ARC: Moving the Method Forward

Ashley Marie Walker
Michael A. DeVito
Northwestern University
Evanston, IL, USA
amwalker@u.northwestern.edu
devitom@u.northwestern.edu

Juan Fernando Maestre
Katie A. Siek
Cassie Kresnye
Ben Jelen
Patrick C. Shih
Indiana University Bloomington
Bloomington, IN, USA
jmaestre@indiana.edu
ksiek@indiana.edu
ckresnye@iu.edu
bcjelen@indiana.edu
patshih@indiana.edu

Maria Wolters
University of Edinburgh
Edinburgh, Scotland, UK
maria.wolters@ed.ac.uk

Mona Alqassim
University of Edinburgh
Edinburgh, Scotland, UK
mona.alqassim@ed.ac.uk

ABSTRACT

Asynchronous Remote Communities (ARC) methodology has been used to explore HCI topics in a range of contexts. This innovative methodology takes advantage of the technological tools and platforms that are often the subject of HCI research to extend existing methods of data collection, pushing methodology beyond historical modes and allowing better connection with populations who have previously been left out of the research process. This SIG will make space for researchers and

practitioners who are interested in using ARC methodology to connect with people who have already used ARC and discuss challenges and opportunities with this methodology, and how to extend similar kinds of innovative, distributed computing based methods into new contexts.

INTRODUCTION

In recent years, the CHI community has begun to investigate and serve the technology-related needs of underserved communities (e.g., [8]). These communities span affinities, ranging from stigmatized communities such as LGBTQ+ and individuals living with HIV, to economically marginalized communities such as low-income individuals in inner cities and rural areas (e.g., [1, 3]), and communities with specialized mobility and care needs [6]. However, traditional research methods can sometimes pose problems for these communities, ranging from heightened identifiability concerns, causing harm, to simply asking too much of participants in terms of time, travel, or resource.

To allow anyone with Internet access to participate in research, MacLeod et al. proposed the Asynchronous Remote Communities (ARC) methodology [4], in which participants join a closed or secret group on an online social platform, where research prompts are deployed periodically over the length of a study. The ARC method, which breaks large, time-consuming methods into smaller tasks while removing the need for physical co-location, has the potential to allow wider participation from marginalized communities, consequently improving the external validity and inclusivity. Additionally, it can provide options for rapidly adjusting the context of one's research to fit the community at hand, e.g. employing Facebook groups to study communities that already largely exist in these private group spaces, while still respecting existing community norms.

As an example, consider two scenarios. First, consider a study on low-income individuals and algorithmic discrimination in criminal justice, one which seeks to evaluate algorithms deployed statewide in a state with a mix of urban, suburban, and rural areas. For the low-income rural participant, driving halfway across the state to a small city with a university for an hour-long interview is a big ask and a single interview may not be ideal for capturing perceptions of subtle biases that unfold over time. Similarly, consider a project aimed at identifying the needs of nonbinary individuals on social platforms, pulling from a population that is small and distributed, and has unique needs regarding anonymity and stigmatization. In this case, ARC allows recruitment from all over the world, and participation can happen entirely on one's own computer. Research activities are masked as simply browsing Facebook, without a need to explain trips to a lab to potentially-hostile parties. In both

cases, the nature of ARC also potentially provides solidarity and a space for discovering new sources of social support for these marginalized populations, divorced from a need for geographic proximity.

At the same time, this method is relatively new and not without problems of its own. ARC is being used by several groups within the HCI community, with each group taking different approaches, using the framework for different kinds of questions, and making their own modifications and innovations to the core idea. This leaves us with a wealth of potential that requires discussion and collaboration to mature for the benefit of the community. ARC method also raises its own questions. Though many barriers are removed, current ARC approaches still require Internet access, which may be a challenge for some rural populations [10] and potentially exclude older and younger participants who may be affected by differing levels of digital skills and access divide among these groups [9]. Additionally, in being user-friendly, ARC relies on existing social media platforms for infrastructure. While this does make for less work on the participant's part, it also introduces a wealth of privacy, ownership, and ethics concerns for researchers, as social platforms are increasingly revealed to be grappling with their own data and ethics issues [10]. These issues would be best addressed by the community as a whole, and not one-off decisions between a researcher and their local ethics review board.

ARCs have the potential to solve practical research problems, make researchers more aware of and responsive to the needs and constraints of participants, thus de-colonializing our research, and providing wellbeing benefits to participants themselves. This approach has been refined recently [5], but is still early on in its development as an HCI method. In this SIG, we will gather researchers who are currently or plan to use ARC in HCI research, including the originator of the method, to share best practices, and co-create an agenda for expanding the method, and for addressing the key ethical and practical challenges the method involves. We hope to provide a space for researchers to discover and explore this methodology, and take part in furthering it.

MOTIVATION AND TIMELINESS

CHI 2019 is the ideal venue for a SIG on ARC and related methodologies. ARC itself can be considered an up-and-coming method in HCI, and was recently spotlighted by a case study at CHI in 2019, empirical work at CHI 2017 [4, 6], and a methods paper at CHI 2018 [5]. ARC also provides a possible solution to key problems in areas that are of increasing interest to the larger HCI community. Recent calls for more intersectional work focused on marginalized communities (e.g., [7]) require new approaches that respect and adapt to the needs of these communities. Similarly, recent calls for more diverse samples that go beyond the college campus or the immediate community, require methods that can cross borders and time zones, a major strength of this asynchronous, distributed method. Finally, as we broaden the types of data we collect in the face of new restrictions on and questions about the utility of trace data for examining behavior [2], ARC provides a flexible framework in which

to try novel exercises in a lightweight and non-intrusive manner, potentially allowing researchers to experiment with pushing the boundaries of their own data collection practices.

We propose holding this SIG at CHI 2019 as a potential answer to many of the methodological issues that have been raised over the last few conference cycles, and as a space to encourage and enable discussions about how to innovate moving forward. We can, as a group, find ways to constructively address known issues such as differential Internet skills and access, analysis and triangulation of great amounts of data coming from different activities and instruments, and the platform-bounded nature of the method itself. By welcoming participants who are new to ARC, we can educate while bringing in new voices and fresh ideas that may help us see new ways forward, potential solutions, and even new contexts in which to apply ARC.

REFERENCES

[1] Tawanna R Dillahunt, Sheena Erete, Roxana Galusca, Aarti Israni, Denise Nacu, and Phoebe Sengers. 2017. Reflections on Design Methods for Underserved Communities. In *Companion of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing*. ACM, 409–413.

[2] Nicole B Ellison, Megan French, Eden Litt, S Shyam Sundar, and Penny Trieu. 2018. Without a Trace: How Studying Invisible Interactions Can Help Us Understand Social Media. In *Companion of the 2018 ACM Conference on Computer Supported Cooperative Work and Social Computing*. ACM, 129–132.

[3] Jean Hardy and Silvia Lindtner. 2017. Constructing a desiring user: Discourse, rurality, and design in location-based social networks. In *Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing*. ACM, 13–25.

[4] Haley MacLeod, Ben Jelen, Annu Prabhakar, Lora Oehlberg, Katie A Siek, and Kay Connelly. 2016. Lessons learned from conducting group-based research on facebook. In *Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems*. ACM, 804–815.

[5] Juan F Maestre, Haley MacLeod, Ciabhan L Connelly, Julia C Dunbar, Jordan Beck, Katie A Siek, and Patrick C Shih. 2018. Defining through expansion: conducting asynchronous remote communities (arc) research with stigmatized groups. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*. ACM, 557.

[6] Annu Sible Prabhakar, Lucia Guerra-Reyes, Vanessa M Kleinschmidt, Ben Jelen, Haley MacLeod, Kay Connelly, and Katie A Siek. 2017. Investigating the suitability of the asynchronous, remote, community-based method for pregnant and new mothers. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*. ACM, 4924–4934.

[7] Ari Schlesinger, W Keith Edwards, and Rebecca E Grinter. 2017. Intersectional HCI: Engaging identity through gender, race, and class. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*. ACM, 5412–5427.

[8] Angelika Strohmayer, Mary Laing, and Rob Comber. 2017. Technologies and Social Justice Outcomes in Sex Work Charities: Fighting Stigma, Saving Lives. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*. ACM, 3352–3364.

[9] Rebecca P Yu, Nicole B Ellison, Ryan J McCammon, and Kenneth M Langa. 2016. Mapping the two levels of digital divide: Internet access and social network site adoption among older adults in the USA. *Information, Communication & Society* 19, 10 (2016), 1445–1464.

[10] J Zunger. 2018. Computer science faces an ethics crisis. The Cambridge Analytica scandal proves it. *Boston Globe* 22 (2018).