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SPEAR: a framework for Indigenous cultural games

SPEAR: uma estrutura para jogos culturais indígenas

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Abstract

Video games, which uniquely interweave design, code, art, and sound, can be an especially robust way to express Indigenous cultures. Such games should involve Indigenous people in meaningful roles throughout design and development from conceptualization to distribution with a focus on building capacity to encourage self-determination for Indigenous game developers. This call to action informs SPEAR (Sovereignty, Positionality, Equity, Advocacy, and Reciprocity), a framework for design and development informed by the Indigenous cultural game *Thunderbird Strike*.

Keywords

Indigenous studies. Game studies. Game design.

Resumo

Os videogames, que mesclam design, código, arte e som de maneira única, podem ser uma maneira especialmente robusta de expressar as culturas Indígenas. Esses jogos devem envolver os povos Indígenas em funções significativas em todo o *design* e desenvolvimento, desde a conceituação até a distribuição, com foco na construção de capacidade para encorajar a autodeterminação dos desenvolvedores de jogos Indígenas. Esta chamada à ação informa SPEAR (Soberania, Posicionalidade, Equidade, Advocacia e Reciprocidade), uma estrutura para design e desenvolvimento informada pelo jogo cultural Indígena *Thunderbird Strike*.

Palavras-chave

Estudos Indígenas. Estudos de videogames. *Design* de jogo.

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Introduction

According to the International Game Developers Association (2019), only 5% of game developers identify as Indigenous[1]. Nonetheless, self-expression of Indigenous cultures in video games is on the rise. The commercial games industry trends towards involving Indigenous people in roles such as cultural consultants, such as in *Assassin's Creed 3* (UBISOFT, 2012), *Spirits of Spring* (MINORITY MEDIA, 2014), and *Never Alone* (E-LINE MEDIA; UPPER ONE GAMES, 2014). Meanwhile, Indigenous game developers are establishing and sustaining space for their games to be recognized through exhibitions and events such as Night of the Indigenous Devs. Whether AAA or indie, there are a myriad of games in which Indigenous cultures inform design.

While all of these games involve contributions by Indigenous people in various roles, there is little work in understanding best practices for designing and developing Indigenous cultural games, meaning games of any form which specifically aim to portray Indigenous cultures. Games, with their interweaving of code, design, art, writing, and sound, offer robust spaces for Indigenous self-expression (LAPENSÉE, 2017). What, then, could the design and development of Indigenous cultural games look like in relation to sovereignty? Sovereignty, as described by Anishinaabe scholar and writer Carol Nadjiwon, who developed wellness curriculum at Batchewana First Nation, means sustaining the right to self-determine governance and expression (personal communication, 2017[2]). This can be exemplified in the efforts of Indigenous people to regain sovereignty after years of colonization, to restore the terms of broken treaties, and/or to prevent continued abuses. Delving into this question led the formation of SPEAR, a framework which stands for Sovereignty, Positionality, Equity, Advocacy, and Reciprocity. The framework is informed by *Thunderbird Strike*, an Anishinaabe and Métis side-scroller game aimed at sharing thunderbird stories about protecting the lands and waters (Figure 1).

[1] "Indigenous" refers to Native nations and communities across the world, ranging from, for example, the broadness of the term First Nations in Canada to the specificity of the Bay Mills Indian Community in the United States. As Linda Tuhiwai Te Rina Smith (1999) points out, "'Indigenous peoples' is a relatively recent term which emerged in the 1970s out of the struggles primarily of the American Indian Movement (AIM), and the Canadian Indian Brotherhood. It is a term that internationalizes the experiences, the issues and the struggles of some of the world's colonized peoples" (p. 7).

[2] In-person communication by Carol Nadjiwon, from Batchewana First Nation, to Elizabeth LaPensée on 1/01/2017.

More broadly, this study suggests SPEAR as guidelines for how to convey Indigenous cultures through game design and how to develop Indigenous cultural games, especially where collaboration with Indigenous contributors is concerned with respect to Indigenous research (SMITH, 1999; KOVACH, 2009; KOVACH, 2010; PELTIER, 2018). This research is limited in that each Indigenous cultural game should be informed by the Indigenous contributors involved, recognizing that *Thunderbird Strike* is positioned specifically as Anishinaabe and Métis.

Figure 1 - Level 1 of *Thunderbird Strike*

Source: Prepared by the author (2017).

Thunderbird Strike

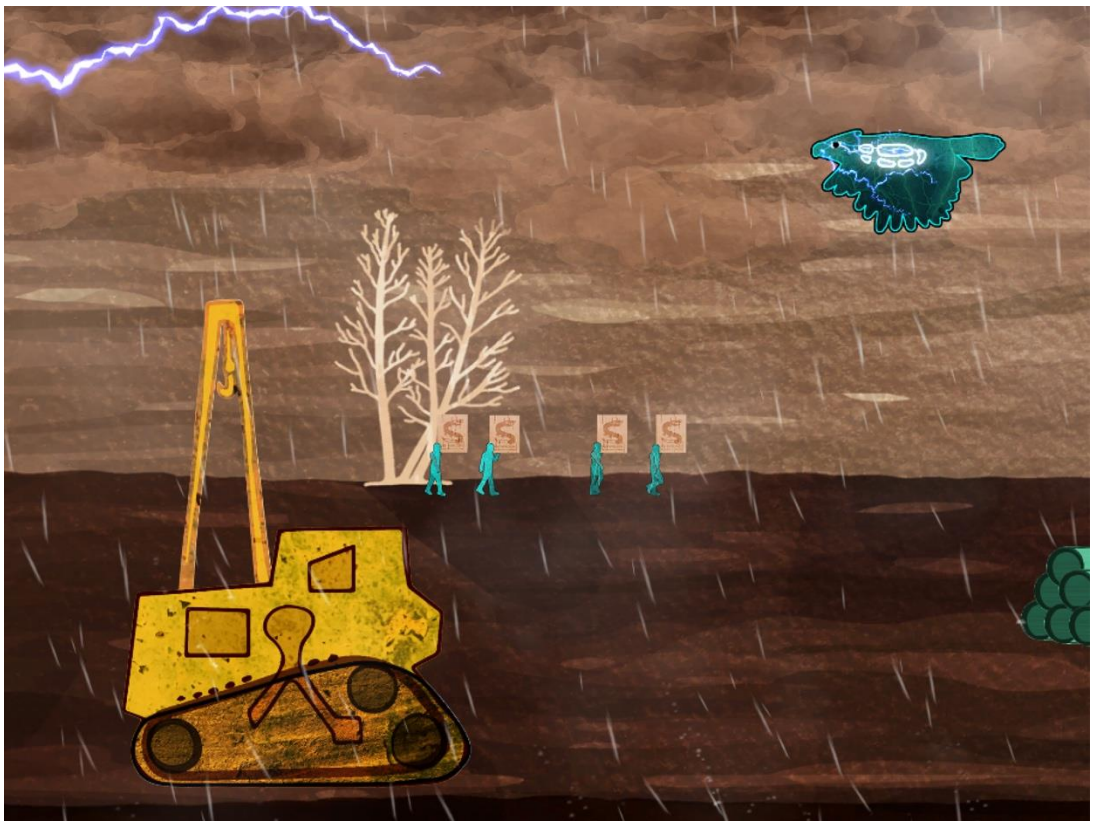
In *Thunderbird Strike*, a 2D side-scroller video game optimized for mobile devices with limited access to Internet connections, you fly as a thunderbird, protecting Turtle Island from the snake that threatens to swallow the lands and waters. You need to balance flying through storm clouds to gather lightning energy paired with swooping down to reach targets with lightning strikes to transform them and earn points for a total high score.

Points can be gained in either Destruction or Restoration - Destruction points are earned from lightning strikes that case the disappearance of oil infrastructure such as mining company buildings, mining trucks, cranes, and mining operations, while Restoration points are earned from lightning strikes which activate people and bring the bones of caribou, wolves, and buffalo back to life. The game builds up to a boss battle of a pipeline snake that shoots oil to drain the player of lightning.

Thunderbird Strike involved integrated teachings from growing up hearing thunderbird stories, reciprocally revisited stories by making offerings to and involving Anishinaabe elders and storytellers, and more specifically included the voices of Métis artist Dylan Miner and Anishinaabe artist and storyteller Isaac Murdoch. Since I am an Anishinaabe, Métis, and Irish game designer, artist, writer, and scholar, the game is positioned as such. The music, sound, and voice-overs were created by Tlicho Dene interdisciplinary musician Casey Koyczan with direction by the game designer. Programming was provided by Indigenous coder Aubrey Jane Scott followed by Adrian Cheater, a white non-binary trans woman who wanted to contribute to *Thunderbird Strike* as a way to give back to Indigenous communities. I maintained sovereignty in decisions, while input from Indigenous collaborators and playtesters was integrated throughout the process.

The Indigenous-led development process of *Thunderbird Strike* influenced the design. The use of lightning is intended to evoke experiences of self-determination in the player. Although lightning can be used to obliterate oil extraction infrastructure, it can also be an expression of reciprocity with the lands and waters when used to bring dead animals back to life or activate people (Figure 2). The player is entirely self-determined in their use of lightning and responsible for their own interpretation of their positionality as a thunderbird. Interwoven with Indigenous ways of knowing, both the design and development *Thunderbird Strike* inform the conceptual framework SPEAR.

Figure 2 - Level 2 of *Thunderbird Strike*



Source: Prepared by the author (2017).

Indigenous cultural games

This research addresses a gap in looking at the design and development of Indigenous cultural games from a merge of Indigenous studies and game studies. Indigenous studies is an interdisciplinary field that seeks to understand and convey the lived experiences of Indigenous people and communities, past, present, and future (SMITH, 1999). Game studies, a similarly interdisciplinary field, can involve research ranging from the analysis of games to the design of games and interrelated aspects anywhere from players to technology (MÄYRÄ, 2009). In this study, Indigenous studies is emphasized because bringing methodologies, methods, as well as models and lessons from Indigenous-centered research into game studies prioritizes Indigenous ways of knowing and the complexity of research with Indigenous communities[3].

[3] Ways of knowing encapsulate the purposeful learning and reproducing of intricately connected ontologies in relation to lands, animals, insects, plants, waters, stars, and rocks of Indigenous people (MARTIN, MIRRABOOPA, 2003).

Looking at Indigenous representations in video games from the context of Indigenous studies reveals differences between Indigenous cultural games, which have vastly more in-depth representations, and games that fall into tokenization and/or appropriation (LAGACE, 2018). Problematic games might include centering Indigenous representations around colonial design (DILLON, 2008), minimizing Indigenous representation to a single Indigenous player character or non-player character, and/or using Indigenous representations only to serve as enemies or antagonists with minimal investment in their depth (LAGACE, 2018). Instead, the following games originated from Indigenous ways.

Most relatable to *Thunderbird Strike*, *Honour Water* (2017) is a singing game available on iPads aimed at Indigenous players and especially Anishinaabe who are interested in engaging with Anishinaabemowin, the Anishinaabe language (LAPENSÉE; JAAKOLA; DAY; NOODIN, 2018). *Honour Water*'s gameplay was designed based on input from elders who wanted a way to share water teachings and language in an interactive way, but with mechanics that do not shame the player if they are unable to sing consistently through a level. Thus, gameplay acts as a guide to teachings and operates from the definition of games as safe spaces to have experiences and earn knowledge (LAPENSÉE; JAAKOLA; DAY; NOODIN, 2018), rather than having a feedback system determine points or a win/lose outcome (SALEN; ZIMMERMAN, 2004). *Thunderbird Strike* similarly challenges win/lose conditions by swinging design towards a win/win. However, there is a high score feedback system where players gain points for destroying, reviving, and activating, as well as gathering hidden bonuses, with replayability linked to striving for a higher score.

In parallel with *Thunderbird Strike*'s expression of Indigenous perspectives on climate change as a crisis, *Terra Nova* takes place on Earth in the far distant future after a cataclysmic collapse due to climate change (LONGBOAT, 2019). A two-player cooperative platformer aimed at players of all backgrounds, gameplay explores what first contact between Indigenous people and settlers in the future might look like. The design starts as a split screen co-op but the story eventually leads the players full circle into a shared screen co-op in which they need to work together in reciprocity towards a shared future. Although there is no overt win/lose outcome, players must strive to complete the

game to win. While *Terra Nova* echoes *Thunderbird Strike*'s emphasis on cultural values, the game design is unique and exemplifies the incredible possibilities of Indigenous self-expression and reinforces the power of mechanics as a message (ROMERO, 2008).

Traveling back in time and place, *When Rivers Were Trails* (2019) is a point-and-click adventure game optimized for PC, Mac, and Chrome that takes players to the 1890's. The game is designed for players of all backgrounds ages 13 and older to bring awareness to issues experienced by Indigenous communities across the United States ranging from Minnesota to California (LAPENSÉE; EMMONS, 2019; LAPENSÉE, 2020). Gameplay takes on the viewpoint of an Anishinaabe person who has been displaced from their land and must balance their wellbeing as they make tough decisions about helping, sharing, gifting, contributing to resistances, and making their way with hunting, fishing, and canoeing. Unlike *Thunderbird Strike*, *Honour Water,* and *Terra Nova*, *When Rivers Were Trails* has a definite win/lose condition in which the player can die and have to restart gameplay from an earlier automatic save point. *Thunderbird Strike* is unique from *When Rivers Were Trails* in having dynamic ongoing play that encourages replaying from the beginning for a high score, while *When Rivers Were Trails* can be left and picked up again at any point in order to be conducive to playing in classrooms and community centers where players may need to pause.

All of these Indigenous cultural games had teams where Indigenous voices led development. *Honour Water* was inspired by Anishinaabe elder Mary Renville and developed in collaboration between myself, Anishinaabe elder and water walk Sharon Day, and the Oshkii Giizhik Singers alongside elders in their circle (LAPENSÉE, JAAKOLA; DAY; NOODIN, 2018). Its development was made possible by The Pollination Project's mini grants for social change. *Terra Nova*'s creative director and designer Maize Longboat, who is Kanien'kehá:ka from Six Nations of the Grand River, was able to pay a team including Mi'gmaq and Listuguj artist Ray Caplin and a team of programmers who do not identify as Indigenous through a grant from the Social Sciences and Humanities Research Council (LONGBOAT, 2019). *When Rivers Were Trails* was developed by myself and co-creative director and Nichlas Emmons in a collaboration between the Indian Land Tenure Foundation and Michigan State University’s Games for Entertainment and Learning Lab thanks to support from the San Manuel Band of Mission Indians and

contributions from over thirty Indigenous writers, artists, and musicians (LAPENSÉE, EMMONS, 2019). The development teams for comparative Indigenous cultural games illuminate disparities for Indigenous people in accessing the Internet, resources, and education to pursue careers in programming, as all of these games, including *Thunderbird Strike*, needed support from programmers. Capacity building to increase access for aspiring Indigenous game developers is paramount to self-determination in future Indigenous cultural games.

Akin to *Thunderbird Strike*, *Honour Water* and *When Rivers Were Trails* involved collaborating with elders, language speakers, and knowledge carriers. While *Terra Nova* was generated from the designer's personal reflections on identity rather than involving community, his work speaks to his own experiences and those of his family, offering another valid approach for developing Indigenous cultural games. This case study is not intended to be prescriptive and emphasizes self-determination wherein Indigenous developers are concerned. There is no one right way, but rather, many ways. *Thunderbird Strike* merges the designer's experiences of listening to stories and revisiting the community in a layered development process.

Theoretical lens and methodology

The theoretical lens of this study is rooted in Indigenous ways of knowing (WILSON, 2008), and even more specifically Anishinaabe-centered methodology. Biskaabiiyang, first articulated by the Seven Generations Education Institute in Ontario, Canada (n.d.), leverages gikendaasowin (knowledge) of Indigenous communities (GENIUSZ, 2006; SIMPSON, 2011) wherein Indigenous participants are not perceived as individuals who need interventions, but rather as contributors who should be given opportunities to engage in self-expression (LAPENSÉE, 2014). It can describe returning to ourselves (GENIUSZ, 2006, 2008, 2015; DEBASSIGE, 2010; SIMPSON, 2011), while more literally conveying returning home after a journey with something to offer the community (DILLON, 2012). When paralleled with game development, biskaabiiyang involves connecting with collaborators by listening, continuing to make connections while developing, and iteratively revisiting in ongoing ways to reinforce connections while being responsible for maintaining a game as best as possible as technology rapidly changes.

Viewing biskaabiiyang as a journey of returning, I reconnected by visiting lands and waters as well as storytellers and knowledge carriers during the design and development *Thunderbird Strike* as it informed the SPEAR framework. As a research process, biskaabiiyang begins with a journey outward with listening at the center, encourages articulation of the work, and involves consistent revisiting to validate research as well as honor contributors. It can include frequent self-reflection as a researcher-collaborator with cycles of looking at data, coding data into themes, and reaffirming those themes. Thus, this design research study (LAUREL, 2003; ZIMMERMAN, 2003; SALEN; ZIMMERMAN, 2004; LAPENSÉE; JAAKOLA; DAY; NOODIN, 2018; LONGBOAT, 2019) includes recalling, describing, and reflecting on the design and development of *Thunderbird Strike* as a case study that informs SPEAR.

Finally, biskaabiiyang calls on researchers to give back to the communities that they conduct research with (PELTIER, 2018). As such, *Thunderbird Strike* can be played for free and does not rely on Internet access after the initial download. Further, the SPEAR framework is intentionally accessible for adaptation and implementation with future Indigenous cultural games.

SPEAR

SPEAR, which stands for Sovereignty, Positionality, Equity, Advocacy, and Reciprocity, is a framework to support the design and development of Indigenous cultural games with emphasis on involving Indigenous people as collaborators throughout the process from the beginning. While there are varying frameworks to structure game development (IBÁÑEZ et al., 2011; HUNICKE et al., 2004), iterative process in SPEAR reflects Indigenous methodologies wherein there is an inherent responsibility to be responsive to Indigenous contributors as collaborators.

Akin to Indigenous-centered research, SPEAR contextualizes Indigenous people not as individuals who need interventions, but rather as community members who should be given opportunities to engage in self-expression (LAPENSÉE, 2014). Thus, the development process begins with connecting, then initiating development through generating ideas, creating a prototyping, leading into cycles of playtesting and iterating repeatedly towards a refined distributable game. Feedback from playtesting is not a

finality, but rather an opportunity to better understand a game to both revisit design as well as inform future work. Indigenous cultural games come with a responsibility to continue the work, ranging from maintaining version updates for a particular game to looking for ways to support new games if that is an interest of Indigenous collaborators. *Thunderbird Strike* offers a case study of such an Indigenous cultural game which informs the conceptualization of the SPEAR framework for future work.

Sovereignty

Sovereignty is the right to self-determine governance and expression (NADJIWON, personal communication, 2017[4]). This can be exemplified in the efforts of Indigenous people to regain sovereignty after years of colonization, to restore the terms of broken treaties, and/or to prevent continued abuses. When designing video games, sovereignty refers to a community or person exercising free will in their self-expression. In terms of games overall, exercising sovereignty can relate to: economic control, such as determining how funds earned from games are allocated; maintaining intellectual property rights, importantly ensuring nations retain the rights of the knowledge shared through a game; and controlling access through informing who can play a game and how (by, for example, using password protection, having a game available only in a space community members can visit, or having limited copies distributed throughout a community). In regards to the design and development process, sovereign games are informed by Indigenous self-determination with Indigenous voices taking the lead.

Throughout the development process for *Thunderbird Strike*, the programmer Adrian Cheater collaborated closely with me with receptivity and respect of sovereignty. We discussed design and agreed to use agile development methodology, which is collaborative, people-centered, and solution-focused (O'HAGAN; O'CONNOR, 2015). Adrian approached design choices from a position of interest and openness, even when *Thunderbird Strike* did not fit expected design that would be more clearly coded. Design directions were framed as open-ended questions from the programmer, solutions were generated through conversations between the designer and the programmer, and then

[4] In-person communication by Carol Nadjiwon, from Batchewana First Nation, to Elizabeth LaPensée on 1/01/17.

implemented by the programmer who coded systems influenced by Indigenous ways of knowing.

Positionality

Positionality is the positioning of one's self and work, whether motivated by an ethical responsibility or to situate and expand understanding of a game. For Indigenous people, positionality is an act of continuance and recognition of where they and their work are coming from. For non-Indigenous developers working on Indigenous cultural games, positionality is necessary given the lack of sharing the lived experiences of Indigenous people. This will help support clear communication with Indigenous collaborators during all phases of design and development where Indigenous voices should be prioritized and listened to openly. Games themselves should be positioned in order to articulate what worldview(s) they portray and recognize where design influences originate. Such positionality honors ancestors whose work came before and whose efforts made games in the present and future possible.

Indigenous cultural games should have deeply rooted reflections of the communities they represent. Indigenous games are not beholden to one particular design, but rather have a myriad of community-specific design possibilities that fit within Indigenous holistic worldview (WILDCAT, 2005; HART, 2010). In the case of *Thunderbird Strike*, game design was generated from an Anishinaabe worldview (Figure 3). Anishinaabeg emphasize the interconnectedness of all life and recognize humor as a practice of healing. *Thunderbird Strike* interweaves this worldview throughout the design elements ranging from environments to mechanics to art to sound.

Figure 3 - Cut Scene in *Thunderbird Strike*

Source: Prepared by the author (2017).

Gameplay takes place in North America, contextualized as "Turtle Island" from an Indigenous lens. The typical design convention for side scrollers is to scroll left to right. *Thunderbird Strike* uniquely enacts positionality by scrolling right to left in order to orient the player to the Anishinaabe worldview, which is positioned at the north of the Great Lakes looking south to the expansiveness of the water system. Traveling from Level 1 to Level 3 is best conveyed as left to right movement to reflect the journey from the Tar Sands in Alberta in Canada to the Great Lakes in Michigan in the United States. Positionality can thus influence a video game as deeply as breaking design conventions and building anew.

Equity

Equity involves not only facilitating fairness, but recognizing disadvantages and making concerted efforts to address imbalances. Alongside lack of representation, Indigenous communities experience disparities in access to the Internet, hardware and software resources, and education for technology related careers (DUARTE, 2017). Although increasing efforts are being made towards sovereignty in technology development (DUERTE, 2017), active contributions need to be made by game companies

in order to broaden the field with Indigenous voices. Ideally, Indigenous cultural games should take a step beyond putting Indigenous people in limited roles such as cultural consultants or voiceover actors. While these roles provide some influence in a game, they do not contribute to building capacity for sovereign games on creative or economic levels. Instead, Indigenous cultural games should seek to address the lack of access to technology and education in game development by being open to training Indigenous collaborators in meaningful roles such as programming, design, writing, art, music, and sound while paying them fairly.

The collaboration for *Thunderbird Strike* worked well due to including a programmer who has an invested interest in building capacity for Indigenous cultural games and, even more importantly, Indigenous people in game development. I was guided through increasing my skills in the game engine Unity, including programming, level design, building games to iOS platforms, and submitting to stores. Thanks to the programmer's commitment to supporting capacity, *Thunderbird Strike* can continue to be updated independently.

As exemplified by *Thunderbird Strike*, Indigenous cultural games should also take into account access issues for Indigenous players so as to not leverage non-Indigenous players over Indigenous players, but rather address how to provide technology to Indigenous communities, design for limited access to the Internet, and/or deploy to platforms that are more accessible. Each of these suggestions are only possibilities that should be discussed with Indigenous collaborators who are familiar with how these issues take form in their own communities to generate solutions for equity. For *Thunderbird Strike*, equity takes the form of releasing the game for free on app stores and distribution platforms. The design takes into account downloading a game and then being able to play from a place with limited or no Internet access.

Advocacy

Advocacy is intent towards purpose. During the development of Indigenous cultural games, advocacy should be taken into consideration early on so that it may be fully integrated throughout the design rather than tacked on. Advocacy can take many forms, including aiming for awareness of Indigenous concerns, actively aiding Indigenous

people, and increasing knowledge, such as Indigenous languages, stories, and cultural teachings. The development team can benefit from establishing advocacy before they make decisions and create content for a game. Conceptualizing can happen with Indigenous collaborators through approaches such as talking circles (LAVALLÉE, 2009), sketching, paper prototyping, and dreaming (PELTIER, 2018). Ideally, conceptualization of a game should involve asking how gameplay can facilitate advocacy for Indigenous communities.

To this end, *Thunderbird Strike* adapts Anishinaabe stories about thunderbirds, which involved returning to lands, waters, community members, storytellers, elders, and language speakers. I was initially inspired to work on *Thunderbird Strike* because of listening to my mother and auntie as well as understanding the issues Indigenous communities face due to oil extraction. Starting at the Alberta Tar Sands in 2008, I made visits to all places represented in the game as I gathered textures and inspiration for art over several years of traveling and photographing places and important elements, such as the tires on mining trucks used for resource extraction at the tar sands. Semaa (tobacco) was offered in all of these places and photos were used as a method to be able to share materials while not taking anything.

As validation, I also spoke especially to Jim LeBlanc from Bay Mills Indian Community and Nathan Wright who is Sault Ste. Marie Tribe of Chippewa, as well as Isaac Murdoch from Serpent River First Nation. I also asked Dylan Miner for permission to integrate his well-known work “No Pipelines on Indigenous Lands” (Figure 4). These storytellers, knowledge carriers, and artists reinforced stories I grew up hearing. All throughout, Anishinaabe protocol was followed to honor the knowledge shared. I traded creating or refining art in exchange for knowledge and offered semaa when relevant. Thus, *Thunderbird Strike* is not merely from my voice as a designer, but from many Indigenous voices to resonate a shared concern regarding the impact of oil extraction as well as hope for the future.

Figure 4 - Dylan Miner's "No Pipelines on Indigenous Lands" in *Thunderbird Strike.*

Source: Prepared by the author and Dylan Miner (2017).

Reciprocity

Reciprocity stems from Indigenous ways of knowing about responsibilities to lands, waters, and all interconnected life. Game developers from all cultures can enact reciprocity through contributing to sovereignty, positionality, equity, and advocacy. Development teams can run workshops for Indigenous communities or offer educational resources to advance Indigenous developers. Meanwhile, Indigenous cultural games can be used as pathways for awareness about Indigenous concerns, given as gifts for free to Indigenous communities, and include statements acknowledging Indigenous land from which a game was developed or those who collaborated to make the game possible. Reciprocity can take many forms and should come from a place of asking Indigenous collaborators what is appropriate in any given situation.

For *Thunderbird Strike*, while Adrian Cheater was providing support to me as a programmer, I wanted to extend capacity building to more Indigenous creatives. Casey Koyczan was invited and paid to integrate his voice as a Tlicho Dene musician and artist living in the Northwest Territories in Canada where toxicity caused by pollution has impacted the lands and waters. The game soundtrack and sound effects were created in tandem through a reciprocal process between us, with circles of sharing concept art and

sounds that inspired one another. Casey was especially inspired to interpret sounds such as lightning strikes and explosions through his passions for rock music and retro games merged with his awareness of the impact of pollution. Thus, all of the sound effects were created using instruments also heard in the game music, with the intention of resonating the losses of land, waters, and life experienced as a direct result of toxicity from pollution. Although *Thunderbird Strike* is positioned as an Anishinaabe and Métis game, it enacts reciprocity with Indigenous people across Turtle Island as a free accessible game that welcomes play and discussion to bring awareness to issues for Indigenous communities more broadly.

Conclusion and Future Work

SPEAR is a framework that centralizes involving Indigenous contributors as collaborators with consideration for Sovereignty, Positionality, Equity, Agency, and Reciprocity throughout the design and development of Indigenous cultural games. Genuine sovereignty is achieved through the capacity for Indigenous people to self-determine their own representations in games and more deeply engrain Indigenous ways of knowing throughout design and development through development experience that builds capacity for future work. SPEAR emphasizes the expansion of possibilities in game design and development processes by looking to Indigenous ways of knowing.

The conceptual framework was informed by *Thunderbird Strike*, a specifically Anishinaabe and Métis game, which calls for future work in patterning SPEAR to additional Indigenous cultural games. As a call to action, this research encourages the implementation of the SPEAR framework to inform the design and development of Indigenous cultural games that aim to reify sovereignty.

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