

My doctoral research will innovate computer programming and Indigenous media through the development of an *Indigenous Digital Media Toolkit* (“IDMT”). This toolkit will unite Indigenous cultural components with naturalistic programming language, utilizing Cree, the language of my ancestors. *IDMT* also supports the National Centre for Truth and Reconciliation’s (NCTR) mandate to “provide a safe and trusted home [for Aboriginal peoples] to store their material” (National Centre for Truth and Reconciliation, University of Manitoba), and specifically addresses item #83 of the Truth and Reconciliation Commission of Canada’s Calls to Action that earnestly asks the Canada Council for the Arts to supply platforms for “Indigenous and non-Indigenous artists to undertake collaborative projects and produce works that contribute to the reconciliation process” (Truth and Reconciliation Commission of Canada, 2015).

As a Métis media artist, I investigated the convergence of traditional Indigenous art forms and digital media in my MFA thesis, *Indigitalized: traditional Métis artistic expression in contemporary media art* (J. Corbett, 2015), which was composed of hand-beaded and digitally beaded portraits. This work exposed a number of disconnects between physical First Nations beading practices and the associated programming code. Consequently, I reformatted my code to reflect my Indigenous methodological practice (for example: my action of beading from left to right then right to left in a continuous line), and not strictly a representation of computational instructions (which are coded in only one direction—left to right, and in multiple fractured lines). Current computer programming languages are limited in their ability to encompass an Indigenous-encoding paradigm; they are inherently based on logical structures established by the machine, not on the language or culture of the user. The realization that a more suitable language and platform is needed has bolstered my desire to further “indigenize” computing interfaces, languages, and processes to reflect Indigenous community practises and methodologies. I believe that my research-creation projects have exposed a disparity between media and technological tools used to support and promote Indigenous culture and practices in the digital world.

IDMT allows for Indigenous culture to become the human-computer interface within a programmatic model that gives Indigenous artists a greater opportunity to bring together their traditional art forms and media technologies. Furthermore, it is a vehicle for language revitalization, bringing back into common use languages that are endangered or re-awakening languages that are *sleeping* (Galla, 2016). *IDMT* will utilize natural-language-oriented programming, which means coders can use an Indigenous language vernacular (i.e. Cree) to perform programming tasks. My development of this toolkit places importance on the user’s requirements by creating the necessary language, compiler, and programmatic tools to fulfil those requirements with as direct a solution as possible. By contrast, common practice in software development produces solutions based on existing technology platforms which—though capable of accomplishing the required tasks—do so with unnecessary redundancy, limited software extensibility, and based on colonial language (Biermann, 1983; Dmitriev, 2004; Dunlavey, 1994; Pane & Myers, 2001).

My paternal great-grandparents who were of Cree and Saulteaux heritage, were fluent Cree speakers. However, my grandmother never passed the Cree language down to her children. The *IDMT* project provides me the opportunity to reclaim part of my heritage, which was self-oppressed by my grandparents in favour of a homogenous anglicized Canadian ideal that was forced on the First Nations people of Canada in the 20th century (Milloy, 1999). In addition to participating to the health and resilience of the Cree language, *IDMT* has the potential of reaching an important number of Canadian Cree speakers, approximately 83,500 according to census data (Statistics Canada, 2011).

Since the beginning of this century, a number of initiatives have attempted to bring together Indigenous communities with technological cultures that rely on the Internet/World Wide Web (Dyson & Underwood, 2006; Morris & Meinrath, 2009), social media platforms for communication (Alexander, 2001), digital storage of Indigenous cultural and intellectual property (J. Corbett¹ & Kulchyski, 2009), and Indigenous media development in the domain of video games (LaPensee, 2014). The latter has

¹ Not the applicant

brought critical acclaim and a greater interest in Indigenous media development (Gershenfeld, 2014). However, these initiatives focus on leveraging technologies as they come into being. Technology developed by, for, and intended for Indigenous peoples is scarce, and technology using culture as an interface is nearly non-existent. *IDMT* will help correct this.

Although numerous programming languages have challenged the dominance of English-based coding practices, there are currently no programming languages based on Native North American languages. National languages based on Latin character sets like French and German, or other-glyph based languages like “Analitik” (Cyrillic; Russian), “丙正正” (Chinese), and non-text based like “Piet”—an art-based pixel language where the program is a graphic representation—are merely translated environments. They provide non-English speakers access to high-level languages without the need to learn the nuances of coding in English. Moreover, all of these examples do not embrace an underlying culture as an inherent and integral component of the coding language itself.

My intention is to meld anthropological research methods, participatory linguistic and community activity, and immersive cultural placement with my existing computer-based artistic programming practice to develop a strategic plan for the generation of the *IDMT* programming language and digital toolkit.

Before the first year of the award tenure, I will have pursued my coursework in Indigenous methodologies concurrently with formal Cree language immersion courses at the University nuhelot’înethaiyots’î nistameyimâkanak Blue Quills (UnBQ) in St. Paul, AB. I currently actively participate in cultural teachings, ceremonies, experience community knowledge development, and learn appropriate cultural protocols critical to the development of this project, reflecting the vision of “research by and with Aboriginal Peoples” (Government of Canada, 2012). The *IDMT* platform is built with the support of the Indigenous community: the faculty, elders, and community at UnBQ are supportive of this project, and my intention to build and maintain relationships with my Cree mentors at UnBQ throughout the development of this project. By the second year of the tenure, I will release the *IDMT* toolkit for testing, and provide access to elders, mentors, and programs aimed at Indigenous media development, such as *Skins*, a computer game development workshop for Aboriginal youth supported by Skawennati Fragnito and the Aboriginal Territories in Cyberspace (AbTeC) initiative based at Concordia University (Montreal). My final year will be dedicated to complete and synthesize the project results and documentation, and to finalize the formal written dissertation. I recognize the sensitivity required in working with Indigenous peoples, communities, language, and culture. I will be cognizant of, and adhere to both Indigenous protocols and university ethics requirements that are needed to successfully fulfil this project.

My twenty-four-year career as a private-sector computer programming professional, in conjunction with my academic pursuits (Dipl. of Fine Art, BFA, and MFA) that merged my technological proficiency with my Métis heritage and fine art practises, have given me a solid foundation for this PhD. My doctoral supervisors, Dr. Christine Schreyer, whose knowledge of Cree and focus on linguistic anthropology and language revitalization will be crucial to the development of the domain-specific language model needed for this project, and Stephen Foster, Métis Media Artist and Head of Creative Studies, will provide the necessary perspectives between indigenous artistic development and digital media. My committee also includes Dr. Constance Crompton from The University of Ottawa, whose research on digital cultures and code as representational media, will inform the critical methodology of my research. Dr. Sherry Farrell Racette at the University of Manitoba will provide guidance in Indigenous methodologies and pedagogy. Scholars at UBC Okanagan are heavily engaged in Indigenous Studies, language revitalization, and new media-based art practises. These research strengths in conjunction with the world-class facilities in the Institute for Community Engaged Research, Humanities Data Lab, Centre for Indigenous Media Arts and the Centre for Culture and Technology, make UBC Okanagan the ideal environment to pursue this work.

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Research Contributions

Papers

- R 2013 Corbett, J. (2013). Apophenia and Celestial bodies: Ancient origins of the pixel. In GA2013: XVI Generative Art International Conference. Milan, Italy.
- R 2013 Ranjan, A., Gabora, L., O'Connor, B., & Corbett, J. (2013, June). Translate-ability of Creative Ideas across Domains. Presented at the Third World Congress on Positive Psychology, Los Angeles.
- R 2008 Artist Trading Cards: The Best of IllustratedATCs.com 2007, IllustratedATCs.com, available in print through lulu.com

Conferences, Academic and Public Lectures, Workshops

- 2016 Guest Lecturer, PSYO 317: Psychology of Creativity, UBC Okanagan
- 2014 Artist Talk, 15/15 Graduate Lecture Series, UBC Okanagan
- 2013 Guest Lecturer, GA2013: XVI Generative Art International Conference. Milan, Italy.
- 2013 Artist Talk, 15/15 Graduate Lecture Series, UBC Okanagan
- 2013 Guest Lecturer, PSYO 317: Psychology of Creativity, UBC Okanagan
- 2012 Guest Lecturer, PSYO 317: Psychology of Creativity, UBC Okanagan
- 2011 Guest Lecturer, PSYO 317: Psychology of Creativity, UBC Okanagan

Creative Outputs

Solo Exhibitions

- 2015 Expressions of the Sacred, FINA Gallery, UBC Okanagan, Kelowna, BC

Refereed Articles on Applicant's Work

- 2018 Garneau, D. (2018, Spring). Electric Beads: On Indigenous Digital Formalism. *Visual Anthropology Review*. 2018.

Group Exhibitions

- 2017 – 2019 Transformer: Native Art in Light and Sound, Smithsonian National Museum of the American Indian, New York, NY, USA
- 2016 Back to the 80s, Kelowna Art Gallery, Kelowna, BC
- 2013 Art on the Line, UBC Okanagan, Kelowna, BC
- 2013 Emerging Dialogues: Exposing 9 stories of creative research, FINA Gallery, UBC Okanagan, Kelowna, BC
- 2013 There Must Be Something in the Water, FINA Gallery, UBC Okanagan, Kelowna, BC
- 2012 Six Stories, FINA Gallery, UBC Okanagan, Kelowna, BC
- 2012 Art on the Line, UBC Okanagan, Kelowna, BC
- 2012 Proof Positive 2: Juried Exhibition of UBCO Student Prints, Vernon Public Art Gallery, Vernon, BC
- 2011 Splitgraphic: International Graphic Art Biennial, Split, Croatia
- 2011 10th Lessedra World Art Mini Print Annual, Sofia, Bulgaria
- 2011 Art on the Line, UBC Okanagan, Kelowna, BC
- 2011 Proof Positive: Juried Exhibition of UBCO Student Prints, Vernon Public Art Gallery, Vernon, BC
- 2011 Printmaking, Kelowna Art Gallery, Kelowna, BC

Curatorial Projects

- 2015 “ACTIVADE[D]”, FINA Gallery, UBC Okanagan, Kelowna, BC