THE SOCIAL IMPACT OF EMERGING

DIGITAL TECHNOLOGIES ON AUSTRALIAN

INDIGENOUS CULTURAL PRESERVATION EFFORTS

A CREATIVE PROJECT

SUBMITTED TO THE GRADUATE SCHOOL

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE

MASTER OF DIGITAL STORYTELLING

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MUNCIE, INDIANA

DECEMBER, 2009

Problem and Significance to the Discipline of Communication

According to the United Nations, a global crisis is at hand regarding the widespread loss of language and traditional cultural practices among indigenous populations of the world. In Australia, where the oldest continually living culture on Earth has inhabited the land for more than 40,000 years, politicians, community leaders, activists and academics are deadlocked in a new debate over whether or not the key to preserving the continent's vast traditional heritage lies within the indigenous community's embrace of the digital revolution.

Since European colonization of Australia began in 1788, Aboriginals have fought to overcome tremendous human rights atrocities while struggling to maintain and preserve their cultural heritage value systems. Significant negative historical events between Aboriginals and European colonizers such as the "Stolen Generations" period (approximately 1869-1969), during which Aboriginal children were forcibly removed from their families by the government and sent to live in remote missions in an effort to eradicate their culture, caused not only a degradation of Aboriginal cultural identity but also fueled a deep-rooted mistrust of European and Western influence that continues to exist.

A 1967 referendum passed by the Australian legislature formally recognizing indigenous people as citizens and allowing them the right to vote and a 2008 national apology to the Stolen Generations were major governmental steps toward the repair of indigenous/non-indigenous relations but still failed to provide a tangible plan for reviving and protecting Australia's decimated Aboriginal heritage. (Mitchell, 1968)

Documenting Aboriginal knowledge bases – digitally or otherwise -- appears an insurmountable task given that there were once more than 650 separate Aboriginal clans throughout Australia that spoke more than 250 distinct languages (Nathan, 2007). Further, the fact that colonization forced thousands of Aboriginals off tribal land into mixed communities,

blurring traditional heritage lines among clans who before colonization warred with one another over certain traditional beliefs, requires that any efforts undertaken to preserve indigenous intellectual property also be conducted within the strictest ethnographic context.

Debate over the implementation of technology for indigenous knowledge management purposes continues to stem from several factors including the protection of Aboriginal intellectual property rights, spiritual beliefs, education and training and most importantly from the socioeconomic and geographical limitations such technologies impose on the largely poor and remote communities of Australia's outback. Unfortunately, many decisions regarding when, where and to whom digital technologies are made available are reached without input from the indigenous communities they ultimately affect.

Currently there is a substantial lack of social communication research regarding the use of emerging digital technologies as cultural preservation tools, even though a growing number of Australia's more progressive indigenous communities have already begun to use digital assets for collecting, organizing, storing and sharing cultural information to ensure its long-term survival (Casey, 2000). The bulk of academic and professional discussion appears to be focused more on the advances, limitations and ethical concerns of emerging technologies faced by Western and European public and private museums and heritage collection institutions seeking new and better ways to preserve culture *for* indigenous people, rather than a focus toward the plight of indigenous preservationists themselves.

Through study conducted with indigenous and non-indigenous cultural preservation academics, activists and community leaders of Australia's northern Queensland rainforest region, specifically the Djabugay Aboriginal community of Kuranda, the following project demonstrates that digital technologies are in fact being embraced by indigenous communities to preserve and protect their languages and cultural practices, and that they will continue to be a vital resource as

long as those on both sides of the issue can effectively collaborate to ensure intellectual property rights and traditional heritage values are supported and respected.

The Review of Literature

Several mainstream research efforts conducted throughout the past 15 years regarding the use of Information Communication Technologies (ICTs) by indigenous groups throughout Africa, Australia, Indonesia and Canada failed to explore the possibilities of such assets becoming useful tools for robust knowledge management, ignoring altogether the social impact everyday advances such as email and chat rooms have had on remote indigenous communities fortunate enough to cross the digital divide. Instead most inquiries were aimed primarily at topics such as the effects of economic globalization on indigenous peoples, the adoption of digital assets by museum curators and heritage collection experts and the technical limitations of implementing new technologies in areas lacking the requisite infrastructure.

In studies that dealt directly with digital cultural heritage preservation, the focus remained more on matters of achieving historical accuracy, incorporating actual versus simulated realities, the need for reliable data storage methods and redundancy and even proposed global standardization methods for proper collection management. Missing were the *types* of technologies that are being used and adapted by indigenous peoples to capture and protect intellectual property, the forms and contexts in which cultural material is being digitally replicated, the difficulties faced with ensuring collected data is rightfully owned and managed by -- and culturally applicable to -- the group to which it belongs and the steps some progressive indigenous communities are taking to ensure their digital collections remain uninfluenced by Western involvement, as explored within this project.

Two recent and highly relevant works, Information Technology and Indigenous People, (2008) by Laurel Evelyn Dyson, Steven Grant and Max Hendriks, and Native on the Net: Virtual Diaspora in the Digital Age (2007) by Kyra Landzelius, moved beyond the Western research perspective by illustrating several innovative and successful grassroots indigenous digital preservation projects implemented throughout the world that are relying solely on the collective input and management of the indigenous communities for which they serve, facilitating the individualized adaptation and creative control over new technologies necessary to support the preservation of strong ethnocentric value systems.

Together these projects not only identified the shortcomings national and regional governments suffer in developing proactive plans for building and installing technology infrastructures to support remote indigenous communities but also illustrated the willingness those communities demonstrate to seek the necessary education and training required to construct and manage their own infrastructure in their government's absence. Also highlighted were emerging ICT education programs at several public universities throughout the world that are being designed solely for indigenous students to learn and carry that knowledge back to their communities in an effort toward achieving self-sustainment. Both works also shed light on indirect forms of culture preservation that are occurring as a byproduct of indigenous ICT usage such as email, text messaging, Web design and other multimedia vehicles that by virtue of simple cultural pride are utilizing languages and customs that have not been practiced in some cases for hundreds of years.

But rather than provide a broad-brush acknowledgement of the contextual applications of digital preservation technologies across a wide-ranging cross section of indigenous societies as Dyson and Landzelius have done, a necessary extension of the research requires a specific, action-oriented analysis of how varying forms of digital communication are directly supporting,

and more importantly, evolving the process of collecting and safeguarding multifarious

indigenous cultural values in a *single* community and then applying that analysis to the whole.

Methodology

Located 20 miles north of Cairns in northern Queensland, the rainforest village of Kuranda is

home to approximately 1,500 members of the Djabugay Aboriginal clan. Kuranda is a thriving

tourist destination, where indigenous and non-indigenous artisans, craftsmen, musicians and

retailers work alongside one another to capitalize on the steady influx of tourist dollars. However,

the Djabugay have continued to fall prey to the rapid loss of cultural heritage and identity and

social ills that continue to plague indigenous groups throughout Australia.

For the purpose of this project, it was determined that the Djabugay population of Kuranda

provided a well-suited ethnographic representation of indigenous cultural and socioeconomic

struggles throughout Australia. Lack of governmental and internal management resources and

economic support have been cited as primary causes for the Djabugay's high level of poverty,

unemployment and alcohol and drug dependency. And like many mixed indigenous communities,

the Djabugay culture is an amalgam of values and influences involving splintered neighboring

clans to the north, south and west, though strong ethnocentric beliefs still flourish among its

members, particularly among the elderly and among those who interface with non-indigenous

visitors on a daily basis.

The Djabugay can, however, be considered somewhat progressive compared to clans in other

more remote regions of Australia. Their proximity to major towns and amenities, access to

information technologies and visibility among the non-indigenous public due to a booming

tourism trade have provided them opportunities for demonstrating their strong internal sense of

cultural pride. Unlike clans spread throughout Australia's vast interior deserts who may go

months or years without seeing an outsider, the Djabugay have an "audience" with whom they can share stories, sell their crafts and perform ritual dances and song. (The paradox of culture preservation for indigenous groups worldwide is maintaining the integrity of intellectual property free from outside influence, but balancing that with the fact that traditional indigenous customs and practices that draw income as a tourism commodity can also provide necessary financial support for indigenous communities, of which the Djabugay represent an excellent example.)

Using an action research methodology, this project drew upon reflexive and dialectical critique (Winter, 1987) gained from subjects within the Djabugay community as well as other indigenous and non-indigenous leaders, academics and activists in the region to identify and evaluate digital photography, digital video, multimedia design and Internet-based projects currently being used by the Djabugay as cultural preservation tools and to determine the validity of employing more advanced emerging technologies in the future. This plural structure afforded the opportunity for the researcher to gain multiple perspectives of the issue across several levels of social strata, uncovering not only differing technologies that are being used but also differing viewpoints about how such technologies should be deployed and managed to best support preservation efforts.

Qualitative data in the form of on-camera video interviews was acquired from participants in their natural work and living spaces rather than in a controlled studio environment, allowing for more candid, relaxed discussion. Responses that best captured the issue were then prioritized and arranged in a concise report in the form of a documentary video entitled, "Dreaming as One," purposefully evolving the collaborative praxis that occurred into a digitally-based, tangible product that can be used moving forward as an agent toward social, cultural and political change.

It is also important to note that openly admitting bias on the behalf of the researcher was paramount in deterring risk among participants due to the mistrust of Western views held by many Djabugay. (Susman, 1983 and Evered, 1978) As one clan member noted, "Indigenous

people throughout history have been researched by Westerners to the nth degree, and we are tired of being guinea pigs."

In Djabugay legend or "dreaming story," the ancestral being, *Buda Dji*, in the form of a carpet snake, created the rivers and streams of the Djabugay land from which the lives and culture of its people emerged. The concept of snaking waters flowing through the land provides a euphemism for continuance, recycling and regeneration, signifying that one's actions are merely one's individual contribution to the whole, and that each of those actions collectively shapes the dreaming of *Buda Dji's* pathway for future generations. (Chatwin, 1987) Thus, the recurring theme expressed by nearly every Djabugay participant in this research was not necessarily *how* traditional knowledge should be preserved but rather *why* each member of its community has a responsibility to contribute to the process.

The researcher's unencumbered access to Djabugay members of the Kuranda community for the purpose of this study was facilitated by the clan only after a consensus was reached among participants that the proposed action methodology was deemed his positive contribution to the pathway of *Buda Dji*.

Results and Discussion

To gain perspective on the state of indigenous digital cultural preservation efforts in Kuranda, interviews were conducted with administrators of the Australian Institute for Aboriginal and Torres Strait Islander Studies (AIATSIS), located in Australia's capital, Canberra. AIATSIS is a non-governmental staff of indigenous and non-indigenous academic researchers dedicated to the preservation of indigenous photographs, audio/video recordings and written documents and is the country's primary research asset for current linguistic and cultural preservation technologies.

The institute accepts items of cultural significance found or collected from the general public and carefully researches, copies and catalogues them digitally for their archives with the emphasis placed on returning the material in both its original and digital formats to the clans to which it belongs. Because of Aboriginal cultural sensitivities such as the highly taboo use of formal names and images (real or simulated) of deceased persons in public, the majority of the institute's researcher is considered private. Its studies and reports are not often publicized and public access to the institute is extremely limited.

During interviews, AIATSIS administrators stressed that the overarching tenant of the institute's mission was the respect of intellectual property rights for owners of traditional knowledge. They acknowledged that the most substantial barrier to indigenous preservation efforts in communities like Kuranda continues to be the Parliament's lack in providing national and regional political mandates to govern procedures for the proper collection of indigenous cultural materials and its unwillingness to financially support organized collection programs and research such as that provided by the institute. Additionally, interview subjects noted that the overwhelming bulk of indigenous intellectual property, whether already collected and awaiting processing or remaining unclaimed in the public domain, presents a significant challenge for the institute's under-manned staff.

From an archival standpoint, AIATSIS researchers concurred that the digitization of indigenous cultural materials is paramount for its long-term survival in a central collection agency approach, especially film-based images, handwritten documents and analog audio and video recordings that degrade rapidly over time. Once materials are returned to tribal owners, the institute acknowledged that there is a gross lack of technology infrastructure, education and training in Aboriginal communities necessary to support the *usage* of such digital materials, even thought the institute provides a degree of training limited to simple procedures of sending and retrieving and opening and viewing digital documents on personal computers. For several

communities with no technology resources, its members are relegated to traveling long distances to the institute to view items of their heritage in a private computer lab.

Faced with the task of collecting, organizing and returning such a vast expanse of material with limited resources, institute members conceded that without the necessary national governmental support and Aboriginal community interest, involvement and management, the process of digital cultural preservation will be unable to keep pace with mainstream global technology applications.

Dr. Michael Williams, Director of the Aboriginal and Torres Strait Islander Studies Unit at the University of Queensland in Brisbane provided an academic perspective on digital cultural preservation education and training for indigenous communities. Williams noted that while other technology-based institutions such as the University of Technology in Sydney are attracting a large number of indigenous students interested in leading the adoption of technologies for their people, a growing influx of students in his program are instead interested in focusing on the cultural impact technology has on tribal communities.

Of most importance, Williams said, is the need for emerging technologies to be adaptable to the specific cultural contexts within distinctive heritage lines, explaining that the process of documenting the traditional values of a single mixed Aboriginal community in Australia today would yield several hundred different knowledge bases that would not necessarily be shared by the same people of that community. He offered the stark observance that improper preservation of indigenous knowledge outside of its social, geographical and spiritual contexts erodes respective traditional value systems, causing not only intra-group conflict in mixed indigenous communities, but also further segregating indigenous and non-indigenous groups when values are homogenized in a single application on behalf of the community at large. Moreover, when indigenous traditional knowledge is purposefully or unknowingly made available on the Internet, foreign

Web hosting puts that information under the political jurisdictions of other cultures that have no mandate for respecting cultural values.

Williams noted that most intellectual property laws were written to include material objects, rendering claims to digitized knowledge as intellectual property useless. These kinds of tensions created by the mismanagement of technologies in preservation efforts therefore tend to drive those communities once willing to participate back to traditional forms of preservation. As Williams added, those wary of technology cite reliance upon the practices of a strictly oral telling tradition that has sustained Aboriginal culture for thousands of years. But according to Aboriginal language studies in Australia there are fewer than 200 traditional languages being spoken today, and all but 20 of them are considered to be endangered (Nathan, 2007), leaving the prospect of passing knowledge and values down simply through spoken language alone a grim prospect.

Brett Leavy, an Aboriginal multimedia software designer from Brisbane, has designed perhaps the most compelling technology to date for indigenous cultural preservation that directly addresses the sensitivities of cultural context. Through interactive software he has developed for his start-up company, *Digital Songlines*, Leavy incorporates regional indigenous knowledge into three-dimensional virtual environments where users can walk, run or fly throughout a simulated space in a selected region and gather information on tribal bush foods, plants, animals, artworks and artifacts used by their ancestors.

To build his virtual worlds, regional lands specific to a single tribal clan are first constructed using digital global positioning mapping technologies to ensure all terrain features are geospacially accurate. Using natural resource and conservation data, his environments are then richly rendered with the plants and animals that naturally existed on that land in a chosen historical timeframe. An anthropological or biological dataset in the form of clickable pop-up text blocks is applied to every object within the environment using scientific as well as common nomenclatures.

Reconstructed simulations are then provided to indigenous community preservationists who, through an access-restricted back-end administrative portal, can assign cultural values relevant to their heritage to items within the environment. Virtual plants, rocks, rivers, animals and other items can be populated with collected data that incorporates traditional names, photographs, stories, videos, artwork and other identifiers directly applicable to that clan. One of Leavy's first VR applications involved mapping the land of the Djabugay around Kuranda, focusing on 40,000-year-old rock paintings near the neighboring town of Laura that have been classified by anthropologists as among the oldest examples of art in the world.

Leavy's intent for *Digital Songlines* is to not only create the technological platform for indigenous communities to store and share contextually relevant knowledge, but to facilitate the evolvement of new knowledge as members continually add new dimensions and perspectives to existing traditional values.

Based upon the positive feedback he has gained from lobbying for support of his software throughout Australia and at indigenous cultural preservation conferences throughout the world, Leavy said his next step is determining how to design his simulations as close as possible to photorealism. His goal is to remain competitive with other mainstream VR technology companies he hopes one day will buy into his project so that he will have the resources and manpower to complete work on the more than 650 different applications needed to encompass every tribal element on the continent.

Among Leavy's primary skeptics is Dr. Michael Williams (Leavy's former Indigenous Studies professor at UQ), who along with other opponents of the project fears *Digital Songlines* is simply too technologically advanced to serve as a viable form of cultural preservation in the majority of Australia's underserved indigenous communities. Leavy's response to his critics is that with proper development channels, proven field applications and mainstream endorsement, the

software could actually become the catalyst for outside organizations and/or the government to step up technology infrastructure-building programs in Australia.

Victor Steffensen, an Aboriginal filmmaker and musician from Cairns, shares Leavy's views on adopting culturally appropriate preservation technologies, but seeks to make the technologies more readily accessible and understandable for indigenous communities. He incorporates digital audio and video to capture the stories and practices of traditional land and water quality management practices, hunting, bush food and medicine for the Djabugay and other clans for his Web site, *Traditional Knowledge Revival Pathways*.

Steffensen raises funds to help Kuranda and other indigenous communities purchase hand-held digital video camera kits and trains members on basic camera functions, interviewing techniques, editing and digital storage methods, providing in essence an outback film school where community members can learn how to capture their own heritage. One of his TKRP projects involves building user-friendly database programs for communities who have collected audio and video data and have no place in which to easily store and access their information. His databases are hierarchical with color-coded category buttons on the main page so that topical items such as land quality, language, bush food or particular stories can be easily accessed even by those with limited knowledge about computer operating systems. Encrypted databases are also available, allowing only specific community member access to knowledge entry and retrieval areas. For those without computer resources at all, the TKRP Web site includes a hosting service to store community information.

Steffensen explained that digital assets provide the means to preserve specific cultural practices piece by piece so that each component of traditional knowledge can be categorized and archived individually to stand on its own as an educational tool, rather than combined into an entire environment full of imported virtual knowledge that could overwhelm the user. One such cultural practice may be seen in the example of Djabugay traditional basket weaving that, if

continued by way of oral demonstration alone as a means for preservation, will be lost forever over the next few years. Steffensen is working with mother and daughter Djabugay weavers Winnie and Rhonda Brim, who are 86 and 64, respectively, to preserve the art of weaving the Djabugay Dili Bag, which is considered to be one of the oldest traditional baskets in the world.

Brim and her daughter, who are also political activists who regularly lobby the government for Native Title land rights for the Djabugay, live and work from their remote camp 35 miles into Kuranda's deep rainforest, which is completely inaccessible by vehicle for six months during the wet season. The camp sits on the remains of the Mona Mona Mission, where they and their ancestors were taken from their families after the colonization and forced into substandard communal living conditions in the government's effort to eradicate their culture. By capturing the weaving instruction as a series of DVD-based demonstrations with digital video, as Rhonda Brim pointed, the classes can be shared or uploaded to the Internet and accessed by a larger group, broadening the opportunity for preservation of their knowledge to continue.

Over the past five years Steffensen has archived more than 4,000 hours of digital footage of tribal elders like the Brims using their native tongue to help preserve 10 separate languages in remote areas of Queensland's rainforest. The men and women he interviewed were the only traditional language-speaking members in their communities and have since passed away.

At the edge of the rainforest between Kuranda and Cairns, well-known Aboriginal recording artist and Djabugay clan member David Hudson owns and operates the Tjapukai Cultural Heritage Park, one of the most profitable and sought-after tourist destinations in Queensland. Hudson's park employs several Kuranda residents who display Djabugay art, dance, music and storytelling lore in traditional Djabugay fashion for visitors. Using elaborate multimedia theater performances, interactive display stations and roving docents, Hudson's cultural depiction of the Djabugay serves, in his words, as both cultural preservation and a means of financial support for the Djabugay community.

A self-proclaimed, "edutainer," Hudson said he chooses to make indigenous culture openly available to everyone who wants to learn, regardless of their heritage, eschewing the beliefs of many of his clan members that certain indigenous knowledge values need to be closely guarded internally in order to be ethically preserved. Hudson instead sees the Djabugay culture as a valuable contribution to education and offers classes for visitors on spear-throwing, medicine making, dancing and face-painting. Missing from the park's presentations are any of the more contemporary issues faced by the Djabugay today.

Facing both support and critique, Hudson's embrace of digital technologies has less to do with cultural preservation efforts and more to do with the possible economic opportunities that arise when Djabugay people utilize the technologies to engage in enterprise with the rest of the world. He envisions the adoption of technology as a means to lift the Djabugay from social downfall and free them from non-indigenous prejudice.

Supporters of the park interviewed spoke favorably to Hudson's removal of cultural barriers, allowing visitors an opportunity to interact with a culture that they may not otherwise be able to venture into on their own, whether because of location or allowance. Critics, however, claimed the park only furthers the stereotypes the Djabugay people face and subjugates and exploits indigenous culture as a whole by reducing thousands of years of cultural values and practices into smoke-and-lights entertainment for the masses.

"People choose to preserve their own culture in their own way, whether that means digitally, orally or otherwise," Hudson said, "At the end of the day, the cultural park is just another way of preserving it. It's *my* contribution."

Overview

As Chatwin (1987) described, in Aboriginal storytelling territory is not bound by borders as a piece of land, but rather as an "interlocking network of lines or 'ways through.'" Brought into existence by ancestral beings in the form of song, the stories handed down over generations function as maps of their terrain that can be augmented with the accounts of travelers who pass through. For indigenous peoples, digital technology allows for the weaving of paths through an otherwise linear landscape and provides a richness that was present in the oral tradition. But at what cost?

In a technology-driven age, some researchers close to this issue find it an interesting paradox that in Western society information is constantly mismanaged through organizational change, media redundancy and catastrophic failure, but in Aboriginal lore, information and knowledge have been sustained, relatively untouched, for more than 40,000 years. If in fact indigenous societies are willing to accept the consequences of joining the digital revolution and digitizing those centuries of knowledge for the survival of their heritage, the history of technology, supported by viewpoints such as the ones captured in this study, would certainly suggest that it is better for indigenous people to appropriate technologies before technologies are applied to them by someone else.

Perhaps it has been reluctance on the part of Western researchers too caught up in the social and economic trends of technologies occurring in the global online community that causes them to ignore the implications of those trends on indigenous societies. Perhaps it has been ignorance itself. Instead of researchers standing on the outside and evaluating what they think is working and not working for technologies in indigenous communities, perhaps it is time for indigenous members to become researchers themselves. It is no longer a question of whether technologies can be effective for indigenous people, but rather how indigenous communities can maintain their

own freedoms of expression – at their own pace -- with those technologies emancipated from the influence of others.

As Cameron (2007) reflected, studies have generally concluded that cyberspace reflects the divisions and prejudices of Western society. However, not so clear is whether parallel cyberspaces exist where indigenous people can create their own social systems which run independent of colonial, diasporic and global restrictions. It becomes clear from this study that the indigenous digital replicant can exist in many realms as an agent of its original, but that in order for it to flourish it must maintain protection from outside influence and exploitation.

The primary limitation of this study was time. Further research into similar projects in the Djabugay community as well as expansion into other communities is necessary to identify additional forms of digital communication that are emerging as preservation tools throughout the region.

As an example, Dyson (2008) became aware that Aboriginal teenagers in the Torres Strait Islands began text messaging one another approximately three years ago in a language that hasn't been used in the island chain for more than 200 years. Started as a novelty, the phenomenon has continued to increase and has become more widespread in the region. A study into the text messages conducted with the permission of the community could determine how much of the language is being used and to what extent and purpose.

Another limitation of this study was the cultural boundaries that existed between the researcher and the participants. A lack of knowledge of indigenous history and beliefs on behalf of the researcher presented a slight credibility barrier toward gaining trust and confidence during interviews. Although this barrier had little affect on the collection of data necessary for this study, further efforts conducted within indigenous communities should involve more preparatory research with regards to historical and traditional contexts.

Further study should also be include the role of the Internet as a technology-driven resource for indigenous culture preservation as an Internet search yields links to hundreds of Aboriginal-owned and managed Web sites and social communication portals with ties to the Djabugay community. Incorporation of the Internet into this study would have substantially increased the body of data, particularly in the areas of cultural identity management and outside influence.

Aside from its limitations, this study was effective in identifying several ongoing projects in the Djabugay community that directly support the claim that emerging technologies can serve as a viable resource for indigenous cultural preservation purposes in Australia and proved a valuable action research contribution to the communications discipline.

Through study into organizations such as AIATSIS, it was learned that protection of indigenous intellectual property is slowly evolving as a mandate that one day might be formally recognized and adopted by the Australian government as law in addition to a simple apology. Through study into education programs at universities such as UQ, it was learned that social communication inquiries conducted by indigenous students regarding the contextual application of technologies would serve to help beneficially extend the body of Western research. Through study of grassroots projects such as Digital Songlines and TKRP, it was learned that cultural heritage values can not only be preserved for existing indigenous communities, but can evolve new knowledge and value systems through the collective input of future generations. These observances and the resulting creative project that emerged as a result helped to clarify and support the goals and objectives of the Djabugay and other indigenous communities that have adopted preservation technologies in their efforts to address Australia's cultural heritage crisis.

As stated on the Djabugay cultural heritage Web site, "*Today, 140 years after the coming of the white man, the Djabugay are a remnant community – their lands taken away from them, their Storywaters partially lost. But they are a community determined to make their way in a transformed world, struggling against the odds.*"

A longer, more detailed version of the documentary film that was produced for this study will be targeted to online public video Web sites and to regional and national film festivals in both Australia and the U.S. at a later date with the goal of having the film purchased and distributed internationally. It is the intent of the researcher that the film continues public discussion of this important topic and prompts social and political action to address the growing issue of digital culture preservation for indigenous peoples worldwide.

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