Beyond Deficit-Based Design: Re-imagining Co-Creation Approaches with Equity-Denied Groups

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Abstract

Design practice and inquiry is often motivated by a perceived problem or deficit of a community in question, with attempts to "fix" or "improve" these communities according to dominant group standards. Such approaches frequently fail to meet community needs and risk causing unintended harm to the target populations. While co-creation methodologies show promise for facilitating more equitable collaborations between researchers and communities, their implementation and implications remain complex and challenging. In this panel, we bring together scholars, practitioners, and researchers to examine the potential of co-creation approaches for meaningful and equitable engagement. Through focused discussion on challenging deficit narratives and pursuing inclusive design practices, we aim to build a community of practice and chart future directions for ethical community-centered design.

CCS Concepts

• **Human-centered computing → Human computer interaction (HCI)**; **HCI design and evaluation methods**.

Keywords

co-design, participatory design, inclusive design, design justice, marginalized populations, digital design marginalization

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1 Introduction and Motivation

Despite decades of well-intentioned efforts to design for underrepresented and marginalized communities, many approaches to research in HCI have inadvertently perpetuated deficit-focused narratives [6, 10]. Such approaches assume communities are somehow lacking or deficient in terms of ability, access, literacy, resources, or capabilities. These interventions often aim to "fix" or "improve" individuals or communities to meet standards set by dominant groups [5], potentially reinforcing paternalistic viewpoints similar to medical models of disability [17].

The persistence of deficit-focused design in HCI is not merely a methodological oversight, but a reflection of deeper systemic issues and power dynamics. As Foucault argues [9], the very act of defining a group as "underrepresented" or "in need of intervention" is an exercise of power that shapes our understanding of that group. We acknowledge this theoretical tension in our own framing of this panel - while we employ the term "underrepresented groups," we recognize this categorization as part of the power dynamics we seek to examine and challenge.

This paradox reflects a broader challenge in HCI research: how to address systemic inequities while remaining critical of the very frameworks we use to discuss them. This power dynamic is further complicated by the neoliberal ideologies that often underpin technological interventions, emphasizing individual responsibility over collective action and systemic change [13]. Through this panel, we aim to explicitly engage with these contradictions, exploring how co-creation approaches might help navigate the space between necessary categorical frameworks and their potential reinforcement of problematic power dynamics.

As HCI continues to grapple with issues of equity, representation, and social justice, this field has undergone a paradigm shift towards the adoption of participatory co-creation approaches as the appropriate means with which to pursue meaningful and ethical technology design. As examples, Hayes [12] advocates for inclusive,

community-driven approaches, and Bødker et al. [2] explore the infrastructuring of participatory methods toward sustained, long-term involvement. Vines et al. [25] similarly emphasize the need for critical reflection on how participation is configured in HCI research, with regards to the decision-making processes that shape who participates and how.

Co-creation approaches have emerged as promising pathways toward more inclusive and participatory design practices. Such approaches aim to engage end-users as partners in the design process, as opposed to involving them as passive consultants on their experiences [22]. In these collaboration models, end-users are actively involved in conceptualization and making design decisions across various stages of the design process, including ideation, design, and even evaluation of a design product. Co-creation can help to reposition marginalized late adopters as creators and owners of technology [11], provide opportunities for co-learning [8], and facilitate collaboration between diverse groups [27].

However, while co-creation methodologies offer the potential for more equitable collaborations between researchers and communities, they also raise critical questions about power dynamics, epistemological tensions, and unintended consequences [14]. For example, co-creation practices tend to be "fleeting trysts" where researchers recruit the participants to fulfil research goals before moving on to the next stage of a project, with limited consideration of how the results of co-creation and co-design can help people influence important matters in their lives [3, 4]. There is also variation in the application of the concept of co-creation that introduces ambiguity, with end-user participation ranging from "involvement" to "partnership" all referred to by the same word "co-creation" or "co-design" [24], yet no focused consideration or study yet on what constitutes meaningful participation, partnership, and contribution. This panel will examine these tensions not as problems to be solved, but as productive contradictions that can inform more ethical and equitable research relationships.

2 Topics

Our panel discussion is particularly timely given the surge of papers at CHI 2024 examining co-creation approaches and their implications for marginalized communities. What is particularly notable about this body of work is its geographic and methodological diversity - from studies with women farmers in Bangladesh to Indigenous communities to older adults across multiple contexts. These recent works reflect a growing recognition within the HCI community that traditional design approaches often fail to address systemic inequities. Furthermore, these papers collectively signal a shift in HCI discourse from simply acknowledging the limitations of deficit-focused approaches to actively developing and implementing alternative methodologies that prioritize community agency and knowledge systems. While the panel begins from a critical stance toward deficit-based approaches, we recognize that there may be contexts where problem-focused frameworks serve important functions. Our discussions will explore these nuances and tensions through four critical areas that shape meaningful co-creation approaches, examining both the challenges and opportunities in moving beyond deficit-focused narratives.

- **Definition of "Meaningfulness":** We begin by interrogating the fundamental concept of "meaningfulness" in co-creation practices. This raises essential questions about perspective and evaluation: How do we determine what constitutes meaningful engagement when researchers' and communities' definitions may differ? We will explore how various contexts might support continuity in co-creation activities [28], and examine frameworks for ensuring value alignment across all stakeholders through questions such as: what constitutes meaningful co-creation, for the researchers and the participants? Is meaningfulness all in the product, or the process as well?
- **Process and Unintended Consequences:** Meaningful co-creation also isn't just about the end product. Recent work with women farmers in Bangladesh [21] demonstrates how co-creation processes themselves can create meaningful safe spaces for marginalized voices. Moreover, the potential for harm highlighted in studies like Park et al. [18] and Saha et al. [21] reminds us that meaningfulness must also include a critical examination of unintended consequences. A co-creation process might feel meaningful to all involved, but can we indeed call it successful if it results in technologies that reinforce existing inequities or create new ones? Our panel will discuss how to evaluate both process and outcomes, considering whether interventions that feel meaningful can still perpetuate existing inequities. We will ask questions such as: Are there situations where the researchers' values conflict with the participants'? Whose values and needs should be prioritized in these cases? Are there any risk management strategies that must be considered?
- **Power Dynamics and Societal Effects:** The panel will specifically examine how we navigate the inherent tension in our work - we must name and categorize groups to address inequities, yet this very categorization can reinforce problematic power dynamics. Sobey's [23] call for fat liberation in HCI raises another crucial point: meaningful co-creation must go beyond simply including diverse voices: It requires us to actively challenge and reimagine our field's underlying assumptions and biases. Even with the best intentions, researchers often hold significant power regarding resources, academic legitimacy, and the ability to frame and disseminate findings. As we consider these approaches, this discussion will critically examine power dynamics in research relationships, exploring models for partnership [19] and cooperation [15]. We will ask questions such as: how do we ensure that co-creation approaches truly redistribute this power meaningfully while remaining conscious of how our categorizations shape that redistribution? How can co-creation approaches push back against entrenched institutional biases and norms while acknowledging their own potential to reinforce these norms? Are we asking too much of co-creation, expecting it to solve structural problems?
- **Sustainability:** The "Griot-Style Methodology" introduced by Kotut et al. [16] emphasizes the importance of long-term engagement and relationship-building, suggesting that meaningfulness in co-creation might be tied to the depth and

duration of collaboration rather than short-term interventions. But this also raises questions about the sustainability of co-creation approaches - how do we balance the need for deep, prolonged collaboration with the constraints of academic funding cycles and career pressures? Our panel will examine how to balance this need for sustained collaboration with institutional constraints, while considering how social, cultural, and practical contexts influence sustainability [26]. Our questions include: What is more important in co-design, insights from the co-design process, or the co-design result? Is long-term engagement essential for meaningful co-creation? Academic funding cycles often lead to short-term, publishable results, which can conflict with efforts for sustained co-creation efforts. How can we manage this tension?

These discussions, fueled by the respective recent work, offers some compelling examples of representation in HCI 'done right' to represent end-users in holistic, equitable, and inclusive manners. Yet, these conversations also raise deeper questions about the nature of meaningful collaboration and engagement and show how the implementation and implications of these approaches are far from straightforward. Looking toward CHI 2025, our panel will explore new theories, methods, and practices needed to ensure that efforts at inclusion and participation actively combat, rather than inadvertently reproduce, existing power imbalances.

3 Audience and Panel Format

3.1 Expected Audience

This panel seeks to engage a diverse cross-section of the CHI community, including researchers, practitioners, and students who are grappling with questions of equitable design and community engagement. Given the fundamental nature of these challenges in HCI, we anticipate participation from those working across various domains - from healthcare to education to civic technology. The discussion will be particularly relevant for researchers engaged in participatory design methods, scholars focused on social justice in computing, and practitioners seeking to implement more equitable design approaches in their work. While familiarity with co-creation methods may be helpful, no specific technical expertise is required, as our focus will be on methodological and ethical considerations that are broadly applicable across HCI.

3.2 Panel Structure and Engagement

The panel structure is designed to surface and engage with diverse perspectives on deficit-based design and co-creation approaches, and will follow a structured yet dynamic format to facilitate meaningful dialogue between panelists and audience members. We will begin with brief opening statements from each panelist, contextualizing their perspective on deficit narratives and co-creation approaches based on their research experiences with various communities. Following these introductions, we will devote approximately 15 minutes to each of our four main topics, with two panelists leading each discussion through brief provocations grounded in recent work and the remaining panelists contributing follow-up comments. When each of the panelists have had a turn to comment on a given discussion topic, questions and comments from the digital collaborative workspace (described in the next paragraph) will be used to further the discussion in a manner that allows the audience to interact with the panelists, before the panel moves onto the next discussion topic. The final 20 minutes will be reserved for a broader discussion about future directions, with particular attention to developing concrete strategies for implementing more equitable co-creation approaches. Finally, the panel will close with brief concluding statements from the panelists.

To facilitate collaborative dialogue in real time, we will utilize FigJam [7] (we might use other platforms) as our primary engagement platform during the panel session. This digital whiteboard environment will allow audience members to actively participate in the discussion through dedicated spaces corresponding to each of our main topics and will include dedicated spaces for audience members to share alternative perspectives and challenge presented assumptions, ensuring that critical disagreements about the fundamental premises of deficit-based design can be productively explored. As panelists introduce key concepts and challenges, audience members will be invited to contribute questions, insights and experiences related to meaningful co-creation approaches via digital annotations. This synchronous contribution method ensures that all voices have an opportunity to be heard, regardless of comfort with verbal participation. To ensure lasting impact, the collaborative workspace will remain accessible following the panel session, serving as both an artifact of our collective discussion and a foundation for ongoing scholarly dialogue about equitable co-creation methods in HCI research.

4 Panelists

Jaisie Sin (Organizer & Moderator) is an Assistant Professor at Carleton University, Ottawa. Her research focuses on the inclusive design of voice interfaces and virtual reality for underrepresented users like older adults through the lens of the potential offline consequences (digital marginalization) of digital design. Her objective is to ensure digital spaces are accessible, inclusive, and relevant for all. She has studied, practiced, and taught participatory approaches to research and design for over ten years. Her recent projects over the past year has been on issues of partnership during the process of co-creation with older adults of virtual reality applications. Jaisie is a General Co-Chair of the upcoming CUI 2025 conference. She holds a PhD, Master of Information (MI), and Honours Bachelor of Science (HBSc) in Computer Science and Neuroscience from the University of Toronto.

Sho Conte (Organizer & Panelist) is a Ph.D. Candidate in Information at the University of Toronto. His research focuses on narrative approaches to co-design with older adults, applying this methodology to the exploration of digital storytelling and social and immersive virtual reality technologies. His primary research objectives include developing inclusive co-design methodologies that empower older adults to shape emerging technologies actively, investigating the potential of digital storytelling to enhance intergenerational communication and preserve cultural heritage, and exploring how social and immersive virtual reality can improve the quality of life and social connectedness for older adults. With a UX research and design background, Sho focuses on bridging the digital divide that often excludes marginalized populations, such

as older adults, from influencing and benefiting from cutting-edge technologies.

Cosmin Munteanu (Organizer & Panelist) is an Associate Professor and Schlegel Research Chair in Technology for Healthy Aging at the Department of Systems Design Engineering, University of Waterloo, and Director of the Technologies for Ageing Gracefully lab. He is a transdisciplinary scholar, drawing from a wide range of disciplines such as engineering, computing sciences, critical theory, and technology and society studies. Cosmin takes a primarily ethnomethodological approach to study how to design intelligent applications that improve access to information, support social connections late in life, and reduce digital marginalization for underrepresented groups such as older adults. His work is situated at the intersection of user experience design, digital inclusion, aging, natural language processing, and ethics, primarily focusing on the sociotechnical design of inclusive interfaces with and for older adults.

Sayan Sarcar (Panelist) is a Lecturer in Human-Computer Interaction at the Birmingham City University, UK. His research area includes Computational UI Design, Ageing & Accessibility, Input and Interaction. He has published several co-authored papers in top-tier HCI conferences and journal venues like CHI, ASSETS, DIS and International Journal of Human-Computer Studies. In addition, he serves as a program committee member for many leading conferences (e.g. ACM CHI, ACM ASSETS, ACM DIS, ACM CHI Play, ACM IMX, Interact, IEEE AIVR) in the field. He recently received a research grant to explore co-design strategies for creating inclusive future financial technologies tailored to the needs of people with Dementia, health professionals, and caregivers.

Jules Maitland (Panelist) is an experienced researcher, designer, and strategic thinker. She connects the dots between people, problems, and possibilities to identify opportunities for social impact. She has a PhD in Computer Science from the University of Glasgow and a multidisciplinary background in nursing, human-computer interaction, digital health, and social innovation. She moved to Canada in 2009 to join the National Research Council's People-Centred Technologies Group, before transitioning to industry. She is the founder of All In Research & Innovation Inc., a public service design and social change agency. She is also co-founder of Civic Tech Fredericton, a member of the Atlantic Social Impact Exchange Advisory Committee, and has supported public sector innovation initiatives in Canada, the UAE, and the UK.

Novia Nurain (Panelist) is a Postdoctoral Research Fellow at the University of Michigan's School of Information and is affiliated with the Accessibility, HCI, and Aging (AHA) under the mentorship of Dr. Robin Brewer. She works at the intersection of Human-Computer Interaction (HCI), Artificial Intelligence (AI), and Science and Technology Studies (STS) to investigate how older adults engage, adapt, and reconfigure technology for themselves and others, question where technologies perpetuate inequalities among them, and unpack ways that technologies can better understand aging experiences. Through her research, she challenges problem-oriented approaches to the aging population and propels the HCI community to adopt a strengths-based approach that focuses on older adults' resilience, skills, strengths, and capabilities over their weaknesses and deficits. She draws on social theories of aging and applies qualitative research approaches (e.g., surveys, interviews, photo diaries, collaborative workshops, field deployment, etc.) to ground her investigations, translate the findings into theoretical frameworks, design toolkits, and build functional prototypes.

Wei Zhao (Panelist) is a Postdoctoral Research Fellow in the Human-Computer Interaction group at the University of Melbourne, Australia. His research focuses on the design and use of digital technology to support the psychosocial well-being of older adults living in different settings. In his recent research, Wei examines how emerging technologies can be used to support older adults' social engagement, especially engagement in meaningful activities. His research employs various qualitative research methods, including in-depth interviews and participatory design workshops. Using theoretical lenses including Self-Determination Theory [20] and Continuity Theory [1], Wei's research highlights how technology-based experiences can support older adults' basic psychological needs for autonomy, competence, and relatedness, as well as support a sense of continuity as people transition to later stages of life.

5 Reflexivity Statement

This discussion is enriched by the backgrounds of the panelists and organizers, which range in the form of the user groups that the panelists interact with (including older people, blind people, and Muslim women) and the range of the individual demographics of the panelists. However, we should also note that this assemble of panelists and organizers are all affiliated with institutions in English-speaking countries, which may lead to biased and limits in perspectives that can be addressed in the discussions at this panel.

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