# ARCHIVAL CHALLENGES AND DIGITAL SOLUTIONS IN ABORIGINAL AUSTRALIA

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Archives have long been ambivalent places for Indigenous communities whose cultural materials are held in their storerooms. Since the 1990s many archives and museums have signed memorandums of understanding (MOUs) with Indigenous groups in order to facilitate increased access to and the repatriation of materials and to reanimate the curatorial terrain. However, even with these moves aimed at reconciliation and community building, archives remain inaccessible to many Indigenous people due to distance, linguistic and educational barriers, and poverty (Dyson et al. 2007). At the same time as museums and other institutions began to actively collaborate with Indigenous communities on issues of archival collection process and curation practices, the possibilities for expanding modes of search, retrieval, and archiving information have been enlivened by digital technologies and robust search engines like Google.

Many museums and archives have used digital databases to power online catalogs to make their content available to more people who have access (or a reliable connection) to the Internet. Many Indigenous communities, however, lack access to the Internet and want to limit access to some of the materials that are made accessible on public websites. In the face of these intersecting issues, some Indigenous communities, working with scholars, technical consultants, archives, and others have sought to produce their own archival solutions to the challenges posed by both limited and too much access to cultural materials. These local solutions have the potential to reframe how archivists, curators, and scholars engage with Indigenous cultural materials and communities as they work toward technological solutions for the problems of access, preservation, and information management. One such project is the Mukurtu Wumpurrarni-kari Archive in Tennant Creek, Northern Territory Australia.

## The Mukurtu Project

I began working with the Warumungu community in Tennant Creek in 1995. By 2001 when production of the Nyinkka Nyun-yu Art and Culture Centre was underway in Tennant Creek I worked with community members as they sought to repatriate items for inclusion in their local Centre and re-narrate the settler history of Australia through a series of permanent visual displays (Christen 2007). By 2003 when the Centre opened, several physical objects had been returned to the community, but many more—objects, photos, video, etc.—remained within institutions or private collections. With some investigation, what we found was that many people—former schoolteachers, missionaries, miners, and the like—had collections of photos and videos from as far back as the 1930s. Warumungu community members Michael Jampin and Trisha Narrurlu worked for several years gathering CDs full of images from around the country. By 2005 they had thousands of photos and were in need of a comprehensive system in which to archive them locally. These more personal collections, along with digitized images of the physical objects returned to the community by state museums became the focus of a 2½-year community project to build a digital archive to house returned digital materials as well as newly produced digital content.

The goal of creating a community archive was to leverage the technological functionality of search, database retrieval, and interface design to create a system built from Warumungu protocols and knowledge systems. After lengthy consultation between myself, community members, and technical and design consultants, Craig Dietrich, Chris Cooney, and Tim Dietrich, we came up with a list of must haves for the archive: variable user access, community-focused metadata and search categories, user-generated comments and tags, restricted content based on Warumungu protocols, and the ability to print, edit, and or remix content for their own use. The other mantra we had during development was "nothing more than 2 clicks." Designing for a population with low levels of literacy and computer skills meant we needed a visually driven interface and short paths to content.

Users navigate through the archive in a few different ways, all of which, however, lead to the same content. First users can click

*Figure 1. Sample screen for "Browse By" options (accessible through http://www.mukurtuarchive.org).*

on any of the archive's nine main categories (chosen by the Warumungu community) and view the subcategories within the main category. Or users can navigate through their "My Items" or "My Family Items" pages to individual content. In each case the "trail" through to the content is represented as "bread-crumbs" (a tunneling list of categories at the top of the inter-face), and a user may easily move back a step or series of steps. Furthermore, there is an always-present image browser that dis-plays other content in a specific category for easy access. All of these different paths lead to a singular "display page," where a piece of content is presented with its metadata displayed to the rights, and comments underneath. We chose not to include pages below the display page in the program's hierarchy—a tree structure rather than a web structure—to avoid unnecessary navigation. The design process went through several stages as we tried various structures and representation schemes and tested them with community members to get the sense of what worked best locally.

Behind the interface, the structure of the archive uses Waru-mungu cultural protocols as the basis for both cataloging the materials and for searching the database. In order to achieve this integration we needed a set of metadata that would tag each piece of content with the necessary information to properly manage access. In addition to standard archive metadata,

including a unique ID number for each piece of content, dates, names, and places, all content is tagged with a set of restrictions relating to family relations, gender, and country affiliations. When content is uploaded a specific set of criteria must be con-sidered: which families can see the image (a pull down menu allows families to be added); is the content restricted to men only or women only; is the image restricted only to those relat-ed to specific countries (a pull down menu allows countries to be checked); is the image sacred and thus restricted to elders only; is anyone in the photo or video deceased; or, finally is this content "open" to everyone (no restrictions to access it)? This time consuming, but necessary, process ensures a standard set of metadata attached to each piece of content ensuring that cul-tural protocols around viewing, reproducing, and circulating information are upheld. These criteria can also be easily updat-ed at any time when the status of materials change.

In order to filter search queries and generate content, all of the material held in the database has to be linked via the metadata to individual user profiles. Community members create a user profile the first time they log into the archive. Each person enters their name, nicknames, skin name (subsection), and gender before they choose a password. These are standard archival metadata. But following this, each individual connects to their larger kin networks: mother's family and father's fami-

*Figure 2. Sample log-in screen (accessible through http://demo.mukurtuarchive.org).*

ly; to their countries, mother's country and father's country; and to their ancestral territories, mother's dreaming and father's dreaming. Finally each individual is assigned one of three status levels: community member, traditional owner, and elder—each status has associated levels of access to sacred materials, the ability to add content, and edit materials.

One's status (determined by the community archive administrator and the community member) combines with one's user profile to link one to the proper content in the archive and defines one's ability to add, edit, and tag content. For example, only elders can view and edit sacred material, but anyone can add tags to their own collections. Similarly, because men and women may not view the same ritual materials, a person logged in as a man would not be able to view women's materials. Or a person logged in with the user profile attached to the "Flying Fox" ancestral country would not be able to view content from another family group's country. In a sense, each user views their own "mini-archive"—a personalized segment of the archive generated by the communities' own cultural terms and an individual's status (which is easily updatable in the user profile field).

Once a user has accessed the content (video, photos, audio, documents, and artifacts) they can do more than just view the item,

they can also add comments and stories to any piece of content. The comments generate a dynamic and up-datable community dialogue about each item. This interactive feature provides a unique archival experience whereby users are able to be part of the on-going curatorial process and active participants in the production and preservation of knowledge. Rather than the archive being a place to "find" information it will also be a place where knowledge is produced, exchanged, and enlivened through dialogue.

In addition to the community generated content, individual users can also create their own "My Collections" page to annotate, store, tag, customize, and if they wish print content related to themselves and their family. This section gives people individual control over materials to which they have personal and family connections. This is an especially powerful tool to aid in reconstructing family and community histories disrupted by national policies of forced assimilation. This functionality also presumes that archival material—like all cultural material—is dynamic. Far from understanding the act of preservation through archival adaptations as a means of freezing of content, the social-technological framework for the Mukurtu Wumpurrarni-kari archive assumes a fluid, ever-changing set of relationships to and with the content stored in its database. Preservation, in this case, is a type of cultural production.

*Figure 3. Kimberly Christen, Michael Jampin and his family explore the Mukurtu archive on a laptop computer outside his home in Tennant Creek, Northern Territory, Australia.*

The archive also has a public section where any user without a username and password—Aboriginal or non-Aboriginal—can access any content that has been tagged as "open." This is a valuable tool for researchers and visitors to the Nyinkka Nyunyu Centre who will be able to access content that has been curated through Warumungu protocols and narrated by different community members. The hope is that the archive will generate discussion between Warumungu people and those interested in their cultural materials, knowledge, and heritage. Taken together, the open and restricted content—and the metadata attached to them—are an explicit articulation of an indigenous information management system, whereby knowledge is constantly updated and distributed within a dynamic system of accountability to people based on their status within the community (Christen 2005).

The archive was installed in the Nyinkka Nyunyu Art and Culture Centre in August 2007. For over two months I worked with several Nyinkka Nyunyu workers and community members to upload content, add metadata, add users to the system, and train individuals to use the system. During that time, small groups of community members would come in to work with us annotating their content, making sure the protocols were correct, and adding narratives to each item. When I left in October 2007 we had over 1,200 pieces of content in the archive. The archive continues to grow and, with outreach, we have established relations with state museums to return more digital images to the Centre for inclusion in the archive. This type of virtual repatriation is beneficial for museums and archives as well as local indigenous communities. Many don't have the physical storage capacity to maintain large numbers of artifacts. The digital archive allows cultural material—and their attendant knowledge and narratives—to circulate through established Warumungu cultural protocols without the threat of permanent loss of a physical object. A demo version of the archive is online (http://demo.mukurtuarchive.com), with information about the project available at the Mukurtu website (www.mukurtu-archive.org). Over the next year we are hoping to leverage the system to create an open-source, adaptable archive for communities (and the scholars who work with them) throughout the world who want to use their own cultural protocols to archive, preserve and curate cultural materials.

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