ABSTRACT

Navigating the Cyber Museum
Reconstructing Indigenous Living History
in A Journey into Time Immemorial

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This article closely examines aspects of the Virtual Museum of Canada’s website A Journey into Time Immemorial to investigate the relationship between the poetics of new media and contemporary curatorial practices in Indigenous cultural heritage. In this interactive cyber museum, detailed reconstructions of a longhouse village, engaging motion graphics and video interviews with Elders are combined to represent the historical practices of Stóꞌlo-Coast Salish peoples and their enduring significance today. The objective of this research is to reflect on how computational tools and spatial design were used to express temporal aspects of tangible and intangible heritage preservation and transmission.

AN INTERACTIVE INDIGENOUS HERITAGE CYBER MUSEUM

In 2008, UNESCO recognized the interactive cyber museum A Journey into Time Immemorial (JITI) [1] with its Grand Prix Award, thereby affirming it as a substantial contribution to world heritage. Funded by the Department of Canadian Heritage through its Virtual Museum of Canada (VMC) initiative, JITI represents a collaboration between the Simon Fraser University (SFU) Museum of Archaeology & Ethnology in Burnaby and the Fraser Valley’s Xá:ytem Longhouse Interpretive Centre in Mission, institutions both located in different municipalities of British Columbia, Canada. Based on First Nations traditional knowledge and oral history, this digital reconstruction of a Stóꞌlo pit house and longhouse village represents an artistic and cultural interpretation of the way of life of the Stóꞌlo Nation’s Coast Salish tribes in the Fraser Valley as it was hundreds of years ago [2].

JITI merges motion graphics, detailed reconstructions of Stóꞌlo-Coast Salish cultural landscapes and didactic on-screen text to represent the historical practices of these peoples and their enduring significance in world history. As such, it offers first-hand evidence of the potential being unleashed in heritage institutions for the creative presentation of digital collections and new media–based curatorial approaches to address core issues of “power and authority, commitment, control and learning” between museums and source communities [3]. More broadly, JITI’s design builds upon the lessons learned from early experiments with digitally constructed spaces and further advances efforts in the museum community to highlight the relevance of intangible cultural heritage as well as the meaningful role it can play in heritage preservation and transmission. A wider implication of this is the demonstration that new technologies of representation can be effectively applied to support institutional exhibition projects that prioritize collaborative frameworks and self-expressions of identity [4].

Indeed, JITI’s design approach itself speaks truth to power. Under the supervision of Linnea Battell, the Director of the Fraser Valley’s Xá:ytem Longhouse Interpretive Centre, Stóꞌlo Elder testimonies were sourced from interviews organized and conducted by the Xá:ytem researchers and later transformed by the Centre’s programming staff into data sets and pathway links that structure the website’s information architecture. Under the direction of Barbara Winter, the curator of SFU’s Museum of Archaeology & Ethnology, all the content of this cyber exhibition was then created by a team composed of members from the Stóꞌlo-Coast Salish community and other Indigenous groups in collaboration with SFU’s Learning and Instructional Development Centre’s Media Design group working with SFU students and alumni, many of whom were of First Nations descent. Throughout the stages of production, content was vetted and approved by Battell and project research staff. Nothing was included unless approved by SFU and project participants of First Nations ancestry [5]. JITI thus stands as an example of how Indigenous peoples can use emergent technology to engage contemporary museum practices on their own terms.

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For several decades now, the development of computer-aided design tools has increased exploration of shifting conventions of materiality, time and space [6]. Might these new digital affordances support an experience of place and a sense of temporality that remain committed to the ontologies of Indigenous communities? McKenzie claims that in Indigenous cultures, “landscape has a textual function”; the physical features of landscape are intimately tied to the stories of the land and to its totemic significance. If indeed landscape were to be read as a text, might its representation as a media text offer an alternative way to help symbolically reclaim the “narrative power of the land”? [7]

In JITI, the land is rendered imaginable by pictorial space, but its stories are evoked by a temporal axis. What visitors see when they first enter the cyber museum is the welcome screen shown in Fig. 1. A quick run-through of the full opening sequence initiated after the application has been launched suggests in advance several defining design principles operating in each of the seven exhibition spaces. First, the logic of the database is brought into prominence by the white halos that appear around each of the exhibition artifacts when the cursor rolls over them, as seen in Fig. 2. Second, navigation employs the cursor, whose sideways movement toward the edge of the frame triggers a left/right panning mechanism that slowly reveals a full panoramic view of the exhibition space; Fig. 3 shows how panning to the right laterally extends the image depicted in Fig. 2, with the three canoes and woolly dog now displaced to the left side of the frame. Third, as the different classes of objects in Fig. 3 suggest, digital compositing is used to juxtapose heterogeneous content in a variety of forms, styles and interaction techniques, all activated by the cursor. What follows closely examines how these three design strategies express temporality.

Close reading is a humanities-based research method that consists of performing a critical analysis of a media text based on the careful and detailed scrutiny of the text as an artifact. While close reading originated in literary theory, its use has been extended to other media forms such as cinema, electronic literature, electronic games and other new media texts [8]. In this close reading of JITI, the objects of our study are the collected artifacts and the cyber-spaces these are displayed in, which combine images, words and sounds with the intent of representing the Stó:lō-Coast Salish peoples’ living history. This article’s analytical lens focuses on these
elements—their treatment, their deployment and their integration within a particular logic of interaction design—to examine how digital tools were used to translate accounts of tangible and intangible cultural heritage primarily sourced from oral history interviews with Stó:lo-Coast Salish Elders.

**OBJECTS AND ARTIFACTS, DATABASES AND COLLECTIONS: NATURAL ALLIANCES**

One of the most idiosyncratic visual conceits in the design of JITI may be the translucent white veils that create a halo effect around the exhibition artifacts. For instance, the three canoes and the drying rack shown in Figs 1 and 2 seem to be glowing in Fig. 2 because of the optical effect of this halo, which only becomes visible when the cursor rolls over these artifacts. Maintaining the cursor over a trigger point on some of these artifacts can produce a more dynamic halo effect evocative of a spirit force slowly coming out of the artifact, spaying out over it and then folding back into it. The pale veil of unspecified form around the fish and woolly dog in Fig. 3a is a snapshot of this class of dynamic digital object. Visually singled out by these two different styles of haloing, individual artifacts are also linked to a label set in a rectangular red box whose fading in/out is triggered by a rollover event: The labels “canoe forms” and “drying” displayed above these artifacts in Fig. 2 are examples of this.

Whether they come with a halo effect or not, objects that are linked to a red label can be expanded upon when clicked. For instance, in the upper left corner of Fig. 3b, we see the vertical menu that appears when visitors click on the fish spread out on the beach. Next to this menu, the black collapsible window titled “Salmon and Fishing” presents traditional knowledge on each of the menu items when selected. Underneath these
detailed descriptions in white text, a small thumbnail of the elder wearing a headdress can be clicked to open up another collapsible window playing a video of him (left) being interviewed by Battell (right) (Fig. 3c, inset). While each of these digital objects can be made to collapse by clicking the “close” button, clicking the “transcript” button underneath the video frame opens up yet another collapsible window (Fig. 3d), which offers a scrollable word-for-word transcription of the video clip on display.

This design strategy is consistently applied throughout JITI. Textual prompts on traditional knowledge related to exhibition artifacts are available by means of a click. Visitors can then probe deeper by clicking thumbnails of still photographs, sketches and interview videos further explaining Stó:lō-Coast Salish life and culture. This last category is drawn from a database of 28 oral history recordings filmed by the Xá:ytem research team for JITI. These clips are not the only files that bring an audio dimension to the visitors’ online experience: Each of the seven exhibition spaces has its own multilayered soundtrack, which can include drumming and chanting as well as naturalistic ambient sounds (e.g. rushing water, chirping birds, rustling leaves, crackling fire, different animal cries).

These design choices draw attention to discursive conventions commonly used in museum exhibits, namely the status of artifacts as objects: their modularity, their grouping into collections and their taxonomy. Manovich has noted that in new media, computer databases become at once engines of conceptual meaning over purely naturalistic realism. The sturgeon triggers the white halo effect, which disrupts naturalistic realism by making the sturgeon stand out as an isolated object. While this breaks the visual continuity conventionally strived for in illusionism, it works to convey the symbolic significance this species of fish holds for the Stó:lō-river peoples assign them [11]. The cursor over the sturgeon triggers the white halo effect, which disrupts naturalistic realism by making the sturgeon stand out as an isolated object. While this breaks the visual continuity conventionally strived for in illusionism, it works to convey the symbolic significance this species of fish holds for the Stó:lō-Coast Salish peoples.

The visual treatment of the pictorial space further emphasizes the distinction between these two temporal modes: See the sturgeon in Fig. 4 beneath the caption “harpooning.” Its placement in the immediate foreground and its span across almost half of the image quickly brings it into prominence. Here, spatial positioning coupled with scale draws attention to an important element of Stó:lō-Coast Salish peoples’ living history: Sturgeons have been valued not only as a primary food source or for their parts that can be transformed into oil, leather, tools and isinglass—mostly used for glues, jellies, wines and beer—but also for the spiritual powers and sacred significance river peoples assign them [15]. The cursor over the sturgeon triggers the white halo effect, which disrupts naturalistic realism by making the sturgeon stand out as an isolated object. While this breaks the visual continuity conventionally strived for in illusionism, it works to convey the symbolic significance this species of fish holds for the Stó:lō-Coast Salish peoples.

Loosely evoking techniques of collage and photomontage, this interaction design strategy emphasizes production of conceptual meaning over purely naturalistic realism. The archival and interactive modes rely on a cut-and-paste aesthetic to move artifacts forward and backward on a spatial axis (depth), which ostensibly echoes their positioning on a temporal axis (history). Visual elements appearing side by

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**Fig. 4.**
Screen capture taken in exhibition space #1 of A Journey into Time Immortal, foregrounding a sturgeon and showing the white hand icon that points the way to the next exhibition space. (Photo/artwork: Creative Studio, SFU. © SFU Museum of Archaeology and Ethnology 2008/09)
side are connected by a sense of simultaneity, while those shifted forward on the picture plane evoke new spatial and temporal relationships between the near and the far, the immediate and the past. Here, interactive toggling evokes two very different translations of time within a single pictorial space.

**NAVIGATION AS DISCOVERY: TEMPORAL HETEROTOPIA**

Since the 1970s, developments in computer graphics have trended toward realistic ordering of space with 3D software [12]. Electronic games and virtual worlds amplify this naturalized aesthetic by providing the ability to freely navigate virtual space. In JITI, graphic, navigational and interaction-related stylization are used to craft a naturally rendered environment whose realism and continuity is disrupted whenever the visitor moves or clicks the cursor, e.g. by haloing exhibition artifacts to make them pop out in interactive mode or by enabling and then constraining navigational freedom: The spatial exploration of the cyber museum and its naturalistic scenes is indeed limited to the ability to jump to and peer around the exhibition spaces.

In this sense, the space, graphics and interaction design veer away from illusionistic realism. Visitors are given select access to seven circular panoramic scenes that each represent a unique exhibition space. As described in the online supplement "Navigation Guide to a Journey into Time Immemorial’s Seven Exhibition Spaces," these geographically adjacent scenes are organized much like many art galleries: a linear succession of exhibition spaces. However, each exhibition space in JITI can only be explored from a central viewing point. The visitor’s interaction with the space is limited: first to the ability to “jump” from one area’s central vantage point to the next and then to the ability to perform circular visual panning from these fixed central points. As with the archival/interactive mode applied to digital objects, here a certain degree of control is exercised to focus the visitors’ attention and to define their experience. This navigation architecture keeps visitors at a respectful distance from the world presented: They are guests invited to observe but not fully partake.

It is the navigational experience in JITI that transforms (passive) viewers into (active) visitors: Moving the cursor sideways toward an edge of the frame automatically activates a simple panning motion, which can continuously scan the full 360-degree stretch of the seven exhibition spaces; these have neither beginning nor end. In examining e.g. Figs 2, 3a and 4, we note that each are snapshots of exhibition space #1’s cyclorama captured at triangular degrees of rotation. With the woolly dog, the sturgeon and the drying rack taken as a linear pathway, it seems fitting that its title begins with the words “a journey.”

Beyond enacting this Nietzschean ritual of eternal recurrence, there is also, as mentioned, the possibility of progressing from one exhibition space to another. Entering the cyber museum initiates the visitors’ “journey into time immemorial” by placing them at the middle of exhibition space #1. This leaves the visitor three options: pivoting inside this space, jumping forward into the next or exiting the cyber museum.

Following this entry point, a visitor can access the six other exhibition spaces one after another by clicking on strategically located trigger points that appear only upon a rollover event—namely, a white icon in the form of a hand, as seen under the red label “JUMP TO Longhouse - Front” in the upper-right quadrant of Fig. 4 (it remains invisible over the entrance of the longhouse; see Fig. 2, upper left). From there in, the museum is navigated as a succession of scenes, which always includes the possibility of panning and jumping into the next scene or back into the previous one, with the exception of three of the four interior exhibition spaces from which visitors can only backtrack. JITI’s linear navigational experience is then at once constrained and enhanced by a sense of the circularity of natural cycles and the repetition of mythic time.

Further, the cyber museum’s design moves beyond the spatial heterotopia of the institutional museum, where separate artifacts from different epochs are cumulated, gathered, organized and displayed together in a single site that accommodates different historical periods. Indeed, JITI proposes a temporal heterotopia. Its immersive experience of place is not oriented toward the eternal but is time based; interviews and vignettes chronicle events, giving visitors a sense of how traditional knowledge is carried out in everyday life [13]. Visitors navigating through the exhibition spaces are invited to discover artifacts, but they are also exposed to representations of living history, its fleeting, transitory and repetitive character, as visitors watch the Sóló-Coast Salish perform day-to-day tasks outdoors and indoors, including hunting-gathering work and the preparation of food. According to Foucault, such heterotopias propose a rediscovery of . . . life [that] abolishes time; yet the experience is just as much the rediscovery of time, it is as if the entire history of humanity reaching back to its origin were accessible in a sort of immediate knowledge [14].

Indeed, exploring the exhibition spaces works toward producing a sense of temporality in which time is suspended, in that it is at once “abolished” by the spatial continuity and repetition experienced within circuitous cycloramas, while at the same time it remains to be forever “rediscovered” as one moves forward and back through the linear sequence of exterior and interior scenes. In reference to games such as *Doom* and *Myst*, Manovich demonstrates that progressing through cyber-rooms, levels or words constitutes a spatial journey [15]. Given that navigating through JITI does involve a linear pathway, it seems fitting that its title begins with the words “a journey.”

The rest of the title—“into time immemorial”—further suggests that the historical artifacts and everyday life pre-
Compositing the Historical: Spatial Montage at the Service of a Time Immemorial

To illuminate this discussion, it is useful to think about digital compositing and spatial montage. Manovich uses the term *spatial montage* to refer to the simultaneous presentation of images in multiple screens/windows or side-by-side assembly of multiple and disparate visual elements within a single constructed screen space. *Digital compositing* allows designers to harness the power of spatial montage in the broad sense of the word by facilitating the layering of heterochronic elements over one another in a single pictorial space. Indeed, it is technologies of digital compositing that have allowed artists to create “a virtual world that moves—and that can be moved through”—that is, a navigable cyberspace, as well as the spatial embedding of both computer-generated animations and live-action actors in such environments [16].

Take for example the exterior in front of the longhouse shown in Fig. 4. In live mode, the human figure in the center and the tan-colored figure hunched over on the right both move continuously, with the former repetitively stomping on the tall grass while the latter weaves a basket without pausing. Similarly, in live mode, the scene represented in Fig. 3 shows, on the right, the woman behind the canoe continually walking back and forth (compare, for instance, her different spatial positions across Figs 3a–d) and, on the left, the three figures endlessly moving in circles as if collecting something on the beach. Meanwhile, the woolly dog and the character seen from the back in the center of Fig. 3 appear perfectly still, as if frozen in time. Against exhibition space #1’s engagement with the visual continuity of a scene, as shown in Figs 1 and 2, crackling flames dance over a hearth. So juxtaposing still life with computer-generated animation and live action breaks up the illusion of synchronic time, suggesting that Stó:lō-Coast Salish history is kept alive throughout the ages. Visitors are invited to witness its timeless vignettes now and participate via the use of their cursor.

But when one rolls over or clicks on a digital object, or activates the panning motion, some of the moving figures can become inanimate. Suddenly, time has stopped. The impression of timelessness is not as compelling in this stillness. This echoes how the cursor-triggered halo effect interrupts the visual continuity of a scene, as shown in Figs 1 and 2. Here, in a nod to the *observer effect*, visitors are made aware that becoming a cyber participant/observer, by moving or clicking the cursor, can disrupt the natural flow of activity. Moreover, the figures’ conspicuous change from animate to inanimate draws attention to the artificiality of the space and to the fact that these cyber sites of knowledge have been carefully curated by members of Indigenous communities, whose physical presence is seen even in the content on display: as actors playing characters and as real-life interviewer/interviewee in the oral history video clips, which also respond to the cursor [17]. As the production manager of this cyber museum project remarks:

“We began this project with a vision of presenting an experience of a living history, where the static objects in the SFU and Xàytem museums could be seen in use, as part of a living community. . . . Using actors and inserting them into landscapes allowed us to show cultural continuity and the strength of tradition [18].

Such are the temporal affordances of digital compositing in JITI. The moving characters remind visitors that they are watching a reenactment of Stó:lō-Coast Salish traditions based on oral testimonies. This overall impression is further emphasized by the fact that the human figures move in short, looped action sequences, another hallmark of digital media and computer programming that—like cycloramas—has its origin in film. Manovich sees the loop as both a technical aid in transitional moments of media emergence and an aesthetic device with its own weight in the language of new media [19]. In the context of this analysis, JITI’s looped actions not only meet a technical goal of bandwidth conservation but also serve to flatten time by returning eternally to the same moment. While such animation loops use motion to produce the illusion of life, one could argue that in JITI they also help produce the impression of time immemorial, a time that never starts or ends—the dynamic timelessness of temporal heterotopias.

With its emphasis on continuity and the transmission of traditional knowledge, oral history is often conceived as time biased, while print forms of media text that can be massively reproduced and disseminated to reach people over great distances are, according to this same framework, space biased [20]. Significantly, the design of JITI emphasizes a strategic interplay between the temporal and spatial affordances of digital tools, online platforms and interaction techniques. Here, the traditional knowledge kept alive through oral history is honored and made accessible to the greatest number of visitors beyond geopolitical borders via the connective power of digitally supported, spatially structured representations. Hence, this cyber museum becomes a metatext of oral history in which interactional, navigational and visual design strategies make it possible for visitors to toggle between the past and the present, the documented and the constructed, and the mythical and the real.
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References and Notes

1 First undertaken in 2008 and completed in 2009, JITI (www.sfu.museum/time/en/enter) is an interactive cyber museum that includes an elaborate glossary of Stó:lō First Nation terminology used in this project.


5 Barbara Winter, personal email communication with author Claude Fortin, 16 November 2011.


17 Winter [5].


23 Foucault and Miskowiec [13].


25 See Ref. 21.

26 See Ref. 21.

27 See Ref. 21.

28 See Ref. 21.

Glossary

Coast Salish—Indigenous people who live in the Gulf Islands, Puget Sound and associated mainland areas of southern British Columbia and northern Washington State (JITI Glossary [21]).

cyclorama—large and circular panoramic image of a landscape or scene presented inside a 360-degree cylindrical space for spectators to discover from a central viewing position by pivoting around this axis in order to see the full stretch of the image [22].

heterotopia—Foucault and Miskowiec [23] introduce this term to designate spaces and sites (topos) that both mirror yet are other than (hetero-) hegemonic sites. Foucault and Miskowiec further describe these spaces as “places that are absolutely different from all the sites that they reflect and speak about” [24].

pithouse—or dugout; a dwelling dug into the ground [25].

Stó:lō—“river” or “people of the river” [26].

Stó:lō peoples—the word peoples indicates that the Stó:lō Nation consists of several different groups (i.e. bands) rather than one “people” [27].

Xá:ytem—site of the transformer stone and ancient settlement occupied 4,000–9,000 years ago by ancestors of the Stó:lō peoples [28].

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