The Ipperwash Beach Walk

by

Monica Virtue

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Abstract

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Monica Virtue
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This thesis project uses geo-location to deliver documentary media and interactive visualizations to mobile users during an embodied "beach walk" along a disputed strip of land on Lake Huron. As users travel an historic trail between two Indigenous communities, crossing a series of GPS points along the water's edge, they will learn via smartphone how settlers colonized Ipperwash Beach. The content is delivered through a mobile platform designed specifically to tell stories. The project is a form of counter-mapping which presents an alternate viewpoint to mainstream notions about how Ipperwash Beach became a vacation destination. Created through the use of co-design methods, the project is intended to benefit the Chippewas of Kettle & Stony Point First Nation through a sharing of original archival research, an opportunity to improve relationships with non-Indigenous neighbours, and a value-added experience for the carloads of tourists who visit each summer.

Keywords: storytelling, counter-mapping, mobile locative media, documentary, data visualization, embodiment, co-design, Indigenous, colonization, Ipperwash

Acknowledgements

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1. Introduction

For the past 25 years, Canadians have woken up to the intermittent spectacle of masked warriors and burning barricades dominating the mainstream news headlines. It began with the "Oka Crisis" — a 78-day standoff over a golf course. With 4,500 Canadian troops on the ground, facing off against armed Mohawk warriors, the spectacle of guns and face-to-face confrontations dominated the public consciousness (see Fig. 1). The 1990 standoff resulted in the death of a military officer, and was the first well-publicized violent conflict between Indigenous people and the Canadian government in the 20th century.

Although the Oka Crisis grew out of a dispute over land ownership, the visuals instilled fear and clouded the Canadian consciousness, moving the narrative away from stolen land and onto the current conflict (Ladner & Simpson, 2010). As the story played out on the nations' television screens, the complex relationship between the British Crown and the "Indians" that grew out of historic treaties was reduced to a footnote that barely earned a mention on the nightly news.

Oka is what is known as a flashpoint event — an instance where Indigenous people felt the Canadian government had violated a treaty obligation or an obligation arising out of Canadian laws. Flashpoint events occur when efforts to resolve an issue, through either political or legal means, appear fruitless after a feeling of violation stretches out over many months, years or centuries. The government then authorizes development to proceed on the contentious piece of land, leading members of the Indigenous community to take direct action to stop the activity. As with Oka, the direct action takes the form of occupying or blocking public access to the disputed land (Ladner & Simpson, 2010).

Fig. 1: A predominant image from the 1990 "Oka Crisis." (Photograph courtesy of The Canadian Press/Shaney Komulainen.)

Fig. 2: An oft-repeated image of the 1995 "Ipperwash Crisis." (Photograph courtesy of The Canadian Press/Moe Doiron.)

The imagery that grew out of the Oka Crisis set the stage for a heightened sense of tension between Indigenous people and white settlers that bubbled up across Canada. By the summer of 1995, a conflict in the neighbouring Province of Ontario resulted in another flashpoint incident known as the "Ipperwash Crisis." Also growing out of a dispute over land ownership, the Ipperwash confrontation was relatively short before it resulted in a death. Within three days of a group of Indigenous protesters occupying Ipperwash Provincial Park, an Ontario Provincial Police sniper had shot and killed 38-year old Anthony "Dudley" George in a night time raid (Gallagher, 2012).

Immediately following the Ipperwash shooting, police issued a press release claiming officers were "returning fire." The protesters quickly found themselves on the end of a lopsided public relations campaign. Within hours the mainstream media was filled with visuals of burning barricades and Indigenous men with their faces concealed (see Fig. 2). The land dispute was pushed out of the centre of the story and into the margin; the protesters' claim that Ipperwash Provincial Park contained burial grounds was forgotten and their view that it was "their land" dismissed.

Ten years later, the largely unresolved land dispute once again made its way into the mainstream media. In December of 2014, the spectacle of barricades flashed across television, online news sources, and in particular, social media. This time, a 2.7-kilometre strip of beach between the Kettle Point Reserve and the Stony Point Reserve[1] became the focus of the conflict. Ipperwash Beach, as the area is formally known, is home to white settlers who have built cottages on waterfront lots their deeds say extend, "to the water's edge." Although the cottage owners allow public access to the beach on foot, metal barricades prevent access by vehicles.

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[1] In this document, the term Stony Point Reserve also refers to the Stoney Point Reserve, the Stony Point First Nation, the Stoney Point First Nation, the Aux Sable Reserve or the Au Sauble Reserve.

The cottage owners believe the beach is their private property, relying on the wording in their deeds. This statement of ownership is disputed by the Chief and Council of the Kettle & Stony Point First Nation, who used a backend loader to rip up the barricades along Ipperwash Beach, allowing the public to drive across the cottagers' beachfront lots. Some cottagers responded by erecting their own barricades to block the vehicles, while others responded with graffiti of band property, racist flyers and posters, and in one case, slashing a tire on a bus belonging to the First Nations' day care (O'Brien, 2014).

Today, the words "to the water's edge" continue to create conflict over Ipperwash Beach between the Indigenous community and cottagers. But what if there was a greater understanding between the two sides about how they arrived at this ongoing conflict over a physical landscape they are both so passionate about? For the first time in history, mobile technology has progressed to a point where it is ubiquitous; on any given summer day scores of beauty shots and videos of Ipperwash Beach find their way onto social media platforms like Twitter and Instagram. Beachgoers, with smartphone in hand, are taking advantage of reliable Wi-Fi and GPS connections to publicly announce their love for the landscape. Mobile technology holds the promise of connecting audio and visuals to a specific place that not only can be found on a map, but can also be experienced through sights, sounds and smells.

This thesis project utilizes mobile technology to build a storytelling platform that delivers content to specific GPS locations as users walk the length of Ipperwash Beach. It juxtaposes mapping and territory with visualization and walking, allowing users to absorb an audio-visual story about colonization while physically experiencing the environment about which the story is told. This form of counter-mapping addresses the controversial issues at the heart of a conflict over land, while

allowing users to absorb an embodied experience on the move, with the summer breeze in their hair, sand between their toes, the smells of campfires in the air, and the sound of waves hitting the shoreline.

1.1 Context

This thesis project began in another era — a time when Nokia flip phones were the height of technology and the word "reconciliation" was not yet part of the Canadian lexicon. The first seeds of an idea to direct a film about Ipperwash began in 2002, when the shooting of Anthony "Dudley" George was a hot-button subject that polarized Ontario. In 2002, the Ipperwash Inquiry had yet to be called; Dudley and his fellow protesters were still thought to be carrying guns during their standoff with police, and the general public still believed that police were returning fire. Dudley's siblings, including his brother Maynard "Sam" George, were expending large amounts of time and energy in an effort to secure an inquiry to clear his name.

The justice over the land that the protesters were seeking had been delayed eight years by criminal trials, civil lawsuits, and the announcement of a public judicial inquiry. The Ipperwash Inquiry, held from 2004 to 2007, revealed the protesters to be telling the truth. There were no guns in Ipperwash Park at the time of the standoff, and police officers weren't returning fire as they originally claimed. The testimony resulted in the Ontario Provincial Police retracting its initial press release, issued just hours after Dudley's death. Inquiry Commissioner Sidney Linden released 100 recommendations to prevent violence in situations similar to that which killed Dudley. However, the mainstream media's version of "Ipperwash" overshadowed what many in the Indigenous community felt was the core of the story.

The Ipperwash Inquiry proceedings began with Prof. Darlene Johnson and Joan Holmes, who set the stage for the remainder of the testimony. Johnston and Holmes made their way through the War of 1812 and the Huron Tract treaty, through the creation of the "Indian Reserves," the beginnings of the Department of Indian Affairs and the creation of the Indian Act. Yet the historical testimony stopped short. Strangely, Commissioner Linden chose to not hear testimony on why Dudley and the other protesters were in Ipperwash Park to begin with. Claiming it was beyond his mandate, Linden, who this author claims had an extremely solid and empathetic grasp of the issues, chose not to address a series of 1920's and 1930's land transactions at the heart of the conflict. It left the land dispute dangling, waiting to fester into another flashpoint incident at some point in the future.

While I had already been following Dudley's older brother Sam George with a camera for three years for my own point-of-view documentary, a second film project began to unfold during the Inquiry. In July 2005, Mr. George and his lawyer, Murray Klippenstein, commissioned an educational documentary on the history of Ipperwash Park. Dubbed the *Ipperwash Park Film Project*, the objective of the film was to explain how First Nations lands could be wrongfully taken, using the Park as a case study.

We began by building on the archival research already presented by Johnson and Holmes, and set about imagining how to communicate our own original research with visuals. Filming began with a trip to Gatineau, Quebec to visit the original Huron Tract treaty of 1827. Mr. George appeared in the first scene with the treaty, but not long after he became physically and mentally run down from the highly emotional testimony of the Inquiry. Within two years he was diagnosed with cancer. Mr. George passed away in June 2009, leaving Mr. Klippenstein and I to continue the project on our own.

Seven years after beginning the *Ipperwash Park Film Project*, the documentary had grown too large to be manageable. After filming over 20 different historical recreations, and collecting countless archival photos, stock footage, binders' worth of original historical research and additional boxes of loose documents, the project was put on hold for several years. By the time I was ready to return to it in the summer of 2012, the world had changed, both socially and technologically. Grassroots Indigenous activism was about to push its way into the mainstream through the Idle No More movement, which would be powered by a new phenomenon called "social media." Movies were no longer distributed solely through theatres and traditional broadcasters, and were now available through streaming services such as Netflix. Nokia flip phones had morphed into smartphones and tablets with built-in cameras, Wi-Fi and GPS.

The situation on the ground at Ipperwash Beach has also changed. With the former Ipperwash Park in the process of being returned to the First Nation, and the Final Settlement Agreement over the clean up and return of Camp Ipperwash now signed, tensions over the land base at the Stony Point Reserve have faded. It is now the strip of beach connecting the two communities of Kettle Point and Stony Point that has made its way into the mainstream media. The time seems right to focus on the community's "historic trail," and to combine it with the technology of 2016 to create something unique for beachgoers to explore.

1.2 Purpose

The purpose of this thesis project is to design a content delivery system for mobile that will not only be used by non-Indigenous tourists and property owners at Ipperwash Beach, but will also be of benefit to the First Nation. Specifically, I aim to investigate how mobile and locative technologies might be used to re-frame the narrative in a way that will promote meaningful reconciliation between settlers and the Indigenous community at the heart of the story.

1.3 Objectives

The objective of this project is to design an audio-visual storytelling platform for mobile that is a form of counter-mapping. By the end of the locative media walk along Ipperwash Beach, participants should have formed an opinion in regards to ownership of the land — and the opinion may not be that commonly told within mainstream narratives.

"Who owns the beach?" is a question that concerns content. An over-arching objective of the project is to create a digital artefact that will be of benefit to the Indigenous community. Therefore, the issue of content must include the question, "From the point of view of the First Nation, what elements of the history of Ipperwash Beach need to be told?"

Further objectives include determining the best technologies that may be used to construct the mobile platform that delivers the content. And above all, what are the design principles that would integrate all of the above elements on a mobile platform?

In summary, the follow questions guide the research:

1. How can mobile technology be used to create a counter-mapping story?

2. How can the counter-mapping story be centred within the First Nation's perspective?
3. Which design techniques and interactive technologies are required to create this locative media project?

1.4 Rationale

The ongoing conflict over Ipperwash Beach can be used as a case study to help tell a larger story that affects Indigenous communities across Canada. There continues to be a deep misunderstanding by Canadians about our own history, and the roles we play in perpetuating our strained relationship with Indigenous peoples. This project confronts these misunderstandings head-on by placing participants in the centre of a resource conflict, while simultaneously enjoying the resource as a tourist attraction. The goal is to create an embodied experience that cottage owners and the Indigenous community can both enjoy — as well as the thousands of tourists who converge on the beach each summer. The intention is for participants to think critically about their own histories, and about how their present-day actions affect both their neighbours and the larger community which they are so deeply entangled with.

1.5 Theoretical Framework

The framework of this thesis paper is guided by concepts that revolve around knowledge and power. I examine the ways in which knowledge is produced and valued in a situated context, and an Indigenous context. From there, I examine how power is created and maintained by settler colonialism, including by individuals living in a specific location and, to a broader extent, by the state.

I begin building the framework with the views of Donna Haraway (Haraway, 1988) and Lucy Suchman (Suchman, 1987, 2002, 2007), two feminist authors who address the concept of situated knowledge, and in Suchman's case, situated design. Haraway and Suchman argue there is no such thing as "universal knowledge" — that knowledge is situated in activity bound to social, cultural and physical contexts. I apply these concepts to the specific location of Ipperwash Beach, Ontario, arguing that the knowledge of the settlers owning property along the water's edge — evidenced in government-issued maps and deeds — cannot be considered the only valued knowledge about the land.

Building on Haraway and Suchman, I turn towards the work of Leanne Betasamosake Simpson (Ladner & Simpson, 2010; Simpson, 2008, 2011), who focuses on the concepts of Indigenous knowledge, storytelling and embodied experience. Simpson argues these interconnected ways of generating knowledge are intricately connected to a specific physical landscape. She locates herself within her world as an Anishinaabe[2] kwe (woman) and situates herself in her traditional territory of the Alderville First Nation near Peterborough, Ontario. I apply Simpson's concepts to the Anishinaabe community of the Chippewas of Kettle & Stony Point First Nation, and to its traditional territory of Ipperwash Beach. By doing so, I argue that storytelling and the embodied experience of walking the beach are closely interconnected, and can be used as a way to generate knowledge that is situated within that specific physical landscape.

Building on the work of Haraway, Suchman and Simpson, I turn to the work of Michel Foucault (Foucault & Gordon, 1980), who views power as strategic and war-like. His theories of power can be used as a critical lens through which to view the

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[2] In this document, the word Anishinaabe is used interchangeably with Nishnaabe and Ojibwe. The plural of Anishinaabeg is used interchangeably with Nishnaabeg.

work of a number of authors, ranging from Bruno Latour (Latour, 1986) and his arguments regarding "immutable mobiles" to Jody Berland (Berland, 2009) and her views on technology, time and space. Using these frameworks, I argue that the creation and distribution of maps — accelerated by digital technology — pushes Indigenous people to the margins while mainstream beliefs of settler colonialism is placed front and centre.

Adding to Latour and Berland, I look to Ian Hodder (Hodder, 2012), who addresses the complex relationships between humans and things. Hodder argues our dependency on things (and the dependency of things on humans) explains how networks of interactions form which cause us to become entrapped and entangled with each other. From maps and deeds to automobiles and cottages, these entanglements have given rise to a sense of ownership over the physical landscape of Ipperwash Beach, and explain the ongoing conflict between the First Nation and property owners.

Using the above framework, I argue that the situated knowledge tied to the physical landscape of Ipperwash Beach holds no less value than the "universal knowledge" communicated through maps. These concepts form the basis for this thesis project, which uses counter-mapping techniques involving storytelling, GPS mapping technology and locative media, and values situated, Indigenous knowledge over the universal knowledge claims made by the state.

1.6 Methodology

In the spirit of reconciliation, it is important to me that the Indigenous community who considers Ipperwash Beach its traditional territory informs every element of this thesis project. In the past, I have conducted vast amounts of original archival research on behalf of a social justice-focused law firm. Through the use of a

participatory research method (co-design), Chief Tom Bressette and the current Council for the Chippewas of Kettle & Stony Point First Nation have reviewed a slice of this archival research and have assisted in determining the overall theme and narrative of the documentary content that appears in the "beach walk." As a settler who has been raised under the influence of colonized, Western ways of thinking, I explore the literature on Indigenous research methodologies, as it influences every step of the co-design process.

1.7 Scope and Limitations

I am a settler; this is the position from which I view the world. Therefore, this project is not an Indigenous story, nor will it be a study of First Nations people themselves. Although their voices should emanate from the final product, this is not a study of their personal history, culture or behaviours. Instead, I will be focusing on the rarely told story of how white settlers, with the assistance of the Canadian government, colonized a particular piece of land. Any Indigenous voices that are included in this project are a response, rebuttal or alternative viewpoint to the effects of this colonization process.

This project is also not an extensive legal investigation into the land dispute at the heart of Ipperwash Beach. Instead, it is focused on storytelling and a means to improve communication between stakeholders. This project will also not aim to advocate for any particular side of the conflict, but instead will aim to promote education and understanding between those with opposing views.

1.8 Outline

This document includes a literature review that addresses the topics of situated knowledge and Indigenous knowledge, storytelling and embodiment. It proceeds with a discussion of maps and power, and compares the differences between oral tradition and print. It investigates how universal knowledge claims are perpetuated through the use of digital mapping, and discusses how counter-mapping can be used to re-establish situated Indigenous knowledge on the mapped landscape. The literature review concludes with a brief survey of inspirations in the field of locative media, documentary media, data visualization and the field of locative audio.

Following the literature review, I address my research methodology, which includes Indigenous methodologies, archival research and participatory co-design methods. From there, I address the research I've undertaken, including an investigation in territory, treaties and land surrenders, the creation of the Ipperwash Beach Highway, as well as focus group sessions with Chief and Council. I then move on the project design, which includes the six phases of my co-design process. In my conclusion, I address the future directions this project could take following the 2016 Digital Futures Graduation Exhibition.

2. Literature Review

This thesis project is about storytelling. Specifically, it is about telling stories rooted in a particular location. In this section I flesh out my theoretical framework, addressing how storytelling is affected by situated knowledge, Indigenous knowledge and embodiment. I also address how mapping, documentary media, visualization, audio, mobile platforms and locative media can be harnessed to tell stories rooted in a particular place.

2.1 Situated Knowledge

"Who owns the beach?" Over the years, it has become clear that both the cottagers living along Ipperwash Beach, Ontario and those from the Indigenous communities living on either end of the beach both believe themselves to be the rightful owners. Is it possible that both are correct? Or does a deed to a piece of land or a property line on Google Maps stamp out any other claim of ownership?

I begin this literature review with thoughts of author Donna Haraway, who argues in favour of feminine objectivity — or put simply, situated knowledges. She views feminine objectivity as being about limited location, and particular and specific embodiment – about becoming "answerable for what we learn how to see" (Haraway, 1988, p. 583). These locatable, embodied views offer accountability, claims Haraway, precisely because they are partial.

In contrast, Haraway looks to "instruments of visualization" as a means of distancing the knowing subject from, "everybody and everything in the interests of unfettered power" (Haraway, 1988, p. 581). From satellite surveillance systems to computer monitors, Haraway argues these technologies are a method of producing universal knowledges that are irresponsible in their claims. "Vision in this technological feast becomes unregulated gluttony; all seems not just mythically about the god trick of seeing everything from nowhere, but to have put the myth into ordinary practice. And like the god trick, this eye fucks the world to make techno-monsters" (Haraway, 1988, p. 582). Haraway views male supremacy, capitalism, militarism and colonialism as being applied through the prosthetic devices of these visualization technologies.

As an alternative, Haraway argues in favour of situated and embodied knowledges that are contingent to the location a person sits in the world. "I am

arguing for the view from a body, always a complex, contradictory, structuring, and structured body, versus the view from above, from nowhere, from simplicity" (Haraway, 1988, p. 589). As opposed to a knowledge that is gleaned from, "being nowhere while claiming to be everywhere equally" (Haraway, 1988, p. 584), she advocates for a situated knowledge through the joining of partial views into a collective. She claims a larger vision can be obtained through the connectedness of communities, located in a particular place.

Haraway's views on situated knowledge are not unique to Western cultural narratives; in fact, they dovetail with theories about Indigenous knowledge production. In the following section, I address Indigenous theory, as well as how it is closely linked to storytelling and embodied experience as a means of knowledge production and value.

2.1.1 Indigenous Knowledge, Storytelling & Embodiment

Indigenous theory and knowledge is highly personal. According to Leanne Simpson, every Anishinaabe person has his or her own personal stories or narratives that communicate their personal truths, learning, histories and insights. All Anishinaabe people hold responsibilities to make meaning for their creation and their own life, and this happens in the context of Indigenous knowledge, their community, their clan, their name, their personal gifts and attributes and their personal experience:

> The starting point within Indigenous theoretical frameworks then is different than from within western theories: the spiritual world is alive and influencing; colonialism is contested; and storytelling, or "narrative imagination," is a tool to vision other existences outside of the current ones by critiquing and analyzing the current state of affairs, but also by dreaming and visioning other realities (Simpson, 2011, p. 40.)

In this way, Indigenous theory and knowledge is closely linked to storytelling and embodied experience. According to author Basil Johnston, the

fundamental understandings, insights and attitudes of Anishinaabe people are embodied within story, and the, "sum total of what people believe about life, being, existence, and relationships are symbolically expressed and articulated" (B. Johnston, 1998, p. 7).

In Indigenous cultures, oral storytelling is an important process that passes knowledge from one generation to another. The stories both change and remain the same; key themes may remain, but the details may be individualized or the tone of voice of the storyteller may fluctuate. "These stories are always already individualized and communal, original and replicated, authored and authorless," claims Candice Hopkins. "Reading across the contradictions in storytelling is generative, as it reveals a worldview: one in which truth is considered apart from fact, where originality exists within the copy, where change is an inherent part of tradition" (Hopkins, 2006, p. 341). The stories are flexible in nature and scope, says Johnston, meaning they are best narrated. "Skill and imagination will enable the story-teller to impart any level of meaning according to the scope and ability of his audience" (B. Johnston, 1998, p. 8). However, there is no desire for originality in the overall framework, because the story is meant to told and retold. The story is understood to be communal; it belongs not to the individual, but to many (Hopkins, 2006).

Simpson suggests that modern society looks for meaning in items like books, computers and art, while Indigenous cultures understand and generate meaning through embodied activities such as storytelling, singing, dancing and ceremony (Simpson, 2011). Knowledge can only be attained through engaging the senses, and adapting to the environment with body, brain and mind:

> …in order to access knowledge from a Nishnaabeg perspective, we have to engage our entire bodies: our physical beings, emotional self, our spiritual energy and our intellect. Our methodologies, our lifeways must reflect those components of our being the integration of those four components as a whole (Simpson, 2011, p. 42).

Viewed from this perspective, these embodied activities become a source of knowledge unto themselves, and an important process for critiquing social space and challenging colonial norms:

> Storytelling then becomes a lens through which we can envision our way out of cognitive imperialism, where we can create models and mirrors where none existed, and where we can experience the spaces of freedom and justice. Storytelling becomes a space where we can escape the gaze and the cage of the Empire, even if it is just for a few minutes (Simpson, 2011, p. 33).

If storytelling is about escape, what does the "cage of the Empire" look like? In the next section I address how the Empire – the British Crown – created the cage that Simpson feels she must escape from.

2.2 Maps and Power

"Canada." For the first time known to man this six-letter word was etched on the Cartaro globe, an Italian-made sphere that is now over 439-years old. Created in 1577 by cartographer Mario Cartaro, the wooden globe features drawings of mountains and rivers on a vaguely recognizable continent across the Atlantic Ocean from Europe (see Fig 3). Up for sale at the Sotheby's auction house, the Cartaro globe is thought by experts to be the first of its kind to be mass-produced using the word "Canada." According to a Sotheby's senior specialist, in sixteenth century Europe the Cartaro globe was a luxury item, "normally only found in the collections of wealthy patrons, frequently aristocrats or the merchant princes whose wealth depended upon trade with distant and newly accessible lands" (Boswell, 2013). The sale of the globe made headlines for its uniqueness as a cultural oddity. But in the digital age, does the map still remain in the hands of the elite? How has technology affected the ability of the colonial state to exert power through the map?

I intend to examine this subject using Michel Foucault's arguments around power as a critical lens. Foucault saw sovereign power — and later disciplinary power — as a way for the state to organize space. For Foucault, power was not a thing, but a relation that operated at the most micro levels of social relations. Although he didn't view power as exclusive to government or the state, he did view it as war-like – something strategic to be exercised through the social body (Foucault & Gordon, 1980). Through this lens, I argue that little has changed in the way that the Canadian government organizes space in the 439 years since the Cartaro globe was created.

Fig. 3: The Cartaro globe, created in 1577. (Photographs courtesy of Sotheby's.)

2.2.1 Printed Maps

"What are the differences between the savage geography and the civilized one?" asks Bruno Latour (Latour, 1986). He questions the map from a cultural perspective by examining the purpose it held for the person creating it. Latour asks what the differences are between a "savage" or Indigenous person, drawing a map for an

explorer in the sand, and the map that the explorer takes back with him to Europe. "What is, for the former, a drawing of no importance that the tide may erase, is for the latter the single object of his mission" (Latour, 1986, p. 5). Latour correctly points out that the Indigenous story about the landscape remains an oral one.

Latour suggests that the manipulation of paper and print can lead to the building of coalitions, and suggests that power can be built through volume. "Who will win in an agonistic encounter between two authors, and between them and all the others they need to build up a statement? Answer: *the one able to muster on the spot the largest number of well aligned and faithful allies*" (Latour, 1983, p. 5). And how does one build an arsenal of allies? Latour refers to the map as an inscription that is immutable — that is, unchanging over time. The inscription, he says, must be mobile to be effective for building allies:

> If you wish to go out of your way and come back heavily equipped so as to force others to go out of their ways, the main problem to solve is that of mobilization. You have to go and to come back with the "things" if your moves are not to be wasted. But the "things" have to be able to withstand the return trip without withering away. Further requirements: the "things" you gathered and displaced have to be presentable all at once to those you want to convince and who did not go there. In sum, you have to invent objects which have the properties of being *mobile* but also *immutable, presentable, readable and combinable with one another* (Latour, 1983, p. 6).

These immutable mobiles become the early "instruments of visualization" that Haraway would likely view as containing universal, and therefore irresponsible, knowledge claims.

Referring to the writing of historian Elizabeth Eisenstein, Latour points out that prior to the printing press, "everything had been tried, and in all disciplines" — whether it be geography, politics or medicine (Latour, 1983, p. 11). Yet it was not until the invention of the printing press and moveable type that knowledge could progress. Building on the work of Marshall McLuhan, Eisenstein's *The Printing Press as an*

Agent of Change did not look for a single cause of the scientific revolution, but for a number of secondary causes that were related. For Eisenstein, the powers of the printing press were such a secondary cause. Latour concurs with Eisenstein in her assessment, noting the printing press allowed for immutability through the process of creating many identical copies of the same work (Eisenstein, 1980; Latour, 1986).

Latour's thoughts on immutable mobiles are echoed by Jody Berland, who looked to space-biased communications such as telegraphs, paper and electronic networks as a way of enabling the acquisition, transmission, and control of information over an ever-expanding geographic space. Berland argues that space and time become redefined through such mediation: "Power over this process is one definition of empire" (Berland, 2009, p. 73). In this way, the most technically advanced, farthest-reaching, and most quickly disseminated technologies provide the user with power over how people relate across distance and history.

Technology is a theme that arises time and again in the production of knowledge. Whether through a single map, drawn on a piece of parchment, or an immutable mobile that is duplicated through a printing press, technology has been used through history in the accumulation and deployment of power. That process begins to rapidly accelerate in the age of digital technology, where universal knowledge claims are disseminated through the code of the instruments of visualization that Haraway viewed as techno-monsters.

2.2.2 Digital Mapping

If the cage of the Empire is maintained through the most quickly disseminated technologies, digital mapping has provided governments with some formidable ammunition. Geographic information system (GIS) mapping involves complex politics and issues of sovereignty that relate to various international treaties and the

legal definitions of the nation-state, as well as extraterritorial domains such as the air, orbit and oceans (Parks, 2012).

Digital mapping applications such as Google Earth appear purified of not just Indigenous peoples, but of all social relations, leaving the user to decide where the "centre" of the map is (Munster, 2008). Google Earth users are able to fly above the earth in any direction with nothing but a black void on the horizon. The user can therefore choose his or her method of interacting with the map that is void of others.

However, most GIS mapping programs, such as Google Maps, offer a mainstream view of Canada derived from the original treaties and land surveys conducted pre-Confederation. The lines on the map represent the land acquired through treaty, surveyed by a government surveyor, sold to private individuals, and protected by the Canadian legal system. There is no room in the GIS mapping world for alternate Indigenous views of the treaty-making process, which leaves Indigenous communities from coast to coast in the margin, and devoid of power.

The alternative to this power void is to push back against the universal knowledge claims made by digital maps. One method of accomplishing this feat is through the very instruments of visualization that have spread the universal knowledge claims, which can be articulated with other media to form a hybrid digital artefact which subverts the colonial gaze. A second method is through activities that involve a limited location, and particular and specific embodiment. Both methods involve situated knowledges, and both can be considered counter-mapping.

2.2.3 Counter-Mapping

Counter-mapping produces, through mapping, an alternate space of representation to one that has become hegemonic through state power. It offers those in the margins, such as Indigenous peoples, the chance to challenge and counter messages

from the centre, either through taking up the tools of the dominant culture or through taking part is resisting practices that help to ensure cultural continuity (Eades & Zheng, 2014).

Maps, diagrams, and art that challenge and counter messages from the centre have been used in digital counter-mapping projects that re-establish the life-worlds, languages and named places of Indigenous communities. For instance, the University of Victoria's Ethnographic Mapping Lab uses GIS and qualitative data analysis to develop projects related to traditional land use and occupancy mapping. The lab establishes collaborative partnerships with Indigenous communities such as the Stz'uminus First Nation in Ladysmith, British Columbia. The Stz'uminus Storied Places Digital Atlas research project focuses on Hul'q'umi'num' place names by inserting place-focused videos into digital maps so community members can continue to listen to the names and stories via personal computers and mobile devices (University of Victoria, 2015).

Resisting practices, including embodied experiences, offer a second method of counter-mapping as they narrate stories of place. Julie Nagam investigates alternate cartographies grounded in an imagination of space that is perpetually under construction through art. She looks to instances like the 2013 *Land|Slide: Possible Futures* public art exhibition at the Markham Museum and Heritage Village as an example of artists challenging the settler narrative through their work. Her own installation, *singing our bones home*, made reference to the archaeological site that contained buried bodies in the Markham Ossuary in an effort to code the bodies as part of the present and the future (Nagam, 2015). Using a sculpture of a wigwam filled with projections and binaural audio, the installation was intended to teach settlers the outstanding connection to place and land for Indigenous people.

Both Nagam's artistic work and the University of Victoria's use of GIS mapping are demonstrative of the possibilities of counter-mapping. In both cases, the narrative about a specific location has been re-written through a partnership between an Indigenous person and the non-Indigenous community in which that person is a part of. In this way, a larger vision has been created that is specific to a particular location, yet very much part of a web of Indigenous and non-Indigenous people who, for better or worse, are entangled with each other.

2.3 Entanglement

The ongoing conflict over Ipperwash Beach is not only limited to a power-struggle between Indigenous people and the state — it is also a conflict between Indigenous people and settlers. However, the relationship is not always acrimonious, but is often quite pleasant as friendships have formed and marriages have joined communities. These relationships have blossomed out of a complex entanglement.

Growing out of the fields of philosophy and new materialism, and into archaeology, the concept of entanglement can explain our complicated relationships with material objects. Ian Hodder describes entanglement as beginning with a human dependence on "things." This dependence can be productive and enabling, or it can turn into a dependency that is constraining and limiting. The dependency can go both ways, also causing the material object to develop a dependency on humans (Hodder, 2012). For a modern-day example, we can look to our dependency on mobile phones, which creates a human-object relationship that is affected not only by the "thing" itself but on the way we interact with it; smartphone users can often be found with their attentions directed towards the phone while neglecting other humans in the vicinity. The human-thing relationship with mobile technology goes

both ways in the sense that our smartphones depend on us to charge them. Adding to this, a thing-thing relationship develops where the smartphone has a dependency on a power cord to charge it, a plastic case to protect it, as well as software updates to maintain it's smooth functioning.

Networks of interactions form as humans, knowledge and energies become intertwined. As the social world of humans and the material world of things are drawn together it creates potentials for further investments and entrapments (Hodder, 2012). This interwoven state of relationships — between thing-thing (TT), human-thing (HT), thing-human (TH) and human-human (HH) — becomes a dialectic of dependence and dependency. The tension between social and material relationships, between dependence and dependency, results in entanglement (Thomas, 1991; Hodder, 2012).

Hodder claims the defining aspect of our entanglement with things happens when, "humans get caught in a double-bind, depending on things that depend on humans. Put another way, things as we want them have a limited ability to reproduce themselves, so in our dependence on them we become entrapped in their dependence on us" (Hodder, 2012, p. 88). This interrelationship of humans and things becomes a defining characteristic of our own personal history.

The concept of entanglement, which focuses on relationships situated in a particular place, adds to the overall theoretical framework of this thesis document. Building on that framework, I now turn towards existing projects in the field of art and design that set precedents for how I can approach the prototype of the digital artefact that forms a large part of this thesis project.

2.4 Influences

This thesis project focuses on counter-mapping through the use of locative media, documentary media, data visualization and audio to create a storytelling experience for mobile. The following sections include precedents from the fields of art and design that are an influence on the project.

2.4.1 Locative Media

While the phrase "locative media" was coined in 2003, the practice of attaching mobile media works to real located places and their geographical coordinates dates back over a decade earlier. In 1991, Canadian artist Janet Cardiff used locative media to design a Forest Walk at the Banff Centre in Alberta using an audio cassette deck and headphones to create a narrated walk through a pine forest. Works by other international artists popped up as the technology progressed, with a surge in 2007-2008 as GPS technology became standard on mobile phones (Ladly, 2016).

Today, many locative media projects focus on embodied game play, an inclusion of social media, or the re-mix of audio and visual materials. While relatively rare, locative techniques have also been combined with linear filmmaking. The following projects lend inspiration to the locative aspects of this thesis, either technically or conceptually.

Cartoplay (2015)

My first personal experience with using locative media was through Tapio Mäkelä, a researcher from Helsinki who brought his Cartoplay workshop to OCAD University in the summer of 2015. During the first day of the workshop, students experienced "embodied interaction" as they split off into a number of teams, were given a theme

of "Arctic expansion," and were assigned a role to play within the story. Using a custom-built Android app to record video, the team set off within a pre-specified area in Grange Park, next to the main campus of the University. Video scenes recorded by participants were tagged with meta-data as they were uploaded, and then, on the second day of the workshop, the tagged videos were remixed into different combinations to form different online narratives (Translocal, 2015). The design of the app and locative video player was a collaborative project between OCAD University, Blast Theory (United Kingdom), Patching Zone (Netherlands), and Translocal (Finland), working under the banner of Live Transmission.

While the Cartoplay workshop was certainly entertaining, we did encounter issues with the technology. The Live Transmission app crashed during gameplay, meaning teams were no longer able to track each other on their mobile phones using GPS. Once the teams physically lost track of each other the interaction between players was lost, unless teams happened to stumble upon other players. This affected all further video that was filmed and stood out as a major flaw in the gameplay, as it affected the teams' abilities to interact with each other and further the narrative.

Applying the lessons learned from the Cartoplay workshop to this project, it appears establishing and maintaining a strong connection to a Wi-Fi or GPS link is crucial to the enjoyment of the experience. When designing the mobile platform, special attention should be paid to the download of content onto users' smartphones. The download should occur, in full, at the beginning of the walk so as to eliminate the possibility of the Wi-Fi breaking contact halfway through the experience. The mobile platform should also be a browser-enabled web page instead of an app, which avoids the need for users to install the app itself on their smartphones.

The Wilderness Downtown (2010)

This online multi-media music video from director Chris Milk and the indie band Arcade Fire is surprisingly powerful due to its focus on nostalgia. It begins by asking users to type in the address of the home where they grew up, then locates the dwelling in Google Street View and uses the image throughout the video. The image is one of a number of pop-up windows that appear and disappear at different positions on the user's computer monitor. These windows are tied together in several ways; the audio of Arcade Fire's song "We Used To Wait" plays throughout; the images of animated flying crows swarm from window to window, as if flying from location to location across the user's hometown; the familiar images of other neighbourhoods close to the user's childhood home lead up to the moment the key image appears.

　　While the video is an online experience (versus mobile), a number of different storytelling techniques can be borrowed from the project. First, the use of continuous audio ties the images together, even when there initially seems to be no obvious connection between them. The use of a constant motif (in this case, the crows) is an effective way of stitching the multiple pop-up windows into a whole. The constant "fly-overs" in Google Maps help to locate the user in space before arriving at the final destination. Finally, the overall concept appears to borrow from Indigenous storytelling in the sense that the story both changes and stays the same – the overall framework of the story is fixed, while leaving room for details that are specific to locations that users are highly familiar with.

Murder on Beacon Hill (2010)

Touted as the first film ever created for the iPhone (Gilbey, 2010), *Murder on Beacon Hill* combines a linear narrative with a mapped trek around Boston's Beacon Hill neighbourhood. Traditional filmmaking techniques have been used to create the scenes, including documentary media such as archival photos and documents, historical recreations, narration and stock music. The scenes are available to be viewed in conjunction with a mapped route via a downloadable app available through Apple's App Store (WalkingCinema.org, 2009). Created by a San Francisco-based production company, *Murder on Beacon Hill* is one of a series of locative media/filmmaking hybrid projects dubbed Walking Cinema.

The Walking Cinema documentaries are unique among other locative media projects in that they are edited to be viewed on-location, from a specific site on a pre-mapped route. In contrast, other mobile/film hybrids, such as *Sixty-Four Flood*– a "mobile, documentary narrative" about a 1964 flood on the Blackfeet Reservation - are not intended to be viewed in situ (Shors, 2014). While the cinematography in *Sixty-Four Flood* is reminiscent of a feature film, the scenes are edited for the purpose of being viewed on a mobile phone from wherever in the world the viewer is located — not from the actual site of the flood. The Walking Cinema documentaries, in contrast, use physical locations to complement — and work in tandem with — the scenes appearing on a user's mobile phone. In this way, Walking Cinema projects are an embodied experience while the mobile, documentary narrative of *Sixty-Four Flood* is not.

Murder on Beacon Hill and other Walking Cinema projects are evidence that locative technology and linear documentary filmmaking can be combined into a storytelling experience. Much can be learned from the successes and failures of these

unique projects, and it is likely worth taking the time to dig deeper into the production process to learn what further information can be gleaned from the making of them.

2.4.2 Documentary Media

This thesis project originally began as a traditional documentary film, with the order of the scenes edited to roughly correspond with time. This editing technique is critical to understanding causality, in that events that happen earlier can influence those that come later — but not the other way around. If a linear storyline is not followed, literary devices such as flashbacks can be used. However, within each segment of the film the order must remain consistent and clear for the story to be understandable (Kosara & Mackinlay, 2013).

Interactive documentaries offer the audience the opportunity to structure, recombine, and augment content. This interactivity usually falls into three broad modes: the user can impact how the "story" unfolds, the user can play with game elements in the "story," or the user contributes to the "story." The interactivity remains narrative-based, working within a closed software database of "story" options (O'Flynn, 2015). The following interactive documentaries can be used as inspiration for this thesis project, either in their narrative approach, interface design or methodology.

Welcome to Pine Point (2011)

As the first interactive web documentary I ever encountered, *Welcome to Pine Point* still stands up over time. Produced by the National Film Board of Canada's Vancouver office, and directed by The Goggles, *Welcome to Pine Point* explores the memories of residents who lived in the small mining town of Pine Point, Northwest

Territories (National Film Board of Canada, 2011). The project combines sound and video clips, interviews, photographs, animations, voice over from several different characters, and music in a more-or-less linear narrative (see Fig. 4).

The kitschy, tongue-in-cheek tone of the project perfectly captures life in the colonized space of small town Canada, while tapping into a feeling of nostalgia to explore how we remember the past. The project strongly brings to mind a book by John E. Smith called *Ipperwash Beach, 1900-1950: Images of a Bygone Era* (Smith, 2004), which can be found in numerous gift shops in the Ipperwash Beach area. The book relies on photographs, maps and historical documents to tell the history of Ipperwash Beach from a settler's perspective, relying on a similar feeling of nostalgia to further the narrative (Smith, 2004). *Welcome to Pine Point* is evidence that nostalgia, as represented through archival material, can be a desirable theme for settlers within interactive documentaries.

It is important to note that the sense of nostalgia over Ipperwash Beach should only be used as a hook to attract settlers to viewing the content of the project. In no way should nostalgia be used to romanticize the devastating effects that colonization has had on the local Indigenous community. Each nostalgic moment should be offset with a counter-point illustrating how universal knowledge — applied through the use of maps, deeds, and amendments to the Indian Act — have been used to circumvent the original intent of the Indigenous chiefs who signed the Huron Tract treaty.
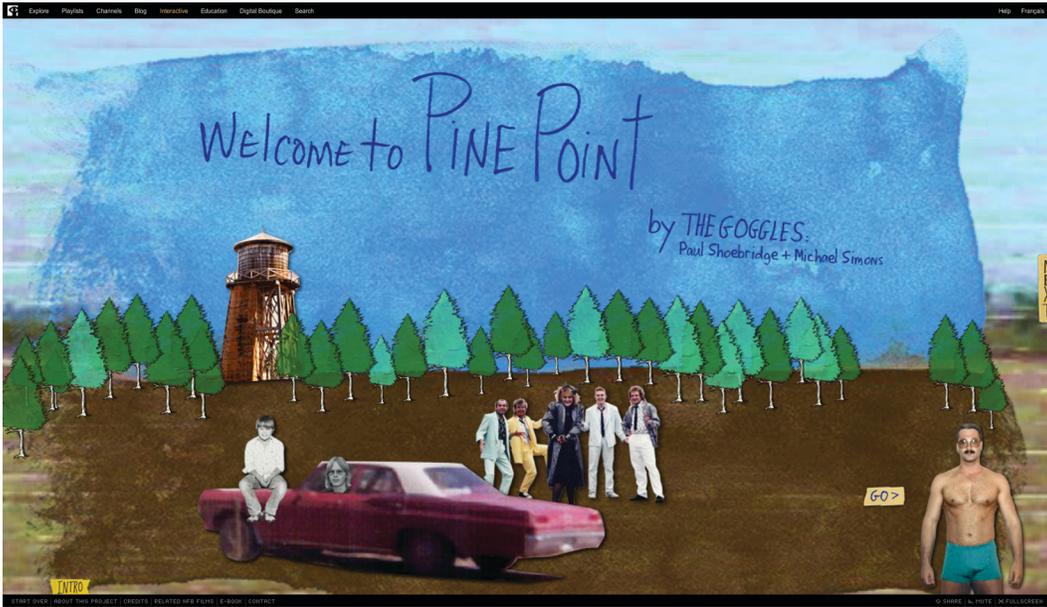
Fig. 4: The interactive web documentary *Welcome to Pine Point* uses nostalgia to explore how we remember the past. (Welcome to Pine Point ©2010 National Film Board of Canada. All rights reserved.)
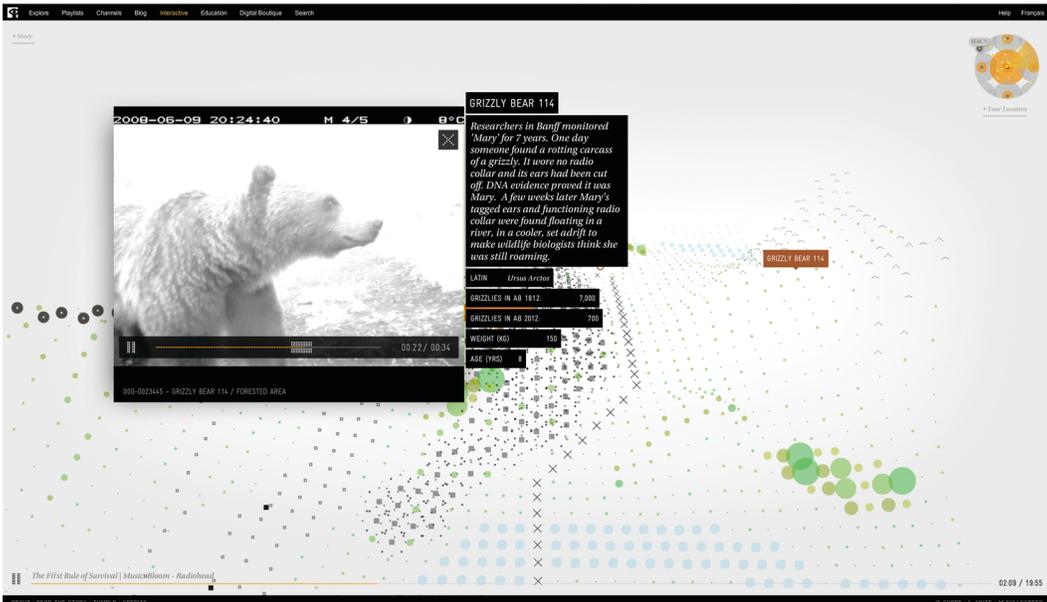
Fig. 5: The interactive web documentary *Bear 71* uses overhead mapping imagery to locate the viewer in space. (Bear71 ©2012 National Film Board of Canada. All rights reserved.)

Bear 71 (2012)

Created in 2012, *Bear 71* remains the original inspiration for this thesis project morphing into a story told through visualization and mapping. Produced by the National Film Board of Canada's Vancouver office and designed by Toronto-based digital agency Jam3, this interactive web documentary follows the narrative of a grizzly bear living in Banff National Park (National Film Board of Canada, 2012). The design combines trail-cam footage with narration, and ties the grizzly bear to a locative, physical landscape through animated overhead mapping (see Fig. 5). The mapped landscape morphs in digital space with the user's on-screen mouse clicks, and is represented as a responsive, shifting grid (O'Flynn, 2015). The combination of the overhead grid, trail-cam footage and tense music generates a strong feeling of surveillance and control.

The design of *Bear 71* can be used as a precedent for how to incorporate mapping with video, narration and music in a cohesive way. The stylized physical landscapes are of special interest, offering an example of how to incorporate the visuals of digital maps without depending on the now-mundane imagery of applications such as Google Earth.

HIGHRISE (2009-2015)

HIGHRISE is a global, multi-year collaborative documentary experiment directed by Katarina Cizek and produced by the National Film Board of Canada's Ontario office. Launched in 2009, the series includes five different interactive documentaries and over 20 derivative projects, including mobile productions, installations, live presentations, mixed media and films. All of the projects revolve around stories about vertical living in suburbs around the globe (National Film Board of Canada, 2015).

"Thank you," he said afterwards, "for sharing your lives."

Fig. 6: *HIGHRISE* is a participatory documentary series created in partnership with researchers from the University of Toronto. (Highrise ©2010 National Film Board of Canada. All rights reserved.)

HIGHRISE is an example of a highly successful participatory documentary project involving those living in the residential highrise buildings that appear throughout the series (see Fig.6). Cizek collaborated with researchers from the University of Toronto throughout the project, using their assistance to conduct a number of directed workshops with highrise residents to assist in determining the content of the documentaries. Not only did the co-design process inform the content of the five larger interactive documentaries, but the process itself became the focus of a number of the smaller derivative projects such as shorter documentaries, public art exhibits, live performances and public screenings (St. Denis, 2015).

HIGHRISE can be used as a blueprint for this project, as a research method and as a selling point for grants and possible future partnerships with funding agencies and content creators. The series demonstrates how SSHRC (Social Sciences and Humanities Research Council) grants can be used to fuel the research, while

federally funded agencies like the NFB can be tapped to produce content that extends beyond traditional filmmaking and into multi-platform storytelling. Research subjects — whether those living in highrise buildings, or those living near Ipperwash Beach — can not only appear within the surface content, but also help determine the underlying scope and structure of the project.

2.4.3 Data Visualization

Stories are traditionally told without interaction, and are usually predefined and intended for delivery in their entirety. Approached carefully, visualization can be used to augment, instead of interfere, with the story arc. The features of visualization that provide a narrative structure and guide the participant through the story — the storytelling affordances — are a fundamental feature of stories. They provide a temporal structure, even if that structure is not linear. A cohesive structure can be created by showing how individual parts of stories, such as facts and events, can be closely tied together through causal relationships related to time (Kosara & Mackinlay, 2013).

The following projects exhibit specific characteristics that set precedents for how I have approached the data visualization component of this thesis, either technically or conceptually.

Forensic Architecture (2015)

Forensic Architecture is a research centre at Goldsmiths, University of London. The term refers to the production and presentation of architectural evidence, including buildings and the larger environment, and their media representations. The *Forensic Architecture* team collects, analyzes and visualizes data for human rights cases both in court and in popular media (Goldsmiths, 2015a).

A number of notable cases are featured on the *Forensic Architecture* web site that can inspire this project, including the "Left-To-Die Boat" within a section called Drift. Launched in 2011, the case uses mapping to trace the deadly drift of a migrant boat in the Mediterranean. The project uses precise visualizations to track the drift of the boat across a map depicting NATO's maritime surveillance area. The output from the study includes several reports, as well as a number of short documentaries Goldsmiths, 2015c).

Another noteworthy set of cases involves "Before and After" photographs — considered to be the "very embodiment of forensic time" due to their ability to frame a missing event by showing the states that preceded it and came after it (Goldsmiths, 2015b). This technique is suitable for illustrating events such as war crimes and climate crimes. For instance, "Before and After" photographs uncovered human rights violations in Darfur, Sudan, where ethnic cleansing was identified through the comparison of aerial images of villages that had been destroyed and taken over by vegetation.

Comparable techniques can be used to draw attention to the destruction of natural environment along Ipperwash Beach through the process of colonization, including the levelling of naturally occurring sand dunes. Similarly, the techniques used by the *Forensic Architecture* team can be used to draw attention to the issue of land ownership. Maps and aerial photos can be overlaid with purple lines in the style of old land surveys to illustrate how the physical landscape that was meant to be "shared" through the Huron Tract treaty has been fenced off into rectangles and claimed as private by property owners as part of a forward march of progress.

Visualizing Palestine (2015)

Visualizing Palestine has been created by a not-for-profit group of researchers who are working together to create data-driven tools to advance a factual, rights-based narrative of the Palestinian-Israeli conflict. The group uses data visualization to simplify a complex political story and spread the information further via gallery shows and social media (Visualizing Impact, 2016). The visuals include info graphics, billboards, videos and interactive web sites (see Fig. 7). The techniques used throughout the *Visualizing Palestine* site can be applied to this thesis project, as they address many of the same issues: colonization, displacement, chain of title and environmental destruction.

The *Visualizing Palestine* site also makes great use of social media by embedding sharing buttons on each of the info-graphics. This technique could be employed in some way in this thesis project, whether that means providing sharing buttons on each of the interactive visualizations used during the course of the "beach walk," or providing an opportunity to share at the conclusion of the walk. As seen with the Idle No More movement that arose in 2012, Indigenous people and their allies rely heavily on the power of social networks and gladly share information about causes that are important to them (Donkin, 2013). It is important to note that there may be a trade off between the use of interactive visualizations and the focus of the participants — interaction tends to cause interference and distract from the story (Kosara & Mackinlay, 2013). Special attention should be paid to the placement of interactive visualizations within the storyline by ensuring their timing corresponds to moments when interference is welcomed. For instance, there are several public picnic areas with washrooms along Ipperwash Beach, and these areas may provide the best spots to include an interactive visualization within the story.

Fig. 7: An interactive graphic from *Visualizing Palestine* features a map that can be altered with a slider. (Image courtesy of Visualizing Palestine, Creative Commons, Attribution-NonCommercial-NoDerivatives 4.0 International, http://creativecommons.org/licenses/by-nc-nd/4.0/)

A number of visualization methods can be borrowed from *Visualizing Palestine* for this project, including the use of a "hook" within each graphic. While each of the researchers' visualizations may be visually clean and simple, the focus is always on storytelling. Every shareable image is not just an image, but a glimpse into a larger narrative that has human beings attached to it.

2.4.4 Audio

Audio inventions such as the Sony Walkman in the late 1970's have enabled us to reorganize space and place in a way not possible prior to the technology. The Walkman allowed users to create a seamless web of mediated and privatized experiences in their everyday movement, and to enhance almost any chosen experience in any geographical location. Overlaying the existing sounds of the landscape with the sounds coming through the Walkman's earphones enables users

to construct their own privatized and intimate spaces (Bull, 2004). Sounds in the environment bleed into the recorded audio, which in turn augments the user's vision, resulting in cross-modal interactions and unplanned synchronicities (Whittaker, 2013). Overlaying recorded audio with the existing sounds of the landscape is an underlying concept of this project; the following examples serve as precedents.

The Letters (2014)

Created at Plymouth University, *The Letters* is an app that transforms mobile phones into a LociOscope — a term the designers invented to describe, "a unique sensory aid that enhances your perception, allowing you to tune into the past." The app works by, "amplifying the emotional resonance found in specific locations," with this specific edition of the app, "calibrated to detect the imprints left by a collection of travel correspondence," written between two lovers in 1925 (Whittaker, 2014). Based on material selected from the University's Darlington Hall archive, *The Letters* overlays everyday sounds with an invisible fiction. The landscaped grounds of Darlington Hall were chosen as the site for the experience, allowing users to navigate their way around the grounds while listening to binaural recordings on their headphones. While a map is included within the app, users are able to select their own route. The narrative, then, is not a linear "audio tour," but rather an artwork where the user assembles the narrative and meaning (Brocklehurst, 2014).

Of special interest in *The Letters* is the use of binaural audio, which simulates the position of sound sources in 3D space. Consumer headphones allow ambient sounds occurring in the physical location to seep into the recorded audio, creating the potential for perceptual illusions and cross-modal interactions between sound, vision and movement. The result of the layering of audio is an immersive sense of presence

(Whittaker, 2014), which could be replicated to create new soundscapes when used at Ipperwash Beach.

3. Research Methodology

The biggest challenge in this process has been finding a research method that fits with my goals — to both work with the Indigenous community to determine the outcome of the final product, and to design a theoretically backed, well-designed final product that is technologically sound as well as engaging for participants.

Haraway and Simpson's arguments for situated knowledge provoke the need to find a research method that is situated. Lucy Suchman suggests taking into account that design can be located within networks and practices (Suchman, 2002). Following Haraway's views, design can be carried out with partiality and from a specific, embedded position (Haraway, 1988). The following considerations went into selecting my research methodology for this project:

3.1 Ethical Considerations

It is not lost on me that this thesis project holds major ethical issues that must be addressed. First and foremost is that I am a settler — I am not a band member from the Kettle & Stony Point First Nation, and I don't identify in any way as being Indigenous. It is true that five generations of my family have vacationed at Ipperwash Beach. My grandfather, Jack McGachie, began visiting with his parents and grandparents in 1929, when he was five years old. He watched the Ipperwash Casino being built on the beach, and watched a number of confrontations erupt between property owners and tourists over beach access. My favourite childhood memories

can be traced back to Ipperwash Beach, and my heart is most definitely situated there. But I am not an Indigenous person.

There is a lot at stake in this project — especially in telling someone else's story. I am told that I may be the first non-Indigenous student to attempt an Indigenous-themed thesis project at OCAD University. For that reason, extra care has been taken to address this issue head on. The first step in this process was, at the suggestion of Dr. Julie Nagam, to examine how to complete the project through the use of Indigenous methodologies.

3.2 Indigenous Methodologies

Indigenous Methodology (IM) is research by and for Indigenous peoples, using techniques and methods drawn from their own traditions. As opposed to non-Indigenous peoples framing an Indigenous worldview from a distance, IM situates the research at the location most relevant to that being gazed on — the Indigenous experience itself (Evans, Hole, Berg, Hutchinson, & Sookraj, 2009).

There are differing opinions on what IM consists of, but there are common themes. The first theme is that of self-locating, where the researcher identifies who he or she is within the research. It is from this position that the researcher interprets the world, within his or her place of experience. It is from this position that the researcher can identify the purpose and motivation behind his or her actions. Margaret Kovach suggests that who we are as researchers cannot help but influence the epistemological framework and theoretical lens of our work (Kovach, 2009). Self-locating ensures transparency in a researcher's actions, and ensures the research is strong from the start.

The act of self-locating should happen not only on the part of the researcher, but also on the part of Indigenous participants. Building on the need for transparency is the need for research from the heart. According to Shawn Wilson, the source of a research project is the heart/mind of a researcher. He writes that "checking your heart" is a critical element in the research process (Wilson, 2009, p. 60). Wilson offers the following piece of advice: "If research doesn't change you as a person, then you haven't done it right" (Wilson, 2009, p. 135). He views research as ceremony, in the Indigenous cultural context, and feels it should be approached as such.

Wilson's views on ceremony compliment Margaret Kovach's views on cultural grounding. For non-Indigenous researchers, this means the significance of the research is in his or her life context and how he or she engages with culture. For example, there will be a specific tribal epistemology for each Indigenous tribe, such as existing protocols in place that show respect. In Cree culture, it is protocol to offer tobacco to teachers. It is also important to keep in mind that some parts of Indigenous culture are intended for sharing, while other parts are to be kept private. Researchers — and especially non-Indigenous researchers — must be mindful of these protocols at all times (Kovach, 2009).

The specific tribal epistemology will influence the framework from which a researcher conducts her work. Kovach offers the following diagram, based on a Plains Cree epistemology, but suggests the framework would change depending on the tribe:
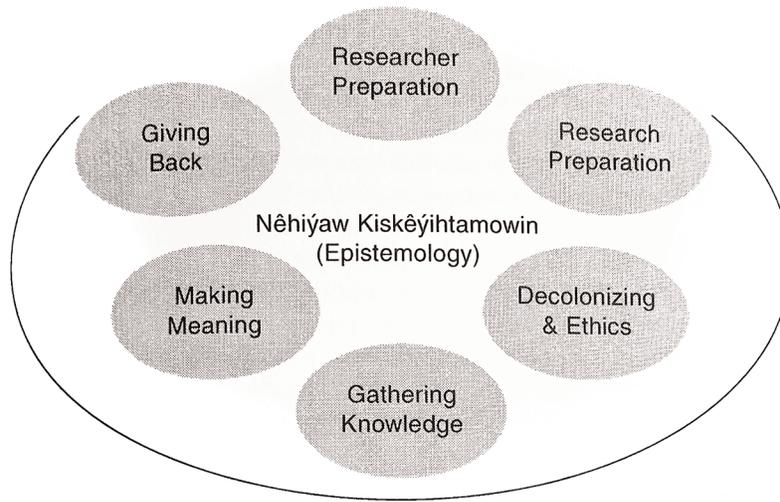
Fig. 8: An Indigenous research (conceptual) framework with Nehiyaw epistemology. (Diagram courtesy of Margaret Kovach, Indigenous Methodologies: Characteristics, Conversations, and Context. © University of Toronto Press Incorporated 2009. Reprinted with permission of the publisher.)

The diagram is drawn free of lines and arrows, allowing for a non-linear approach (see Fig. 8). Instead, the research pathway becomes more of an up and down, in and out approach that values flexibility (Kovach, 2009). Leanne Simpson offers that:

> Nishnaabeg were adept at viewing and aligning themselves with emergent properties of the natural world – be it mass migration in the animal world, behaviour of schooling fish…This recognition of the inherent emergence of nature developed thought systems that were process- and context-oriented rather than content-driven. In this way of thinking, the way in which something is done becomes very important because it carries with it all of the meaning. The meaning is derived from context, including the depth of relationships with the spiritual world, elders, family, clans, and the natural world (Simpson, 2011, p. 91).

The line-free, circular framework diagram created by Kovach is repeated in other areas of IM research. For instance, Wilson repeats the circular approach when writing of the Indigenous research paradigm. He lists four entities that make up the paradigm: epistemology, ontology, axiology and methodology. As opposed to being separate, as they would in a Western research context, the four entities can be seen in

the symbolic form of a circle, flowing from one into the other without boundaries. The two entities that involve relationships that form reality are that of ontology (the nature of being) and epistemology (knowledge and understanding). The other two entities involve research and accountability: axiology (the study of value) and methodology (methods applied to a field of study). These four entities are put into practice through a researcher's choice of research topic, methods of data collection, form of analysis, and presentation of the information (Wilson, 2009).

Once the researcher has identified a clear epistemic position, the number of research methods can be narrowed and a data collection strategy will come into focus. Strategies for data collection include research circles, conversations, journaling and storytelling. Kovach has found that highly structured interviews have not been helpful in knowledge gathering within the Indigenous oral tradition (Kovach, 2009).

"Story as knowing" is a common theme within IM. Indigenous knowledges are made up from a specific way of knowing based on an oral tradition of sharing knowledge. Worldwide, different Indigenous researchers have identified this passing of knowledge as storytelling, yarning, talk story, re-storying, or remembering (Kovach, 2010). Kovach has found the conversational method as a useful way of gathering knowledge based on the oral storytelling tradition.

Mixing IM with alternative research methods can entail a comprehensive integration, "as a process which creates, and analytically exploits, a particular relationship between different sets of data" (Botha, 2011, p. 2). The intention behind the mixing would be to draw on the interaction of the methods to clarify the relationship between Western research and Indigenous ways of knowing. It can both decolonise the areas of collaboration between Indigenous and Western modes of qualitative research, and rewrite the boundaries between these ways of knowing. Appropriate theories, practices and relations can be developed for their mutual

relations (Botha, 2011). For instance, in a case study in South Africa, a researcher

began with traditional Western methods of collecting data, including participant

observations and recorded interviews. The interviews, along with the aid of a

research diary, photographs and other materials, became audio and visual cues that

formed the basis for an alternative inquiry process. The researcher then reflected on

the diary entries in terms of positionality and ethics, in a way that leaned closer

towards IM (Botha, 2011).

The extent to which mixing methods is effective is likely to be up for some

debate. A traditional talking circle may not be enough for writers like Simpson, who

relates a portion of the Anishinaabeg Creation Story:

> …Gzhwe Mnidoo put her/his right hand to my forehead and s/he
> transferred all of Gzhwe Mnidoo's thoughts into me. There were so
> many, that the thoughts couldn't just stay in my head; they spilled
> into every part of my being and filled up my whole body. Gzhwe
> Mnidoo's knowledge was so immense from creating the world that it
> took all my being to embody it. This tells us that in order to access
> knowledge from a Nishnaabeg perspective, we have to engage our
> entire bodies: our physical beings, emotional self, our spiritual energy
> and our intellect. Our methodologies, our lifeways must reflect those
> components of our being and the integration of those four
> components into a whole. This gives rise to our "research
> methodologies," our ways of knowing, our processes for living in the
> world (Simpson, 2011, p. 42).

For Simpson, incorporating a traditional talking circle only at key points may not be

sufficient. If the entire body — including the physical, emotional, spiritual and

intellect — is required to access knowledge, then simply using one-off methods like a

talking circle may not be sufficient to use the label of "Indigenous Methodologies." If

the advice of Kovach, Wilson and Simpson is to be followed, conducting research as

ceremony and "from the heart" seems a more suitable approach to a research project

where Indigenous people are participants.

Unfortunately, it quickly became clear that using Indigenous methodologies in

its purest form would not be a viable option for a Masters thesis. The timeline for

delivery of the final product in order to hit University-specified deadlines would not fit with IM, and seemed more appropriate for a PhD-level thesis project. The goal then became to find a research method that was the "next best thing." This led to the discovery of co-design — a participatory method that fit the timeline for a Masters thesis and could be informed by the large amount of archival research I had already conducted on the history of the area.

3.3 Co-Design

Originally, I had planned on using Participatory Action Research (PAR) to conduct unstructured interviews (conversational method) with elders from the Kettle & Stony Point First Nation community. However, PAR did not seem like the best fit; the problem I was trying to solve was not rooted within the community itself. I was approaching the community with my own problem that I was asking them to solve.

After consultation with Dr. Gerald McMaster, it was decided that working directly with the elected Chief and Council of the First Nation would be the most appropriate data collection method. Both Dr. McMaster and the literature (Martin-Hill & Souncy, 2005; Mellor & Janke, 2001) emphasized the need for following community protocols, which meant approaching the Chief of the First Nation as a first point of contact. After some thought, I realized that if I was going to ask the permission of the Chief to conduct research on his territory, then why not remove a step and involve him and Council directly in the research? After reviewing the names of the current Council members, I realized many of the eight Councillors were people who I recognized to be respected elders in the community. Conducting the research directly with Chief and Council appeared to be killing two birds with one stone.

The next step was to solve the problem of how to use PAR with Chief and Council; as the research method that offered the best fit for the project, PAR did not

seem to fit at all. I then discovered that academics, researchers, industry and activists have begun using a research method they refer to as co-design or co-creation. Using this method, the designer becomes a facilitator rather than a detached observer (Lee, Mattelmäki, & Vaajakallio, 2010). The design process becomes, "an exploration that people do together" (Koskinen et al., 2013, p. 82).

I intend to use the co-design method to work with the Chief and Council of the Kettle & Stony Point First Nation, primarily on reviewing my archival research and developing the storytelling aspects of the project. While co-design is not nearly as comprehensive as using IM, it does allow for consultation and accommodation of participants' ideas. The key ideas within IM can still be honoured, even if time constraints don't allow for a full implementation.

3.4 Archival Research

Long before attending OCAD University, I began work on a documentary on the Ipperwash Crisis while a student in Sheridan College's post-graduate Advanced Television & Film program. In 2002, I began accumulating archival photographs from community members living in the Kettle & Stony Point First Nation community. I also began collecting stock footage from mainstream news sources, and filmed my own cinema verite footage and interviews focused around Sam George's ongoing court case against former Ontario Premier Mike Harris and the police.

Between 2005 and 2012, I was employed by Mr. George's lawyers to create an educational documentary on the history of Ipperwash Provincial Park. Not only did I film over 20 historical recreations, but within that time I accumulated vast amounts of original historical research under the direction of lawyer Murray Klippenstein. Initially working with both Mr. Klippenstein and Mr. George (prior to his death in

2009), I sought out historical documents, maps, archival photos and stock footage from national, provincial and local archives, the Ipperwash Inquiry proceedings, as well as other sources such as private individuals. The historical documents were transcribed, with the transcriptions placed into a chronological timeline. The documents were then placed, in chronological order, inside large binders.

The research focused on the lands covered by the Huron Tract treaty (No. 29) of 1827. More specifically, it focused on land surrenders — land sales enabled through the Indian Act (Titley, 1986). The land was originally promised to the Indigenous communities within the Huron Tract "in perpetuity," but the Indian Act later enabled the surrender of "Indian land" to the Crown, who would then sell it to private interests on behalf of the "Indians." Two such surrender votes occurred within the Huron Tract within a year of each other — one on the Kettle Point Reserve in 1927, and a second on the Stony Point Reserve in 1928 (Holmes, 2004). These two surrenders were located along the beachfront, and act as "bookends" to the centre section of Ipperwash Beach.

This archival research sat on a shelf from 2012 until 2016, when I began to prepare for this thesis project. It was never our intention to allow the research to collect dust, or to hide it from the band administration at Kettle Point — it was a case of running out of funding to complete the *Ipperwash Park Film Project*, and not knowing what to do with the research once Mr. George had passed away. This thesis project allows us the chance to share the information with Chief and Council in an ethical way, as well as use the research to form the content of the scenes that will be delivered to users during the locative "beach walk."

3.5 Focus Groups

After careful consideration, it was decided a focus group with the elected Chief and Council of the Kettle & Stony Point First Nation would be the best way to approach the co-design method of data collection. The focus group activities involve facilitated unstructured group discussions regarding the archival research I conducted between 2002 and present day. The outcome of the sessions is a collaborative map, on which myself, Chief Tom Bressette and the participating Councillors have affixed historical documents, archival photos, video stills, and written notes using facilitation materials such as tape, markers and Post-It Notes. At the end of the diagramming session the map was photographed in detail, and the images shared with the participants.

It was during this phase of decision-making that it was decided that Ipperwash Beach would become the specific piece of land I would focus on. Until that point, the entire Huron Tract treaty area was considered, including the Stony Point Reserve (the former Ipperwash Provincial Park and Camp Ipperwash), the Kettle Point Reserve, and the Aamjiwnaang First Nation near Sarnia, Ontario. Each area had a significant amount of prior archival research that could be attached to it, and each could have supported its own dedicated project. However, after discussing the issue with Chief Tom Bressette it became clear that a project focusing directly on Ipperwash Beach would be of most benefit to the First Nation. Access and ownership of Ipperwash Beach — an area sandwiched between the Kettle Point Reserve and the Stony Point Reserve, and claimed as private property by non-Indigenous cottage owners — was an issue currently being addressed by Chief and Council in anticipation of the coming tourist season. Conducting a collaborative mapping exercise specifically about Ipperwash Beach provided sudden and clear direction.

3.6 Research Ethics Board

The care and consideration put into the application to OCAD University's Research Ethics Board (REB) for this project was extensive. The initial application included considerable consultation with the staff in the REB office, as well as with my primary advisor, Patricio Davila and my secondary advisor, Dr. Gerald McMaster. As the Chair of the Canada Research Chair (CRC) in Indigenous Visual Culture & Curatorial Practice, Dr. McMaster offered gentle insistence on the importance of following community protocols when working on Indigenous territories. We were also careful to ensure that any research that was conducted with participants was of benefit to them and to the larger Kettle & Stony Point First Nation community.

The results of this careful attention to detail showed itself in the REB application in several ways. For instance, OCAD's standard Invitation/Consent Form template was changed to give participants in the focus group the option of being identified and acknowledged for their knowledge and wisdom — the direct inverse of the standard, colonized approach of going to great lengths to preserve participants' confidentiality and anonymity (see Appendix A: Invitation/Consent Form). This decision was made after consulting a report from McMaster University that states:

> Traditional Western practices of confidentiality and the use of pseudonyms to conceal the identity of informants were seen as dehumanizing, colonial and patronizing. By identifying the Elders, strategically chosen for their expertise, their knowledge was honoured. The recognition of their wisdom and knowledge is appropriate within this context (Martin-Hill, 2005, p. 8).

Further, an official Letter of Support was obtained from Chief Tom Bressette (see Appendix B: Letter of Support). It is important to note that Chief Bressette reacted to the request for this letter with indignation, stating that a phone call or some form of oral agreement with REB staff should suffice. However, Chief Bressette did agree to

sign the letter after I explained to him that my submission would not be approved, and the focus group halted, without his signature.

3.7 Research Questions

After taking into account the content in previous sections, the research questions I seek to answer during the data collection phase involve mapping and territory, the history of Ipperwash Beach, counter-mapping, storytelling and "being there."

1. How do I create a counter-mapping story using mobile technology?
2. How do I centre the counter-mapping story within the First Nation's perspective?
3. What design techniques and interactive technologies are required to create this locative media project?

4. Research

In this thesis project, the act of "research" takes on a number of forms. It includes examining the idea that there are competing ideas between the Indigenous community and settlers about what constitutes knowledge. Archival research, such as government documents, maps and photos, give a further understanding of how settlers have come to be "entangled" with Ipperwash Beach and view it as their own. This same archival research has been incorporated into focus group sessions with Chief and Council, who participated in a collaborative mapping exercise that will inform the content delivered to participants' smartphones during the locative "beach walk" across Ipperwash Beach.

4.1 Territory, Treaties and Land Surrenders

Specific examples of local, situated knowledge being squeezed out by universal knowledge claims can be found in printed documents — "immutable mobiles" — that are stored within local, provincial and national archives. These printed documents include the Huron Tract treaty, which is stored in a vault in Gatineau, Quebec. They also include the RG-10's (short for "Record Group 10"), which are the internal government files of the Department of Indian Affairs (recently renamed "Indigenous and Northern Affairs Canada"). The RG-10 correspondence illustrates how government officials carried out the laws of the Indian Act, which was first passed in 1876 as Canada developed out of Confederation.

The Huron Tract treaty (No. 29) is a land agreement signed between the British Crown and eighteen Indigenous chiefs following the War of 1812 (see Fig. 9). Negotiations for the agreement began in 1819, with the fourth and final draft making the agreement official in 1827 (Holmes, 2004). The treaty between the two parties reserved four parcels of land for the Indigenous communities (hence the term "Indian Reserves"), with the remainder of the 2.1 million acres to be "shared" with the coming influx of European settlers (see Fig. 10).

Once the land agreement was signed, the treaty itself was transported to the nation's capital for storage — no longer accessible to the chiefs who had signed their totem markings to it, and no longer accessible to those working at the Land Registry Office who would from that moment forward depend on the wording of the treaty to convey chain of title to settlers purchasing plots of land. The re-location of the treaty is key in that it is the moment when understanding between the two parties officially splits in two directions; the terms used in the agreement carry different meaning for
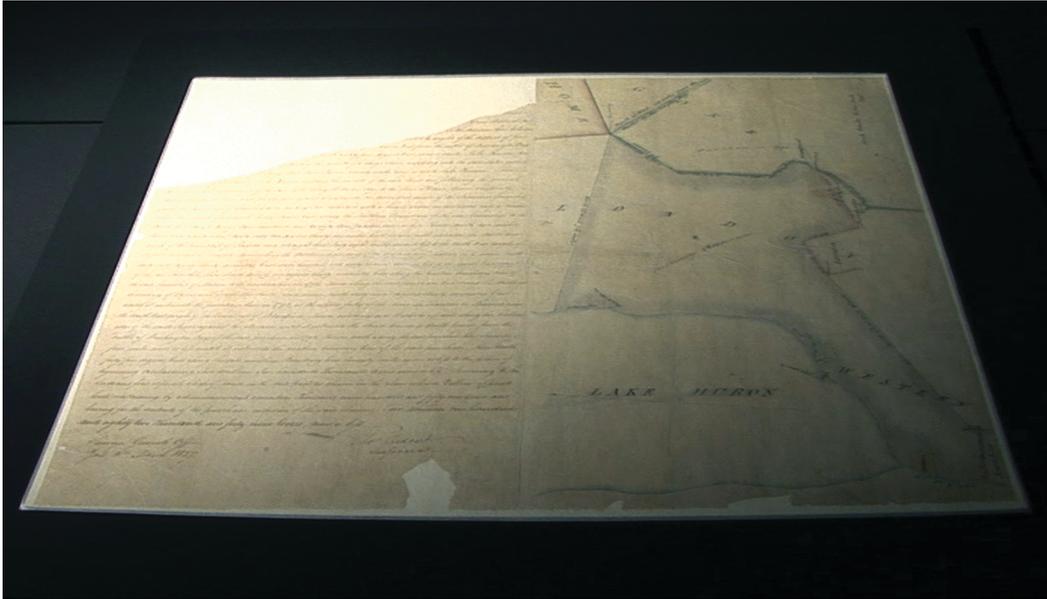
Fig. 9: Page three of the Huron Tract treaty (No. 29) includes a map of the 2.1 million acres "surrendered" to the Crown in 1827. (Photograph courtesy of Klippensteins/Monica Virtue.)
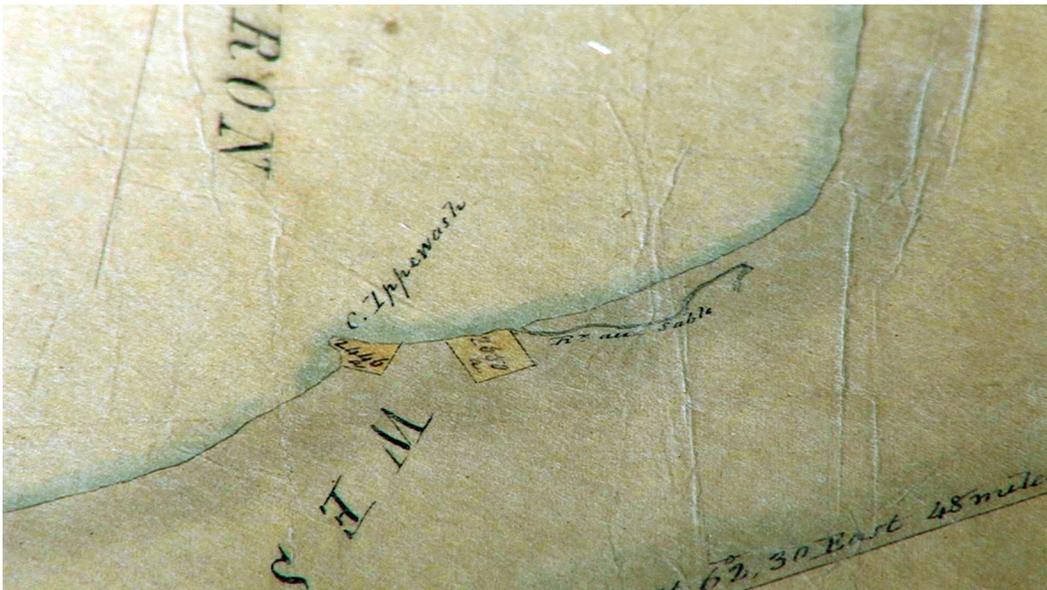
Fig. 10: A detail from page three of the Huron Tract treaty shows the two "Indian Reserves" located along the water's edge of Cape Ipperwash. (Photograph courtesy of Klippensteins/Monica Virtue.)

both parties, based on their cultural and spiritual understandings of land (D. Johnston, 2005).

Many in the Kettle & Stony Point community feel that the treaty process was fraudulent, and meant to intentionally deceive. While Crown officials and the Anishinaabe chiefs both signed the treaty, the document misrepresents the understanding of the process held by the later. To start, the verbal agreements reached between the two parties are not accurately represented in the final draft; the size of the land "surrendered" to the Crown expanded considerably between the provisional agreement of 1825 and the final draft of 1827. This misunderstanding can be attributed to an inaccurate map and the fact that in 1825 the chiefs all spoke Anishinaabemowin (Ojibwe), not English.

In addition, the chiefs likely assumed the 2.1 million acres of land they had "shared" would give them equal access to natural resources, while the British had already surveyed the land into individual lots a year earlier in 1826. As the ink dried on the treaty, over a million acres was conveyed to a corporation called The Canada Company (Holmes, 2004). With the goal of the corporation being land speculation, The Canada Company began selling individual lots to settlers, including beachfront lots lining Cape Ipperwash.

The issue of private property alone is a sore point with Indigenous people across Canada, but the specific terminology used in the Huron Tract treaty causes further confusion. At issue is the term "to the water's edge," used to describe all of the land being surrendered to the Crown. The chiefs likely understood this to mean they were sharing their land to the high water mark — up to the base of the towering sand dunes that lined the shore — while reserving the waters and beaches of Lake Huron for themselves (see Fig. 11). The settlers understood "to the water's edge" to mean the low water mark, making the beach their private property. In fact, the Chippewas of

Kettle & Stony Point First Nation claim that not only did the community never

surrender ownership of the beach, but that it was not consulted when the "Ipperwash

Beach Highway" was created across it in the early 1900's, or when the busy beach

road was shut down and barriers erected during the 1970's ("Barricade erected over

First Nation's use of Ontario's Ipperwash Beach," 2014).

From the signing of the treaty onwards, the words "to the water's edge"

become a universal claim of ownership passed from the Crown to the Canada

Company, and Canada Company to cottage owners. The local Land Registry office

and municipality have historically enforced the claim, relying on immutable mobile,

and later digital mapping, to support the coalition of government departments that

perpetuate the Crown's views of land ownership and the concept of colonialism. It is

the 1826 land survey that became the basis for the same maps used today by the local

Land Registry office, as well digital mapping applications such as Google Earth.

The Indigenous community, on the other hand, relied on oral tradition, telling

stories rooted within their community and located in a particular place. Professor

Darlene Johnson described how these forms of situated knowledge are bound to the

landscape in her submission to the Ipperwash Inquiry:

> Connecting people to place requires an exploration of how people
> understand themselves in connection to that place. For the Aboriginal
> people of the Great Lakes there is both a physical and spiritual aspect to
> identity and landscape. The relationship between people and place
> created and maintained by totemic identity (Johnston, 2005, p. 3).

This totemic identity can be found in the "autographs" or clan markings of the

eighteen chiefs who signed the Huron Tract treaty on behalf of their communities

(see Fig. 12). "Treaties and wampum belts are a rich source of totemic identity,"

Johnston testified. "In treaty documents signed with totemic marks, genealogy and

territory are fused in a landscape that is both geographic and spiritual" (Johnston,

2005, p. 12).

Fig. 11: Prior to colonization, the dunes along the Stony Point beachfront (the former Camp Ipperwash) stretched west along the full length of Ipperwash Beach (Photograph courtesy of Klippensteins/Monica Virtue.)
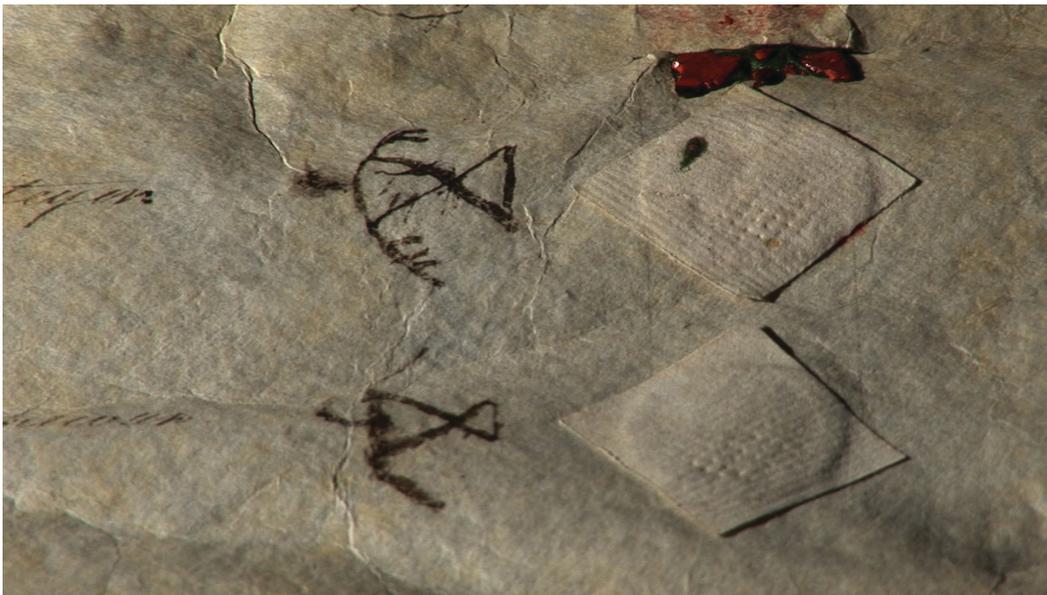
Fig. 12: Totemic marks of Anishinaabe chiefs appear on the Huron Tract treaty (No. 29), signed with representatives of the Crown in 1827. (Photograph courtesy of Klippensteins/Monica Virtue.)

N. Scott Momaday, an author of Kiowa descent, describes how technology has altered that spiritual relationship with land:

> One effect of the Technological Revolution has been to uproot us from the soil. We have become disoriented, I believe; we have suffered a kind of psychotic dislocation of ourselves in time and space. We may be perfectly sure of where we are in relation to the supermarket and the next coffee break, but I doubt that any of us know where he is in relation to the stars and to the solstices. Our sense of the natural order has become dull and unreliable. Like the wilderness itself, our sphere of instinct has diminished in proportion as we have failed to imagine truly what it is (Momaday, 1970, p. 54).

The period of 1880 to 1920 was a period of rapid change for the Anishinaabe people living along Ipperwash Beach. With the sudden inundation of automobiles and then cottages, situated knowledge began to be squeezed out by universal knowledge claims at an accelerated rate.

The land surrender process was further entrenched in the Canadian legal system with the creation of the Indian Act, which gave government officials called Indian Agents the power to administer the different sections of the Act on the ground. This included the power to call "surrender meetings" during which all male band members over the age of 21 were expected to vote on the sale of Reserve land to private individuals. The Indian Act surrenders are also a contentious issue, as they represent a way in which the Crown is able to work around the original treaty agreement. Land that was promised in "perpetuity" and for their "posterity" was sold using Indian Act laws that did not exist at the time of the treaty signing.

Two surrenders of Reserve land occurred at Ipperwash Beach; the first following a surrender vote over a portion of the Kettle Point beachfront in March 1927, and a second following a surrender vote over the entirety of the Stony Point beachfront in October 1928. These beachfront surrenders sit on either end of Ipperwash Beach, and point towards the entanglement of settlers with the beach, their cottages, their cars and the Ipperwash Beach Highway.

4.2 The Ipperwash Beach Highway

In 1903, Henry Ford established the Ford Motor Company in Detroit, Michigan, just 150 kilometres down river from Ipperwash Beach. Five years later, the Model T went into mass production. For the first time in history, common, middle-class North American families could afford to purchase an automobile straight off the assembly line. The arrival of the Model T resulted in travel, and specifically day-tripping, exploding into an international past time.

A network of gravel roads quickly sprang up to support the new "thing" that humans were quickly learning to depend on for travel. A network of fuelling stations and repair shops, which the Model T was dependent on for maintenance, soon dotted roads and highways. The Model T quickly replaced the horse and buggy as the primary means of transportation for tourists. In 1914, five years after its release, the local Member of Parliament, Joseph E. Armstrong, was successful in convincing the Department of Indian Affairs to spend $3,000 on the local network of highways by approving construction of a gravel road along the lakeshore on the Kettle Point Reserve (see Fig. 13). The funds also covered construction of a bridge over a creek on the Stony Point Reserve, along with a short road across an outcropping of flint that jutted into Lake Huron (on a lot, no less, which sat the home of Albert and Sarah George, the great grandparents of slain protester Anthony "Dudley" George). Construction of the roads and bridge enabled Armstrong to use Ipperwash Beach to easily access his new cottage, built among the sand dunes located directly to the east of the Stony Point Reserve (see Fig. 14). It also opened up the beach to hordes of international day-trippers who were looking for new adventures.
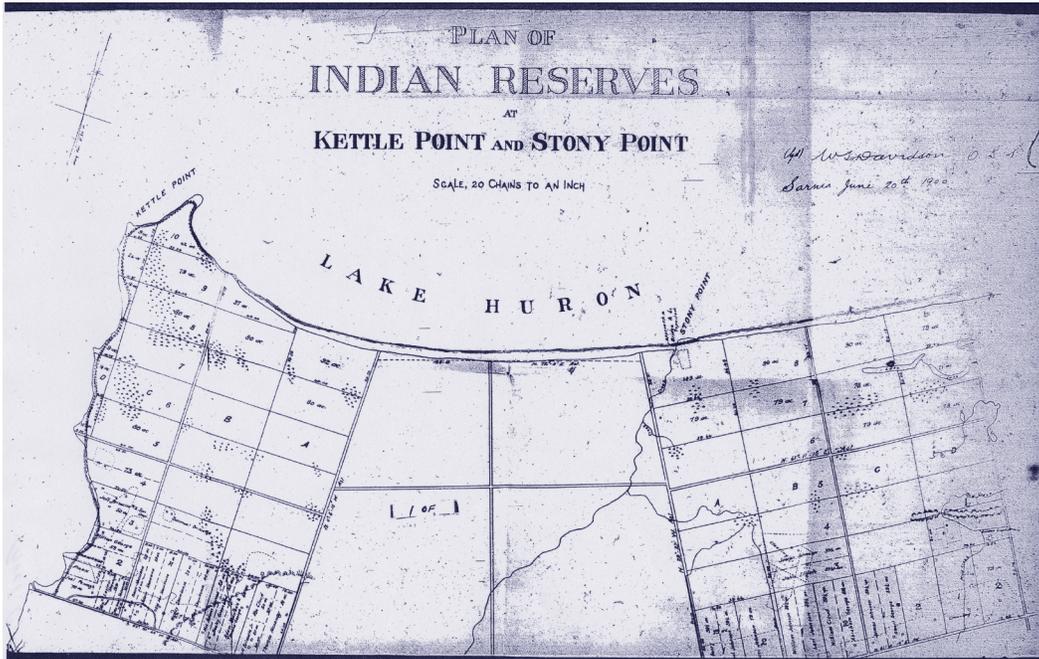
Fig. 13: A map of the tourist road built by the Department of Indian Affairs in 1914, at the request of local Member of Parliament, Joseph E. Armstrong. (Image courtesy of Library and Archives Canada, RG 10, Volume 7709, File 23029-2A.)[3]

By the 1920's, entanglement between Ipperwash Beach, tourists and their automobiles had grown deeper; the hard-packed sand of Ipperwash Beach was so busy with the thousands of cars that invaded it each weekend that it became known as the "Ipperwash Beach Highway." By the late 1930's, the Ipperwash Beach Highway was appearing on official government maps and promotional tourist brochures, fully integrated into the network of official roads and highways. In 1938, the Blue Water Bridge was opened to the public, enabling tourist traffic to flow between Sarnia, Ontario and Port Huron, Michigan. A full ten years in the making, the international bridge was less than 60 kilometres from the newly opened Ipperwash Provincial

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[3] Library and Archives Canada, Thousand Series [textual record], RG 10, "Indian Affairs, Sarnia Agency – Surrender of Portions of Stony and Kettle Point Reserves", Volume 7709, "Memorandum, W.R. White to Mr. Scott, Ottawa, March 1, 1919", File 23029-2A, Microfilm Reel C-12072).

Park, providing a further boost to the area's tourist economy. Soon, local businesses formed a dependency on the road system in order to financially survive, creating an even deeper entanglement between humans and things.

The complex entanglements that arose out of the relationship between tourists and their "things" were not related solely to material objects. Humans can also be entrapped by transient things, with hard to define boundaries — things like the sights and sounds (Hodder, 2012) that are situated in a particular experience. The sensory relationship between a human and a sunset can be particularly powerful, or the shared experience of a bonfire on the beach. Through gazing, noticing, recognizing and comparing, the transient "thing" can become meaningful to a human, and forms a part of memory construction. The meaningful, embodied experience is named, remembered, and begins to become part of the self-identification for the human. "By naming and marking it has become fully owned" (Hodder, 212, p. 24). In this way, a sense of ownership arises over the landscape itself.

The sense of ownership that tourists began to feel over Ipperwash Beach was further magnified by the construction of cottages among the sand dunes. The first cottage at Ipperwash was built around 1897; by 1910 there were 15 permanent structures dotting the shoreline, with 30 to 35 erected by 1920 and a steady development continuing until the Great Depression in the 1930's (Smith, 2004). These beachfront cottages not only changed the natural landscape by flattening the towering sand dunes that lined shore, but also changed the dynamics between "things" and humans. For some, the beachfront lots and cottages represented an entire lifetime of hard work, with significant time and financial investment attached. Passed through families from generation to generation, the cottages became part of customary practice, long-term association and interest.

Fig. 14: Like many other cottagers, Joseph E. Armstrong, M.P. (far left) depended on Ipperwash Beach as an access point to his beachfront cottage. (Photo courtesy of Archives of Ontario, Barcode B117477, John Boyd Numbered Photographs.)[4]

The purchase of private beachfront lots, extending to the water's edge (an ambiguous term passed down from the Huron Tract treaty), further complicates the complex entanglements between humans and things. The influx of new cottage owners and tourists passed on their knowledge of the physical landscape through deeds and maps, telegrams and newspaper clippings, photos and postcards. As settlers formed attachments to their plots of land and to their cottages, they began passing the experience of vacationing at Ipperwash from generation to generation through these pieces of paper.

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[4] Ipperwash Beach, a famous stretch of hard sand over 150 wide and miles in length where motorists try out the speed of their cars, [photograph], 1914, C 7-3 John Boyd Numbered Photographs, Creator Code 11369, Barcode B117477, Archives of Ontario.

Through the passing of paper, cottagers began to view themselves as the original or rightful owners. "In this case, the pebbles may become property from which others might be excluded," Hodder argues. "This is an ownership that can claim exclusivity, defined by societal sanction and law, and if necessary policed by the use of force" (Hodder, 2012, p. 24). The use of force did, indeed, begin to occur as new property owners at Ipperwash found themselves at odds with the hordes of tourists driving their automobiles across the beachfront that ran along the north end of their lots. By the 1920's, disputes between property owners and tourists were frequent as owners fenced off the beach to prevent cars from driving across. Human-human connections were formed as cottagers banded together to form the Ipperwash Beach Association to help address — among a growing list of concerns — "whoopee parties" and an influx of garbage being strewn about their "private" properties.
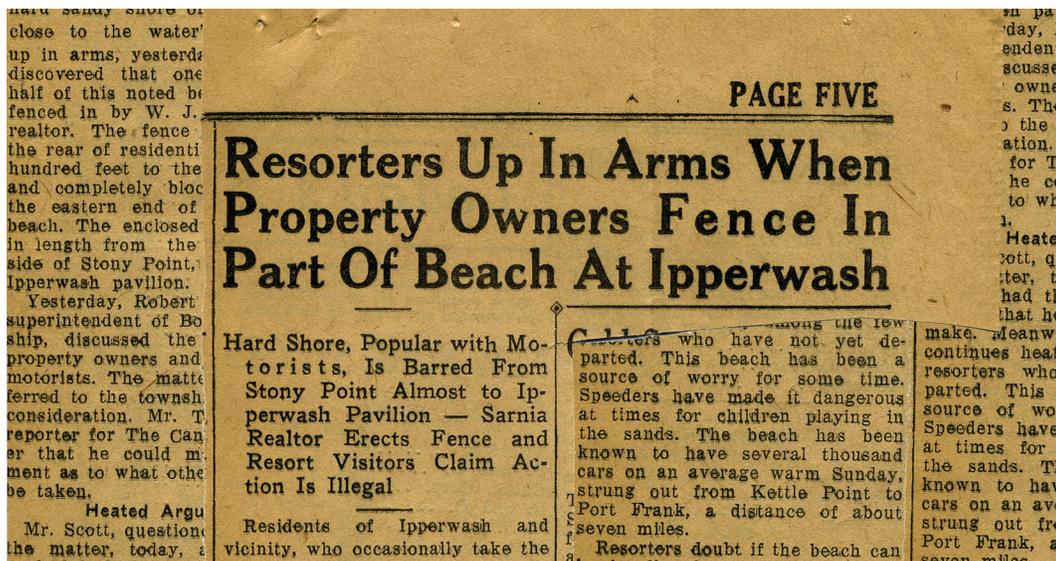
Fig. 15: An original newspaper clipping from the 1930's illustrates the controversy that arose when former Sarnia Mayor W.J. Scott fenced off the Stony Point beachfront after purchasing it from the Kettle & Stony Point First Nation in 1928. (Photograph courtesy of Monica Virtue.)

Tensions were so high in 1932 that a "beach riot" erupted when one W.J. Scott, who had recently purchased the entire Stony Point Reserve beachfront, fenced off his property and erected signs reading, "Ipperwash Beach — Private — Not a public highway" (see Fig. 15). The fences prevented tourists from accessing the network of roads and bridges that kept traffic flowing along the Ipperwash Beach Highway. It was not long before the signs and fences found themselves in a bonfire, and five local farmers were arrested and charged with mischief.

The controversial episode resulted in a motion by the Bosanquet Township council to ask the provincial government to purchase the Stony Point picnic grounds — which contained a road and bridge linking the two strips of beach — to make it into a public park. By 1936, Premier Mitchell F. Hepburn had toured the picnic grounds, and within a year construction began on Ipperwash Provincial Park. To the horror of the Chippewas of Kettle & Stony Point, who had surrendered the land to the Crown in 1928 for sale to Sarnia mayor W.J. Scott, the creek inside the park was widened and towering sand dunes were flattened to make room for campsites. A burial ground, located near the creek, was not fenced off at the request of Chief and Council. To this day, band members seek out the location of the remains of their ancestors; local lore suggests that the bones were removed and carried away in a dump truck (Ipperwash Inquiry, 2006).

By the 1970's, conflicts between tourists and property owners were reaching new heights. To quell the rising tension, the municipality erected barriers on either end of Ipperwash Beach. While traffic continued to flow to the west, on the Kettle Point Reserve, and the east, inside Ipperwash Provincial Park, a 2.7- kilometre strip of beach in the centre became inaccessible to cars. Property owners collectively decided to keep Ipperwash Beach open to foot traffic; the era of the Ipperwash Beach Highway, however, had come to an end.

Fig. 16: An Ontario Department of Highways map shows Ipperwash Beach as part of an official network of roads. The map was printed between 1937 and 1942 – after the creation of Ipperwash Provincial Park, but before the Department of National Defence appropriate the Stony Point Reserve during WWII to convert it into Camp Ipperwash. (Image appears courtesy of Lambton County Archives, Wyoming, 3BA-A. 12.)

In December of 2014, the Chief & Council of the Kettle & Stony Point First Nation caused a firestorm of controversy when they used a backend loader to rip out the metal barriers that had been erected by the municipality. Vehicles began driving in front of the beachfront cottages for the first time since the 1970's. Tempers flared. Many wondered how the First Nation had the gall to insert itself into an issue that a quick check of Google Maps would show they had no part of.

The latest incident is a reminder that there is a spatial and temporal connectedness of things that we often forget. This forgetfulness leads us to become blind to complex entanglements that have deep historical depth (Hodder, 2012), and which in this case stretches back hundreds of years to a time when the networks of interactions created by automobiles did not yet exist.

4.3 Collaborative Mapping with Chief and Council

During the initial focus group session with Chief and Council we reviewed the archival research addressed in Sections 4.1 ("Territory, Treaties and Land Surrenders") and 4.2 ("The Ipperwash Beach Highway"). The review included all of the archival photographs I had collected that I felt were pertinent to this thesis project. While viewing the images, a number of topics arose which were translated to handwritten messages on Post-It Notes. These notes were attached to the map among the photographs, roughly organized by chronological date (see Fig. 17).

The session provoked some expected and unexpected reactions. As expected, one Councillor voiced her opinion that no land surrenders had occurred at Ipperwash Beach – that there was no word in Anishinaabemowin for "surrender" and that there must have been a different perception in the 1920's (or even during treaty negotiations in the early 1800's) about what the various land agreements meant. A second topic that came up that was expected was the issue of burials; the photos of a skeleton that had been unearthed in the former Ipperwash Park in 1950 were studied for some time, and questions were asked about the location the photo was taken in.

Unexpected questions that came up during the first session focused on the amount of knowledge that I held. Chief Tom Bressette immediately started asking about my knowledge of the treaty process, wanting to ensure I was aware there had been three other agreements leading up to the final draft of the treaty. He was clear that these provisional agreements had focused around a much smaller tract of land, and that the final 1827 agreement amounted to a deliberate deception on the part of the Crown. Another participant wanted to know if I knew what had happened to the skeleton that was found in the Park; another asked if I had done any research into an old cemetery located within the Stony Point Reserve. (The cemetery had undergone

significant damage after the Reserve was appropriated and turned into the Camp Ipperwash advanced Army training centre during WWII.) Other participants wanted to see the government documents I had collected that showed how the local Member of Parliament had worked with the Department of Indian Affairs to have a tourist road constructed along the water on both Reserves.

During the second session a number of topics were discussed, including the impacts of colonization on both the environment and the local wildlife population. Councillor Pete Cloud Sr. told a story about untouched dunes stretching across Ipperwash Beach prior to cottages being built, and noted that swallows that used to live in the dunes are now classified as a species at risk. He also talked about schools of sturgeon that used to populate Lake Huron also becoming a species at risk. Councillor Bonnie Bressette noted that Ipperwash Beach was used by Indigenous community members to travel between the two Reserves prior to the construction of East Parkway Drive; this same beach trail later became busy with automobiles. She also noted that Ipperwash Beach has become a retirement community with larger, grander all-season homes instead of smaller vacation cottages. She attributed this change in population to being a reason why the settler community has little memory of the history of the area.

Further topics that were discussed included the use of sensitive photos, such as the image of the skeleton found in the former Ipperwash Provincial Park. The end of the route was also discussed, and it was decided that if we were to continue the walk onto the beach of the former Ipperwash Provincial Park that the occupants of the former Camp Ipperwash (the Stony Point Reserve) should be consulted with to ensure they would support the plan.

Fig. 17: Photographs of the collaborative map generated during focus group sessions with the Chief and Council of the Kettle & Stony Point First Nation. Archival photos were attached to a map of Ipperwash Beach in rough chronological order. Handwritten notes were affixed to the map, making note of stories told by Councillors. (Photographs courtesy of Monica Virtue.)

These collaborative mapping sessions will inform both the content and the sequencing of the scenes that will populate the mobile platform. In the following section I address the design process, including creation of the first prototype and the results of early user testing.

5. Project Design and Process

In the following sections I will define the focus and structure of the project, and then break it down into component activities, which include the six phases of co-design: exploring and mapping, developing ideas, exhibiting and selecting ideas, prototyping and co-constructing, inaugurating and publicizing the project, and then testing and evaluating the "beach walk" after its full use by the public.

5.1 Analysis

After consulting with Chief Tom Bressette, it appears a key problem for the Chippewas of Kettle & Stony Point First Nation is the dispute with local residents over the ownership and access to Ipperwash Beach. Both Chief Bressette and recent media articles have articulated that the First Nation wishes to improve tourism in the area as a way of boosting the economic status of the community. A piece of this overall plan includes erecting tollbooths on the Kettle Point portion of the beach. These tollbooths regulate automobile traffic, and help to provide for better security, washrooms and garbage cans.

The hope was for the entire Ipperwash Beach Highway to be re-opened for the 2015 tourist season, restoring the area's tourist traffic back to the levels that existed in the 1970's. However, the December 2014 removal of beach barricades by Chief and Council resulted in a dispute with local cottagers that put a halt to the

plans. While the public still has full access to the beach, visitors are unable to drive across it in their vehicles like they are able to on the Kettle Point beachfront. Now, a tension exists between the First Nation community and local residents. Tourists are also unsure of the status of the beach, and may chose to avoid the area in favour of other sun spots.

The key audience for this project is the thousands of tourists who visit the beach each summer, as well as the Indigenous and non-Indigenous residents from the area. The project may also appeal to social justice activists and scholars. The key problem to be solved, on my end, is how to design a project that benefits the First Nation. It must also be accessible and easy to use for participants, and deliver content that is both educational and entertaining.

5.2 Vision

The solution I envision for this project is a "beach walk" along the historic trail traditionally used by the Chippewas of Kettle & Stony Point First Nation to visit between their two communities. This trail began to be used by motorists beginning in the early 1900's, and up to the early 1970's when the municipality erected metal barricades to prevent automobile access. During that time, the "Ipperwash Beach Highway" was packed with cars; today, the route is vehicle-free, and safe for a person to walk the length of while fixated on their smartphone.

Strategy

During the walk, locative media techniques can be used to deliver scenes of an interactive documentary film about the colonization of Ipperwash Beach directly to participants as they cross pre-determined GPS points. The interactive components

will appear at various points along the route, and will be used to draw attention to specific data-centric elements of the story through users' touch screens.

While most locative media projects emphasize non-linear storytelling methods or the remixing of video content, the strategy I prefer is to take a linear approach. The colonization of Ipperwash Beach was a process that unfolded over time, and this requires a narrative that is linear fashion in order to communicate the idea of a cumulative build-up of settlers, buildings and automobiles.

Scope

As a way to augment the storytelling in the project, I intend to combine documentary media with data visualizations at several key points along the route. These visualizations will be interactive, and will provide moments in the story that are not linear. Using a swiping action on their mobile phones, participants will be able to pause the linear story in order to manipulate the visualizations, changing the data sets in order to view the story in new ways.

Audio will play an especially important role in the storytelling for this project — it will be the medium that ties the separate visual "scenes" together into a whole. The acoustic ecology of Ipperwash Beach, combined with the music, narration and other audio coming through users' headphones, together can be manipulated into a single soundscape.

5.3 Construction

This project has undergone a number of iterations in which different mediums were considered as a method of delivering the existing documentary content. The process began with the notion that it would be an interactive online documentary, in the vein of *Welcome to Pine Point* and *Bear 71*. That idea was put on hold while I explored the

idea of it becoming a 360-degree video installation that incorporated projections and Microsoft Kinect motion sensor technology. When funding for the video installation could not be secured, I circled back around to it being an online project that incorporated interactive mapping and visualizations, such as those similar to ProPublica's mapping project *Losing Ground* (Marshall, Jacobs, Shaw, & The Lens, 2014). At this point, I was invited to join a mobile mapping project at OCAD University's Zero Lab that parallels my research interests.

Zero Lab

The goal of the Zero Lab's Insitu project is to build a generic open-sourced platform for journalists and activists to tell place-based visualization stories. This goal aligned with my own desire to create a counter-mapping project that centres itself on telling the story of Ipperwash Beach from an alternate perspective than that which appears in mainstream narratives. By working with the Zero Lab, I am able to approach the project from the perspective of art and design, while working with a research assistant who is skilled at the use of current technologies — in particular, the coding of software.

Through the Insitu project, different technologies became available that I would not have considered on my own. While locative media cannot currently be used in the former Ipperwash Park or Camp Ipperwash due to the inaccessibility to the public, it could be used on Ipperwash Beach. The idea of having documentary content about the old Ipperwash Beach Highway delivered to participants *as* they walked the Ipperwash Beach Highway was an exciting one. Not only did it create an embodied experience that appealed to the senses, but it also emphasized the Indigenous residents' claims of the beach being an historical trail that connected the two separate First Nation communities.

Technology

The mobile platform itself can be constructed from a number of current libraries and programs, including Framework7 (an HTML framework to create iOS and Android apps), Angular.js (to create dynamic views in web applications), Mapbox (to create custom online maps) and D3 (to create interactive visualizations). Video files can be compressed using the .webm format, and downloaded onto users' smartphones in one large chunk at the beginning of the walk — meaning a Wi-Fi connection is only needed once. After the walk begins, a GPS signal is all that is needed for content to play directly from the user's phone while crossing pre-determined geographic points.

5.4 Process

During this phase the design of the project is broken down into component activities that follow the six phases of the co-design process — exploring and mapping, developing ideas, exhibiting and selecting ideas, prototyping and co-constructing, inaugurating and publicizing, and testing and evaluating.

5.4.1 Phase 1: Exploring and Mapping

The first phase of the co-design process involves investigating the problem at hand by observing, taking notes, photographing, and interviewing. This includes mapping the area as a way of pointing out the challenges or problems of the location, and is therefore the starting point for identifying possible ways of improvement (Simonsen et al., 2014). A challenge during this phase was in deciding which section of land to focus on. The public is currently unable to enter the former Ipperwash Provincial Park or Camp Ipperwash, meaning locative media is unable to be used anywhere on

the Stony Point First Nation. This left other mediums open for consideration, including an online interactive documentary and a 360-degree video installation.

Regardless of the medium, the same overall themes were explored that involved mapping and visualizations: pre-treaty vs. treaty, high water mark vs. low water mark, various land surrenders to the Crown, chain of title of non-Reserve lands, relationships between those involved in the land transactions, and changes to the environment through colonization, such as the destruction of dunes, burials and bush. Current-day story lines were also considered, including the police shooting of Anthony "Dudley" George, and the eight-year civil lawsuit filed by Dudley's siblings.

5.4.2 Phase 2: Developing Ideas

This phase of the design process is based on knowledge and understanding of the problem. Thoughts receive tangible form and expression using techniques like brainstorming and sketching (Simonsen et al., 2014). It was during this phase that I began to use a double-pronged approach, tackling the "content" separately from the "design," with each being interlinked and dependent on the other. The design was accomplished using a multi-pronged approach that consisted of, a) working with the Zero Lab team to construct the technical aspects of the mobile platform, and b) working with Chief and Council via focus group sessions to curate the content that will be delivered onto participants' smartphones.
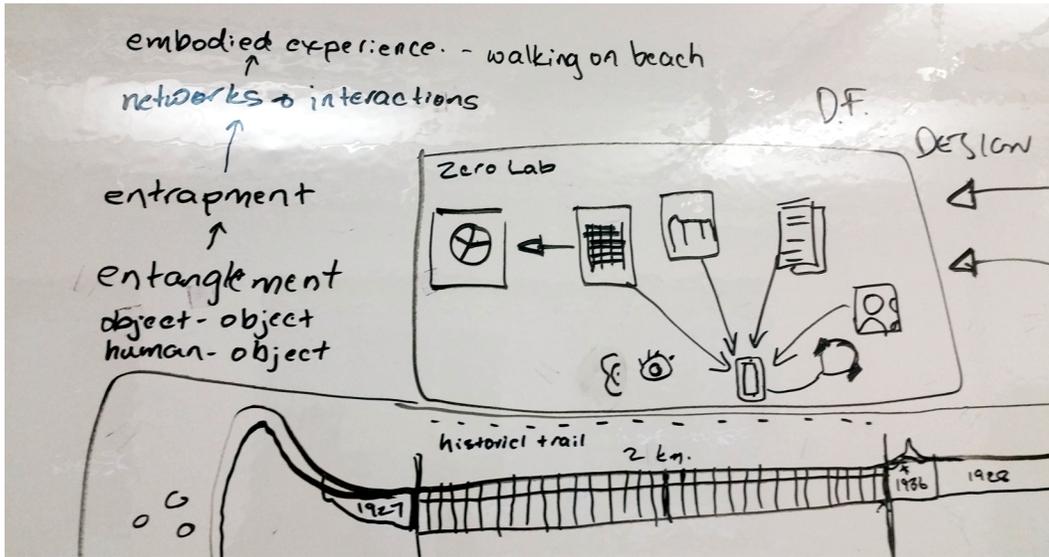
Fig. 18: A design diagram shows a map of the Ipperwash Beach Highway combined with the proposed design of the Zero Lab's mobile platform. (Image courtesy of Monica Virtue.)
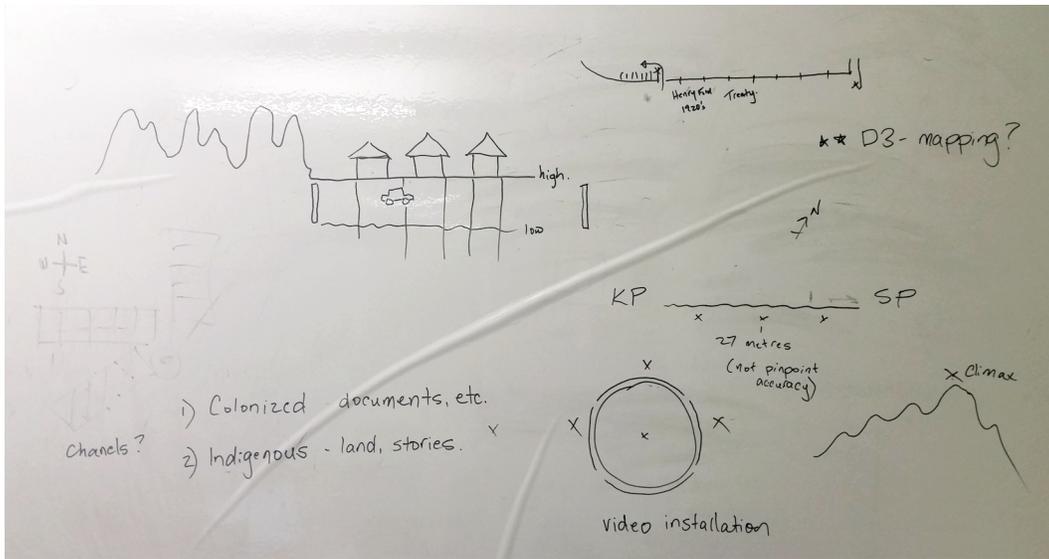
Fig. 19: A design diagram shows a desire to combine the physical landscape with storytelling techniques found in screenwriting. (Image courtesy of Monica Virtue.)

Structure

While waiting for the first focus group session to arrive, the Zero Lab team held intermittent meetings to discuss problems and come up with solutions (see Fig. 18 and Fig. 19). To create the basic structure of the mobile platform, an initial design activity consisted of mapping out a rough route for the "beach walk." Using an Android app called MapMyWalk, I started at the Kettle Point tollbooth and physically walked across Ipperwash Beach, travelling east to the Stony Point First Nation. At a distance of approximately 100 metres, or once a minute, I stopped to take a photo. Upon my return home, I uploaded the route into Google Earth and attached the photos (see Fig. 20).

The route of the "beach walk," as it is currently mapped out, is a linear one — participants start at "Point A" and walk, more or less, in a straight line for 2.7-kilometres until they reach "Point B." The GPS points that trigger the content to be delivered to users' phones will therefore also be in a straight line. From a structural standpoint, the app generated a number of pieces of useful information, including the pace I was walking, the distance from start to finish (2.7 kilometres), and the timed length of the route (39 minutes). From a technical standpoint, this test confirmed both Wi-Fi and GPS were available for the length of the route. In addition, the app generated a .KML file that contained GPS points that could be used to build the mobile platform. From an artistic standpoint, the photos tell me what the physical landscape looks like in each of the zones along the route, which may influence the order of the scenes in the final product.
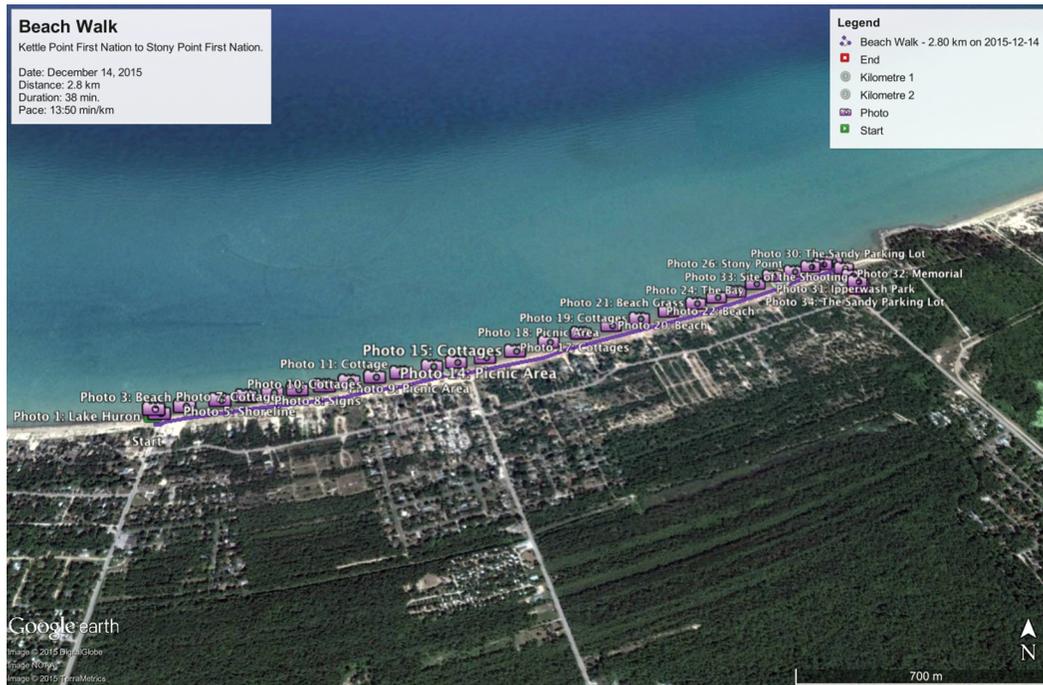
Fig. 20: The MapMyWalk app generated GPS points, recorded the distance, and timed the walking pace of the proposed route. (Image courtesy of Monica Virtue.)

Archival Research Review

During this phase I reviewed and organized massive amounts of documentary content stemming from my own POV documentary and the *Ipperwash Park Film Project*. This content was stored on old hard drives and consisted of over 20 historical recreations, B-roll, archival photos, graphics and stock footage. Also available are numerous boxes of original historical research, organized chronologically, with corresponding typed notes. Additional loose documents and news articles fill several more storage boxes.

As content was organized it was shared to the Zero Lab drive for review by other team members. Video snippets were uploaded to Vimeo and added to a digital

timeline using KnightLab software. This enabled me to flip through the videos in chronological order, helping to identify possible "scenes" to include in the narrative.

5.4.3 Phase 3: Exhibiting and Selecting Ideas

In Phase 3 of the co-design method, ideas are put on public display, serving as a tool to create awareness about the design process. This functions as a form of evaluation, and creates local legitimacy and ownership (Simonsen et al., 2014). By the end of this phase I plan to have decided on the narrative, decided on the interactive visualizations to include, selected the multi-media, and combined it within the mobile platform in a way that maintains a narrative push.

To begin this phase I conducted my focus group sessions with Chief and Council by sharing portions of the archival research that I had reviewed during Phase 2 (see section 4.3. Collaborative Mapping with Chief and Council). The information gleaned from the collaborative mapping exercise provides clear direction to me on how to curate the content that will be delivered to users of the "beach walk." The feedback also assists in sequencing the material that will be delivered to users' smartphones along the route.

Using this feedback, I prepared a preliminary list of scenes in a sequence that coincides with particular physical locations along the route. I intend to build on this list of scenes into a shot list that can be used to create rough cuts of potential documentary media content. Once rough cuts are completed they can be converted to videos that can populate the mobile platform for further user experience testing (Phase 4). Once these scenes are determined to be effective, I will schedule another focus group session with Chief and Council to obtain their feedback and ensure I have not strayed off course from our original collaborative mapping sessions.

5.4.4 Phase 4: Prototyping and Co-Constructing

During Phase 4 of the co-design process, ideas and proposed solutions are given physical shape and materialized into first prototypes. The prototyping phase is a way of testing on a small scale and embodying abstract ideas. It is a time for considering different proposals for a design solution in relation to other proposed solutions and their consequences (Simonsen et al., 2014). This phase ran concurrently with Phase 3 of the co-design process and resulted in Appendix C: Design Document.

Skeleton

Early prototyping took place in and around the Zero Lab at OCAD University in order to test the accuracy of the GPS coordinates within the mobile platform. My focus at this stage was on the experience design of the platform by aiming to integrate the core concept for the project across all elements of the design — from function and utility to aesthetic and affect. As an example, the NFB uses a distinctive visual language across all of its interactive documentaries, which includes the constant visual presence of a timeline or map of some kind. This orients the viewer within the experience, and creates a sense of comprehension and satisfaction (O'Flynn, 2015). We decided this could be accomplished through the use of a timeline of some sort along the bottom of a user's screen (see Fig. 21), along with the constant visual presence of the mapped route.

The greatest challenges at this stage appeared to be related to how participants experience each segment of the film as it is delivered onto their mobile phone (see Fig. 22). What happens if a user doesn't walk fast enough? Is there some kind of connecting visual or audio that the user experiences during the lulls? How do we maintain a narrative push?
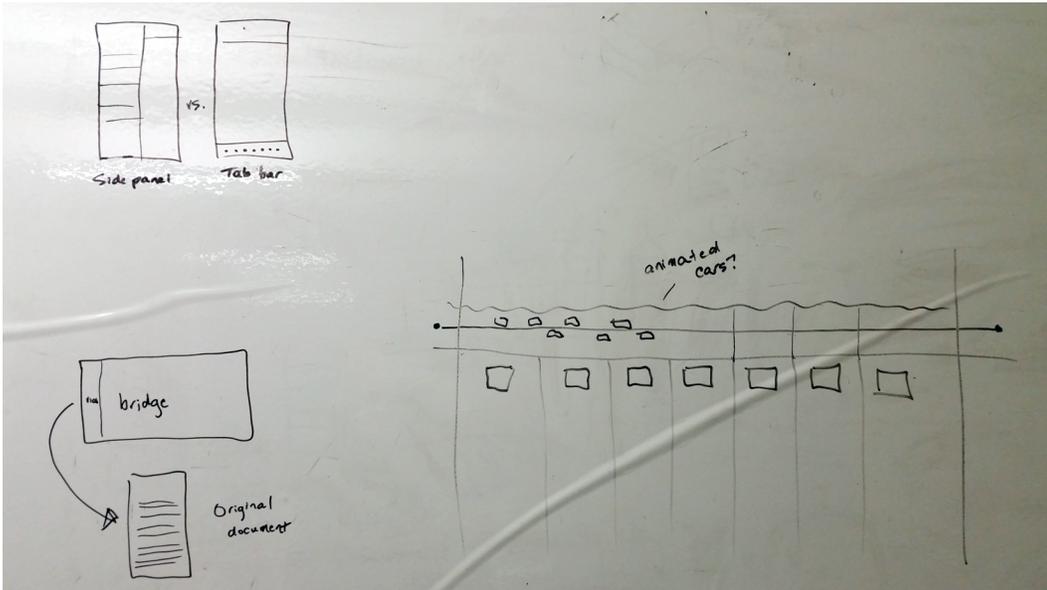
Fig. 21: A design diagram includes brainstorming ideas for navigation, a desire to attach original archival documents to film scenes, and an idea for overlapping moving images onto the static map. (Image courtesy of Monica Virtue.)
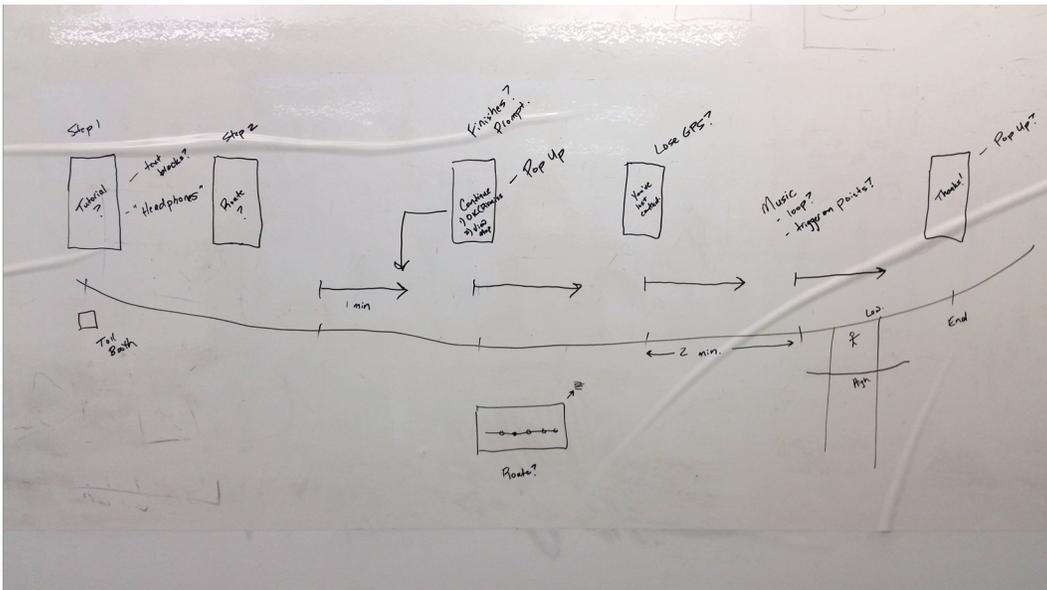
Fig. 22: A design diagram depicting various pop-up screens or messages that may appear should an error occur during the user's experience of walking the route. (Image courtesy of Monica Virtue.)
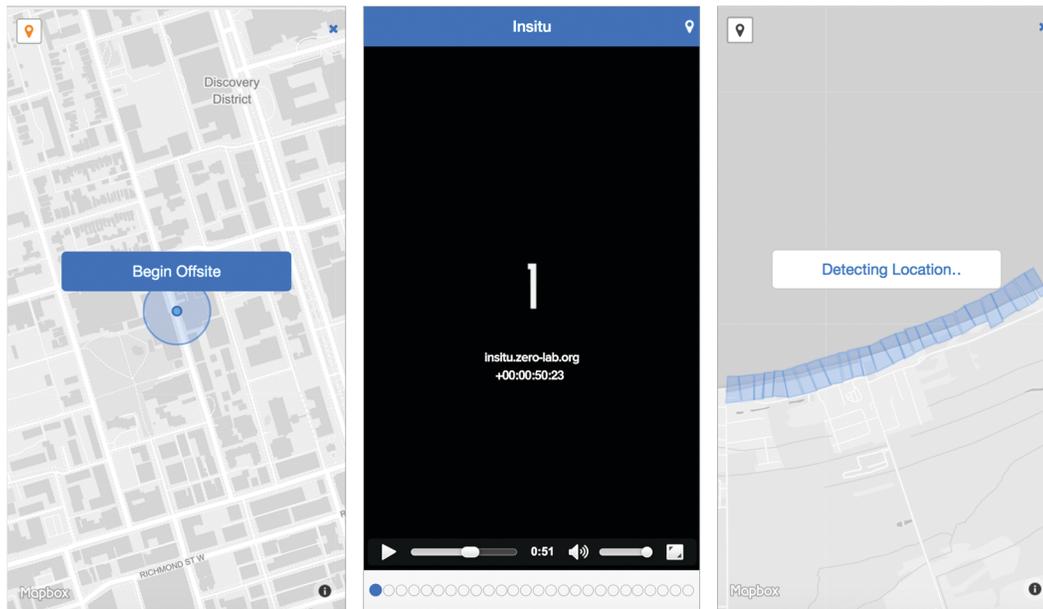
Fig. 23: Screen caps from an early prototype of the mobile platform. Left: The platform uses GPS to locate the user's position and deliver either an on-site or off-site version of the "beach walk." Middle: Early user testing utilized placeholder videos meant for timing the pacing of the content delivery. Right: Content is attached to "zones" along the route. (Images courtesy of Zero Lab.)

To test the prototype in a real-world setting, I created placeholder videos that could be attached to "zones" along the route (see Fig. 23). Each of these videos were triggered to play as a user crosses a GPS point at the edge of each zone. The sizes of the zones were determined by dividing the overall length of the MapMyWalk route (39 minutes) by the maximum span of time between each new video. I determined that we could begin with a length of 90 seconds, and then tweak the length depending on the results of the first round of user testing. This length gave us the flexibility of creating scenes that are as short as 30 seconds, or as long as 90 seconds, without leaving too long of a gap between new content.

At this stage, we discovered the total data that would be consumed by the test videos was around 500 megabytes. It quickly became clear why linear filmmaking

and locative video were seldom combined — the data consumed by the initial download of video content would be quite expensive for users. We decided to test the first video at a quality of 720p, with all following videos to be played at 480p.

User Testing

The first test of the mobile platform was exhilarating. While standing next to the Kettle Point tollbooth I accessed the testing site through the web browser on my smartphone (http://insitu.zero-lab.org/ipperwash) by typing the URL into the address bar. The platform instantly recognized my location and with the click of a button the initial download of content began. Within seconds I was ready to head off on my journey. I began walking at a brisk pace and instantly became engrossed in the experience, not noticing how quickly time was going by. Around three-quarters of the way into the route I looked up from my phone to see the final location approaching — until that point I thought that I had yet to hit the halfway mark. During the walk I lost my GPS connection twice, but was able to easily pick up where I left off by re-accessing the URL in my browser.

While the videos that were playing were dummy content that contained running timecode, the audio alone was so clear that the experience was highly entertaining. I had chosen different music for each of the 26 snippets, ranging from Indigenous drumming to jazzy 1920's stock music to contemporary rock music; while some seemed more suitable to certain locations than others (for example, the drumming sounded best next to stretches of sand dunes, while the jazz sounded best next to old cottages) the anticipation for what would come next was enough to keep me interested, even without having visuals to look at.

Video quality did not seem to be an issue; whether in 720p or 480p, the visuals still had the same effect. High-resolution videos may not be a priority — especially

considering that I was so busy walking and gawking at the scenery that I rarely felt the need to look down at my phone. The sun also reflected off the phone in a way that made the videos harder to see, meaning that poor video quality would not be as big an issue as if the user was watching on a large computer monitor or a movie theatre.

The initial test of the platform revealed a number of design issues that need to be addressed in future iterations. These issues were mainly with the surface-level interface, including a number of creative issues related to the videos. The distinctive visual language that the NFB incorporates into their interactive documentaries was missing from this iteration of the prototype, causing me to become disoriented a number of times along the route. As each video ended it reverted to a black screen, instead of a map of the route appearing to indicate where I was in time and space. The prototype was also missing a clear timeline along the bottom of the screen (it was physically there as a series of blue dots, but it was not evident it was a timeline). As a user, this lack of visual language made me feel powerless over the process.

The length of the videos was another concern. Videos that were 30 seconds felt too short, while those that were 90 seconds overlapped each other due to the speed with which I was walking. Videos that were 60 seconds long felt "just right" in terms of storytelling possibilities and in terms of meshing with the speed I was walking. It became evident that a large part of the user's experience could be influenced by the length, placement and content of the videos themselves.

Following the first user test, I was able to generate a list of tweaks to improve the experience of the mobile platform itself. Apart from these tweaks, the next stage of testing will need to involve actual content that is curated from the focus group sessions with Chief and Council. This content will be in the form of documentary media and interactive visualizations that can populate the platform.

5.4.5 Phase 5: Inaugurating and Publicizing

During this phase of the co-design process there is a celebration of the finished product in the form of a public ritual, with the publicity intended to create further awareness about the topic of the project (Simonsen et al., 2014). It is anticipated that this phase will occur after graduation; the results of this phase have therefore not been included in this thesis document.

5.4.6 Phase 6: Testing and Evaluating

The final phase of the co-design process includes the engagement of the wider public to decide whether the design problems associated with the project have been dealt with successfully (Simonsen et al., 2014). This phase will not occur until after graduation, and is therefore not included in this document.

6. Conclusion

It has been thirteen years since I first began filming a documentary on the "Ipperwash Crisis." Through this thesis project, I have been able to bring to life a small part of the massive amounts of filming and archival research that have gone into the experience. Although still in the early stages of user testing, the co-design process has been successful in helping to create a prototype of a mobile platform that can support a counter-mapping story situated on Ipperwash Beach. Based on my collaborative mapping sessions with Chief and Council, I am confident the content of the "beach walk" can be centred within the First Nation's perspective. Using both universal and situated knowledge, this project can not only re-write the narrative about how Ipperwash Beach was colonized but can also accomplish it through an embodied experience that can be highly personal for the user.

In the following section I will address the lessons learned through my thesis defence, including my impressions of the co-design research method and the Research Ethics Board (REB) process. I include my own recommendations aimed towards the REB and the Digital Futures program, in the hopes the feedback can help improve the process for other students who undertake thesis projects that involve research with Indigenous peoples. I conclude with lessons learned from exhibiting the work to the public, along with proposed future directions for the project.

6.1 Defence

Through sheer synchronicity, my thesis defence occurred on the same day that the Chippewas of Kettle & Stony Point First Nation held a large community ceremony to celebrate the signing of the Final Settlement Agreement for Camp Ipperwash (Mehta, 2016). The ceremony was held 74 years, to the day, that the Stony Point community was removed from their land to make way for a WWII-era military training facility created by the Department of National Defence. It was also the day that I presented this thesis project to my committee, beginning with an overhead map of Ipperwash Beach, with the Kettle Point Reserve to the west and the former Camp Ipperwash (the Stony Point Reserve) to the east.

"Where the hearts gather"

In Anishinaabemowin, the name for the Stony Point Reserve is *Aazhoodena*. After spending time in the Kettle Point community, my understanding of the term was that it roughly means "the town over there." However, author Leanne Simpson offers a different interpretation of the term *oodena*, which she was taught by elders to mean "town" or "village." Simpson points out that the root word within the term is *ode*,

translated in the English language to "heart." One interpretation of the conceptual meaning of the word, which Simpson draws from various Elders, is "the place where the hearts gather" (Simpson, 2011, p. 94).

Simpson takes the concept a step further through exploring the role of strawberries within Anishinaabe communities:

> I thought about how Odemin Giizis is June, or the moon when the heart berries (strawberries) are ready. I pictured those odeminan, or heart berries, and their runners connecting the plants in a web of inter-relationships, much like cities. I then remembered that, according to Nishnaabeg Elder Basil Johnston, *Odaenauh* refers to nation, which led me to think of our nation as an interconnected web of hearts. On a deeper philosophical level, that heart knowledge represents our emotional intelligence, an intelligence that traditionally was balanced with physical, intellectual and spiritual intelligence to create a fully embodied way of being in the world (Simpson, 2011, p. 94).

The cultural meaning around the word *ode* is taken a step further by exploring the Anishinaabe word for "truth," which translates to *(o)debwewin*. The literal meaning of this word is "the sound of the heart" (Simpson, 2011, p. 94).

The term *debwewin* is one I am familiar with; Sam George often spoke of wanting to know the truth about why his brother Dudley was killed by police in 1995 near the entrance of Ipperwash Provincial Park. *Debwewin* is one of the Seven Grandfather Teachings (along with wisdom, love, respect, bravery, honesty, and humility), which Mr. George would often refer to. I have since come to realize he was attempting to impress upon me the teachings he had learned from his Elders, so that I could begin to view the world from the standpoint of his community.
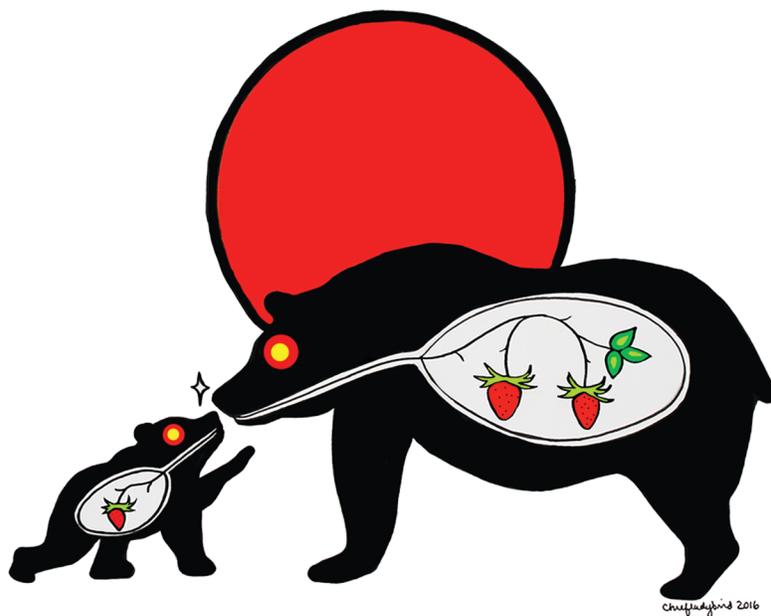
Fig. 24: Strawberries, or *odeminan*, hold a prominent place in the cultural fabric of Anishinaabe life. (Image courtesy of Nancy King (Chief Lady Bird).)

Once beginning this thesis project at OCAD University, my personal decolonization process grew from reading books like Simpson's *Dancing on Our Turtle's Back: Stories of Nishnaabeg Re-Creation, Resurgence, and a New Emergence.* This book struck a chord with me in a way that others have not. The content and style of Simpson's writing helped me to re-connect with what I had already absorbed by spending significant amounts of time with Mr. George; prior to his death in 2009 he had been attempting to decolonize himself by learning his own traditional teachings. Mr. George took every opportunity to pass this knowledge on to me during our time together.

During the early years of this project I had began the slow decolonization process in other ways. I spent time with Clifford George, who was part of the original occupation of Camp Ipperwash in 1993. Mr. George was born in *Aazhoodena* in 1920,

and had returned from fighting in WWII to find his community had been moved to the Kettle Point Reserve on the backs of flatbed trucks to make way for the construction of Camp Ipperwash. As a traditional language-holder, he had spent time taking me on slow drives around *Aazhoodena*, attempting to teach me words in Anishinaabemowin while pointing out areas of the landscape he thought to be significant to his community.

I also spent significant amounts of time with some of the protesters who had occupied Ipperwash Provincial Park alongside Dudley George. Many are roughly my own age, and I developed friendships with them that allowed me to spend time on the land. Whether driving through the dunes, swimming at the beach, fishing or chopping wood, the experience of coming to know *Aazhoodena* was invaluable in that I developed an emotional entanglement with the physical landscape that has sustained my interest in the project through the years.

A move to Toronto in 2010 broke my physical connection to the land; the deaths of Clifford George in 2005, and Sam George in 2009, broke my strongest connections to the community. While I have continued to remain in touch with many people from Kettle & Stony Point, over time I could feel myself begin to once again take on the thoughts of a colonized person. Through the process of writing this thesis document I have had the opportunity to reconnect with the decolonization process.

The lesson learned is that it is not enough to simply read a book or watch a documentary online. It is also not enough to verbally acknowledge the First Nation whose land one is standing upon without physically spending time in the community. Going forward, it is important that myself, the University, and to those interested in viewing my thesis project to make an effort to physically place oneself on the landscape. The concept of storytelling and embodiment as a means of knowledge

production is not just written about in books — it is a real process that is integral to settlers like myself having the ability to undertake the decolonization process.

6.2 Recommendations

Based on my experiences, I offer the following recommendations to OCAD University in the hopes of improving the process for future students undertaking Indigenous-themed thesis projects.

Decolonizing Digital Futures

From the outset, my primary advisor, Patricio Davila, insisted that my secondary advisor on this project be an Indigenous person. He felt it was essential to include an Indigenous perspective on the project in order to ensure we were honouring Indigenous knowledge, following community protocols and generally approaching the project in a good way. While I was initially able to secure a secondary advisor in Dr. Julie Nagam, I was soon left scrambling when Dr. Nagam accepted a position at another university in the early summer of 2015.

What followed was an extremely time consuming search for an Indigenous secondary advisor, which lasted the next five months. The Digital Futures program, along with all other Graduate Studies programs, officially requires secondary advisors to be OCAD faculty, as well as to be tenured. Unfortunately, finding an OCAD faculty member who was both Indigenous and tenured became an impossible task. Despite repeated requests to various faculty and administrative staff to allow an exception to the rule, there was no assistance provided in helping to resolve this issue. At the last moment, before a secondary advisor — not of my choosing — was imposed upon me, I was able to secure Dr. Gerald McMaster, the newly arrived Canada Research Chair of Indigenous Visual Culture & Curatorial Practice to fill the

position. However, this was not before significant amounts of time were lost that could have been spent working productively on the project.

My recommendation to the Digital Futures program, along with the Graduate Studies office, is to allow a greater degree of flexibility when it comes to Indigenous-themed thesis projects. Many suitable non-tenured faculty members were available from within OCAD University's Indigenous Visual Culture program. Many other suitable tenured professors were available from other nearby institutions. None of these candidates were deemed suitable to become a secondary advisor on this project. Making an exception to the OCAD-only, tenured-only rule would allow future graduate students to focus on hitting important milestones for their thesis projects instead of spending that time chasing what may, for them, be an impossible dream.

Decolonizing the Research Ethics Board

Through the co-design research method, I have established a working relationship with the Chief and Council of the Kettle & Stony Point First Nation that did not exist prior to becoming a graduate student at OCAD University. While the co-design method was difficult to implement within the tight timeframe of a Masters thesis, I believe it has established a solid foundation that can support the project throughout future iterations of the project's design.

However, the process for passing this thesis project through the Research Ethics Board (REB) was not only highly time consuming, but also, in some ways, counterproductive. While the overall REB process made for a significantly stronger project, the focus on written documentation did not fit well within a real-world situation when working with Indigenous peoples. In one instance, I was asked to provide a Letter of Support from Chief Tom Bressette (see Appendix B: Letter of Support) to the REB along with my initial application. Chief Bressette repeatedly

asked for the REB office to call him at his office in Kettle Point so that he could verbally agree to the project. However, I was told oral evidence would not be adequate, and that a written letter with a signature would be required. Further, I was asked to obtain written Consent Forms from each participant, as well as to stick to a pre-determined script when introducing the project during the focus group sessions.

While the need for OCAD University to legally protect itself is understandable, the focus on obtaining written documents from Indigenous participants is counterintuitive for a project about colonization. The REB process regarding this project was not only cumbersome, but may have been interpreted as objectionable by some of the participants. My recommendation to the REB would be to follow precedents being set in the Canadian court system, allowing for oral-based evidence whenever possible when dealing with Indigenous research subjects. Recognizing Indigenous knowledge within the REB process is an opportunity for OCAD to take the lead and set an example for other universities across Canada.

6.3 Exhibition

During the 2016 Digital Futures Graduate Exhibition it quickly became apparent that interactive visualizations within the prototype were likely to have more impact on participants than video content. Although I was only able to complete a single visualization prior to the exhibition, the interactive slider featuring "before and after" photos of the destruction of sand dunes garnered more of a reaction than any other element of the installation (see Fig. 25). Users appeared to be both entertained by the ability to manipulate the slider using a swiping motion on a tablet, and also somewhat shocked by the images of environmental destruction.

Fig. 25: An interactive visualization from the prototype showing the impacts of colonization on the Ipperwash Beach environment. (Photograph on right appears courtesy of the Lambton Heritage Museum, Grand Bend. BI.021.044.pstcrd; Photograph on left is a manipulation of the image on the right, using an overlay of the Stony Point dunes courtesy of Monica Virtue.)

The effectiveness of the single interactive visualization can be exploited by including similar components within each of the 25 GPS zones along the beach walk. While some visualizations may be similar to the "before and after" slider, the majority are likely to be interactive maps that address particular pieces of land, such as the 1927 Huron Tract treaty, the two "Indian Reserves" created along Cape Ipperwash through the treaty, the remaining land sold to the Canada Company by the Crown, and the 1920's beachfront surrenders enabled through the Indian Act. Other interactive visualizations may resemble a family tree, allowing users to view the connections between the individuals responsible for the specific land transactions.

Surface

Further work to be completed on the prototype includes alterations to the surface layer of the mobile platform. The skeleton of the platform, created using Framework7, currently resembles a number of other generic mobile apps. An artistic surface using branding designed specifically for this project would creative a more cinematic experience for users.

Additional improvements to the overall experience of the beach walk fall within the realm of film production. A properly structured script, developed in partnership with the First Nation, is the first step in creating the content to permanently populate the platform. A professional editor and animator could help to create visual content that is suitable for viewing while walking on a beach. Strong narration (from one or more narrators), as well as licenced stock music, could help to tie the content within the different GPS zones into a strong whole. A professional audio mix — preferably using binaural audio — would make for a final, creative touch that is suitable for a 360-degree environment.

The Third Space

Is there a way for settlers and Indigenous people to live side by side without being embroiled in conflict? Until now, the discussion around Ipperwash Beach has been highly polarized, with those supporting the cottagers strongly pitted against those who support the First Nation. During my defence, it was suggested this project could become a "third space" where both sides could come together to discuss possible futures without the constraints of such strongly binary viewpoints.

Exhibiting at both the 2016 Digital Futures Graduate Exhibition and OCAD University's 101st GradEx provided the opportunity to discuss the project with

hundreds of people. Most discussions existed within this "third space," often floating towards the conceptual framework in this document. The interwoven ideas of Leanne Simpson, Donna Haraway and Bruno Latour came up often during discussions, making it evident that this conceptual framework could become a framework for the script of the beach walk itself. A discussion of possible futures could become the topic for the final zone within the "beach walk," leaving participants with this as their final takeaway of the experience.

6.4 Future Directions

Once all six phases of the co-design process have been completed, and the "beach walk" has been successfully launched, there is the possibility of expanding the project into surrounding areas and on to other platforms. The former Ipperwash Provincial Park is a natural next step; while the public is not presently encouraged by the First Nation to enter the area, there are plans for a future cultural centre to be constructed. The existing route across Ipperwash Beach could therefore be extended quite easily into the Park area. Although there may be issues with GPS trigger points being too close together within the 108-acre piece of land, there is enough archival research and documentary content to continue the "beach walk" from its current end point.

The former Camp Ipperwash next door to the Park also offers an opportunity to expand the project using interactive visualizations. While ground-level locative technology is not a suitable medium due to environmental contamination by the Department of Defence (DND), an online mapping project may be an appropriate method of delivering the visualizations. The environmental assessments conducted by the First Nation and the DND following the Ipperwash Inquiry may be a potential source of data sets.

In addition, significant archival research has been conducted in the Aamjiwnaang First Nation, located next to the City of Sarnia. Also part of the Huron Tract treaty, Aamjiwnaang has suffered numerous land surrenders that have whittled it from over 10,000 acres in 1827 to just over 3,000 acres. Also known as "Chemical Valley" for its chemical factories and oil refineries, the First Nation would be a great place for a locative media project that incorporates mapping and data visualization.

Director vs. Facilitator

A member of my defence committee made a suggestion that particularly resonated with me, and that was to abandon the title of "Director," and to instead begin referring to myself as "Facilitator." The purpose of this change would be to begin focusing more heavily on community involvement in the project. While the content of the project currently features archival research and the universal knowledge created by the Department of Indian Affairs, it was suggested that a larger focus could be placed on the situated knowledge held by community members. For instance, it was suggested that interviews with Elders be filmed by Band members, and then incorporated into the overall project.

It has also been suggested that I spend more time in the community to improve opportunities for collaboration. Previous one-hour focus group sessions with Chief & Council were far too short to be able to share the large volume of archival research I have previously conducted. Finding a small office space within the community where band members could drop in on their own time may be a more effective way of sharing research and integrating situated knowledge into the project.

Funding

Moving forward on any of these potential projects will require funding and resources. With a solid theoretical framework, deep archival research, extensive video content, a working prototype, and an established relationship with the Indigenous community and the Zero Lab in its favour, this project has the potential to be completed through grants, as well as partnerships with other funding agencies and established content creators. It is my hope this thesis project will thrive far beyond graduation, and be completed to the highest production standards so that as large of audience as possible can experience and learn from it.

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9. Appendices

9.1 Appendix A: REB Invitation/Consent Form

Invitation / Consent Form

Date: January 23, 2015
Project Title: Ipperwash Beach: A Locative Media Project

Principal Investigator: **Faculty Supervisor:**
Monica Virtue   Patricio Davila
OCAD University   Faculty of Design
(519) 788-0064   OCAD University
mv14xi@student.ocadu.ca   (416) 977-6000 Ext. 4360
                                            pdavila@faculty.ocadu.ca

INVITATION
You are invited to participate in a study that involves research. The purpose of this study is to develop an interactive audio-visual story based on the history of Ipperwash Beach. This research will be used as a collaboration tool, and will be incorporated into a locative media project that takes place outdoors, or on site. The project will use mobile technology to tell data-based stories, and will incorporate maps and visualizations, as well as other documentary media. The audience for this project will be residents from the area, tourists, activists and scholars.

WHAT'S INVOLVED
As a participant, you will be asked to take part in a focus group to be formed by the Chief and Council of the Chippewas of Kettle & Stony Point First Nation. You will be asked to review materials regarding the history of the colonization of Ipperwash Beach, such as treaties and public government documents, as well as documentary media such as archival photos and historical recreations. You will then be asked to take part in a collaborative group discussion with facilitation materials (paper notes, images of documents and other media). The topic will be the sequence of the historical events of Ipperwash Beach, and their impacts on the physical landscape, according to the participants. You will be asked to collaborate on a timeline that incorporates both indigenous sources of historical content and that of settlers. You will then be asked to elaborate on the relative importance of different events on the historical timeline, and discuss missing media or material that may be needed. The result of the research is a collaborative map (on a board or wall) with paper materials attached that are distributed in a manner that reflects the thinking and discussion carried out in the focus group. You will then take part in a short debriefing session, where you will be asked to discuss this process, the use of the materials, potential feedback and final outcomes. The collaborative map(s) will be photographed at the end of the session. In total, participation will take around 120 minutes (2 hours) of your time. Should all participants decide the session should be longer, there will be an option of adding two 15-minute blocks of time, if needed, prior to the debriefing session, extending the session up to 2.5 hours in total. Alternately, the participants may jointly agree to schedule a second session at a later date. Should this occur, the second session will be co-ordinated through the office of Chief Thomas Bressette using the same process as the first session.

POTENTIAL BENEFITS AND RISKS
Possible benefits of participation include learning about historical aspects of the area (Ipperwash Beach) that you may not have been previously familiar with. There are few known or anticipated risks associated with participation in this study. The risks involved in participating are likely to be minimal. You may feel an increase in stress while reviewing the information shared by the Principal Investigator, or if you choose to share sensitive information about past events. At any time, you may wish to take a short break from the session, and that is fine. There is a slight risk of experiencing trauma by discussing past events. Your mental health is important - please notify the Principal Investigator immediately if you wish to discontinue your participation. If you feel you are experiencing trauma of any kind due to your participation, please contact the Kettle & Stony Point Health Services at 519-786-5647, or seek out treatment of your choosing.

VOLUNTARY PARTICIPATION
Participation in this study is voluntary. Please do not feel any pressure from either the Principal Investigator, or other community members, to participate. There will be no compensation for participation. If you wish, you may decline to answer any questions or participate in any component of the study. Further, you may decide to withdraw from this study at any time, and you may do so without any penalty.

CONFIDENTIALITY
Due to the nature of the focus group research method, neither complete anonymity nor complete confidentiality is possible. Participants in the focus group will be sharing opinions and collaborating on the sequencing of historical material and therefore the process is inherently non-confidential. However, the collaborative nature of this method means that participant's data will not be individualized and therefore not have any identifiable information. No personal identifiers will be collected. Data collected during this study (photographs of the collaborative map) will be stored on the

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researcher's personal hard drive in a password-protected archive. Data will be kept until the completion of the Master's thesis project, after which time it will be erased. Access to this data will be restricted to the Graduate Student Researcher, her Faculty Supervisor, and the Focus Group Participants.

ACKNOWLEDGEMENT
Participants have the option to request to be identified in order to honour and respect their wisdom and knowledge. As representatives of the community, the identities of those specific participants may be included within the written document, and their images may be photographed, either as a group or during the diagramming exercise. Participants will be able to indicate their wish to be acknowledged on the Consent Form. Should you choose to be acknowledged, and later withdraw from the study, all personal identifiers will be removed from both the written thesis document and photos in order to preserve your anonymity.

PUBLICATION OF RESULTS
Results of this study may be published in a student thesis, as well as in scholarly journals and presentations to conferences. In any publication, data will be presented in aggregate forms. Participants will be given the option of receiving a copy of the final written thesis document when it is completed. Participants will be given the option of receiving copies of all photos of the collaborative map(s) produced in the focus group session. Participants will be able to indicate their wish to receive copies by e-mail on the Consent Form.

CONTACT INFORMATION AND ETHICS CLEARANCE
If you have any questions about this study or require further information, please contact the Principal Investigator (Monica Virtue) or the Faculty Supervisor (Patricio Davila) using the contact information provided above. This study has been reviewed and received ethics clearance through the Research Ethics Board at OCAD University [Ref No. 1150]. If you have any comments or concerns, please contact the Research Ethics Office through cpineda@ocadu.ca.

CONSENT FORM

I agree to participate in this study described above. I have made this decision based on the information I have read in the Information-Consent Letter. I have had the opportunity to receive any additional details I wanted about the study and understand that I may ask questions in the future. I understand that I may withdraw this consent at any time.

☐ I wish to have my participation remain confidential and my identity concealed as much as possible.

OR

☐ I wish to be acknowledged in my role as a representative of my community. My identity may be included in the:

      ☐ written document only.

      ☐ photos only.

      ☐ both the written document and in photos.

Name: _____

Signature: _____ Date: _____

☐ I wish to receive a copy of the final written thesis document when it is completed via e-mail.

☐ I wish to receive copies of all photos of the collaborative map(s) produced in the focus group session via e-mail.

E-Mail: _____

Thank you for your assistance in this project. Please keep a copy of this form for your records.

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9.2 Appendix B: Letter of Support

December 18, 2015

Chief Thomas Bressette
Kettle & Stony Point First Nation
6247 Indian Lane,
Lambton Shores, ON N0N 1J1

Christine Pineda
OCAD U Research Ethics Board Secretariat
Research Ethics Board
OCAD University
100 McCaul Street
Toronto, ON M5T 1W1

Dear Ms. Pineda,

I'm writing to express my support for a research project that is currently being conducted through the Digital Futures program at OCAD University. Graduate student Monica Virtue has proposed a Masters thesis that directly impacts the Chippewas of Kettle & Stony Point First Nation. The project involves the history of the land that is part of our traditional territory.

Ms. Virtue has proposed that she undertake a focus group with Chief and Council. During the session, it is proposed that myself and eight other Councillors would participate in a review of documentary materials relating to Ipperwash Beach (publicly available government documents, archival documents, photos and maps, historical recreations, and other media). We would then participate in a diagramming exercise and discussion that would take approximately an hour of our time. The results of the exercise will be a collaborative map that will be photographed. I am aware there will be no compensation for our participation. The proposed date for this activity is late January or early February of 2016.

I am also aware the results of this exercise will be made publicly available in or around April 2016 as part of a written thesis document and a locative (on site) media project that tells the story of the history of Ipperwash Beach using audio and visuals. For this reason, I ask that our identities be kept anonymous and confidential to protect the privacy of participants, with the option for individual Councillors to request to be acknowledged in order to honour and respect their wisdom and knowledge. As representatives of the community, the identities of those specific Councillors may be included within the written document, and their images may be photographed, either as a group or during the diagramming exercise.

I believe this project will benefit the Kettle & Stony Point First Nation, and am confident that the rights of individual community members are being protected. If you have any questions, I can be contacted through the Administration Office at 519-786-2125.

Sincerely,
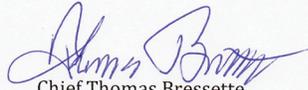
Chief Thomas Bressette

9.3 Appendix C: Design Document

LOAD ZONE DATA
(INSITU.JSON)

STEP 1:
User accesses mobile platform
through web browser.

BEGIN
GEOLOCATION

STEP 2:
Platform accesses GPS.

GEOLOCATION
SUCCESS

GEOLOCATION
FAILURE

IS THE USER IN
ONE OF THE ZONES?

NO

ENABLE
OFFLINE MODE

STEP 3:
Platform determines user's
current location.

SET THE CURRENT ZONE TO
THE ZONE THE USER IS IN

SET CURRENT ZONE
TO ZONE 1

STEP 4:
Platform selects either "onsite"
or "offsite" version of content.

STEP 5:
Platform loads video/
interactive content.

LOAD THE HTML CONTENT
FOR THE CURRENT ZONE
INTO TAB 1

STEP 6:
Platform displays
instructions.

HAS THE USER SEEN
THE INSTRUCTIONS?

NO

DISPLAY THE
INSTRUCTIONS

YES

PLAY
CONTENT

SWITCH TAB
TO TAB 1

STEP 7:
Platform loads and plays content
until all zones have been viewed.

TAB 3
(DISPLAY MAP)

USER CHANGES
TAB

TAB 2
(DISPLAY LIST OF
ALL ZONES)

STEP 8:
Platform displays either list of
zones, map or instructions
based on user's selection.

USER CHANGES
CURRENT ZONE

TAB 4

MOBILE PLATFORM FLOWCHART

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STEP 1:
User accesses mobile platform
through web browser.

LOAD ZONE DATA (INSITU.JSON) /
BEGIN GEOLOCATION
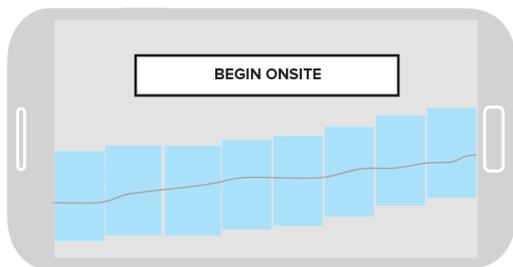
STEPS 2 - 5:
Platform accesses GPS, determines user's
location, decides on "onsite" vs. "offsite"
version of content depending on physical
location, and loads content.

GEOLOCATION SUCCESS /
SET THE CURRENT ZONE TO
THE ZONE THE USER IS IN /
LOAD HTML CONTENT INTO TAB 1

STEP 6:
Platform displays instructions if
not yet viewed.

DISPLAY THE INSTRUCTIONS
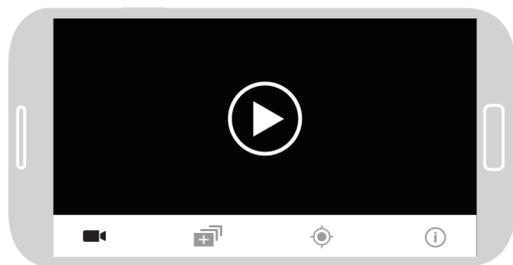
STEP 7:
Platform loads and plays content based
on user's physical location until all zones
have been viewed.

SWITCH TAB TO TAB 1 /
PLAY CONTENT
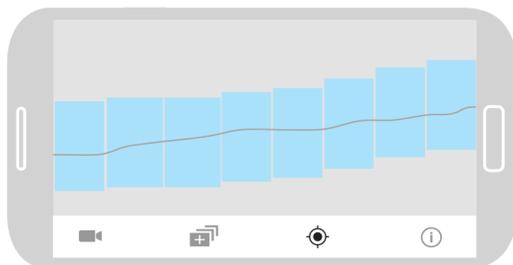
STEP 8:
Platform displays either list of zones, map
or instructions based on user's selection.

USER CHANGES TAB /
TAB 2 (DISPLAY LIST OF ALL ZONES) /
TAB 3 (DISPLAY MAP) /
TAB 4 (DISPLAY THE INSTRUCTIONS)

LOADING ASSETS...

BEGIN ONSITE

WELCOME

Data use: 164 MB
Requirements: Ear buds, smartphone or tablet (Android or Apple)

The Ipperwash Beach Walk is a geo-locative story for phones and
tablets. By clicking "Begin Walk" you are agreeing to download 25
movie scenes and visualizations that will be delivered to your de-
vice as you walk east on Ipperwash Beach along an historical trail...

BEGIN WALK

MOBILE PLATFORM WIREFRAMES

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