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Ara Irititja and Ara Winki in the APY Lands: connecting archives to communities through mobile apps on portable devices

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ABSTRACT

Ara Irititja is an enduring and multifaceted project that returns and collectively documents Anangu historical material and preserves it for the future. This paper explains why the archival project has been so effective in engaging Indigenous communities and what it is doing to ensure its longevity. In particular, the paper provides details about a new pilot project which has resulted in a software application entitled *Ara Winki No. 1*, 'a whole lot of stories', specifically for use on portable electronic devices, which delivers historical and cultural content of relevance to Anangu in local languages and works to connect the existing archive to younger generations.

KEYWORDS

Indigenous archives; digital technologies; portable electronic devices; community app development; participatory methodology

Over the last 25 years, Ara Irititja has developed from an Indigenous Land Rights exhibition to a state-of-the-art digital knowledge management project and archive for Ngaanyatjarra, Pitjantjatjara and Yankunytjatjara people (Anangu) living throughout Australia. Instigated by Anangu, the Ara Irititja project has developed protocols and procedures that stem from the physical and social conditions of remote desert communities and Anangu philosophical and cultural requirements. Technological innovations in and around the archive have been and continue to be shaped by Anangu communities' needs and not by the limitations of pre-existing computer programs.[1]

In the early days of computers, and at a time when personal memories still extended back before the change and destruction wrought by colonisation,[2] Ara Irititja introduced advanced multimedia information technologies to Anangu on their homelands, enabling them to directly access their history and culture (Figure 1). This direct access acted as a catalyst for senior Anangu leaders and knowledge holders to further their political goals and inspire their children for the benefit of future generations.

Today Ara Irititja continues to generate a strong sense of identity and pride in Anangu and further empowers them to continue to use and maintain their culture and language.[3] As Daphne Puntjina, Utju senior woman, states:

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Figure 1. The Ara Irititja archive being introduced for the first time to Anangu at the Pipalyatjara community in 2002. It is being projected using a custom-made fibreglass unit known as a 'Niri Niri' (beetle). AI-0028262. Photo: John Dallwitz.

> They (young people) need to be able to look and learn about all aspects of their Tjukurpa (cultural stories). We want to keep Ara Irititja archive going for the benefit of future generations, and for all the children to explore the archive, and learn from it… We need it to help teach them.[4]

From the outset, the Ara Irititja archive was intended as a resource for Anangu who, in turn, use the archive in teaching their younger generations (Figure 2). The Ara Irititja project is dedicated to ensuring regular Anangu access to their historical and cultural material and is accountable to Anangu in its management and delivery.

About Ara Irititja

Ara Irititja means 'stories from a long time ago' in the language of Anangu (Ngaanyatjarra, Pitjantjatjara and Yankunytjatjara people) of Central Australia. The main aim of Ara Irititja is to bring home materials of cultural and historical significance to Anangu by way of Keeping Culture Knowledge Management System (*Keeping Culture KMS*),[5] a cloud-based web application specifically developed for preserving, organising and repatriating digitised media and cultural knowledge into Indigenous communities.[6] These materials include photographs, films, sound recordings and documents. By far the majority are from the private collections of Anangu families, school teachers, missionaries and other employees and project workers, and also local organisations such as schools, communities and art centres.[7] The purpose-built digital archive stores these materials and other contemporary items and returns them to Anangu.

Figure 2. Tapaya Edwards, Nyurpaya Kaika Burton, Mary Pan and Ilawanti Ken SINGING THE ARCHIVE in the Alice Springs office in 2017. They came in specially to see an old EVTV video and watched it very closely until they identified the exact verse and dance steps that they needed to practise. They then sang along to the tune, practising and getting the words exactly right. The older women already knew it, but it was for them to teach Tapaya, who needed to get it right. AI-0191103. Photo: Linda Rive.

Anangu both direct the focus and the content of the archive and have ultimate control over their asset and its management.

The Ara Irititja project is one of the largest, longest-running and most effective community archival and digitisation projects in Australia. Several publications detail its development and achievements.[8] Its influence can be partly measured by the impact it has had on other community archiving projects across Australia and overseas.[9] Through individual licensing arrangements, there are now many different variations of the original Ara Irititja Indigenous archiving project in existence. In 2015, the importance of Ara Irititja was further acknowledged when it was presented with an Outstanding Project award by the Association of Tribal Archives, Libraries, and Museums in Washington, DC (Figure 3). In 2016, Ara Irititja received a highly commended honour from Reconciliation Australia at the National Indigenous Governance Awards in Sydney for its dedication to digitally archiving culturally significant materials from the APY Lands.[10]

Education and curriculum academic Bryan Smith argues specifically in relation to software for First Nations projects, that there needs to be 'a consideration of how the technologies themselves are designed and the implications that this design process has

Figure 3. Sally Anga Scales with John Dallwitz receiving the award for outstanding project from the Association of Tribal Archives, Libraries, and Museums in Washington, DC, 2015. AI-0172417. Photo: Sabra Thorner.

on the role and use of technology'.[11] He advocates decolonisation at the level of coding. Ara Irititja has done this since its inception in 1994, by developing software in collaboration with and in response to the specific cultural needs of Anangu. Where possible, Anangu languages are used in the interface to describe functions in the software. One of the many specifically designed features of the original Ara Irititja software is that it protects and/or restricts access to private and sensitive materials. There are also additional separate archives to accommodate both Men's (*Watiku*) and Women's (*Minymaku*) materials.

Over the years, the software behind Ara Irititja has undergone many changes. In 2015, it became *Keeping Culture KMS* and it was at this point that a version of the software was developed for mobile devices.[12] Many new features have been added. These include a new mapping facility and genealogy functionality. Everything is now linked within the archive in a comprehensive way, family trees and places, people, things, maps and all of the associated stories. This level of interconnectivity is also reflective of aspects of Anangu ways of conceptualising the world and everything in it.

Archivist Kirsten Thorpe, academic Monica Galassi and writer Rachel Franks discuss the many challenges faced by Indigenous people in accessing historic materials held in mainstream public archives and libraries. In particular, they identify:

> issues that must be addressed to ensure the success and ongoing viability of Web spaces, specifically, the long-standing power dynamics that often dominate interactions with Indigenous collections and that have displaced power from the traditional owners of Indigenous knowledge.[13]

They refer to the success of Ara Irititja in overcoming some of the entrenched historical barriers to accessing collections by ensuring vital histories remain with communities, making special reference to the way in which Ara Irititja enables Anangu to access and add to their database in sensible and sustained ways, thus preventing artefacts being filed away to stagnate in the archives of public institutions.

Most conventional archival institutions manage comparatively static collections of historical materials. The Ara Irititja project is continually growing and is structured around a dynamic database. When viewing records, Anangu can add, expand or correct data and historical details. This flexibility facilitates the development of Anangu-centred histories. The *Keeping Culture KMS* software allows people to record their stories by way of audio or video directly into the archive. A live demonstration of this function was given by Janet Inyika, Pitjantjatjara Elder and leader in her community, at a conference in Alice Springs in 2014. She annotated images that she personally selected from the archive and stated:

> I really love Ara Irititja – as do a lot of people, it is very inspiring, and I love all the old records on Ara Irititja. It is great to see images of me when I was just little, to be reminded of those happy days, and to see pictures of my extended family. I find them a source of inspiration.[14]

The scale of the archive is also inspiring. As of June 2018, Ara Irititja holds a total of 198,233 digital archive media files and their accompanying metadata, originating from 519 separate collection sources. By way of comparison, the National Gallery of Australia's collection currently includes 153,322 works of art, approximately 56% of which are digitised.[15] Within the Ara Irititja archive, the digital information and Indigenous knowledge base is divided into several 'Profile' groups, including *Anangu* (People), *Ngura* (Places), *Punu* (Plants) and Animals. The earliest image dates back to 1884, with more and more records being added, increasingly from 'born digital' sources. Anangu are also finding new and creative purposes for their archive, with many choosing to record living wills, leaving detailed instructions of their funeral arrangements; they are also recording oral histories, adding annotations to images of family and loved ones, and using the archival footage to teach others (ref. Figure 2).

The Ara Irititja project has always been a fiercely independent, community-facing organisation. The advantages are that it has been able to respond quickly and directly to the needs of the community it serves. The disadvantages are that the Ara Irititja project is often not eligible for funding, as requirements around shared intellectual property cannot be met, personal information may not always be publicly released nor can the details of biographies be made public without permission. Similarly, the project does not consider itself obliged to provide non-Anangu researchers with access to its collections. Nevertheless, Anangu are keen for their stories and experiences to be given due recognition within the larger history of Australia. Research that is instigated or approved by Anangu, based on community consultation, and carried out with due sensitivity, is welcomed and supported.[16]

AIAC – the story of the incorporation

The Ara Irititja project has recently become an incorporated entity in its own right – the Ara Irititja Aboriginal Corporation (AIAC). Since 2016, Ara Irititja reports to a board that is made up of several Aboriginal organisations as members.[17] Wilton Wilitjiri Foster OAM, senior Pitjantjatjara Elder and community leader, guides the new corporation as its first Chair, supported by directors Sammy Lyons (Pitjantjatjara Yankunytjatjara Media Incorporated), Daisy O'Byrne (First Nations Media Australia – formerly known as Indigenous Remote Communications Association), Roma Petermann (Ngaanyatjarra Media) and Makinti Minutjukur (Pitjantjatjara/Yankunytjatjara Education Committee). These Anangu member organisations represent culture, media and education, core interests of Anangu, and strengthen the sustainability of Ara Irititja philosophy inside the organisation.

Regular visits to the Lands are made by Ara Irititja field officers to set up and maintain the community computers that contain the Ara Irititja archive. Field officers also provide training to Community Operators who in turn train Community Users. This process ensures regular contact with Anangu and provides feedback about the direction of the project. The idea of creating a commercial enterprise that would benefit the project financially has been discussed many times and approved in principle by the Anangu Executive. This idea was influential in the planning of the Ara Winki app project. While the cultural content of the archive is reserved for developing educational resources, the app could be licensed for use in schools and other teaching institutions (Figure 4).

When the AIAC became an incorporated body, new opportunities arose to apply for funding. The first grant received was from the Federal Government for an Indigenous Language and Arts project to create an Ara Irititja app for digital devices. This project commenced in November 2016 and presents culture and historical stories in Anangu language to Anangu youth. After rigorous field testing and much consultation and feedback, and only then if Anangu are happy, it will be launched for use in schools and other teaching institutions and hopefully generate some funding to support more such projects for Ara Irititja.

Why an app?

The app came about as a result of developments in technology and changes in the way Anangu were using it. More and more Anangu had smart phones and the devices and screens were getting bigger and better. Many people use iPhones and iPads in the Lands now that reliable mobile reception has been provided.[18] This signals a shift in technology use, away from communal computers towards smaller, individually owned and operated hand-held devices. Observing more and more Anangu using phones and tablets suggested delivering Ara Irititja to mobile devices. Developing the app was a response to the fact that Anangu use their mobile phones a great deal and that most Anangu users have smart phones. Some time was spent looking at existing information and education apps. Early on, some features were realised as being very important, like the ability to download the app with limited bandwidth and low Internet speeds so that it can then be viewed offline.

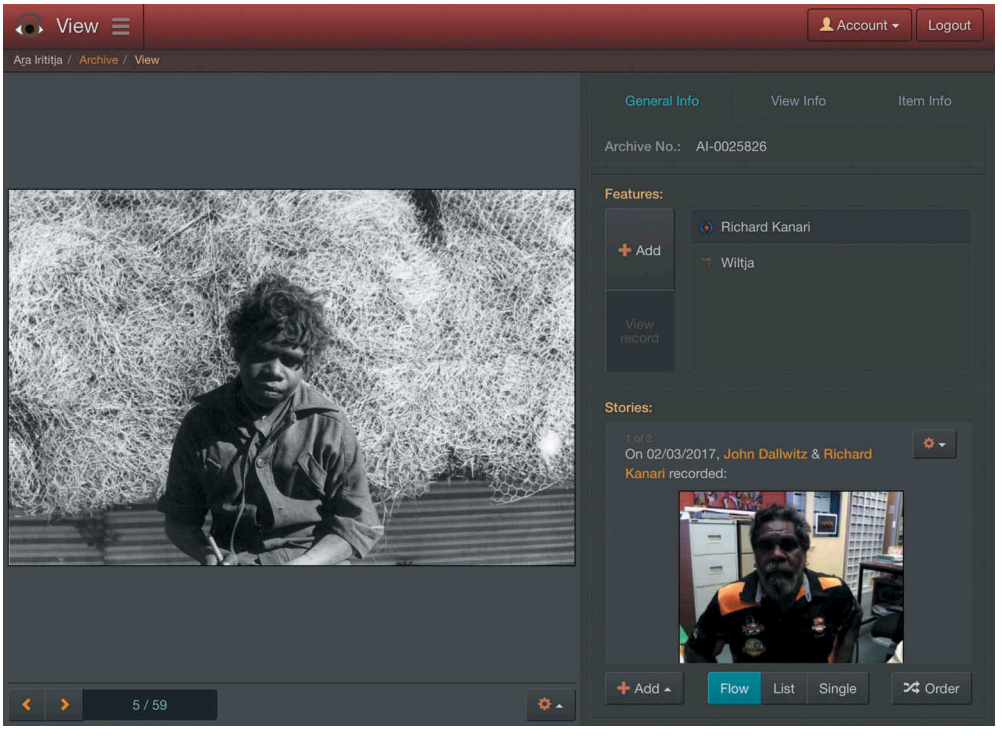

Figure 4. The new *Keeping Culture KMS* interface introduced in November 2017, as viewed on an iPad. The image shows Pitjantjatjara Council chairperson Richard Kanari recording a story about his school days at Pipalyatjara in 1978. AI-0025826. Photo: Ann Davis.

A visit to the school at Murputja in 2016 was also informative, specifically a classroom in which several Anangu children were using iPads. They were using the camera to take photographs and to place filters on the original photographs and they were enjoying apps, mostly mainstream children's learning games. The only Indigenous app used by the children at the school during this visit was Neomad.

As we have since discovered, Neomad is a comic series created by an award-winning illustrator and interactive digital comic designer in collaboration with the community of Roebourne, WA. Over 500 hours were spent teaching students to apply a complex colouring system to more than 600 scenes to create digital comics.[19] Young people aged between 7 and 14 also star in the comic and assisted with the script, the dialogue and live film segments. The story follows the 'Love Punks', a group of high-energy, fluoro-coloured and tech-savvy young heroes from the Pilbara, who 'speed through a digitised desert full of spy bots, magic crystals, fallen rocket boosters and mysterious petroglyphs. It is a futuristic fantasy based on real places, real people and stories that connect them to their country.'[20] There are plans to translate the stories into the local languages Ngarluma and Yindjibarndi, but these languages would most likely not be understood or spoken by children at schools on the APY Lands.

Neomad is set around Murujuga (the Burrup Peninsula), which is home to approximately one million petroglyphs (etched rock art), some of which are over 30,000 years old. Information about them appears in some of the comic book panels, along with an

introduction to the Murujuga Rangers. The ancient carvings are described as being markings of food sources, ceremonial sites and spirituality. In the comic books, the Love Punks engage with and learn from the Indigenous Rangers. Creative producer Deb Myers and project evaluator Dave Palmer point out that the story features Murujuga in order to meet one of the project objectives of working with funding sponsor, Woodside.[21]

Other Indigenous apps include the trail-blazing, augmented-reality app *Indigital Storytelling*. This app uses technology modelled on mobile game Pokémon Go to animate drawings of Dreaming Ancestors reproduced on specially purchased cards and T-shirts used in conjunction with a free app on an iPhone or Android device. Once the smartphone is held over the line drawing it springs to life and rapidly moves about the screen on a richly textured Stone Country background, complete with soundtrack.[22] *Indigital* was made available from the Apple and Google app stores in 2017. Although Apple initially refused to publish the app, saying it had 'limited' usefulness, the company later reversed its decision. Indigenous software developer Mikaela Jade described the problem as one of '"digital colonisation", where the digital cultural expressions of Indigenous people are required to fit into non-Indigenous parameters'.[23] Her efforts at resisting the exclusion, along with marketing and promoting this Indigenous app, have helped establish a space for other Indigenous apps on mainstream distribution platforms.

Uti Kulintjaku, a Pitjantjatjara phrase meaning 'to think and understand clearly', is the name given to a collaborative project led by senior Anangu women who were concerned about the well-being of young people in their communities and wanted to do something about it.[24] The *Uti Kulintjaku* project was designed to strengthen shared understandings between Aboriginal people and non-Aboriginal health professionals by identifying Pitjantjatjara and Ngaanyatjarra words, together with their English translations, specifically to do with mental health and well-being. A compendium of these words and phrases has been incorporated into a range of publicly available, innovative resources, including posters, animations and an app.[25] The app is called '*Kulila!*' meaning 'listen up!' in Pitjantjatjara, and helps families and communities talk about their feelings and ask for the right sort of help if they need it.[26] The importance of this project is evident in the benefits it holds for Anangu and medical professionals communicating clearly.

The few Australian Indigenous apps surveyed here do not fully represent the range or the diversity of Indigenous-themed or Indigenous community-facing apps currently available or in development.[27] What does seem apparent, from this initial overview at least, is that very few of them are specifically focused on showing and sharing stories from a long time ago, in local languages, utilising historical footage and photographs known to the community. There seems to be both a gap and a need for technology on mobile devices that would help to unite communities of origin with their archival material, often housed at a distance and inside institutions. As Information Studies academics Kate Shilton and Ramesh Srinivasan note:

> Participatory, community-oriented processes … can enable context to be represented meaningfully in archives of traditionally marginalized communities. We believe this process can help build culturally relevant records repositories while enabling marginalized communities to share their experiences with a wider public.[28]

Ara Irititja is a living example of this, demonstrated countless times over 25 years of working closely with Anangu. Their participatory processes and methods have created feelings of trust in and ownership of the project. With both the computer and mobile device software development, Ara Irititja has embedded community consultation into its day-to-day practice and governance structures. By prioritising and being highly responsive to Anangu requests during face-to-face consultation, phone and email communication, Ara Irititja builds and maintains trust in online environments.

The remainder of this paper describes the participatory, community-oriented processes followed by Ara Irititja in the development of its app, emphasising the way in which, through the creation of a unique product, the archive is being re-created in a contemporary, community-centred context.

The Ara Irititja approach

There have been many attempts to build apps and other software programs involving Indigenous people and their cultural and intellectual property. However, Ara Irititja is not aware of any other app projects that draw upon an already established, multifaceted and rich cultural archive that is well known and much loved by the community. In this respect, Ara Irititja appears to be in a unique position, being able to draw upon resources, networks and goodwill within the Anangu community. Another unique feature of the Ara Irititja approach is that instead of focusing on the technically innovative aspects of the development, Ara Irititja chose to make the educational aspects, personally annotated history, culture and language sharing the foci of its app. Funds were used to employ Anangu and skilled interpreters, instead of software developers.

Anangu were consulted about the idea of the app and how they might use it in their daily lives, on their mobile devices during a field trip in late 2016. The app was presented as a way to access the Ara Irititja archive or just as an interesting way to engage with their own history, culture and language in its own right. The APY administrative centre at Umuwa was visited, as well as art centres and schools in northwest South Australia. Centred around Pipalyatjara and the PY Ku Media Centre, time was spent working with families from western APY Lands and from across the border in Western Australia discussing what the app could be and what it might do.

In February 2017 a meeting was held with InyerPocket software developers to plan and create an app using their off-the-shelf product as a starting point, modifying it to meet the specific needs of Anangu users, including the use of intuitive, user-friendly graphics. This approach had the effect of making progress rapid. A second field trip, carried out in Ernabella and Amata Art centres and the Pipalyatjara PY Ku centre again, commenced in March 2017. It followed through with the process of recording stories and working with Anangu, showing them the app's progress. It was very exciting and encouraging to receive such enthusiastic responses from people. The software was particularly successful in this remote environment, allowing stories to be recorded, processed on site and uploaded directly into the app. It meant that Anangu could get immediate feedback about how the recordings would be used or the context in which a photograph would be

seen. This is really ground-breaking, as historically, people take photos of Anangu and Anangu never see them. We reported on the app project directly to senior Anangu at meetings with Ara Irititja Aboriginal Corporation and Pitjantjatjara Council Aboriginal Corporation to obtain feedback and endorsement. We also travelled to southern Northern Territory to show the app and record stories in Pitjantjatjara communities there.

More office-based recordings were completed in Alice Springs in April 2017, including some in Ngaanyatjarra language. The audio and the text are in the storyteller's language with transcribing and translating into other Anangu languages and English added later. When all the recording of stories for one section of the app was completed, they were entered into the app platform. Storytellers and community members who had seen draft versions of the app provided feedback and support, so that by mid-2017, the app was ready to launch in the App Store for private Anangu access.

In many respects, the Ara Irititja approach is illustrative of Information Studies academic Isto Huvila's model of a participatory archive, wherein 'usability of information does not denote use alone but also denotes a deeper level of involvement in the sense of actual participation in the archive and in the archival process'.[29] Further, the app mobilises the archive, transforming it in the process. As Huvila explains:

> Besides the traditional record and archive-centred contexts (an archive as the context of a record), a participatory archive also acknowledges the importance of other than archival and organisational contexts of records, such as those of their originators, curators and users.[30]

Through our approach to developing the app, the Ara Irititja project has both confirmed and extended the models of participatory archives. For example, those described by Shilton and Srinivasan, whose work focuses on involving marginalised communities where archival records originate in relation to appraisal, arrangement, description and provenance. Further, the project puts into practice ideas developed by Huvila, who seeks to decentralise curation of archives from institutions to the participants who both contribute to and use the archive. Ara Irititja, by virtue of being housed in and supported by the South Australian Museum since 1995, although financially and administratively separate, also pre-dates and extends the model described by social informatics senior researcher Livia Iacovino, who defines a participatory model whereby a community archive shares a space with an archival authority.

Iacovino recounts an instance which involves 'repositioning record subjects, whether an individual or a group, as records agents – participants in the act of records creation and continuing management of the record'.[31] Historically, Anangu have always asserted agency over their records, as with their other cultural material.[32] The reason why Ara Irititja has been community facing since its inception is because Anangu wanted control over the management of their records, and in particular they wanted to ensure accurate information was attached to the items in the archive. It is a measure of the innovation and responsiveness of the Ara Irititja and Ara Winki projects that research literature pertaining to successful community archives cites them as key examples.[33]

About the app – *Ara Winki No. 1*

The app project's aim is to present culture and historical stories in language to Anangu youth. New material has been recorded during fieldwork and combined with selected historical material from the archive. The Ara Irititja team has worked closely with Anangu to carefully select material suitable for an app that is both (primarily) for Anangu, but also could potentially be made publicly available. This is a big project and Ara Irititja is working closely with Anangu in the field as well as in Adelaide and Alice Springs to ensure that something is created that the younger generations of Anangu will like and use (Figure 5).

Anangu are engaged in and employed by the project as directors, contributors and expert advisors. The app project has continued successfully during 2017 and into 2018, with new material recorded and combined with selected historical material from the archive (Figure 6).

After much deliberation the app was named *Ara Winki No. 1*. There are five chapters: Bush Food (*Kuka Munu Mai*), Art and Craft (*Kutjupa kutjupa*), Land Rights (*Nganampa manta*), Land Care (*Manta kanyini*) and Learning (*Nintiringanyi*) now completed. The Art and Craft chapter is the largest of all and more than 200 new stories in language have been recorded to accompany the images from the Ara Irititja

Figure 5. Student at Areyonga school looking at Ara Winki for the first time in 2018. AI-0191072. Photo: John Dallwitz.

Figure 6. John Dallwitz and Linda Rive recording stories with Donald and Imuna Fraser at Pukatja during app fieldwork 2018. Imuna is looking at the app on an iPad. AI-0191065. Photo: Dora Dallwitz.

database. The transcription and translation of this text has been completed in one of the three Anangu languages, Pitjantjatjara, Yankunytjatjara or Ngaanyatjarra, (P, Y and N) and English (E) and appears on screen at the touch of a button. It can be read while the voice recordings are played. Alternatively, users can choose just audio or just text.

The images are all derived from the existing Ara Irititja archive. The captions are kept simple. There is usually a short description, followed by the name of the photographer/name of the collection, and then the Ara Irititja archive item number. Every screen has three options – Indigenous Language (P or Y or N – depending on the language of the story teller); English Language (see notes on distribution below); and the original sound recording of the story from which both written translations are derived (Figure 7). During the life of the grant, it has been possible to develop a template for the entire app and also develop content for future apps.

At the beginning of the project, Ara Irititja considered whether to make one version for Anangu and another version for everyone else. The original idea was for a P, Y, N app, and then add an English layer and then sell it, leaving the P, Y, N version for the free use of all Anangu users. However, teachers in APY Lands Schools were consulted on this topic of language. They requested/advised that preference in the Schools was to be multilingual – so a version was developed that had all options P, Y, N and E.

Importantly, the app also serves as a gateway into the Ara Irititja database. On every page there is a link that can take the viewer directly to the same image in the database, providing much additional information and encouraging people to learn more and to navigate through the database in more depth. This will be particularly valuable for

Figure 7. Screen shots from *Ara Winki No. 1* app. App design: Dora Dallwitz. App software: InyerPocket.

Anangu school projects; but here, as always with the archive, the user needs to have a password and access to the Internet.

As part of the testing process, Ara Winki has been published in the App Store and in Google Play to make it accessible by password for Anangu only. This gives us the opportunity to seek personal feedback before the app is distributed more widely. Then when it is ready to distribute to a wider audience, there will be a 'market place' where it will be sold, along with accompanying educational materials that will be developed separately as a follow-on project. Community consultation has been and is still ongoing, and some changes have been made to some of the content – mostly owing to people passing away and sensitivities surrounding their image (Figure 8). Importantly, the app will always be free for Anangu.

Conclusion

Computer sciences and information technology academics Tariq Zaman, Narayanan Kulathuramaiyer and Alvin W. Yeo have underscored the need for a holistic approach to designing Indigenous knowledge management systems (IKMS).[34] They also stress that 'interconnectedness', a 'holistic view', 'local community as co-designer' and participatory processes are all key factors in designing information and communication technologies tools for IKMS. Specifically, they state:

Figure 8. Dora Dallwitz working with AIAC chairperson Wilton Foster OAM on the Ara Winki app in the Alice Springs office in May 2017. AI-0188464. Photo: John Dallwitz.

> The preservation, management and sharing of Indigenous knowledge (IK) is crucial for social and economic development in rural and Indigenous communities … Indigenous people face several challenges as they attempt to use technologies for preservation and management of their IK and cultural heritage. One of the issues is the gap of understanding among information system designers, knowledge engineers and Indigenous communities (users of information systems and domain experts of IK).[35]

The Ara Irititja project's work on the Ara Winki app connects the community to the archive through mobile technology. It goes further than most recorded IK projects towards bridging the gap of understanding between designers and users by investing time and funds into collaborative development processes and creating a system that, as Shilton and Srinivasan articulate, 'acknowledges the context of community knowledge [and] avoids distorting marginalized voices and enables community records to be more fully understood by a wider public'.[36] As evidenced in the words of the late Janet Inyika, respected Anangu community leader and elder: '*Nyangatja Ara Irititja tjukurpa mulapa.* Ara Irititja is the main one for Anangu. It holds our true record.'[37]

If the Ara Winki app ends up in the Google Play or Mac App Store and also gets incorporated into mainstream as well as Anangu education, it has the potential to rewrite expectations of archives and the ways in which they connect to their community of makers and users. While the number of innovative and exciting art projects born of reconnecting communities with archival materials continues to grow apace, Ara Irititja

and the Ara Winki app add another dimension to the use of mobile devices in the APY Lands. The key innovation is that a new generation of users will get into the archive through the app. The app is not an end in itself, but a gateway to the much larger archive. Together the app and the archive may revolutionise approaches to digital repatriation and collection engagement, better utilising information technology for Indigenous communities.

Notes

1. For a description of the early development of this software see: Martin Hughes and John Dallwitz, 'Ara Irititja: Towards Culturally Appropriate Best Practice in Remote Indigenous Australia', in Laurel Evelyn Dyson, Stephen Grant and Max Hendriks (eds), *Information Technology and Indigenous People*, Information Science Publishers, Hershey, PA, 2007, pp. 146–58.
2. For further information on the change and destruction wrought by colonisation see: Sue Davenport, Peter Johnson and Yuwali Nixon, *Cleared out: First Contact in the Western Desert*, Aboriginal Studies Press, Canberra, 2005.
3. For example: Rene Kulitja and Linda Rive with John Dallwitz and Susan Lowish, 'Singing the Archive: Presenting Ara Irititja', *UnMagazine*, vol. 12, no. 1, 2018, available at <*http://unprojects.org.au/magazine/issues/issue-12-1/singing-the-archive/*>, accessed 1 May 2018.
4. Quoted from: 'Ara Irititja Strategic and Operational Plan', February 2016, p. 7, available at <*http://www.irititja.com/resources/2016 February 3 Ara Irititja Strategic & Operational Plan-print.pdf*>, accessed 15 May 2018.
5. *Keeping Culture KMS* is a registered trademark of Keeping Culture Pty Ltd.
6. The software has undergone many updates and changes over the years (see note 1). In 2015, Ara Irititja transferred to *Keeping Culture KMS*, the successor of the Ara Irititja browser-based software managed by the Ara Irititja project. *Keeping Culture KMS* is available as a 'Software as a Service' solution by Keeping Culture Pty Ltd. For more details about the functionality see the Keeping Culture website, <*https://www.keepingculture.com/*>, accessed 29 October 2018.
7. In October 2018, out of a total of 493 sources in the archive, only 16 were from institutions. Each institution may have several separate collections for State Library of South Australia, for example: State Library of SA (James Taylor), State Library of SA (JRB Love), State Library of SA (Mountford Sheard), State Library of SA (Noel Wallace) and State Library of South Australia. Nevertheless, a decision to focus on 'collections at risk' was made early on in the development of Ara Irititja.
8. See for example: Kimberly Christen, 'Ara Irititja: Protecting the Past, Accessing the Future – Indigenous Memories in a Digital Age', *Museum Anthropology*, vol. 29, no. 1, 2006, pp. 56–60; Hughes and Dallwitz; Sally Anga Scales, Julia Burke, John Dallwitz, Susan Lowish and Douglas Mann, 'The Ara Irititja Project: Past, Present, Future', in Lyndon Ormond-Parker, Aaron Corn, Kazuko Obata and Sandy O'Sullivan (eds), *Information Technology and Indigenous Communities*, AIATSIS Research Publications, Canberra, 2013, pp. 151–70; and Sabra Thorner and John Dallwitz, 'Storytelling Photographs, Animating Anangu: How Ara Irititja – An Indigenous Digital Archive in Central Australia – Facilitates Cultural Reproduction', in Juilee Decker (ed.), *Technology and Digital Initiatives: Innovative Approaches for Museums*, Rowman & Littlefield, London, 2015, pp. 53–60.
9. See for example: Sisters of St John of God Heritage Centre in Broome, available at <*http://heritage.ssjg.org.au/assets/october-newsletter-2011.pdf*>, accessed 27 October 2018; the Storylines project, State Library of Western Australia, available at <*https://storylines.slwa.wa.gov.au/welcome*>, accessed 27 October 2018; and 'Our Story/Community Stories' database for the Northern Territory Library, available at <*http://atsilirn.aiatsis.gov.au/conferences/conf06/papers/Cate Richmond.pdf*>, accessed 27 October 2018.

10. 'Reconciliation Australia Annual Review 2016–2017', p. 9, available at <*https://www.reconciliation.org.au/wp-content/uploads/2017/12/ra-annual-review-2016_17_web-lr.pdf*>, accessed 1 June 2018.
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12. The ongoing web hosting, management and support of the software was transferred to Keeping Culture Pty Ltd. However, Douglas Mann, the developer of the software, remained unchanged. Together these two organisations maintain a strong working relationship, doing everything possible to ensure the sustainability of the digital archive.
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15. National Gallery of Australia, 'Annual Report 2016–2017', available at <*https://nga.gov.au/aboutus/reports/nga_ar_16-17.pdf*>, accessed 16 May 2018.
16. For example: Nura Nungalka Ward, *Ninu Grandmothers' Law: The Autobiography of Nura Nungalka Ward*, translated by Linda Rive, Magabala Books, Broome, WA, 2018.
17. The founding members include – Pitjantjatjara Council Aboriginal Corporation, PY Media, NG Media, Pitjantjatjara, Yankunytjatjara Education Committee and Indigenous Remote Communications Association.
18. SBS News, 'Mobile Access a First for One of Australia's Most Remote Communities', available at <*https://www.sbs.com.au/news/mobile-access-a-first-for-one-of-australia-s-most-remote-communities*>, accessed 2 June 2018.
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20. ibid.
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29. Isto Huvila, 'Participatory Archive: Towards Decentralised Curation, Radical User Orientation, and Broader Contextualisation of Records Management', *Archival Science*, vol. 8, no. 1, 2008, pp. 15–36.
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33. See for example Faye Ginsburg's description of Ara Irititja in her chapter 'Native Intelligence: A Short History of Debates on Indigenous Media and Ethnographic Film', in Marcus Banks and Jay Ruby (eds), *Made to Be Seen: Perspectives on the History of Visual Anthropology*, University of Chicago Press, Chicago, p. 239, and Anne McGrath's use of Ara Irititja as a proof of concept in her article: 'Is History Good Medicine?' *Journal of Australian Studies*, vol. 38, no. 4, 2014, pp. 396–414.
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37. Linda Rive, personal correspondence, various dates.

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Dora Dallwitz, started working on the Ara Irititja project in 2000 and has travelled extensively throughout the Pitjantjatjara Yankunytjatjara Lands. In her 18 years at Ara Irititja, she has overseen the digitisation and archival management of thousands of fragile documents, artworks, historic films, photographs and sound recordings, and participated actively in discussions about how to shape archival practices to be culturally relevant. Dora has a background in visual arts and a Masters degree in sculpture. She sees Ara Irititja as a repository not only for at-risk archival materials, but also for Indigenous narratives of the past and present.

John Dallwitz, originally studied architecture and art teaching in Adelaide, South Australia, before concentrating on photography and heritage conservation. Since 1986 he has worked exclusively on Aboriginal community heritage projects. In 1994 he was engaged by the Pitjantjatjara Council to work with Ngaanyatjarra, Pitjantjatjara and Yankunytjatjara people to develop their acclaimed Ara Irititja project. He is now employed by the South Australian Museum as Manager of Ara Irititja and continues to work on the archival project, to ensure that it is maintained for future generations of Anangu.

Susan Lowish, is an art historian employed by The University of Melbourne. She is a passionate supporter of the Ara Irititja project, inspired by their grounded approach and its potential for recording Aboriginal art history for Indigenous communities.

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