Designing Participation for the Digital Fringe

Workshop

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ABSTRACT

Digital participation is emerging as a key issue for researchers, designers, educators, industry and others as government policy increasingly seeks to include people in decision-making about all aspects of their lives. Yet, that tends to focus predominantly on mainstream communities of highly urbanized settlements, often neglecting segments of society lacking access to resources, digital technology or telecommunications infrastructure. Likewise, people from diverse and marginalised backgrounds, or who are socially excluded, such as people living with disability, the elderly, disadvantaged youth and women, people identifying as LGBTI, refugees and migrants, Indigenous people and others, are particularly vulnerable to digital under-participation, thereby compounding disadvantage. This workshop proposes to identify practical, innovative, and sensitive design solutions to support digital participation for disadvantaged communities in urban and regional environments; foster digital skills within and across communities; investigate the role of proxies in digital inclusion; and discuss design strategies for sustaining digital inclusion in the long run.

CCS CONCEPTS

• **Human-centered computing → Empirical studies in HCI;** *User centered design; Contextual design; Computers in other domains.*

KEYWORDS

Digital participation, digital technologies, diverse communities, digital inclusion, proxies, disruptive technologies, digital fringe.

1 INTRODUCTION

1.1 Digital Inclusion

The use of interactive technologies (i.e. smart phones, tablets, apps, smart watches) has become an integral part of daily reality in many areas of the globe. Growing way beyond their original technical domains, they have over time pervaded social segments as diverse as engineering, health, entertainment, matchmaking, government, urban planning, public art, architecture, community engagement, digital placemaking, and many others. Likewise, the increasing affordability of interactive technologies, coupled with more widespread digital literacy among larger social segments, have also led to their increased adoption by people from non-technical backgrounds. This results in the development of tools and platforms to support the emergence of communities of practice and more participatory exercise of citizenship.

Due to its empowering character, digital inclusion has become a *de-facto* basic right. Digital inclusion is critical to allow individuals and communities to connect, build networks, learn

from each other, work, collaborate, play and participate in social and political life. However, digital inclusion is a complex topic, involving a variety of factors such as accessibility, affordability, usability, skills, and relevance of features to the context of a particular person [1].

1.2 The Digital Fringe

Evidence suggests that among those most likely to experience social exclusion are Indigenous people, people with disabilities, young people and women in disadvantaged situations, older people, unpaid caregivers, LGBTI[1] people, and migrants and refugees [2,3].

Socially excluded people and their communities are particularly vulnerable to digital non-participation and under-participation, thereby compounding disadvantage [4]. For those who are connected digitally, one of the key challenges is sustained digital participation [5]. Community based digital inclusion interventions tend to fail when they 'only take into account telecommunications infrastructure and hardware, leaving social and human factors unattended' [5, page 347].

Not all design solutions become readily applicable or make equal sense to all segments of society. Many people, as shown above, are explicitly or accidently left out of recent developments. This includes the effects of policies and design practices by many political and technological leaders who tend to target their discourse towards the core profile of the population when considering digital inclusion. Albeit large and relevant, those sectors of society who have less access to technology feel increasingly disenfranchised and powerless, facing widening gaps between digital 'haves' and 'have-nots'. We refer to those neglected communities, collectively, as *the digital fringe.*

Although not included in the main discourse on digital design, individuals on the digital fringe are not oblivious to technology either, and movements towards greater inclusiveness have occasionally sprouted. Evidence of ad-hoc technological appropriation has been observed, for example, among displaced groups such as networks of support to refugees in Europe and Asia [6], or the *Agência de Notícias das Favelas* ('Slums News Network'), connecting slum communities in Brazil[2]. Likewise, large corporations have occasionally made inroads towards greater accessibility for their products, like the example of Microsoft's recent push for more thoughtful design centred around people with disabilities [7]. Yet, it is apparent that those developments are both still rare and isolated. Likewise, despite the strong recent focus among the academic research community around prospects of smart cities and smart citizens, those are usually restricted to higher density metropolitan centres, and the more visible communities of dwellers, workers and visitors to prominent public spaces. Unintentional segregation can also

arise through social media and the well-known phenomenon of filter bubbles. In addition to forging stronger 'communities of thought', the use of social media tends to isolate even further communities lacking equal access to those platforms in the first place, worsening the matter even more. To counteract those dynamics, we propose a more concerted effort to identify shared concerns and needs, raise awareness about potential synergy in the design approach to different marginalized segments of society, and learn from stories of both success and failure in designing for those communities.

The digital fringe is, by definition, fairly broad and highly diverse in itself, being an overarching term for the wide range of demographics and communities often excluded from the mainstream discourse about digital technology adoption and innovation. Yet, those can be significantly different from each other. As an initial step to facilitate a framework of analysis for those communities within the digital fringe, we propose their general classification into the five categories below. These are based on the chief feature of digital exclusion, as well as some potential examples which are not exhaustive:

1. *Geographical*: communities in small cities, suburbia, regional or remote areas.
2. *Socio-economic*: people in lower income neighbourhoods, teenagers in custody, homeless, drug addicts, sex workers, people in prison, former detainees.
3. *Age and gender driven*: elderly people, children, women, women in STEM (Science, Technology, Engineering and Mathematics) professions, gender-x.
4. *Disability driven*: people with disabilities or mental illness.
5. *Cultural and ethnic*: indigenous people, migrant communities, refugees.

2 THEMES

This international workshop builds on a successful and engaging Australian workshop held at OzCHI, December 2016 (see https://digitalparticipationhci.wordpress.com/.) This C&T 2017 workshop will provide a forum for researchers and others working with people from marginalised and diverse communities, to discuss and share experiences, and learn from each other. The workshop will provide concrete examples of the ways in which technology can be appropriated, afforded or adapted to better suit the needs of marginalised and diverse community members.

This workshop will thus investigate design needs and bespoke practices that seek to leverage on the design fringe's unique demographics, culture, economy, skillsets and opportunities for collaboration. The aim is to establish the foundations for a more inclusive digital culture and research agenda for the common good. The workshop themes include, but are not limited to, the following:

2.1.1 Fostering digital skills at home and in the community.

The workshop will explore case studies and projects that seek to foster digital skills amongst diverse and marginalised communities. We will discuss some of the opportunities and

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[1]In Australia, the Commonwealth Government uses the initials LGBTI to refer collectively to people who are lesbian, gay, bisexual, trans and/or intersex.

[2] http://www.anf.org.br/ *(in Portuguese)*

constraints afforded by digital technology for people living with disabilities such as cognitive and sensory impairments, people with low-level literacy levels, people from diverse cultures and backgrounds, and socially isolated older people, amongst others. We recognise the importance that place and location have for digital inclusion, and ways in which digital technologies might mediate these for people who are constrained by them, for example, people who are confined to a place or location (e.g. housebound people, people on remand), people who are new to a place or community (e.g. migrants, refugees) or people who are marginalised by place (e.g. such as the homeless). We will explore ways in which digital technology capture participant's experiences both at home and in the community, and support sharing of these experiences, thereby potentially expanding social and community connections beyond the confines of individual places and communities.

2.1.2 Adapting and utilizing technology for digital inclusion

This workshop will explore a range of digital technologies and platforms for digital inclusion of marginalised and diverse communities. These may include, but are not limited to, technology probes, social media, digital stories, digital displays, photo-sharing devices, apps, crowd-sourcing, wearable technologies and other digital devices. We will consider the implications of intervening in the lives of marginalised and diverse communities, and seek to recognise that while the aim of HCI research is to positively impact on vulnerable people and communities, digital inclusion may have unforeseen [8] and unexpected negative consequences.

2.1.3 The role of proxies and champions

While technology offers many possibilities for people from diverse and marginalised communities, it can also offer many challenges. When working with people living with disabilities, for example, it can be difficult to ensure that research participants fully understand the research process, can voluntarily provide consent, can make their needs known during the research process, and have the opportunity to fully realize their own ideas. This is particularly problematic for people living with intellectual or other disabilities, such as cognitive or sensory impairments. Recent research has investigated the role of proxies (often a family member, carer or teacher) for people living with an intellectual disability or form of cognitive or sensory impairment. For example, Brereton and team [9] engaged in co-design with people living with cognitive and sensory impairments and their proxies in order to explore new ways of facilitating communication. They developed simple functioning interactive prototypes to support people with a diverse range of competencies to communicate. Their prototypes supported concrete expression of likes, dislikes, capabilities, emotional wants and needs and forms of expression that had not been fostered previously, further informing design. Other research has explored the ways in which researchers themselves, may inadvertently become proxies for socially isolated people who do not have existing social connections [10]. Further, we explore the role of 'champions', individual people within communities who act as role models, encouraging others to take part in the research. We invite participants to discuss these roles and explore the implications for sustained digital inclusion of marginalised communities, when proxies or champions are engaged, when their views no longer align with those they are representing, or when they actively withdraw from the field.

2.1.4 Recognising and responding to sensitivities

We acknowledge that researchers working in sensitive settings, or with marginalised or diverse communities, may encounter people and communities whose life-experiences seem very different from the researcher. Researchers may need to develop strategies to manage their emotions, and protect their own emotional wellbeing; particularly if working with people who are very unwell, dying or emotionally challenging [11,12]. We invite participants to explore challenging situations such as these, and reflect on strategies they have utilised to better understand, work with, and incorporate the digital inclusion of diverse and marginalised communities.

The workshop discussions from this and the OzCHI 2016 workshop will be used to develop guidelines that will communicate practical lessons to share with the HCI community, and a special issue in a relevant journal.

3 WORKSHOP AIMS AND OUTCOMES

This workshop invites contributions from researchers, academics, and others working with diverse or marginalised individuals or communities e.g. people living with disability, socially isolated older people, people limited, confined or defined by particular places; including those living in rural, remote or regional spaces. We welcome researchers working with novel and new technologies, as well as those using trusted methodologies. The workshop aims to:

- Provide a forum for researchers to share their experiences of using digital technologies for public participation.
- Identify common issues researchers have faced, both within HCI and in related social science fields, and explore how these have been addressed.
- Identify the unresolved challenges that researchers continue to grapple with when working with diverse communities and explore options for responding to these challenges.
- Discuss how challenges will grow and change as emerging (and disruptive) technologies continue to be introduced into sensitive settings.
- Discuss the impacts that using digital technologies for public participation will have on specific diverse or marginalised communities.
- Explore how digital participation might be sustained beyond the life of the research project.
- Build collaborations between workshop participants, highlighting opportunities to continue this valuable work.

4 SUBMISSION PROCESS AND SELECTION CRITERIA, GOALS AND ACTIVITIES

We invite academic researchers and industry practitioners to submit abstracts of position papers articulating the core themes

above. Submissions should be formatted in the ACM Extended Abstract format, and comply to the selection criteria below:

1. Abstract should be no longer than 1 page, including references.
2. Abstract should present case studies on the theme, current research, or different research methodologies (e.g. participatory design, co-design, research through design).
3. Abstract should clearly outline: (a) what the addressed community is, (b) what characterises its digital exclusion, (c) the reasons behind it (e.g. affordability; social exclusion; cultural factors; etc.), and (d) what is being done about it, how is the researcher responding.
4. Abstract should also indicate how the presented research contributes to a better understanding and advancement of design for the digital fringe.

We will review submitted abstracts against the selection criteria above, and accept **a maximum of 20 contributions**. Accepted authors will be invited to attend the workshop – taking place in Troyes, France, as part of the 8th International Conference on Communities and Technologies (C&T'17). Participants will be asked to contribute further to the collective discussion towards a journal special edition, according to the program below.

4.1 Workshop Goals and Structure

The workshop will run for a full day, with the main objective of critiquing and debating submissions by participants, leading to a collaborative understanding of the field that can be captured as a special edition of a high-quality peer reviewed journal. With that main goal in mind, we envisage the workshop evolving through two sessions – one in the morning and one in the afternoon. The morning session will focus on digital inclusion within communities. Particular topics might include how to foster digital skills at home, at an individual level and within marginalised groups. This may include the use of smartphones, wearables, and the role of proxies in enhancing the experiences of disadvantaged individuals. The afternoon session will focus on digital inclusion across communities, with focus on social cohesion and integration of communities in the digital fringe into the broader society. This session will particularly focus on urban HCI and digital placemaking. The ultimate goal will be to uncover shared challenges involved in designing for the digital fringe and potential strategies to overcome them. The collective findings from the panel will then contribute to the final editorial we will write as organizers for the journal special edition.

4.2 Important Dates

- *Deadline for submission: 16 May 2017*
- *Notification of acceptance: 26 May 2017*
- *Workshop day: 27 June 2017*

4.3 Website

The workshop activities will be supported by a dedicated website: https://digitalparticipationhci.wordpress.com

Accepted position abstracts will be made available on the website prior to the workshop.

5 CONCLUSION

While the increasing affordability and ubiquity of mobile, and sensing digital technologies is widely celebrated, access and control over them is far from equally distributed. When only a small section of the population is able to thrive on the new methods of education, far reaching communication, increase in productivity and information accessibility provided by digital technologies, whole communities find themselves increasingly marginalized and powerless. Thus, they are falling prey to further control by the emerging 'digital elite' and unable to catch up with the new skills otherwise taken for granted in other social circles. In this workshop, we wish to start a concerted and in-depth conversation around the challenges and opportunities of designing for the digital fringe. We envisaged the discussions facilitated by the workshop – as well as the consequent journal publication – will provide relevant material to advance the understanding of what is rapidly becoming one of the most pressing social issues of the 21st century.

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