to ten minutes. Most quickly realized they needed to move in order to get the installation going. However, I had to prompt three of the testers to stand up and move in front of the installation in order to get it started.

After they engaged with the installation, I asked them questions about the content and aesthetics of the installation, as well as the interaction.

I was able to gather very useful information about the installation from this testing. Detailed results of this user testing are discussed in the section about Prototype 3.

4. The Prototypes

Prototype 1: September 2014

i. Description

The first prototype I made was in September 2014. This consisted of two videos (one of myself and one of my twin sister) shot full-size. I projected the videos onto a wall so that we appeared “life-sized”.



Figure 5: A still of the projected video of myself (right) and my twin sister (left) from my first prototype.

Figure 6 shows the test material I shot with my sister for the first prototype. I experimented with different kinds of shots, such as traditional interview-style shots that include the subject's head and shoulders, as shown in Figure 7.

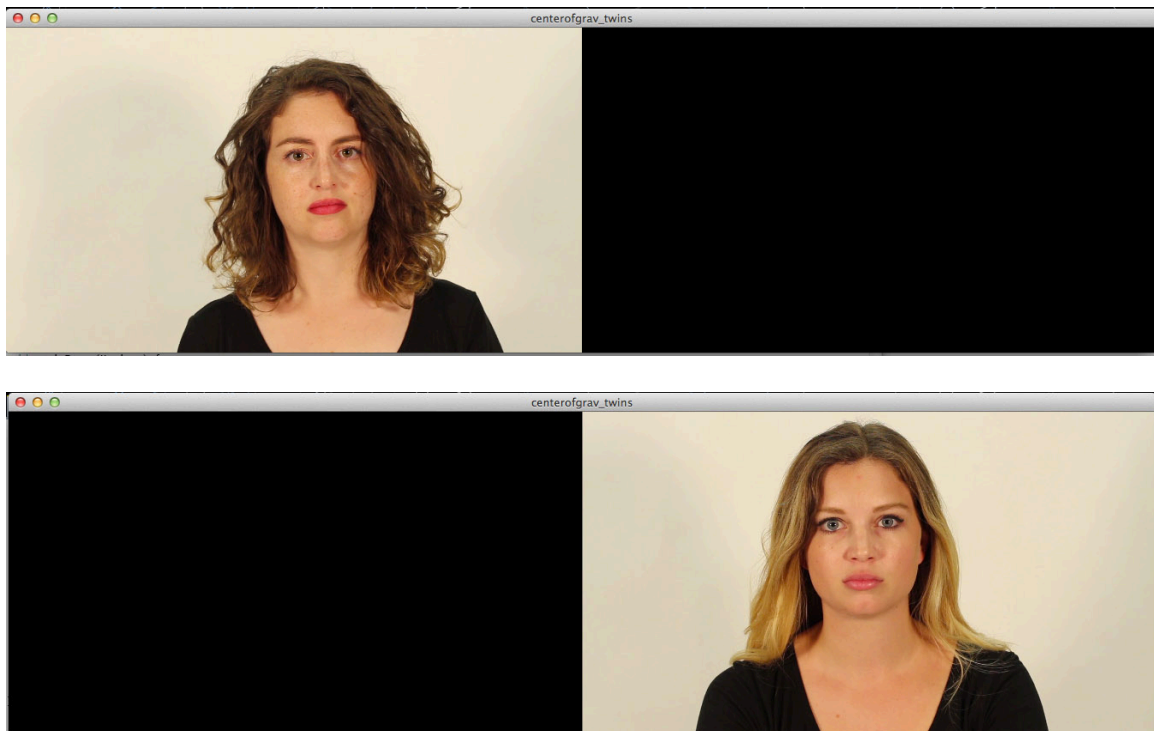


Figure 6: A still from the video I shot for Prototype 1. I experimented with a range of shots, from full-body to traditional documentary style head and shoulders.

The installation was controlled by a Kinect sensor. When the user moved to the left, video on the left (video A) played. When the user moved to the right, video on the right (video B) played. When video A plays, video B stops, and vice versa. Prototype 1 was meant for one user at a time.

My main goals with this first prototype were twofold: to experiment with different shots and to experiment with basic interactivity with the Kinect sensor. Since I was more interested in shot style and interaction, the content was not of much importance at this stage. However, this video content did serve as a departure point for which I began to consider what kind of content I wanted to share with my installation.

ii. Reflection

I presented this early prototype to classmates and faculty in September 2014. The feedback from this presentation was extremely useful in determining the next steps for my prototype.

Firstly, the feedback was overwhelmingly positive for the full-size videos. People enjoyed seeing full-sized projections on the wall and found it much more interesting and engaging than the head and shoulders shot. This was important feedback that I used for the final prototype.

Since the interaction at this point was very simple, I had to consider the algorithmic structure of the piece for the first time. I had to ask many questions, such as whether the videos would overlap or not, what other kinds of interactions I could include, the importance of the order in which the videos play, and the number of videos I needed to include in the final piece. I also had to consider

whether any of the videos should loop, and if they were suddenly stopped whether they should start again from that point, or if they should start back from the beginning. I also began to consider whether there should be one or multiple users.

Prototype 2: December 2014

i. Description

My second prototype was much more formal than the first. I set up the interview sessions in a black-box setting and video-recorded my sister and I full-size. The interview questions were the same for both of us, and the interviewer was former Toronto Star journalist and friend Victoria Ptashnick. The fact that Ptashnick knows both of us and that we are both comfortable with her was very valuable to the filming experience because it lent a more natural feeling to our responses. She is also an experienced journalist, which enabled her to more thoughtfully deviate from the prepared questions as she saw fit. My sister and I wore the same outfit: a plain white t-shirt, black pants and the same running shoes. I did this to highlight the fact that we are twins; if we wore different outfits, we would not look as similar.

The questions themselves breached four main topics: self-identity as a twin, personality as a twin, the impact false memory has had on our lives, and the role

of the screen in our lives. I included the last topic because of its potential to reveal interesting responses. My sister and I have spent much time in front and behind the camera – Meredith was a model and made a documentary about the exploitation of young models in Asia, and I have worked as a reporter for television. I did not end up using this portion in the final installation because, while it did yield some interesting responses, it was slightly off-topic. The full list of questions is included in the Appendix.

Once the filming was complete, I edited the videos and added them to my installation's program, which is run by Processing software. This second iteration allowed me to further experiment with videos and interaction. I added eight videos to my Processing sketch. This also helped me to plan further interactive elements for the final iteration, such as various 'interruptions' and bonus videos for the user. For example, when the user stands in the middle of the installation for a few seconds, a video recording of a Skype call between my sister and myself will play; it is a surprise added to reward the user for longer attention.

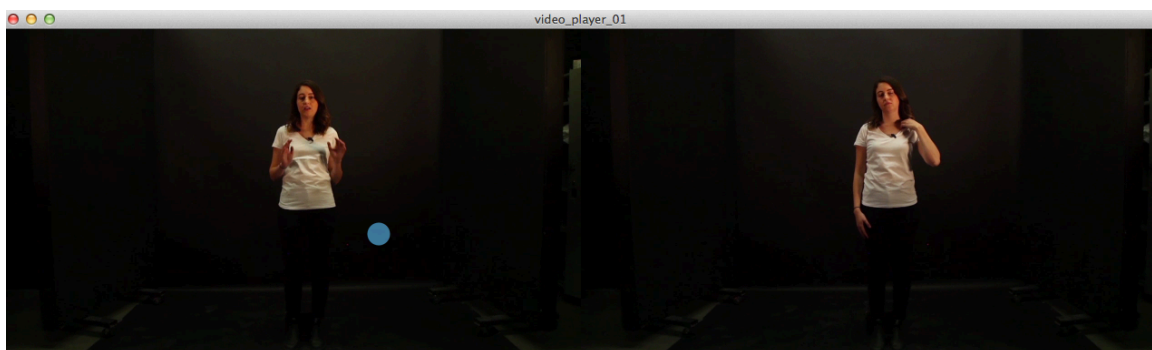


Figure 7: The second prototype, filmed in a black-box setting. I experimented with the use of a blue dot that followed the user's center of mass. This enabled me to have a more clear idea of how the interaction was working.

A very unfortunate incident happened during the filming of this prototype. The audio somehow became extremely distorted, despite the fact that I checked it before and while filming. This resulted in me having to make some difficult decisions about what to do next; I was either going to have to fix the audio, or re-record it. The results of these decisions are explained in the section about Prototype 3.

ii. Reflection

One of the most important elements that came from this second iteration was the location of the filming. I chose to film in a black-box setting because of simplicity and also because I could easily control the filming, lighting and audio conditions in the black box. This plain setting proved to be a bit boring when repeated in every video clip. As mentioned above, the audio from this recording session was almost completely unusable. Even if the audio had been of good quality, I did not like how this setting turned out. The setting is so plain that it leaves the subjects a bit lifeless, mellow and quiet. In my experience with filming for journalistic purposes, I know that people tend to give better answers when they feel comfortable in their environment, which is why many documentary subjects are filmed in their own home (including Breitz's subjects, who were each filmed in the home of one of the twins⁶¹). Because of the audio problems and the uninspiring black-box setting, I decided to film the final prototype videos in very different settings, which are described in the section about Prototype 3.

The interaction for this prototype, while still very simple, afforded much insight. One of the main comments from colleagues was to add randomness. As mentioned before, this random element creates a more truly interactive element to the work. Another key insight from colleagues about this prototype was a need for subtlety; one artist friend pointed out that if I continue to add many different kinds of interactions to the piece, it will essentially turn into a game for the user instead of an art installation. I wanted to lean away from this gamification for the final iteration because this is not a game, it is an interactive non-linear narrative experience.

Prototype 3: February 2015

i. Description

The third iteration of *Twinstallation* was greatly informed by both previous versions. Both the videography and the interactive elements were significantly updated.

As mentioned in the discussion about Prototype 2, I chose to re-film the videos for the installation due to the audio problems as well as what I consider to be the boring black-box setting. Re-filming was a logistical challenge because my sister

recently moved to Los Angeles. In light of this fact, I had to re-think the whole installation. I decided to re-record both interviews in a location outdoors.

I filmed my sister in her backyard in Los Angeles. She is still wearing a simple outfit and in filmed full-body size, but the background is lush and plant-filled; representative of a typical Los Angeles location. Similarly, I filmed myself in my backyard in Toronto. I also wore a simple outfit and was located in a typical Toronto setting: a laneway with a red brick background in the downtown core. For practical reasons, I had to sacrifice some of the aesthetics of doubling that I was trying to achieve with our identical outfits because I will be filming in a much colder climate.

Any affective gains from the power of our identical outfits are outweighed by the need for a more dynamic setting. The new locations add much more depth to the installation because there is more for the user to look at, and Meredith and I are livelier in her responses. The locations enhance elements of our personalities: Meredith can be sunny and carefree, while I can be a bit more mellow and serious. As mentioned in the discussion about Prototype 2, filming in the black-box resulted in mellow, quiet responses. Since I re-filmed the third prototype outside, Meredith and I answer more loudly and confidently.

Over the past ten years, my sister and I have lived in different cities. We are very close, but the fact that we both lived in Toronto at the same time for about a year and a half was an anomaly for our relationship. By filming us in our respective backyards, I exploit the fact that we no longer live in the same city, something we have become accustomed to. I include our thoughts on how distance creates new challenges and opportunities for our relationship. Because of this, I decided to also include a recorded Skype call in the installation to highlight the element of distance in our relationship.

The questions I used in these final recordings are the same as they were for Prototype 2, except that I did not include questions about our experiences on screen. As mentioned above, our answers from these questions were interesting, but ultimately they were not relevant to the topic of twinship, identity and memory.

The interaction in this final prototype is similar to Prototype 2. The user still moves left to right in front of the twins, and some movements trigger different interactions. In the second prototype, I used a blue dot to follow the user's centre of gravity. This served as immediate feedback about how the installation functions. In this final iteration, I replaced the blue dot with more subtle feedback to the user: I used lighting. When the user moves in front of one twin, the other

twin who is not talking is cast in shadow. This is a technique that was suggested in user testing that I have implemented.

Some of the interactions added in this iteration include interruptions from the neglected twin, and the aforementioned Skype call that plays when the user stands in between the twins. I included this particular interaction because I wanted to reward the user who attempts to give both twins equal footing with a video of us talking together and acknowledging the user's presence. This Skype call also only plays after the user has seen a few videos already, thus rewarding them for longer viewing.

This final prototype also includes the use of an arm-wave motion. When the user walks into the installation space, an introduction video will play, and then it will instruct the user to "wave hello" to the twins. When the user waves, a video of both twins waving back will play. This is a simple interaction, but it serves a purpose. By placing this interaction at the beginning, it subtly indicates to the user that this is an interactive installation. It also indicates to the user that they have some control over how the installation videos unfold.

ii. User Testing

I included feedback from eight user testers in this final prototype. I had each user try the installation and give me feedback on the content, aesthetics and the

interaction. This feedback was invaluable and helped me to refine the final prototype. Overall, the users said the installation was a fun, unique social experience. The main findings I used from this user testing are described below.

Content & Aesthetics

Most users told me the content was engaging and entertaining. However, they preferred the content that was specific and anecdotal as opposed to general. For example, as mentioned in the humour section of this paper, my sister discussed an incident where she read my diary without permission. Four of the users mentioned this video as particularly engaging because of how it is candid and also because of how my sister recalls this story with an element of glee over such an invasion of privacy. Due to this feedback, I decided to use as many anecdotes as I could in the final prototype.

The majority of the users also commented on the content of the idle and interruption videos. In the idle videos, my sister and I are fiddling with our hair, checking our phones, or just looking straight ahead. In the interruption videos, we ask the user questions such as, “am I boring you?” or say statements such as, “she’s not as interesting as me”. Almost all of the users commented that this was entertaining due to the fact that it came as a surprise. The users also said these interruptions highlighted the fact that we were competing for their attention.

Currently, the videos of each twin talking are programmed to play through the video arrays randomly (as mentioned above, there are six arrays). Sometimes, this meant that when the user listened to one twin discussing a particular topic, the video of the other twin that played next was about a completely different topic. But at other times, the randomness was less clear; one twin would discuss our similarities and the other twin would discuss the same thing right after.

The user made different meanings based on how this interaction unfolded. When the twins' topics were more closely aligned, one user commented that it felt like chapters in a book unfolding. They also tended to note that the 'idle' twin had more direct reactions to what the 'talking' twin was saying. When the twins' topics were not the same, two users said they were less certain what connection they were supposed to make between all of the videos. These comments led me to decide to organize the videos in a logical way; in the final prototype, the videos of the twins will be organized by topic and play through sequentially instead of randomly. The user can still decide to only listen to one twin, but if they go back and forth between the twins, the topics will unfold sequentially. This takes out some of the randomness, but it is a more clear narrative format to have the twins discuss the same topics at roughly the same times.

On an aesthetic side, the users indicated that they enjoyed how the projections were life-size; they said this encouraged them to stand in front of the installation instead of sitting.

Interaction

Users discussed the left-to-right movements they made in order to trigger the videos. All of the users said it took about a minute to figure out that if they moved to the left, one twin would talk and if they moved to the right, the other twin would talk. They said the blue dot that follows their centre of gravity was useful in discerning how the installation worked. Half of the users said this movement back and forth made them think about the twin they were neglecting, as well as the one they were listening to. One user said this particular interaction felt like a social experience similar to a conversation between the user and the two twins. This same user said he felt badly when he had to ignore one of the twins in order to listen to the other one.

Users also discussed the use of the blue dot that follows their centre of gravity. Every user agreed that it was useful to have this indication about how they were affecting the installation. However, most users said different devices could be used instead of the blue dot. For example, two users suggested I replace the blue dot with a figure of a human shadow. They suggested that this shadow figure would more clearly and artistically reflect the user. Two other users suggest that I

use lighting to indicate which twin the user was in front of instead of a blue dot. They suggested that the twin the user is in front of is in full lighting, while the other is cast in shadow. They said this would more subtly indicate how the interaction functions, as well as encourage the user to listen to one twin at a time. I incorporated this feedback into the final prototype; instead of a blue dot, I dimmed the lighting on the twin that was not being listened to.

Some of the interactions were not complete at the time of user testing, such as the arm wave and the interaction when the user stands in between the twins. For the arm wave, some of the users indicated this would be a useful way to begin the installation because it indicates that they will be using their body in some way to affect the installation. If this arm wave is not included, some of the users said they would be inclined to sit down in front of the installation and just listen, like how they would engage with a non-interactive video projection. This feedback encouraged me to continue with this arm wave interaction. Similarly, almost every user said they wanted to see some content showing the twins speaking with or engaging with each other in some way. This encouraged me to go ahead with my planned Skype call interaction that will play when the user stands in between the twins.

The majority of the user testers also commented on the link between the two simultaneous videos. They said they saw clear links between the content one twin

said and the reaction from the other twin more frequently when the topics of the videos were similar between the two twins. For example, in one user tester's experience, they were listening to a video of me talking about my sometimes frustrating relationship with my sister. While I was talking about this, an idle video of my sister rolling her eyes was playing. The user tester said this made them think my sister was annoyed at what I was saying. After this video, the user watched a video of my sister explaining a similar frustration with me, and the 'idle' video of me that played also showed me rolling my eyes. This combination of videos was purely coincidental, but the user tester made a psychological connection between the two videos they were seeing when, in fact, this order was a result of a random sequence of videos. This particular user could have just as easily seen a video of my sister nodding in agreement instead. Other users said they also made a connection between the videos they saw at the same time – one said it was nice to see that the video of the twin who was not talking was not frozen – she was fiddling with her hair or checking her phone, or nodding in agreement.

iii. Reflection

Since we are no longer wearing exactly the same thing in the videos, there is some loss of the effect I was trying to achieve by invoking Freud's concept of the uncanny. However, it is a more accurate reflection of the fact that we live in different cities and climates, and have very different personalities. The users said

that even if they did not immediately know we were twins, that fact soon became clear due to the content of the videos. It is also clear from the title of the installation.

As mentioned above, the user testing also had an impact on the content of the videos. I decided to include more anecdotes in the final prototype because user testers deemed those videos as the most engaging.

I also incorporated feedback on the interaction into the final prototype. The main feedback I used included the replacement of the blue dot with lighting changes, and the addition of the arm wave interaction at the very beginning of the installation to clearly indicate to the user that it is powered by their physical movements.

6. Conclusion

Interactive, non-linear storytelling is not yet a fully formed field with set of well-defined criteria like the world of cinema – it is still developing its own language. *Twinstallation* is an attempt to shed light on the power of interactive storytelling in an embodied setting by using different methods from the realm of film, new media installation art, and interactive storytelling.

Because this term can refer to a multitude of interactions, it was important to me to decide early on what kind of interactivity I wanted to use in my work. It was also important for me to decide early on in my research how much control the user would have over the actual content of the work. As my research in this paper shows, the debate about how much control to give the audience in an interactive story is ongoing. Ana Serrano, the Chief Digital Officer for the Canadian Film Centre, said in a talk at OCAD University that audience participation should be emotional or physical. “Have people make meaning, not plot,”⁶². She said the audience can have a meaningful connection to an interactive work even though they do not affect the story. I tried to put the user in a setting where both a physical and psychological connection to the work can happen. Since there are hundreds of different combinations of videos the user can see in this work, every user is almost guaranteed to have a different experience. As Lev Manovich points out, audiences are trained to understand film editing processes. In *Twinstallation*, these different experiences allow the user to make their own meaning, or what

Manovich would call psychological connections, from what they see. Because of randomness in this work, the user's interactions have a true impact on the content they see.

A major part of my research in this field consisted of testing different prototypes and conducting user tests. A major part of this work also included creating and deploying an algorithmic structure that would serve as the database for the 63 videos in the installation. In my work, I decided to give the user little control over the direction of the story. Instead, the user was connected to the story through physical cues. My three prototypes varied in the amount of interaction the user was able to have with the content. This iterative process, combined with frequent feedback and user testing, allowed me to settle on a final, robust prototype.

Embodied interaction offers new possibilities for non-linear storytelling.

Embodied interaction requires the user to engage large-scale physical movement to experience a story. This physical connection is very powerful, and is one reason why metaphor is so common in the way we describe the world in which we live.

Instead of metaphor, which resides in written and oral formats, my installation uses a physical metaphor, where the user's must literally take sides to better understand the content. Interactivity in mosaic storytelling allows the user more control over the story and its consequences, which in turn leads to a story with more power to change its users' beliefs and understandings about the world. It

also enables the user to draw their own conclusions from the combination of videos they see in the installation.

Drawing on Freud's concept of the uncanny allowed me to experiment with the affective power of doubling. Research in the fields of twin memory and identity helped me to shape and refine the interview questions for the video content.

The user testing helped me to answer my main research question, which aimed to discover how the use of interactivity in non-linear storytelling could enhance or activate user participation and agency. My user testing showed clearly that users wanted to participate in the installation – only a few of the testers needed a prompt in order to get started, and even after they began, they did not need any further prompts until they had experienced all of the possible interactions and many of the videos. Most of the user testers said they enjoyed that the installation reacted to their movements; the interruptions from the neglected twin were amusing. They also enjoyed that the content, and in particular the anecdotal stories, were candid and interesting.

Twinstallation did answer the majority of my research questions, but there is one outstanding question: how much of an impact does the experience of embodiment have on the user's sense of agency and participation? How strong was the user's

sense of embodiment when they experienced *Twinstallation*? More user testing is needed in order to discern this impact.

The next steps for my research into interactive, non-linear storytelling will be to continue this project with the addition of more twins in the future. I will be showing my work at galleries and events in Toronto, starting with a show in May 2015 at the Younger Than Beyoncé Gallery (YTB), which was recently started by two OCAD U MFA graduates. I will adapt the installation setup for the YTB gallery space. I will also show this installation at OCAD University's 100th Graduate Exhibition event in April-May 2015. There, I will also adapt it to that site-specific setting. On the programming side, I plan to further develop some of the installation's play-through capabilities in order to eliminate some repetition, and enhance the installation based on feedback I have received during user testing. I will investigate different sensors and programming languages specific to this installation, exploring other options than the Kinect. Lastly, I will continue to investigate how the theory of embodiment and interactivity can be incorporated into new and experimental forms of storytelling.

END

7. References

- ¹ Margot Lovejoy. "Defining conditions for digital arts: social function, authorship and audience," *Context Providers: Conditions of Meaning in Media Arts*, 14 (2011) 13-30.
- ² Lovejoy, *Defining conditions for digital arts*, 14.
- ³ Manovich, *The language of new media*, 55.
- ⁴ Brian Eno, "Gossip is philosophy." *Wired*, May 1993. Accessed January 10, 2015. <http://archive.wired.com/wired/archive/3.05/eno.html>
- ⁵ Mondloch, *Screens*, xiii.
- ⁶ Mondloch, *Screens*, 42.
- ⁷ Mondloch, *Screens*, 27.
- ⁸ K. Margaret McVeigh. "Making the connection: Lev Manovich's Texas and the challenges of interactive new media narrative," *Digital Creativity*, 22:2 (2011): 78-90.
- ⁹ Lev Manovich, *The language of new media* (Cambridge, MA: MIT Press, 2001).
- ¹⁰ McVeigh, *Making the connection*, 79.
- ¹¹ Manovich, *The language of new media*, 232.
- ¹² Manovich, *The language of new media*, 232.
- ¹³ Manovich, *The language of new media*, 232.
- ¹⁴ Manovich, *The language of new media*, 56.
- ¹⁵ McVeigh, *Making the connection*, 83.

¹⁶ Manovich, *The language of new media*, 57.

¹⁷ Mark Stephen Meadows, *Pause & Effect: the art of interactive narrative* (Indianapolis, Indiana: New Riders, 2003), 1.

¹⁸ Stacey Hand and Duane Varan, “Interactive Stories and the Audience: Why Empathy is Important,” *ACM Computers and Entertainment*, no. 3.7.39 (September 2009), 3.

¹⁹ Lovejoy, *Defining conditions for digital arts*, 15.

²⁰ Hand and Varan, “*Interactive stories and the audience*”, 5.

²¹ Melanie C. Green and Keenan M. Jenkins. “Interactive Narratives: Processes and Outcomes in User-Directed Stories”, *Journal of Communication*, 64 (2014), 481.

²² Hand and Varan, “*Interactive Stories and the Audience*”, 4.

²³ Green and Jenkins. “*Interactive Narratives*”, 483.

²⁴ Green and Jenkins. “*Interactive Narratives*”, 484.

²⁵ Dominic Molon and Michael Rooks, *Situation comedy: humour in recent art*, (New York: Independent Curators International, 2005), 50.

nic Molon and Michael Rooks, *Situation comedy: humour in recent art*, (New York: Independent Curators International, 2005), 50.

²⁶ Molon and Rooks, *Situation Comedy*, 8

²⁷ *Two of a kind*, documentary, directed by Leora Eisen, produced by Gord Henderson (2014; Toronto, ON: 90th Parallel Productions).

-
- ²⁸ Leora Eisen (documentarian) in discussion with the author, Nov. 10, 2015.
- ²⁹ William Shakespeare, *Comedy of Errors*.
- ³⁰ Fyodor Dostoyevsky, *The Double*
- ³¹ Edgar Allan Poe, William Wilson
- ³² Freud, *The Uncanny*, 5.
- ³³ Freud, *The Uncanny*, 5.
- ³⁴ Freud, *The Uncanny*, 9.
- ³⁵ *The Shining*, film, directed and produced by Stanley Kubrick (1980; Warner Bros.).
- ³⁶ The Kubrick Corner, <http://kubrickfilms.tripod.com/id80.html>, accessed Nov. 19, 2014.
- ³⁷ Candice Breitz, "Factum", 2009. <http://www.candicebreitz.net/>, accessed Nov. 10, 2014.
- ³⁸ Candice Breitz, "Factum" on Vimeo, 2009. <https://vimeo.com/album/259786>, accessed Nov. 10, 2014.
- ³⁹ Milroy, Sarah. "Seeing Double," *The Globe and Mail*, September 21, 2009, accessed March 1, 2015, <http://www.theglobeandmail.com/arts/seeing-double/article4286120/>.
- ⁴⁰ Simay Ikier, Ali I. Tekcan, Sami Gulgoz, Aylin C. Kuntay. "Whose life is it anyway? Adoption of Each Others' Autobiographical Memories by Twins", *Applied Cognitive Psychology* (Istanbul, Turkey: University of Istanbul Press, 2005).

-
- ⁴¹ Ikier, et. al., “*Whose life is it anyway?*”, 239.
- ⁴² Ikier, et. al., “*Whose life is it anyway?*”, 239.
- ⁴³ Ikier, et. al., “*Whose life is it anyway?*”, 245.
- ⁴⁴ Ikier, et. al., “*Whose life is it anyway?*”, 245.
- ⁴⁵ Ikier, et. al., “*Whose life is it anyway?*”, 244.
- ⁴⁶ “Identity/Identity Formation,” *The Gale Encyclopedia of Psychology*, edited by Bonnie Strickland, 2nd edition (Detroit, MI: Gale, 2001). Retrieved online at <http://go.galegroup.com.ezproxy-library.ocad.ca/ps/i.do?id=GALE%7CCX3406000329&v=2.1&u=toro37158&it=r&p=GVRL&sw=w&authCount=1>
- ⁴⁷ “*Identity/Identity Formation*,” *The Gale Encyclopedia of Psychology*.
- ⁴⁸ “*Identity/Identity Formation*,” *The Gale Encyclopedia of Psychology*.
- ⁴⁹ Britta Alin Akerman and Eve Suurveen. “*The cognitive and identity development of twins at 16 years of age: a follow up study of 32 twin pairs*”, (Stockholm, Sweden: Department of Special Education, Stockholm Institute of Education, 329).
- ⁵⁰ Akerman and Suurveen, “*The cognitive and identity development of twins*”, 332.
- ⁵¹ Kate Mondloch, *Screens: viewing media installation art* (Minneapolis, MN: University of Minnesota Press, 2010), 20.
- ⁵² Leandro Motta Barros and Soraia Raupp Musse, “Planning algorithms for interactive storytelling”, *ACM Computers in Entertainment*, no. 5.1. 4 (April 2007): 1.

⁵³ Manovich, *The language of new media*, 61.

⁵⁴ Manovich, *The language of new media*, 227.

⁵⁵ Manovich, *The language of new media*, 224-225.

⁵⁶ Z. Bilda, L. Candy and E. Edmonds, “An embodied cognition framework for interactive experience” in *CoDesign*, no. 2.3 (June 2007): 124.

⁵⁷ N. Katherine Hayles, *Configurations*, 10:2, 297-320 (Baltimore, MD: John Hopkins University Press, 2002), 298.

⁵⁸ N. Katherine Hayles, *Configurations*, 302.

⁵⁹ Merriam-Webster Online, s.v. “Metaphor”, accessed December 15, 2014. <http://www.merriam-webster.com/dictionary/metaphor>.

⁶⁰ Katy Waldman, “Metaphorically Speaking: Our most sophisticated thinking relies on bodily experience,” *Slate Magazine*, November 24, 2014, http://www.slate.com/articles/health_and_science/science/2014/11/embodied_cognition_metaphors_about_the_physical_world_help_us_reason.html. Accessed Nov. 26, 2014.

⁶¹ Breitz, “Factum”, 2009.

⁶² Ana Serrano. “Body/Mind/Change – the David Cronenberg: Evolution exhibition.” Presentation at OCAD University, Toronto, ON, February 6, 2014.

8. Appendix

A) Code

Prototype 1 & 2:

The code for these prototypes was very similar. The main changes are in the video content and the amount of videos. In Prototype 1, there are four test videos. In Prototype 2, there were the same amount of videos but they were from the black-box setting.

```
import SimpleOpenNI.*;
import processing.video.*;
//NOTE: I'm only using 4 videos right now.
// My final prototype will have dozens.
Movie myMovie;
Movie myMovie2;
Movie myMovie3;
Movie myMovie4;

SimpleOpenNI context;
color[] userClr = new color[] { color(255,0,0),
                               color(0,255,0),
                               color(0,0,255),
                               color(255,255,0),
                               color(255,0,255),
                               color(0,255,255)
                               };
PVector com = new PVector();
PVector com2d = new PVector();

//control switches

boolean depthSwitch = true;
boolean skelSwitch = true;
boolean jointSwitch = true;
boolean coordSwitch = true;
```

```
float personX;
float personY;

float prevX;
float prevY;

//booleans for videos
boolean myMovieplay;
boolean myMovie2play;
boolean myMovie3play;
boolean myMovie4play;

void setup()
{
  size(1344,378);
  // size(displayWidth, displayHeight);

  context = new SimpleOpenNI(this);
  if(context.isInit() == false)
  {
    println("Can't init SimpleOpenNI, maybe the camera is not connected!");
    exit();
    return;
  }

  //mirror the kinect's POV so that things show up correctly on screen
  context.setMirror(true);

  // enable depthMap generation
  context.enableDepth();

  // enable skeleton generation for all joints
  context.enableUser();

  background(0);

  stroke(0,0,255);
  strokeWeight(3);
  smooth();

  //laura
  myMovie = new Movie(this, "Sequence 03.mov");
  //myMovie.loop();

  //merry
  myMovie2 = new Movie(this, "Sequence 04.mov");
  //myMovie2.loop();
```

```
//idle vid 1
myMovie3 = new Movie(this, "IMG_6292.mov");

//idle vid2
myMovie4 = new Movie(this, "IMG_6186.mov");

}

void draw()
{

// update the cam
context.update();
background(0);
if(depthSwitch==true)
{
// image(context.depthImage(),0,0);
}

// draw the skeleton if it's available
int[] userList = context.getUsers();
for(int i=0;i<userList.length;i++)
{
if(context.isTrackingSkeleton(userList[i]))
{
stroke(userClr[ (userList[i] - 1) % userClr.length ] );
depthSwitch=false;
}
}

// draw the center of mass
if(context.getCoM(userList[i],com))
{
context.convertRealWorldToProjective(com,com2d);
stroke(100,255,0);
strokeWeight(5);
beginShape(LINES);
vertex(com2d.x,com2d.y - 5);
vertex(com2d.x,com2d.y + 5);

vertex(com2d.x - 5,com2d.y);
vertex(com2d.x + 5,com2d.y);
endShape();

fill(0,255,100);
text(Integer.toString(userList[i]),com2d.x,com2d.y);

personX = com2d.x;
personY = com2d.y;
}
```

```
}

////////////////////////////////////
// if the user is on the left side of the screen, play the video on the left
if((personX < 300) //&& prevX >= 600)
{
    image(myMovie, 0, 0, 672, 378);
    myMovie2.stop();
    myMovie.loop();

    //while that video is playing, play idle vid 1 of right
    if(myMovieplay = true)
    {
        image(myMovie3, 672, 0, 672, 378);
        myMovie3.loop();
    }
}

else
{
    image(myMovie2, 672, 0, 672, 378);
    myMovie.stop();
    myMovie2.loop();

    //while that video is playing, play idle vid 1 of left
    if(myMovie2play = true)
    {
        image(myMovie4, 672, 0, 672, 378);
        myMovie4.loop();
    }
}

prevX = personX;
prevY = personY;

if((personX < 300))
{
    image(myMovie, 0, 0, 672, 378);
    myMovie2.stop();
    myMovie.loop();

    //while that video is playing, play idle vid 2 of right
    if(myMovieplay = true)
    {
        image(myMovie3, 672, 0, 672, 378);
        myMovie3.loop();
    }
}
```

```

}

else
{
    image(myMovie2, 672, 0, 672, 378);
    myMovie.stop();
    myMovie2.loop();

    //while that video is playing, play idle vid 2 of left
    if(myMovie2play = true)
    {
        image(myMovie4, 0, 0, 672, 378);
        myMovie4.loop();
    }
}

//does this need a repeat?
prevX = personX;
prevY = personY;

}

// -----

// SimpleOpenNI events

void onNewUser(SimpleOpenNI curContext, int userId)
{
    println("onNewUser - userId: " + userId);
    println("\tstart tracking skeleton");

    curContext.startTrackingSkeleton(userId);
}

void onLostUser(SimpleOpenNI curContext, int userId)
{
    println("onLostUser - userId: " + userId);
}

void onVisibleUser(SimpleOpenNI curContext, int userId)
{
    //println("onVisibleUser - userId: " + userId);
}

float get2dX(int userId, int jointType1)
{
    PVector jointPos1 = new PVector();

    float confidence;

```

```
confidence = context.getJointPositionSkeleton(userId, jointType1, jointPos1);
```

```
PVector convertedPt1 = new PVector();  
context.convertRealWorldToProjective(jointPos1, convertedPt1);
```

```
return convertedPt1.x;  
}
```

```
float get2dY(int userId, int jointType1)
```

```
{  
    PVector jointPos1 = new PVector();
```

```
    float confidence;
```

```
    confidence = context.getJointPositionSkeleton(userId, jointType1, jointPos1);
```

```
    PVector convertedPt1 = new PVector();  
    context.convertRealWorldToProjective(jointPos1, convertedPt1);
```

```
    return convertedPt1.y;  
}
```

```
float get3dX(int userId, int jointType1)
```

```
{  
    PVector jointPos1 = new PVector();
```

```
    float confidence;
```

```
    confidence = context.getJointPositionSkeleton(userId, jointType1, jointPos1);
```

```
    return jointPos1.x;  
}
```

```
float get3dY(int userId, int jointType1)
```

```
{  
    PVector jointPos1 = new PVector();
```

```
    float confidence;
```

```
    confidence = context.getJointPositionSkeleton(userId, jointType1, jointPos1);
```

```
    return jointPos1.y;  
}
```

```
float get3dZ(int userId, int jointType1)
```

```
{  
    PVector jointPos1 = new PVector();
```

```
float confidence;

confidence = context.getJointPositionSkeleton(userId, jointType1, jointPos1);

return jointPos1.z;
}
```

```
void keyPressed()
{
  switch(key)
  {
    case ' ':
      context.setMirror(!context.mirror());
      break;

    case 'd':
      depthSwitch = !depthSwitch;
      break;

    case 's':
      skelSwitch = !skelSwitch;
      break;

    case 'j':
      jointSwitch = !jointSwitch;
      break;

    case 'c':
      coordSwitch = !coordSwitch;
      break;

  }
}
```

```
void movieEvent(Movie m) {
  m.read();
}
```

Prototype 3: Below is the code for Prototype 3.

```

import processing.video.*;
import SimpleOpenNI.*;

SimpleOpenNI context;
float centerX, centerY;

//counter for each side, counts 30 frames/second
int counterLeft = 0, counterRight = 0;
int thresh = 50 , stillThresh = 600;

color[] userClr = new color[] { color(255,0,0),
                                color(0,255,0),
                                color(0,0,255),
                                color(255,255,0),
                                color(255,0,255),
                                color(0,255,255)
                                };

PVector com = new PVector();
PVector com2d = new PVector();

int quietLauraQTY = 6, quietLauraIndex = 0, talkLauraQTY = 7, talkLauraIndex = 0,
  quietMerQTY = 11, quietMerIndex = 0, talkMerQTY = 7, talkMerIndex = 0;
int rudeLauraQTY = 7, rudeLauraIndex = 0, rudeMerQTY = 7, rudeMerIndex = 0;

String[] quietLauraTitles = { "FLAUR EYEROLL.mov", "FLAUR EYEROLL2.mov", "FLAUR
FIDDLING.mov", "FLAUR NEUTRAL.mov", "FLAUR PHONE.mov", "FLAUR
SNAPPING.mov"
};

String[] talkLauraTitles = { "FLAUR BESTWORST.mov", "FLAUR DIFFPARTS.mov",
"FLAUR EVILTWIN.mov", "FLAUR HOTEL2.mov", "FLAUR MERLEAVES.mov", "FLAUR
RELATIONSHIP.mov", "FLAUR UNIT.mov"
};

String[] quietMerTitles = { "MerEyeroll.mov", "MerFiddling.mov", "MerIknow.mov",
"MerMmHm.mov", "MerPhone.mov", "MerPlane.mov", "MerSigh.mov", "MerSirens.mov",
"MerSmile.mov", "MerUhhuh.mov", "MerYawn.mov"
};

String[] talkMerTitles = { "MerCompared.mov", "MerDiffs.mov", "MerEasiest.mov",
"MerPetPeeves.mov", "MerRelationship.mov", "MerSeparation.mov", "MerSkihill.mov"
};

```

```
String[] rudeLauraTitles = { "FLAUR U DONE.mov", "FLAUR WAIT WHAT.mov", "FLAUR
WASNT DONE.mov", "FLAURBORING.mov", "FLAURBORING2.mov",
"FLAURRUDE.mov", "FLAURWASNTDONE.mov"
};
```

```
String[] rudeMerTitles = { "arm wave.mov", "boring you.mov", "hair done.mov", "have
somewhere to be.mov", "how do i look2.mov", "laura hates hair talk.mov", "long idle.mov"
};
```

```
Movie[] quietLauraMovies = new Movie[quietLauraQTY];
Movie[] talkLauraMovies = new Movie[talkLauraQTY];
Movie[] quietMerMovies = new Movie[quietMerQTY];
Movie[] talkMerMovies = new Movie[talkMerQTY];
```

```
Movie[] rudeLauraMovies = new Movie[rudeLauraQTY];
Movie[] rudeMerMovies = new Movie[rudeMerQTY];
```

```
boolean LauraState, MerState, oldLauraState, oldMerState;
boolean LauraInterrupts, MerInterrupts, oldLauraInterrupts, oldMerInterrupts;
int index = 0;
```

```
boolean depthSwitch = true;
boolean skelSwitch = true;
boolean jointSwitch = true;
boolean coordSwitch = true;
```

```
float handX, handY, elbowX, elbowY;
```

```
void setup() {
  // width, height
  size(1000*2, 700);
  background(0);
```

```
  context = new SimpleOpenNI(this);
  if(context.isInit() == false)
  {
    println("Can't init SimpleOpenNI, maybe the camera is not connected!");
    exit();
    return;
  }
  context.setMirror(true);
  // enable depthMap generation
  context.enableDepth();
```

```
  // enable skeleton generation for all joints
  context.enableUser();
  context.enableRGB();
```

```

// Load videos: quiet videos of Laura
for(int i = 0; i < quietLauraQTY; i++){
    quietLauraMovies[i] = new Movie(this, quietLauraTitles[i]);
    quietLauraMovies[i].stop();
}
// Load videos: talk videos of Laura
for(int i = 0; i < talkLauraQTY; i++){
    talkLauraMovies[i] = new Movie(this, talkLauraTitles[i]);
    talkLauraMovies[i].stop();
}
// Load videos: quiet videos of Merry
for(int i = 0; i < quietMerQTY; i++){
    quietMerMovies[i] = new Movie(this, quietMerTitles[i]);
    quietMerMovies[i].stop();
}
// Load videos: quiet videos of Merry
for(int i = 0; i < talkMerQTY; i++){
    talkMerMovies[i] = new Movie(this, talkMerTitles[i]);
    talkMerMovies[i].stop();
}

// Load videos: rude videos of Laura
for(int i = 0; i < rudeLauraQTY; i++)
{
    rudeLauraMovies[i] = new Movie(this, rudeLauraTitles[i]);
    rudeLauraMovies[i].stop();
}
// Load videos: rude videos of Merry
for(int i = 0; i < rudeMerQTY; i++)
{
    rudeMerMovies[i] = new Movie(this, rudeMerTitles[i]);
    rudeMerMovies[i].stop();
}

stroke(0,0,255);
strokeWeight(3);
smooth();
}

void draw() {
    background(0);

    context.update();
    //context.setMirror(false);
    //image(context.depthImage(),0,0);
    //if (quietLauraMovies[0].available()) quietLauraMovies[0].read();
    //quietLauraMovies[0].loop();
    //image(quietLauraMovies[0], 0, 0, width/2, height);

```

```

// draw the skeleton if it's available
int[] userList = context.getUsers();
for(int i=0;i<userList.length;i++){
    // draw the center of mass
    if(context.getCoM(userList[i],com))
    {
        context.convertRealWorldToProjective(com,com2d);
        stroke(100,255,0);
        strokeWeight(5);
        beginShape(LINES);
        vertex(com2d.x *2,com2d.y - 5);
        vertex(com2d.x*2,com2d.y + 5);

        vertex(com2d.x*2 - 5,com2d.y);
        vertex(com2d.x*2 + 5,com2d.y);
        endShape();
    }

    if(context.isTrackingSkeleton(userList[i]))
    {
        stroke(userClr[ (userList[i] - 1) % userClr.length ] );
        //depthSwitch=false;

        context.setMirror(!context.mirror());

        int jointID3 = SimpleOpenNI.SKEL_RIGHT_HAND;
        int jointID5 = SimpleOpenNI.SKEL_RIGHT_ELBOW;

        handX = get2dX(userList[i],jointID3);
        handY = get2dY(userList[i],jointID3);
        elbowX = get2dX(userList[i],jointID5);
        elbowY = get2dY(userList[i],jointID5);

        if (handX > elbowX && elbowY > handY) {
            println("Made the gesture!");
        }

        /* fill(150,0,0);
        ellipse(handX,handY,20,20);
        fill(0,150,0);
        ellipse(elbowX,elbowY,20,20);*/
    }
}

if (!LauraState && MerState){
    // println("Merry is activated!");
    talkLauraMovies[talkLauraIndex].stop();
    quietMerMovies[quietMerIndex].stop();

    if (talkMerMovies[talkMerIndex].available()) talkMerMovies[talkMerIndex].read();

    if (!LauraInterrupts){

```

```

    rudeLauraMovies[rudeLauraIndex].stop();
    if (quietLauraMovies[quietLauraIndex].available())
{quietLauraMovies[quietLauraIndex].read();}
    quietLauraMovies[quietLauraIndex].loop();
    image(quietLauraMovies[quietLauraIndex], 0, 0, width/2, height);
}
else {
    quietLauraMovies[quietLauraIndex].stop();
    if (rudeLauraMovies[rudeLauraIndex].available()) rudeLauraMovies[rudeLauraIndex].read();
    rudeLauraMovies[rudeLauraIndex].loop();
    image(rudeLauraMovies[rudeLauraIndex], 0, 0, width/2, height);
    //println("Interrupting");
}
}

talkMerMovies[talkMerIndex].loop();
image(talkMerMovies[talkMerIndex], width/2, 0, width/2, height);
}

else if (LauraState && !MerState){
    // println("Laura is activated!");
    quietLauraMovies[quietLauraIndex].stop();
    talkMerMovies[talkMerIndex].stop();

    if (talkLauraMovies[talkLauraIndex].available()) talkLauraMovies[talkLauraIndex].read();
    if (quietMerMovies[quietMerIndex].available()) quietMerMovies[quietMerIndex].read();

    talkLauraMovies[talkLauraIndex].loop();
    image(talkLauraMovies[talkLauraIndex], 0, 0, width/2, height);
    quietMerMovies[quietMerIndex].loop();
    image(quietMerMovies[quietMerIndex], width/2, 0, width/2, height);
}

//This function is to respond to the potential switch of the states of Laura and Merry
//if there's no switch at all, the current videos will keep playing
//See the interaction tab for how these work
userDetection();
pushStyle();
noStroke();
fill(100,200,255,150);
ellipseMode(CENTER);
ellipse(centerX, centerY, 25, 25);
popStyle();
switchingState();
fill(150,0,0);
    ellipse(handX,handY,20,20);
    fill(0,150,0);
    ellipse(elbowX,elbowY,20,20);
}
}

```

```

////////////////////////////////////
// SimpleOpenNI events

void onNewUser(SimpleOpenNI curContext, int userId)
{
    println("onNewUser - userId: " + userId);
    println("\tstart tracking skeleton");

    curContext.startTrackingSkeleton(userId);
}

void onLostUser(SimpleOpenNI curContext, int userId)
{
    println("onLostUser - userId: " + userId);
}

void onVisibleUser(SimpleOpenNI curContext, int userId)
{
    //println("onVisibleUser - userId: " + userId);
}

float get2dX(int userId, int jointType1)
{
    PVector jointPos1 = new PVector();

    float confidence;

    confidence = context.getJointPositionSkeleton(userId, jointType1, jointPos1);

    PVector convertedPt1 = new PVector();
    context.convertRealWorldToProjective(jointPos1, convertedPt1);

    return convertedPt1.x;
}

float get2dY(int userId, int jointType1)
{
    PVector jointPos1 = new PVector();

    float confidence;

    confidence = context.getJointPositionSkeleton(userId, jointType1, jointPos1);

    PVector convertedPt1 = new PVector();
    context.convertRealWorldToProjective(jointPos1, convertedPt1);

```

```

return convertedPt1.y;
}
//////////
Interaction tab
void keyReleased() {
  if (key=='s' || key=='S') {
    LauraState = !LauraState; // Change Laura's state
    MerState = !MerState; // Merry will always be in a different state than Laura's state
  }
}

// left-right interaction
void switchingState() {
  if (oldLauraState != LauraState && oldMerState != MerState) {
    if (!LauraState && MerState) { // If Merry is active and Laura is quiet
      quietLauraIndex = int(random(0, quietLauraQTY)); // To pick a random integer and update the
      index for the Laura's quiet video array
      talkMerIndex = int(random(0, talkMerQTY)); // To update the index for the Merry's talk video
      array
    }
    if (LauraState && !MerState) { // If Laura is active and Merry is quiet
      talkLauraIndex = int(random(0, talkLauraQTY)); // To update the index for the Laura's talk
      video array
      quietMerIndex = int(random(0, quietMerQTY)); // To update the index for the Merry's quiet
      video array
    }
  }

  //The info below is to be displayed for debugging purpose:
  println("State Changed!");
  println("Laura: (active: "+LauraState + ") QuietVideo#" + quietLauraIndex + "; TalkVideo#" +
  talkLauraIndex);
  println("Merry: (active: " + MerState + ") QuietVideo#" + quietMerIndex + "; TalkVideo#" +
  talkMerIndex);
}

oldLauraState = LauraState;
oldMerState = MerState;

println("LEFTtime is" + counterLeft);
println("RIGHTtime is" + counterRight);
}

//////////
void userDetection(){
  // replace this code with the kinect detection of center of gravity or Shiffman's averaging point
  detection function
  //centerX = mouseX;
  //centerY = mouseY;
}

```

```
centerX = com2d.x *2;
centerY = com2d.y;

//counter
if (centerX < width/2) {
    counterRight = 0;
    // if(counterLeft < thresh)
    counterLeft++;

    if(counterLeft >= thresh){
        LauraState = true;
        MerState = false;

        //counterLeft ++;

    }
}

else if (centerX >= width/2) {
    //LauraState = false;
    //MerState = true;

    println("How long is the interrupting video? a: "+talkLauraMovies[rudeLauraIndex].duration());

    counterLeft = 0;
    if(counterRight < thresh)
        counterRight++;

    if(counterRight >= thresh){
        LauraState = false;
        MerState = true;
        counterRight++;

        if(counterRight >= stillThresh && counterRight < stillThresh + 150){
            LauraInterrupts = true;
            println("Interrupting");
        }
        else if(counterRight >= stillThresh + 150){
            LauraInterrupts = false;
            counterRight = thresh;
        }
    }
}
}
```

B) Industry report: Expert Interviews

Industry/External Interactions Report

Laura Wright
Nov. 26, 2014

Industry experts interviewed:

1. Leora Eisen, filmmaker of twin documentary "Two of a Kind"
2. Lisa Folkerson, video and installation artist

1. Leora Eisen, filmmaker at CBC of twin documentary "Two of a Kind"

Relevance to Thesis

Eisen's work is relevant to my thesis because she made a traditional documentary about identical twins called "Two of a Kind". It screened in Toronto on Nov. 3, and aired on the Documentary Channel. It will also air on CBC's The Nature of Things on November 27, 2014.

Eisen is an identical twin and always wanted to do a project on the topic. In early 2013, she set out to make a documentary about twins while including herself and her twin Linda Lewis in the film. The documentary explores the idea of twinship – what makes some twins similar and others different? What are the complexities of their relationships with each other? Why is it that so many twins and non-twins find the topic fascinating?

One question Eisen answers in the documentary is why does one twin get sick and the other does not? This was an extremely personal part of the documentary because a month after they began filming, her twin was diagnosed with Leukemia. Lewis passed away a few months before filming wrapped, in July 2013. The documentary struggles with the concept of what do you do when your other half, someone you consider your soul mate, is dying?

Eisen faced the difficult choice of whether or not to continue with the documentary when her twin was diagnosed. She went ahead with it, but the documentary took on another form.

"It became like my love letter to her," says Eisen.

This documentary is useful for my thesis because it is about twins, but perhaps more importantly, it is about storytelling.

Insights

a) inclusion of self in work

Eisen offered many insights for working on a documentary that involves herself. She said including herself was not something she struggled against; it was an obvious choice. She included herself and her twin in her documentary because she considers them to be “normal” twins, in that they have a very close relationship but have been able to lead very separate lives. When looking for other twins, she purposely chose twins who had very different experiences with twinship than she and her sister. For example, one pair of twins have never been apart for more than four hours, and they consider themselves to be one soul in two bodies. Another pair of twins featured in the documentary are different because one is straight and the other is gay.

She also included herself and her twin because, as she says, “Linda and I are both journalists and love to yak and are curious”.

b) twins in pop culture/general culture

Eisen’s documentary touched on the representation of twins in pop culture and also in culture in general. She says twins are often used in stories because “it’s a convenient plot device” and it is also visually arresting. She talks about how the reality of twins’ lived experience is often very different from what is represented in media.

“Unlike in the movies or the newspapers – you’ll always hear the stories about twins who died within hours of each other... but that’s not the norm... even with breast cancer it’s more common that one twin will get it and the other will not. It’s more common that one twin will be straight and one will be gay – it shakes up our understanding of genetics a little bit. But to me that’s part of the story – the complexity of the psychic relationship.”

In general culture, people tend to compare twins and try to find the similarities between the two (if they are fraternal/sororal twins) or the differences (if they are identical). People always ask twins the same questions, such as “What’s it like to be a twin” or “Who’s the evil twin?”. These kinds of questions are attempts to understand the dynamic relationship between twins, which is something Eisen examines in her documentary.

2. Lisa Folkerson, video and installation artist, BFA from NSCAD

Relevance to Thesis

Folkerson works with video installation. She has made pieces in traditional art gallery settings, as well as unconventional spaces such as the middle of a forest or under a stationary train engine. She also explores similar themes to my work: girlhood, feminism, the self, identity, and doubles.

She approaches every project differently, and she does not have a set of things that every one of her installations must include. When she makes an installation, the idea comes first and the technology and layout follows. Setting up the installation is a very important part of her work; she said it's not until you start setting up that you realize how your piece will come together, no matter how much you plan in advance.

Insights

a) self-scheduling

As an artist, she sets a rigorous schedule for herself when she has her studio days. On those days, she schedules everything from lunch breaks, to reading, to replying to emails, and the actual work itself, whether it is shooting and editing video or planning the layout of an installation.

b) inclusion of self

Folkerson discussed why she uses herself so much in her work. She says:

"If you make those bold general statements I find that it's a little bit like shouting into a void. There's no authority there and it feels like you're trying to talk about the experience of a bunch of people and I just don't want to do that. If I place especially my body at the center of a conversation, it's kind of trying to acknowledge where I'm coming from and to then be like, 'ok this is where I'm coming from this is how I'm interacting with this system'. Engage with me."

c) inclusion of humour

One of the most interesting aspects of Folkerson's work is that she includes humour in almost every piece. She says she includes humour as a coping mechanism for tackling difficult topics, such as young women under capitalism. She says, "most of the time I talk about it [systems of oppression] in terms of hyperbole and humour because it's so messed up. All you can do is laugh."

d) consideration of audience/user

Lastly, one of the most helpful topics Folkerson addresses is the inclusion of the audience/user in her work. She says she goes to great lengths to create an experience for people who view her art. She thinks a lot about how they will interact

with her work in a given space, and tends to reward close observation by adding multiple layers of meaning to her pieces. For example, one of her pieces was a video projection of a book onto the corner of a room in a gallery. The pages of the book turn. The casual viewer will see that it is the pages of a book turning. The close observer will see that there is a small drawing in the corner that gets more detailed as the pages of the book turn.

C) Interview Questions for Twins

Prototype 2 & 3

The only difference between the questions in Prototype 2 and 3 is that Prototype 3 does not include the last section about the screen.

Twin questions

Laura Wright

Nov. 26, 2014

****Updated Dec. 1, 2014**

NOTES:

- answer in full sentences.
- leave pauses between each question and answer.
- interviewer: don't interrupt, say "uh huh" or make any noise while the subject is talking on camera.
- twins will wear the same simple outfit – not black shirt but plain shirt.
- black background
- keep answers short – about 1 or 2 sentences if possible.

Topic 1: *General*

- How would you describe your relationship with your twin?
- What are your similarities?
- What are your differences?
- What is the easiest or best part of your relationship with your twin?
- Do you have any pet peeves about your twin? If so, what are they?
- What is the most difficult part of your relationship with your twin?

Topic 2: Identity and Pop Culture/Myths/Tropes

Note: I want to explore how we as twins feel about pop culture stories about twins

--

Why is there always this dynamic between evil and good?

- When you tell people you are twins, how do they tend to react?
- When this happens, what similarities do they ascribe to you?
- How do people tend to differentiate you from your twin?

-
- Could you share one interesting “twin” anecdote?
 - weird?
 - funny?

 - Are there any films about twins you like? If so, what are they and why do you like them?
 - other media
 - general stories
 - in myth?

Topic 3: Identity and Memory

Note: I want to touch on specific instances or experiences we both shared, and we both think it happened to us, and how we each retell the story.

- Explain the issues you and your twin have with memory. (describe the relationship of memory to twinship)**

- Retell one story that you are confident only happened to you, but your twin is also confident that it only happened to her.
 - do you have another one?
 - another one?
- You were referred to as a unit growing up (ex. “the twins” or “the girls”). How do you feel about that?
 - Did it affect your ability to form your own identity?
 - Describe any difficulties you may have had in forming your own identity?
 - Did it make you try harder to act or look differently than your twin?
 - Did it inform any life choices you made or make?

- Do you or did you ever try to act similar? If so, what do/did you do and why?
- Do you or did you ever try to act dissimilar? If so, what do/did you do and why?

Topic 4: Identity and Screen Personas

Note: I want to explore how we have each experienced the screen and how that has informed our own identities separate from our lives as a twin.

(Merry – modeling stories – photo and video, Laura – tv stories)

- Both you and your twin got involved in “the screen” professionally - can you reflect on that?
- Explain your experience with being on screen.
- How do you behave when you’re on screen?
- What roles do you take on when you’re on screen?
- Having been behind the screen calling the shots, how does that affect how you behave on screen?

-
- Do you act a certain way when you're on screen?
 - What is it like to see yourself on screen?
 - Do you think people saw/think of you differently after being on screen? If so, how? And how did that affect how you saw yourself (if at all)?

Transition statements to film:

Note: I need a range of statements from angry, annoyed, gentle, friendly, etc. to react to when the user does things like moves before the twin was finished talking, spent most of their time listening to one twin over the other, stood in the middle, etc.

- Am I boring you?
- Well that was rude.
- I wasn't finished talking.
- She's not as interesting as me.
- Hello?
- HellOOOooooooo?
- Hi.
- Ugh stop interrupting me.
- I wasn't done talking!
- etc

Intro to film:

- Hi, I'm Laura (and I'm Merry). We're twins. I was born on September 29, 1987, (and I was born thirteen minutes after her).

Scenes with twins talking to each other:

This would play when the user has spent a bit of time already with the installation and is now standing directly in the middle between the twins. This would be a kind of reward for the user who sticks around.

Actions to film:

- Idle modes – film several idle modes. Standing and doing nothing, standing and looking at phone, standing and twirling hair, standing and fiddling with shirt, standing and ____
- twins looking away from each other (twin 1 look left, and vice versa)
- twins looking at each other (twin 1 look right, and vice versa)
- twins high-fiving?
- twins rolling their eyes at each other
- twins looking impatient – tapping foot, loudly clearing throat, etc.
- other actions?