

Designing for diversity in Aboriginal Australia: Insights from a national technology project

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ABSTRACT

Aboriginal Australians have been colonized for over 230 years. As a result, many have been disconnected from their communities and identity. This paper reports on a national-scale HCI project that aims to design technology that allows Aboriginal Australians to reconnect with their communities and to reaffirm their Aboriginal identity. Our project faces significant challenges, some due to the effects of colonization and some due to the great (and under-recognized) diversity of Aboriginal Australia. In this paper, we report the design phase of our project, and discuss some of these challenges we faced. Through this, we offer insights for HCI designers and researchers undertaking similar work.

- Human-centered computing~Field studies

KEYWORDS

Aboriginal Australians; Design; Insights; Diversity;

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1. INTRODUCTION

How to design with Aboriginal people is an important topic in HCI, e.g. [9], and HCI researchers have successfully designed digital technologies with Australian Aboriginal communities (e.g. [3, 13]). By and large, their efforts focused upon single communities. This paper, on the other hand, describes a project to work with multiple Aboriginal communities across Australia to design a single technology for use by all Aboriginal Australians. Our effort is also the first Aboriginal-led HCI project in Australia; a decision informed by the Postcolonial Computing framework [10].

This paper reports on lessons learnt from a series of Participatory Design (PD) workshops held with Aboriginal Australians in 2017. The workshops are part of the design phase of a 3-year project to codesign and trial a smartphone-based social app for use by Aboriginal Australians nationwide, contributing to efforts to “Close the Gap” -an Australian government strategy that aims to reduce disadvantage among Aboriginal Australians [8]. This paper aims to present the significant challenges we faced and insights we developed when conducting PD with Aboriginal communities across different geographical sites at a national scale when the focus is to support diverse identities and sociocultural practices in our design. We hope to contribute practical and useful considerations to HCI researchers wishing to engage with Aboriginal Australians in design.

We begin by describing the historical context for the diversity we encounter in Aboriginal Australia. We then provide some details about the research sites and communities we worked with, chosen with an attempt to reflect some of this diversity, and describe the work we conducted there. Finally, we report our experiences from these PD workshops and discuss insights relevant to HCI researchers undertaking similar work.

2. BACKGROUND

Aboriginal people have lived in Australia for at least 65,000 years [6]. At the time of European contact, there were 250 nations possibly totalling one million individuals [15]. Aboriginal Australians continue to live in diverse cultures with an intense connection to “Country” [7]. The arrival of European colonists in the 18th century imposed other forms of diversity upon Aboriginal Australia. Colonization began in the south-east of the continent, at sites including those that are now Australian cities. Aboriginal populations were decimated by warfare and disease [11] until governments adopted a policy of Protectionism [14]. This involved forced removals of Aboriginal people from their traditional Country and onto reserves, missions, and town fringes. As a result, many Aboriginals who survived the initial wave of colonization were now disconnected from their Country, community and culture [14].

Today, Aboriginal people live in urban, rural and remote areas across the Australian continent. In addition to pre-existing cultural diversity, colonization has led to further diversity that tends to manifest geographically. One dimension relates to the distance from sites of original colonial impact: Aboriginals who live further from the urban and farm areas of south-east Australia are more

likely to be engaged in traditional sociocultural practices. A second dimension relates to disconnection imposed under Protectionism: at any location in Australia there are likely to be Aboriginals whose parents or grandparents were brought to that location against their will. In remote Australia, many Aboriginal people still practice traditional ceremonies. Elsewhere, many are now re-identifying and re-learning their traditional languages. Aboriginal people are enthusiastic adopters of digital technologies including smartphones and social media [12].

3. #ThisMyMob: national scale research project

#ThisMyMob is a three-year Aboriginal-led national-scale research project to understand how co-designing a bespoke technology with Aboriginal communities for Aboriginal users might contribute towards reconnecting Aboriginal communities. In particular, it seeks to understand how the use of smartphones and social media can be used in culturally appropriate and sensitive ways to reconnect Aboriginal Australians to community and Country.

Identifying research sites/communities that could provide a sample of the rich and complex diversity of Aboriginal Australia was a significant initial challenge. Our aim was to secure four research sites sampling Aboriginal communities in urban, regional and remote Australia. We had to carefully identify, reach out to, and liaise with Aboriginal leaders from different mobs around Australia. (Mob is an Aboriginal English term that can mean family or language group). The sites we ended up working at were Lombadina, Wurrumiyanga, Portland, and Sydney.

3.1 The research sites and the PD workshops

Lombadina (site 1 in Figure 1) is a small Aboriginal community of about 60 people near Cape Leveque at the tip of the Dampier Peninsula in Western Australia. The community is 3 hours' drive from the town of Broome and 2,000 km from Perth. The community, part of the Bard language group, live at a former church mission and operate tourism and construction businesses. Our connection to this site is via a respected leader and an old friend of the Aboriginal lead researcher. Our contact liaised with local people and helped us organize a two-hour workshop in the community hall. Due to the remoteness of the location, we stayed overnight in Lombadina. In addition to the workshop, we toured the local area, learning about how different clans engage in a range of economic activities around the peninsula.

Wurrumiyanga (site 2), population about 1,500 is the principal town on the Tiwi Islands, 80 km north of Darwin. This town is also built on the site of a defunct church mission. Religion (Catholicism) is very important to this community. Due to remoteness, Tiwi culture has always developed somewhat separately from mainland Aboriginal Australia. Our two-hour workshop was held at the local Catholic school in Wurrumiyanga (figure 2). The non-Aboriginal principal helped us recruit ten local participants, some of whom were part of an Aboriginal teaching leadership team at the school. We approached this community via two local

Aboriginal people living in Darwin who are connected to the Aboriginal researcher. After the workshop, we toured the town of Wurrumiyanga, and spent time at Tiwi Design which is the focus of the island's important art industry.



Figure 1: Map of Australia with our research sites numbered



Figure 2: Workshop at Wurrumiyanga

Portland (site 3) is a small, coastal town (population 10,000) in western Victoria, with an economy based on woodchipping and aluminium smelting. It is the site of the first European settlement in Victoria and was a site of significant conflict. Around 30 km from Portland are the important spiritual and archaeological sites of Budj Bim and Lake Condah, which are managed by Gunditjmarra people based in Portland and Heywood. Our Portland contact was a prominent local Aboriginal leader who helped us to recruit participants for the workshop, held in a local community hall. After the workshop, one of the participants took us on a guided tour of the local area, speaking to us about the important spiritual sites. This participant and colleagues have been engaged in documenting the site as part of a successful submission to UNESCO for world heritage listing [1]. This highlighted for the researchers, the group's connection to country.

Sydney (site 4) is Australia's largest city and the site of the first European settlement in Australia. It is the traditional land of the Eora people and remains an important site for all Aboriginal Australians. This site was chosen for traditional cultural reasons, and because Sydney is a historic centre of political protest, as well as a centre of education, arts, government and economic activity. Our contacts in Sydney were senior arts administrators working on Aboriginal programs at the Sydney Opera House, and the workshop was held at the Opera House, which is built on an important Eora site where traditional practices occurred.

We had asked each of our local contacts to help us recruit at least ten participants. However, we only discovered when we arrived at three of the four sites, that a number of participants did not take part on the day of the workshop. In Lombadina, only five participants (varying in age, gender and status) attended, while only three participants (two females) took part in the Portland workshop. In both those sites, the absences were mostly due to Sorry Business (funerals). Six participants attended the Sydney workshop. Our Sydney contacts told us that a number of people had last minute urgent matters that required their attention. The workshop at Wurrumiyanga was the only one with ten participants. This may be due to the fact that the workshop took place where the participants worked.

Most workshops began with a Welcome to Country from a community elder. After introducing our project and the reasons we were there, we explored our participants' digital lives. We asked them what they found useful (or not), what opportunities and challenges digital technologies presented. As the information grew we began surfacing design ideas together around a smartphone app; soliciting opinions about design features and inviting participants to help us imagine how this app might look. The workshops generated enthusiastic discussions and rich data about a 'safe social platform' for Indigenous Australians and what this might look like. Participants offered suggestions about how software could support Aboriginal identity, incorporate Aboriginal cultures and translate knowledge and languages that can be shared and used among diverse Aboriginal end-users.

4. CHALLENGES FOR DESIGN

Our findings during these workshops emphasize the complexities involved when trying to establish and conduct PD workshops with multiple Aboriginal communities across Australia.

4.1 Responding to diversity at a national scale

Our broader society and our research community value diversity. But in our project, diversity also created wicked challenges. Participants at different sites expressed significantly different design needs stemming from their local sociocultural practices. For example, participants at Lombadina and Wurrumiyanga practise more traditional culture, and asked for the software to reflect local kinship moieties and avoidance relationships. In comparison, Portland and Sydney participants felt it would be more useful for

the app to help people connect to their mob and traditional culture. The latter groups asked for technologies that can capture Aboriginal genealogy and allow users to trace and reconnect with their Aboriginal identity. While participants at Lombadina were keen for the app to include Men's Business and Women's Business discussion forums, reflecting traditional Aboriginal law, this feature was problematic for the Wurrumiyanga participants who reminded us of the existence of a third gender category, 'Sistagirls' (trans women) who feature prominently in Tiwi society. Should Sistagirls be able to access the Men's Business feature, or Women's Business, both forums, or should they have their own forum?

There were also different emphases on religion. Wurrumiyanga, based at the site of a former Catholic mission, is strongly influenced by Christianity, and participants there wanted the app to reflect and celebrate their Catholic status. On the other hand, Portland and Sydney participants were not interested in this feature. Understandably, there was diversity in languages spoken. In Sydney and Portland, participants spoke primarily English. In Wurrumiyanga and Lombadina, English is not the main language spoken. Since most prospective users speak at least some English, it can be used in the interface at the prototype stage. But the choice of language for user-to-user communication has implications for intra- and inter-community connection and for long-term management and use of the technology we design. A national-scale app needs to support local Aboriginal languages, whilst at the same time be able to connect distant communities.

These experiences serve to remind HCI researchers/designers wishing to engage with Aboriginal Australians to be mindful of vastly diverse beliefs and sociocultural practices. This does raise questions for design: If we are committed to designing technologies that are culturally appropriate for Aboriginal Australians; technologies that are supportive of their local sociocultural practices, then how can we design to meet the diverse and at times opposing needs of different mobs? Is it sufficient to simply allow users to filter or hide certain features? Does this serve to divide communities instead of achieving the aim of reconnection?

4.2 Trust

Another challenge pertains to establishing trust between the researchers and diverse groups of participants. We found two aspects of diversity impact trust. The first relates to historical conflicts between Aboriginals and settlers. In our project, the Aboriginal researcher was instrumental in establishing trust between the research team to negotiate permission to engage in research with each community. This is because Aboriginal Australia is made up of many nations with different languages and cultural structures. Our four research sites represent four different nations. The success of our project and our design depends on building trust with and between these nations.

Research fatigue (due to being asked too frequently to take part in research) [5] can create mistrust and wariness of researcher intentions. Aboriginal people may be reluctant to give away

knowledge, as knowledge in the past has been used against Aboriginal people, e.g. to dispossess them of their land. Aboriginals may be reluctant to take part in research if they cannot see a clear benefit for them. As argued by [3, 4], reciprocity is required when HCI researchers work with Aboriginal communities: “What is important is that engagement is mutually beneficial and discussed”.

Finally, despite having local contacts, we faced challenges in building deeper trust and establishing richer engagement with individual participants and the communities before we visited. This was due to the distances of these communities from us, the researchers. As other researchers have pointed out [e.g. 2, 4], we must find ways and opportunities to spend more time at each site to build the kind of trust that this kind of culturally-sensitive design research required.

4.3 Aboriginal-led research

We believe that the challenges we faced would have been even more serious had the team not been led by an Aboriginal researcher. This researcher was able to guide the project, to establish credibility, to pave the way to building trust with local participants and stakeholders. At the same time, this approach to research team structure helps build research capacity in Australia. In fact, our project is unique in Australian HCI in being led by an Aboriginal researcher. We believe this is an important development for the HCI discipline, and will be an important factor for the success of our project.

The Aboriginal leader of our research team inaugurated the project, developed the key research question, and is driving the project vision and agenda. He has also taken on a role similar to that of cultural guide. The non-Aboriginal members of the team frequently look to this member for cultural interpretation and advice, for help in understanding cultural and communication nuances, and translation during analysis of findings ([2] p. 151). He also used his networks to identify connections with participating communities.

4.4 Connections and contacts

Given the distances between these communities, a significant amount of effort needed to take place long before the fieldwork begins, to identify key community members as local contacts. Much HCI research methodology encourages non-personal connections between researchers and participants. This is to ensure impartiality and an ethical approach to recruitment, data gathering and analysis. (An exception is ethnographic research which recognizes the important of gatekeepers.) However, as pointed out by [2, 4], in Aboriginal communities personal connections are highly valued. In our experience, personal connections between researchers and participants have been essential to our ability to conduct work in these communities.

We found it essential to have a local contact in each participating community; someone respected in the community and can broker and champion the project and arrange for permission for us to be on Country. The local contact also needs to be well-connected to the mobs in the surrounding region, because Aboriginal

communities are distributed. Our local contacts were all Aboriginal, well-respected and well-connected in their communities. All of them are connected to the Aboriginal researcher in our team.

4.5 Working with Aboriginal participants

Arranging for a large subset of a community to attend a technology design workshop is a challenge for a range of reasons. Never-theless, our local contacts emphasized the need to consider Aboriginal yearly and weekly calendars when scheduling research, as this will also impact the availability of participants. Research should not be scheduled during the wet season in tropical Australia as movement is difficult. Weekends must be avoided in remote communities, where many potential participants go away to hunt. “Ceremonial Business” can draw participants away for extended periods. “Sorry Business” can tie up entire communities for several days; but this is unpredictable and obviously, cannot be planned for. Researchers need to anticipate that some scheduled workshops may need to be cancelled entirely.

Colonization has disconnected some Aboriginal people from country and community. Cultural and identity disconnection can impact emotional wellbeing and make people more vulnerable to adverse life events. This can greatly impact individuals’ participation in sustained and ongoing engagements with research.

5. CONCLUSION

Some of the experiences we present in this paper are ‘unique’ because most research with Aboriginal Australians focuses its efforts on a single community. The project’s remit to engage with different and diverse Aboriginal Australians in a national project has raised some interesting and wicked challenges. While dealing with multiple dimensions of diversity is routine, if sometimes challenging, for HCI, it is perhaps less problematic when the design problem is to support diverse individuals to achieve a pragmatic goal: for example, transferring money to a bank account. Diversity becomes a wicked problem when the design needs to support intangible needs such as the performance of cultural identity, one’s sense of connection to Country and to one’s mob. Moreover, how these needs are lived and felt, and how a community prefers to meet them, can vary significantly from one site to another. Another challenge lies with how researchers can best cultivate trust, develop relationships, and increase commitment with research participants who are not only far away but can be weary and wary of researchers and their motivations. While we have presented some useful strategies, HCI researchers should continue to be mindful, develop greater sensitivity, flexibility, and to calibrate their expectations when engaging with communities that are resilient but yet may be still dealing with the impacts of colonization.

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REFERENCES

- [1] Damein Bell, Lawrence Molloy, Juliana Prpic, and Martin Tomko. (2019). A new World Heritage site for Aboriginal engineering. *Nature*, 572, 32 Doi: 10.1038/d41586-019-02315-y
- [2] Nicola Bidwell and Dianna Hardy (2009). Dilemmas in situating participation in rural ways of saying, in Proceedings of the 21st Annual Conference of the Australian Computer-Human Interaction Special Interest Group: Design: Open 24/7, 145-152. Doi: 10.1145/1738826.1738850
- [3] Nical Bidwell, Peta-Marie Standley, Tommy George and Vicus Steffensen (2008). The landscape's apprentice: lessons for place-centred design from grounding documentary, in Proceedings of the 7th ACM conference on Designing Interactive Systems, 88-98. Doi: 10.1145/1394445.1394455
- [4] Margot Brereton, Paul Roe, Ronald Schroeter, and Anita Lee Hong (2014). Beyond ethnography: engagement and reciprocity as foundations for design research out here, in Proceedings of the 32nd annual ACM conference on Human Factors in Computing Systems, 1183-1186. Doi: 10.1145/2556288.2557374
- [5] Tom Clark (2008). We're Over-Researched Here! Exploring Accounts of Research Fatigue within Qualitative Research Engagements. *Sociology*, 42(5), 953-970. Doi: 10.1177/0038038508094573
- [6] Chris Clarkson, Zenobia Jacobs, Ben Marwick, Richard Fullagar, Lynley Wallis, Mike Smith, Richard G Roberts, Elspeth Hayes, Kelsey Lowe, and Xavier Carah. (2017). Human occupation of northern Australia by 65,000 years ago, *Nature* 547, 7663: 306.
- [10] Lilly Irani, Janet Vertesi, Paul Dourish, Kavita Philip, and Rebecca E. Grinter. (2010). Postcolonial computing: a lens on design and development, in Proceedings of the SIGCHI conference on Human Factors in Computing Systems, 1311-1320. Doi: 10.1145/1753326.1753522
- [11] Henry Reynolds. 1987. *Frontier: Aborigines, settlers and land*. Allen and Unwin.
- [12] Grace Shaw, Margot Brereton, and Paul. (2014). Mobile phone use in Australian indigenous communities: future pathways for HCI4D, in Proceedings of the 26th Australian Computer-Human Interaction Conference on Designing Futures: the Future of Design, 480-483. Roi: 10.1145/2686612.2686688
- [7] Cynthia Ganesharajah. (2009). Indigenous health and wellbeing: the importance of country, Native Title Research Unit, Australian Institute for Aboriginal and Torres Strait Islander Studies. [8] WHO Commission on Social Determinants of Health and World Health Organization. 2008. Closing the gap in a generation: health equity through action on the social determinants of health: Commission on Social Determinants of Health final report, World Health Organization.
- [9] Kate Hennessy and Lisa P. Nathan (2014). Honoring protocol: design by, for and with aboriginal peoples, in Proceedings of the 2014 companion publication on Designing Interactive Systems, 1-3. Doi: 10.1145/2598784.2611381
- [13] Alessandro Soro, Anita Lee Hong, Grace Shaw, Paul Roe and Margot Brereton. (2015). A Noticeboard in Both Worlds Unsurprising Interfaces Supporting Easy Bi-Cultural Content Publication, in Proceedings of the 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems, 2181-2186.
- [14] Meredith Wilkie (1997). Bringing them home: Report of the national inquiry into the separation of Aboriginal and Torres Strait Islander children from their families, Human Rights and Equal Opportunity Commission.
- [15] Allan N Williams (2013). A new population curve for prehistoric Australia, in *Proc. R. Soc. B*, 20130486. Roi: 10.1098/rspb.2013.0486