

## **Beyond preservation: New directions for technological innovation through intangible cultural heritage**

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### **ABSTRACT**

While many digitization projects are currently underway, to help preserve Indigenous traditions, few explore the full potential of the development of digital media and networked technology through Indigenous cultures. This paper outlines the three phases necessary for a robust digital preservation, promotion and growth project:

- 1) Straightforward documentation of Indigenous traditions;
- 2) Translation of Indigenous traditions into emerging technology and contemporary cultural modes of expression;
- 3) Application of principles of Indigenous traditions to develop new technologies.

**Keywords:** *digital preservation; intangible cultural heritage; indigenous culture and ICT; technology innovation and indigenous culture; innovation; social media, cultural preservation.*

### **DIGITAL PRESERVATION OF INDIGENOUS CULTURE**

In an age in which a networked society is a given for much of the world, there remains an uneasy balance between the globalization this technology brings and the preservation of Indigenous culture. Alongside the promise of better education and communication, digital media and networked technology can widen generation gaps in Indigenous societies, providing an alternative to Indigenous traditions for younger segments of society.

In an effort to prevent the wholesale extinction of Indigenous practices, many digital preservation projects are underway. At the University of the South Pacific, in Fiji, students are encouraged to film traditional ceremonies in their home villages while on School holiday, to be uploaded to the University's Cultural tradition database. In South Africa, a team of UMSI students and researchers helped assemble the archives of anti-apartheid liberation movements, so that these marginalized accounts would be preserved (Library of Congress, ND). In Canada, the Aboriginal People's Television Network gives native peoples in Canada an opportunity to share their cultures with non-Native Canadians (Aboriginal People's Television Network, 2010).

### **DIGITAL DEVELOPMENT THROUGH INDIGENOUS CULTURE**

These projects use digital technology and media to preserve and promote the cultures of Indigenous people in a potentially global realm. My own work in Digital Media and Indigenous Culture has taken on a slightly different goal, developing digital media and networked technology according to the modes and habits of different Indigenous cultures. This includes developing strategies to enable Indigenous people to utilize digital technology, creating digital toolsets that allow modification and customization for Indigenous content, and exploring the development of technology according to the goals and ways of thinking of Indigenous Peoples.

As such, cultural preservation is not merely about documenting existing modes of expression. It involves finding ways for Indigenous forms to play a role in emerging technology and contemporary modes of cultural expression. On a deeper level, it also involves the development of technology according to the principles of those cultures.

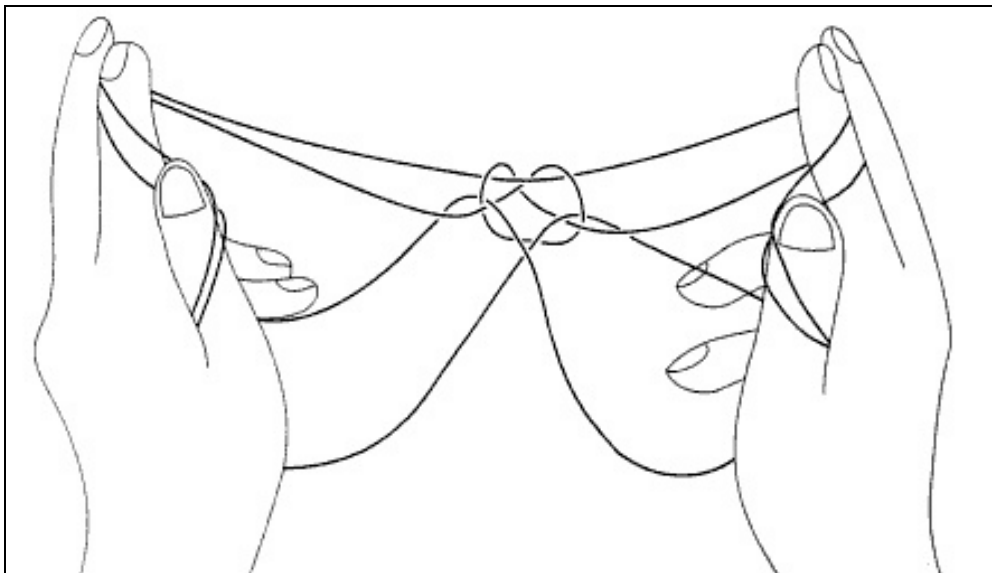
All in all, the goal of preservation, promotion and growth of Indigenous culture requires a three-phase strategy for robust digital preservation projects, including (1) Documentation/ Digitization, (2) Translation into new technology, and (3) Application of principles to new technology development.

For example, what follows is an outline of this three-phase strategy applied to a hypothetical digital preservation project of Nauru String Figures.

Nauru is an island nation in the South Pacific, approximately 21 square kilometers in area.

Nauru String Figures are a "mimic dramatic art," (Maude, 2001, p. 13) in which people weave string on their hands and feet, either in public competition or in a private family circle, to create and share characters with each other. The characters represent historical figures, artifacts, buildings, creatures, and events, and were continually updated to reflect the changing people and technology on the island. The titles of figures range from literal representations ( 'Lagoon Fish,' 'Proud Woman,') to technology ('Cantilever Jetty' ), narratives ('Gireda and his Well', 'Nauru Fairy Story'), and abstractions, such as the untranslatable onomatopoeic verse 'Eijororo me Earoro, Eijororo me Earoro, denaroro, denaroro, duro.'

**Figure 1:** 'Eijororo me Earoro, Eijororo me Earoro, denaroro, denaroro, duro'



So, to create a three-phase strategy for a robust digital preservation project of Nauru String Figures, the following steps would be involved.

- 1) **Straightforward documentation:** create videos, animations, tutorials, booklets, and interactive websites that outline the histories, narratives, uses, roles and step-by-step instructions of string figures in Nauru. The primary goal of this phase is to ensure baseline, snapshot preservation of the traditions, even as a 'dead' format removed from its original purpose.
- 2) **Translation into emerging technology and contemporary cultural modes of expression:** In this phase, String Figures are given a role in the technology and habits of the youth of today, both Nauruan and International. This involves, for example, the development of String Figure iPhone and Facebook apps, various blogs and twitter accounts discussing and presenting String Figures, and the creation of multi-player online string-figure creation applications that allow people to build string figures online together. It could also involve YouTube videos, and animations of string figures set to contemporary Nauruan and popular music. The major focus here is not only presenting the cultural tradition within contemporary media and tools, but also figuring out how contemporary tools can be used to explore the social purposes of the String Figures. Since String Figures are collaborative, visual ways of telling stories, remembering things, and sharing ideas, there are many ways socially-mediated technology can be utilized to similar ends, both directly (building string figures collaboratively through Web 2.0 approaches), and obliquely (utilizing new technologies with a view to the String-Figure-like creation, sharing, visualization and documentation of ideas and stories).
- 3) **Applying the principles to develop new technologies:** Digital Technology has been created largely in a "Western" (or "North") mindset. The software and concepts of much contemporary digital technology has come from the U.S. and Western Europe, with the ideals and goals of those nations at the forefront. The technologies, customs, and traditions of cultures throughout the world have a tremendous amount to offer to the concepts that produce digital technology. The different ways of thinking, modes of learning, symbols, visualizations and goals underlying less dominant cultures can have rich contributions to new modes of digital technology. As such, the third phase of a robust digital preservation project involves the application of the goals and precepts of those traditions to new technology. In the String Figure example, we have a visualization of a story or lesson, presented in a hands-on, collaborative mode. It requires tensile dexterity, memorization, and abstraction, so lends itself to forays into physical computing, sensing, 3D modeling, shared documents and cloud computing. By pairing technology developers with String Figure users, this phase allows the often intangible aspects of the tradition to find new potential as technological innovations of social software

All in all, this three-phase route to digital culture projects ensures that preservation does not simply mean ossification, but involves a meaningful and dynamic exploration and development of the ideas, goals, effects, and outputs of that cultural tradition. Indigenous cultures have a tremendous amount to offer this world. The thoughtful use of digital and networked technology with cultural traditions can give these dynamic ways of thinking a powerful role in global innovation. Far from being limited to nostalgic snapshots of marginalized cultures for Western consumption through contemporary technology, this strategy gives a contemporary outlet and role in this technology-driven, networked world.

Another effect of such digitization projects is that it suddenly makes the technology approachable. Simply seeing one's own culture within new technology devices makes the technology feel more like one's own. Working in the South Pacific, I found that translating a software program into Indigenous language immediately affected technology utilization by Indigenous students, even those who were fluent in English. During a presentation of a cross-cultural educational multimedia program I had developed at the University of the South Pacific, the inclusion of Solomon Islands Pidgin dramatically increased student's interest. The same program rendered in English arose mild

interest, but when I switched it over to Pidgin mode, students were soon wrestling with each other for access to the machine.

As such, robust digitization projects not only preserve Indigenous culture, but create new pathways for the development of Indigenous ideas in contemporary and emerging technology.

### **CONSTRAINTS AND OPPORTUNITIES**

There are, of course, limitations and risks inherent in such translations. Certain traditions are tied to specific roles within a community, so questions of sensitivity, privacy, and ownership must be addressed. There can even be fears of killing the tradition through its flattening into disconnected media. A String figure is an intimate, shared experience, and no amount of savvy multi-player 3D collaborative real-time modeling will replace the experience of hand on hand storytelling through fingers, string and voice.

We must also be considerate of the reality of the digital divide. The output of digitization projects, by their very nature, will be more accessible to technologically developed societies than to the underserved areas often producing the content. And while digitization can help to close the generation gap caused by the digital divide between generations in Indigenous societies, the question of which society most benefits from these efforts must be considered.

As concepts concerning intellectual property gain prominence, the deeper revelations brought out from hybrid analyses of technology and Indigenous traditions may even find protection, potentially becoming financial providers for isolated communities.

So, digitization projects raise risks as well as opportunities. By no account do I mean for digital culture projects to replace the original. The goal is to preserve, develop, and learn from the endangered traditions, so that not only the form, but the goals and experiences live on, finding a growing place in a changing world.

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