

# Beyond Protocol: Indigenous Knowledge Resource Circulation in the Digital Age

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## Abstract

This paper considers protocol-based digital access management planned for *Ajamurnda*, a collection and access system for language and cultural items of the Indigenous Anindilyakwa people of Groote Eylandt, Australia. *Ajamurnda* will be a ‘living’ collection facilitating and regulating access and circulation of resources, based around protocol – consideration of the personal, communal, cultural, property and privacy interests of individuals, families and other culturally-relevant groupings. In the specific, highly traditional context of Groote Eylandt, standard regulation of access using accounts and passwords are ineffective. *Ajamurnda* will instead use a ‘sanctions before barriers’ strategy based on the fact that in such Aboriginal communities, acquiring and holding knowledge has consequences, and that these consequences will be best known by users themselves, and act as constraints on choice. For those of us seeking to implement a fully authentic implementation of protocol, such a ‘sanctions before barriers’ approach is probably the only way that access protocol can be fully informed, authentic and nuanced, and responsive to dynamics of knowledge circulation in the community.

**Keywords:** Anindilyakwa, access, protocol

## 1. Introduction

This presentation describes research and planning for *Ajamurnda*, a digital collection and access system for language and cultural resources. *Ajamurnda* is being designed by the Groote Eylandt Language Centre on behalf of the island’s Indigenous community and will provide protocol-based access management. Anindilyakwa is the name of the language and culture of the Indigenous people of Groote Eylandt in northern Australia, and is also used to refer to the people themselves. While *Ajamurnda* was originally conceived as a repository for language materials, it will include a range of resources representing the community’s language, culture, families, land, history and events because the boundaries between language, culture, land and history are overlapping and fluid for the Anindilyakwa community whose language, culture and lifestyle are amongst the least colonially disrupted of Australia’s Indigenous peoples.

While our Centre currently hold collections of digital and waiting-to-be-digitised materials, by far the greatest amount of relevant knowledge is in the form of individuals’ knowledge which is shared orally, and thus at risk of being lost as time passes. Therefore, *Ajamurnda* will be an ongoing participatory system including a ‘crowdsourcing’ function to enable community members to enrich the collection by adding resources and metadata, and correcting existing information (Christen 2011, Garrett 2014).

## 2. The protocol context

Our goal is to research and build a participatory platform that authentically represents Anindilyakwa methods of facilitating and regulating access. We are exploring methods which are feasible to implement in a range of real community settings and which innovatively use cultural strategies such as self-identification, cultural sanctions, language, and location, while avoiding technical barriers such as user accounts and passwords.

I use the term ‘protocol’ to refer to respecting materials that are sensitive, sacred, dangerous, shaming, private, or restricted in other ways so that access needs to be regulated. *Ajamurnda* will hide/protect materials where required, while otherwise making access as easy as possible. Protocol is dynamic over time, because sensitivities and restrictions change, just as, for example clan lands on Groote Eylandt are closed and later reopened after people pass away. Understanding and implementing protocol involves ongoing participation by a range of people to reach understandings of the cultural dynamics of knowledge holding, ownership, control, circulation and access.

The past 15 years have seen a parallel emergence of language documentation for endangered and minority languages, together with use of digital technologies to record and share the resulting documentation. A feature of the language documentation movement has been attention to the ethics of fieldwork and data collection, with increasing inclusion of native-speaker community values and participation (Czaykowska-Higgins 2009). Alongside that, several language archives were established, with varying degrees of emphasis on and implementation of access protocols meeting community expectations. The DoBeS archive<sup>1</sup> enables depositors (who are trusted to act on behalf of the people they have recorded) to decide whether public access to resources is allowed. The Endangered Languages Archive at SOAS University of London<sup>2</sup> established an innovative system of negotiated access involving exchange of information between depositors and requesters to determine whether access is appropriate (Nathan 2010). Ara Irititja<sup>3</sup> archives in Australia have focused tightly on providing functionality and access to Aboriginal community members. Several archives based on the Mukurtu<sup>4</sup> system use a nuanced system of protocols and licences to regulate addition of, access to, and usage of resources.<sup>5</sup> We are adapting and extending these examples of protocol implementation to suit the Anindilyakwa community.

<sup>1</sup> See [dobes.mpi.nl](http://dobes.mpi.nl)

<sup>2</sup> See [elar.soas.ac.uk](http://elar.soas.ac.uk)

<sup>3</sup> See [www.irititja.com](http://www.irititja.com) and [www.keepingculture.com](http://www.keepingculture.com)

<sup>4</sup> See [mukurtu.org](http://mukurtu.org)

<sup>5</sup> See, for example, [plateauportal.libraries.wsu.edu](http://plateauportal.libraries.wsu.edu)

### 3. Strategies: lowering the barriers

The potential of digital technologies to serve the needs of Indigenous communities has been long recognised (Nathan 2000). However, simply going digital is no measure or guarantee of success. Indeed, in relation to archived language resources, some have pointed out the low rate of community member access to resources (Trilsbeek & König 2014).

In planning Ajamurnda, we ask whether providing a standard system for digital cultural resource management for the Anindilyakwa community – which has very high continuity with its classical culture, values and dynamics – risks a 21st century version of ignoring, erasing, and failing to learn from Aboriginal civilisation, in the same way that Bruce Pascoe describes the many ways that colonisation of Australia has not only ‘ignored ethnographic evidence of Aboriginal engineering’ but erased that knowledge through blind introduction of imported practices (Pascoe 2014:65).

Two decades of work by Aboriginal lawyer Terri Janke and her colleagues have shown the inadequacy of Australian law to reflect the principles and nuances of Indigenous law, especially in regard to communal or group rights, also known as Indigenous Cultural and Intellectual Property, or ICIP (Janke 1998). The importance of recognising ICIP is heightened for groups such as the Anindilyakwa, where intangible resources (such as knowledge, stories, designs etc.) represent a much larger proportion of the stock of valued property than in ‘western’ communities. While there have been some (limited) accommodating changes in Australian law over these decades, current approaches of most memory institutions (archives, museums, libraries etc.) to implementing protocols for digital access remain inadequate, as they typically involve an immutable binary of ‘open’ vs ‘closed’, with elevated access only on the basis of individual accounts and logins. Although there have been efforts to develop more culturally appropriate ways of regulating access that observe community protocols, all of them are ultimately implemented using digital barriers.

#### 3.1 The login/identification barrier

One kind of ‘digital barrier’ is a login process that requires presentation of a correct password or other token of permission that has been pre-arranged and verified by a digital system – an arrangement typically called an ‘account’. Normally, we do not notice that such systems conflate *identification* with *authorisation*: identification (usually called ‘authentication’) refers to a system’s confirmation that the user is who they say they are, while authorisation refers to the system’s satisfaction that login has been obtained legitimately and enables access only to permitted resources. Identification and authorisation can be linked; for example, a bank teller can access information that the customer cannot. But where protocols for access reflect complex social conventions and dynamics, such as for the Anindilyakwa community, then the interplay between identification and authorisation becomes ever more complex.

Conventional barrier systems do not work well for Anindilyakwa people. Most are not living in a world of literacy (and knowledge of English is limited), so navigating web pages to set up accounts, personal profiles, and passwords can be difficult and demotivating. While

smart phones are common throughout the community, passwords are frequently lost or misremembered. Devices such as phones and iPads are frequently shared and borrowed, making personal accounts an approximation at best.

We plan to use several strategies to maximise the ease of using Ajamurnda. The first is to implement identification by the presentation of screens showing photographs of individuals’ faces, where an individual identifies themselves by clicking or touching on their own face image. For further discussion of this strategy, see Section 4.1. Secondly, Ajamurnda will use images wherever possible, for example icons and previews for navigation and browsing. The third strategy is called ‘language first’ and ‘audio first’; where possible, we will provide navigation, explanation and content in the Anindilyakwa language conveyed as audio (since few people have functional literacy in the language).

The fourth strategy is pre-enrolment of users, which avoids users themselves having to set up accounts. This opportunity may be fairly unique to the Groote Eylandt situation where almost the whole community of a little over 1,000 people live on an island that is only 50 kilometres from east to west and where community visits to raise awareness about Ajamurnda. In addition, the Anindilyakwa Land Council holds lists of Indigenous residents for royalty payments, genealogical data, and other purposes, which can ‘seed’ the user base.

#### 3.2 Sanctions before barriers

A second kind of digital barrier occurs when a user is denied access to a particular resource – humorously characterised as ‘computer says no’. This is the most common way that access is regulated; a resource has associated metadata which indicates that it is ‘closed’. The archive systems mentioned in Section 2 all recognise that access regulation needs to be more nuanced. Ajamurnda takes the opportunity to focus on serving a single primary audience – the Anindilyakwa community – to research and implement methods that best fit the community’s needs.

We call a key strategy ‘sanctions before barriers’. It is based on the fact that in Aboriginal communities such as the Anindilyakwa, acquiring and holding knowledge *has consequences*. Individuals, families, and groups have rights to, and consequently, potential knowledge of, particular stories, histories, ceremonies, objects, designs, places, and environmental resources. These rights are codified in terms of clan and family, ancestry, places of origin, gender, age and individual factors such as recognition of skills and seniority. The ‘rules’ or conventions for governing knowledge circulation are subtle, complex and dynamic, and a full description is both under investigation and beyond the scope of this paper. They go far beyond fixed attributes such as ‘owner’, ‘gender’, or ‘open/closed’. For example, many cultural resources and events have ‘managers’ – people who bear responsibility for negotiating the transmission and integrity of resources, and who are not necessarily the owners of producers of those resources. These people are known by the Anindilyakwa (and some other nearby Aboriginal nations) as the *Jungkayi* (for a particular story, song, place, ceremony etc.). The identification of the appropriate *Jungkayi* to be consulted for any particular access event is a complex matter in itself.

Regulating access through ‘sanctions before barriers’ is a major component of meeting the complex dynamics of community-oriented access and participation. The concept was born from synthesising ethnographic observations and interviews with colleagues. It was crystallised following an account of how access to highly-sensitive men’s and women’s objects is implemented in the community’s arts workshop. In that workshop, which is more-or-less a public space, there are two cupboards that contain, respectively, items restricted to viewing by men, and items restricted to viewing by women. Community members access these cupboards regularly, in conformance with the gender protocol. However, neither cupboard is locked, or difficult to reach or open. This shows us that observance of protocol can be driven from individuals’ choices. Those choices are strongly influenced by community values and by the risk of incurring sanctions; the strong sense that events are connected means that an individual’s breach of protocol is likely to result in negative consequences. Indeed, if a resource-accessing event had no consequences, the access is simply a completed transaction and the resource becomes a commodity rather than an element within the rich web of regulated knowledge distribution in a community.

Of course other forms of media and circulation involve ‘consequences’ ranging from zero to a level which defines the form itself. For example, a loan of a library book has few consequences for the library-using community. A radio broadcast has midrange consequences because it provides a shared daily experience to its listeners. Participation in today’s social media – Facebook, Twitter etc. – not only populates and feeds their content but defines their purpose.

More work needs to be done, but for now we begin with the fact that access to knowledge has consequences, and that these consequences will be best known by users themselves, and act as constraints on choice and action. We do note that materials of recognised high sensitivity need to be pre-identified and restrictions explicitly applied. But for those of us seeking to implement a fully authentic implementation of protocol, a ‘sanctions before barriers’ approach is probably the *only* way that access protocol can be fully authentic, nuanced, and responsive to the dynamics of knowledge circulation in the community.

### 3.3 Location matters

An additional strategy is to use location-based access through simple, low-tech ways of controlling access to resources according to where a user is. Particular resources can be accessed without restriction in a supervised computer room, such as in the Language Centre (because, for example, a supervisor can ensure that only adults are using the catalogue). Many protocol-related attributes revolve around location – sacred places and stories associated with them, or ownership by clans and families who are associated with particular lands. With today’s network technologies, we can make resources accessible on the basis of location, either using digital location services (where, for example, users have smart phones), or, more simply, by enabling access to specific resources through narrow-casting from physically localised wireless access points at outstations, townships or buildings.

## 4. Discussion

### 4.1 Facing identities

Using face-image selection as a way to establish users’ identities solves some problems but raises interesting questions. Might people be sensitive about their faces being photographed and included? They may, but we anticipate that any such sensitivities are likely to coincide with factors that we need to take care of in any case (such as hiding images and references to people who have passed away). What if a community member selects someone else’s image to indicate the ‘wrong’ identity? While this might be a breach of protocol, it might in some circumstances actually be culturally appropriate, since certain persons, via their kin relations, can be considered as equivalent. Even where that equivalence does not apply, the system will add access events to its ‘living map’ of knowledge circulation, which will be made visible to certain parties and therefore enable questions to be raised and followed up in the community. More importantly, user identification in Ajamurnda is *not* meant to be a direct proxy for individual account holding, because it is highly likely that more than one person at a time will be around a device and using it to access resources. In that case, it will be easy for those participants to identify each of themselves (by selecting their face images) and thus for their participation to be included in the system’s knowledge circulation map. Finally, it should be emphasised that Ajamurnda’s protocol system is necessarily a learning platform for exploring new and better ways to cater for evolving community needs and preferences, and ongoing usage will answer some of these questions.

### 4.2 Regulating access beyond the community

A web-based system will be potentially open to view by millions across the world. A ‘sanctions before barriers’ strategy can only work where the ‘rules’ and ‘consequences’ are known by a user and genuinely felt to affect his/her feelings, welfare and perhaps result in other more serious outcomes. Thus access choices by outsiders – non-Anindilyakwa people – will not reliably ensure conformance to protocols, whether or not those outsiders sympathetically respect explicit guidelines presented on the Ajamurnda website. So how can access by non-Anindilyakwa people be regulated?

There is no clear dividing line between community members and non-community members. Leopold (2013) notes, in the USA context, that ‘diaspora communities and tribal members living off the reservation’ are rarely considered when designing access regulation – a situation relevant to some Anindilyakwa people who have phases of residence off Groote Eylandt.

Thus for ‘sanctions before barriers’ to work we need to distinguish Anindilyakwa community members from ‘outsiders’. To do this, we can use some of the same mechanism which identifies community members. Like a ‘Captcha’ which web pages use to distinguish robots from people, the system will use images as a shibboleth, by presenting selected photos of community members and asking a question about them (e.g. in Anindilyakwa, “are these people (a) cousins (b) siblings (c) partners ...” or similar).

## 5. Conclusions

An act of accessing a cultural resource can have many consequences. Drawing attention to potentially negative consequences to guide community members' access choices is just one. Other consequences are positive: along with supplying users with the resources they seek, Ajamurnda will, by representing accessing identities and access events, also become a kind of 'living map' of the sources and circulation of Anindilyakwa knowledge.

While we expect Ajamurnda to open new horizons in protocol-managed access to resources, few of the concepts mentioned here are genuinely new. It is easy to spot other ways in which access to resources has consequences. Marshall McLuhan explained, as far back as 1959, that electronic media turns its users into participants who are creative 'co-authors' and 'co-producers' (McLuhan 1959). He thus also anticipated, 40 years earlier, the rise of social media. Today it is difficult to buy anything (most likely online) without being asked for a review of the product, which is then shared to influence others.

A recent article 'Estonia, the Digital Republic'<sup>6</sup> points out that it is a central ingredient of personal data protection in the upcoming 'digital societies' that all people must be able to know who has looked at their data, such as medical records.

While most existing cultural resource repositories have stuck with simple user account methods which suit academic researchers, Indigenous peoples should not be denied the potential of innovative systems that meet their values and needs.

The Ajamurnda team has had initial discussion with the Mukurtu team based at the Washington State University led by Dr Kim Christen. The Mukurtu system is an ideal springboard for Ajamurnda, since Mukurtu is based on the highly ubiquitous, open-source CMS Drupal, has had several cycles of community-influenced development, and provides a robust platform for further expansion of community-controlled protocol-based access to resources. The Ajamurnda team plans to work with the Mukurtu team to build and share new capabilities based around careful implementation that meets the Anindilyakwa community's values and dynamics, and with a focus on representing the consequences of users' interactions with digital collections. We hope that this new and ambitious implementation of community-oriented digital resource management will contribute to the Anindilyakwa community's cultural continuity and similarly inspire others.

## 6. Acknowledgements

The Ajamurnda Project is funded under the Australian Commonwealth Government's Indigenous Languages and the Arts grant ILAO1700002 and supported by the Anindilyakwa Land Council. Thanks to Howard Amery, Hugh Bland, Alex Bowen, Melainie Collins, Carolyn Fletcher, Hannah Harper, Salome Harris, Judy Lalara, Leslie Pyne, and Sylvia Tkac for discussion of issues raised in this paper.

## 7. Bibliographical References

- Christen, K. (2011). Opening Archives: Respectful Repatriation. *The American Archivist*, 74:185–210.
- Czaykowska-Higgins, E. (2009). Research Models, Community Engagement, and Linguistic Fieldwork: reflections on Working within Canadian Indigenous Communities. *Language Documentation and Conservation*, 3:15–50.
- Garrett, E. (2014). Participant-driven language archiving. In D. Nathan & Peter K. Austin (Eds.) *Language Documentation and Description*, 12:68–84 (Special Issue on Language Documentation and Archiving). London: SOAS.
- Janke, Terri (1998). *Our Culture: our Future. Report on Australian Indigenous Cultural and Intellectual Property Rights*. Canberra: ATSIIC [also online at <http://www.terrijanke.com.au/our-culture-our-future>, accessed 6 March 2018]
- Leopold, Robert (2013). Articulating Culturally Sensitive Knowledge Online: A Cherokee Case Study. *Museum Anthropology Review*, 7(1-2):85–104.
- McLuhan, M. (1959). Electronic Revolution: Revolutionary Effects of New Media. In S. McLuhan & D. Staines (Eds.) *Understanding Me: Lectures and Interviews / Marshall McLuhan*, 1–10. Toronto: McClelland & Stewart.
- Nathan, D. (2010). Archives 2.0 for Endangered Languages: from Disk Space to MySpace. *International Journal of Humanities and Arts Computing*. 4(1–2):111–124. Edinburgh: Edinburgh University Press.
- Nathan, D. (2000). Plugging in Indigenous knowledge – connections and innovations. *Australian Aboriginal Studies*, 2:39–47.
- Pascoe, B. (2014). *Dark Emu, Black Seeds: Agriculture or Accident?* Broome: Magabala Books.
- Trilsbeek, P. & König, A. (2014). Increasing the future usage of endangered language archives. In D. Nathan & P. K. Austin (Eds.), *Language Documentation and Description*, 12:151–163 (Special Issue on Language Documentation and Archiving). London: SOAS.

<sup>6</sup> See [www.newyorker.com/magazine/2017/12/18/estonia-the-digital-republic](http://www.newyorker.com/magazine/2017/12/18/estonia-the-digital-republic) [Accessed 21-01-2018]