

Celebratory Technology for Neurodiversity: Designing for the Freedom to Be Me

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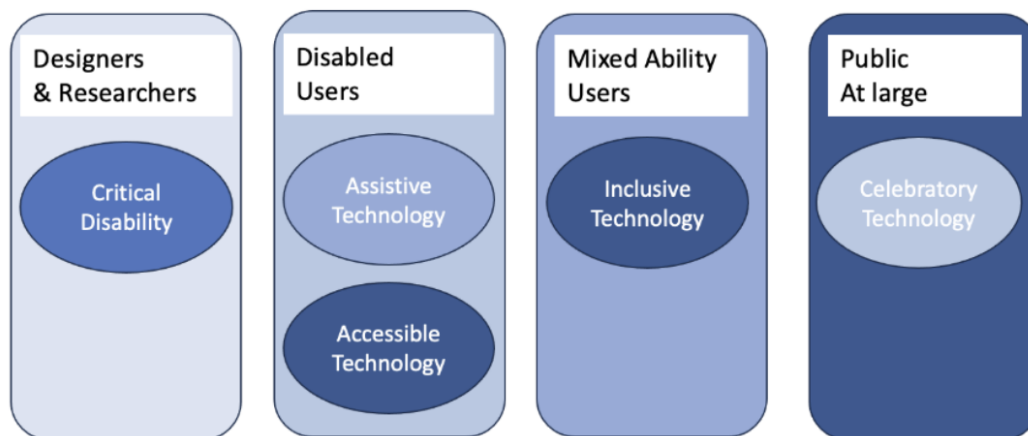


Fig. 1. Neurodiversity Ecosystem Based on Use Case and Target Audience.

This workshop aims to address the need for technology that goes beyond accommodations for neurodivergence to celebrating neurodiversity. This is done in part by examining how technology can intervene in normative attitudes, biases, and behaviors enacted by the general public and embedded in social practices, institutions, and infrastructure. By engaging participants in a comprehensive exploration of celebratory technology, the workshop seeks to redefine its parameters, examine existing research and examples, and collaboratively generate new ideas. We will discuss how celebratory technology can influence various research methodologies, evaluate the impact of design choices, and address biases and stigma associated with autism and other neurodivergencies. Through participatory evaluation and brainstorming, participants will work together to develop a master plan to meet crucial needs in Human-Computer Interaction (HCI) and discuss a framework for future research and design.

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CCS Concepts: • **Social and professional topics** → **People with disabilities**; • **Human-centered computing** → *Accessibility theory, concepts and paradigms*.

Additional Key Words and Phrases: neurodiversity, celebratory technology, counterinterventions, accessibility, participatory design

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1 Background

Social stigma continues to present significant barriers to the well-being, participation, and self-determination of neurodivergent individuals [1, 2, 7, 13]. Although Human-Computer Interaction (HCI) and accessibility research have produced important advances in assistive, accessible, and inclusive technologies, many existing approaches remain focused on accommodation, remediation, or normalization. Such approaches often fail to address the broader social narratives, biases, and normative expectations that contribute to stigma and exclusion. At best, traditional technological solutions often seek to “accommodate” or “normalize” individuals but often fail to address existing biases and normative pressures, and at worst, perpetuate these biases [11, 12]. This workshop aims to challenge this status quo by fostering collaborative discussions and designs that celebrate neurodiversity rather than merely accommodating it through an emerging paradigm—Celebratory Technology for Neurodiversity.

Celebratory Technology aims to break down stereotypes and stigma about neurodiversity. There are several challenges of existing HCI frameworks when designing for neurodiversity, with the emergence of wider frameworks that are more user-centered than previous common therapeutic-centered aims. Critical disability studies literature has flagged these problems [11], and provided guidance [14], yet designers are left unsure what and how to build tech that does not harm. Celebratory Technology targets changing the perception of neurodivergence through design for the public—rather than the disabled user. Celebratory Technology for Neurodiversity is an emerging paradigm of interaction design that targets the public’s perception of neurodiversity [3–5]. Neurodiversity includes all neurotypes, thus it is the culmination of neurotypicality and neurodivergence. Celebrating the full spectrum of neurovariation allows for the innate value in all styles to be appreciated as part of the natural human experience rather than an anomaly to be disguised as inspiration [10]. As a counterintervention to traditional HCI approaches to supporting neurodivergence [14], Celebratory Technologies realign researcher mechanisms to do good.

Celebratory Technology for Neurodiversity is inspired by the work conducted two decades ago around changing the narrative related to undesired eating patterns using Celebratory Health Technology [8, 9] where the focus of the tech is shifted to positive experience such as preparing a shared meal with family. More recently, a similar tactic was taken to shift away from shame and create “new ways to experience valued behaviors and express valued beliefs regarding ways to motivate women’s physical activity” [6]. Celebratory Technology shifts from reprimanding individuals for poor habits (deficit-model) to celebrating positive aspects of living. This work iterates on the concept of Celebratory Health Technology to propose Celebratory Technology for Neurodiversity.

Celebratory Technology for Neurodiversity started as a concept paper [3] that was expanded through a private event “Celebrating Neurodiversity: Ichi-go ichi-e Symposium” that was held in Tokyo, Japan, in September 2023 [15]. The authors organized this event with support from Chiba Institute of Technology, Digital Garage, and the Connected Learning Alliance in collaboration with Joi Ito and Mimi Ito. The symposium brought together diverse perspectives from stakeholders and thought leaders in academic research and autism advocacy. A group of twenty international

human-computer interaction (HCI) scholars and autism advocates engaged in three days of compelling discussions, insightful presentations, and rich cultural explorations in Tokyo, and a collaborative design sprint. The symposium also featured an afternoon public event with simultaneous translation in Japanese, focusing on neurodiversity as a driving social movement and a promising research domain. The Neurodiversity Connected Learning Symposium in Tokyo 2023 enriched the group's understanding of neurodiversity. Through knowledge sharing and design sprints, attendees were able to question the assumptions held about designing tech for and with neurodivergent children and their families. By weaving in immediate feedback from families, HCI scholars learned about how culture and disability interact in one particular context.

Building on the knowledge gained from the initial symposium, the CHI 2024 SIG workshop expanded the provided an opportunity to share insights from the earlier symposium and build on these to plant the first seeds of this novel paradigm [4]. At CHI 2025 SIG, international scholars gathered to actively work to bridge the gap in the perceived clash of epistomes between medical and social models of disability that exist in the field of neurodiversity by collaboratively designing low-fidelity prototypes. The results of which were combined with the symposium to illustrate ways that neurodiverse, cross-disciplinary scholars designed Celebratory Technologies. Initial reflections of designs across both events revealed a central theme focused on fostering the "freedom to be oneself" among neurodivergent individuals. This theme was observed through three approaches. First, some designs emphasized broadening the understanding of neurodivergent experiences through enhanced awareness and appreciation. Second, some designs facilitate the expression of both positive and negative experiences by supporting neurodivergent individuals on their journeys of acceptance and advocacy. Finally, some designs underscored the importance of creating neurodivergent-friendly environments by developing safe spaces through accommodation. Together, these elements aim to cultivate a more inclusive and supportive atmosphere for neurodivergent individuals [5].

To support engagement as well as ground the scholars in creating collaborative designs at both events, a brief orientation provided a shared vocabulary for the ecosystem of technologies for neurodiversity. As depicted in Figure 1, four related paradigms are presented a spectrum of intended end users in an ecosystem. Each has a distinct primary use case across user groups. The assistive technology use case targets skills deficits conceptualized as differences within the neurodivergent users. The accessible technology use case aims to work around challenges (presumed to be socially constructed) to access information. The inclusive technology use case aims to broaden the user of a system beyond mainstream users. Critical designs aim to address the gap between the wants and needs of disabled communities from the often deficit-oriented "solutions" created by scholars targeting neurodivergence. The new use case of celebratory technology for neurodiversity aims to create a positive projection of the spectrum of human diversity to the broader public to reduce the stigma of neurodivergence.

The third step was to seek broader participation from the HCI community to further conceptualize Celebratory for Neurodiversity. We aim to deepen our discussions as well as flesh out the initial design principles described in [5], see Figure 2. This full-day workshop will dive more deeply into this emerging concept. We have a compact agenda with room to explore what a master plan could look like (i.e., we don't know which methods, tools, or approaches should/could be used or what are examples of the kinds of questions we'd need to be answered). We invite all who are interested to come join this process, details of the call for participation and agenda are below. To support engagement as well as ground the scholars in creating collaborative designs at prior events, a brief orientation was provided a shared vocabulary for the ecosystem of technologies for neurodiversity. As depicted in Figure 1, four related paradigms lay out an ecosystem to consider technology across a wide frame of support. Each has a distinct primary use case across user groups. The assistive technology use case targets skills deficits conceptualized as differences within the

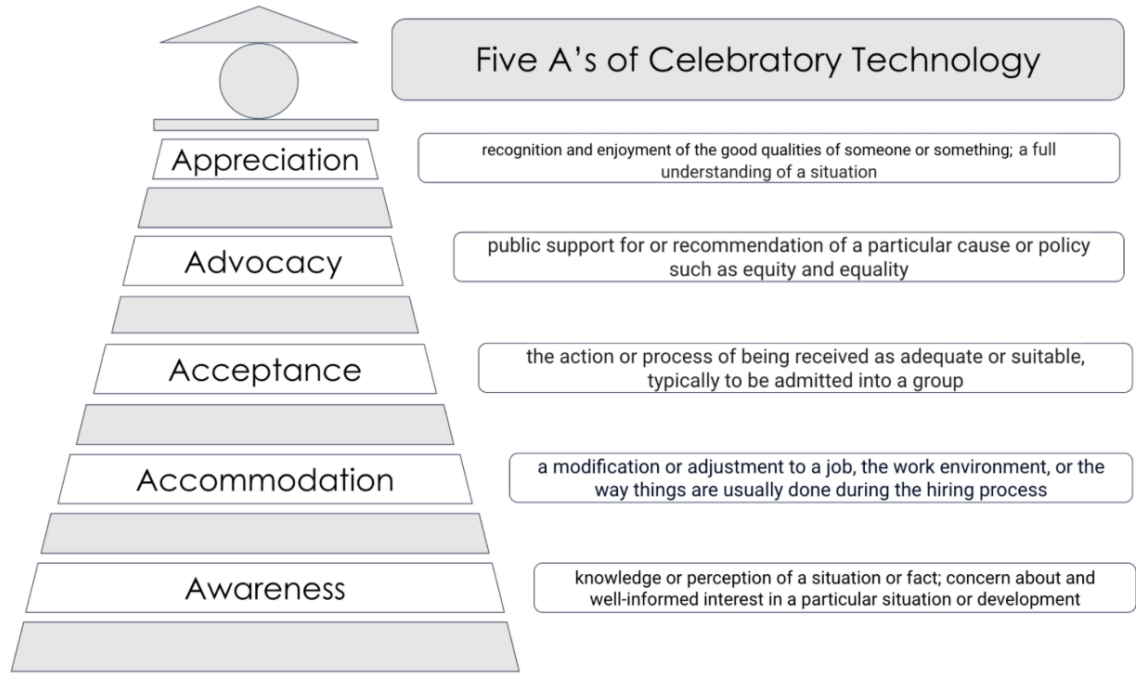


Fig. 2. The 5A Design Principles of Celebratory Technology for Neurodiversity.

neurodivergent users. The accessible technology use case aims to work around challenges (presumed to be socially constructed) to access information. The inclusive technology use case aims to broaden the user of a system beyond mainstream users. Critical designs aim to address the gap between the wants and needs of disabled communities from the often deficit-oriented “solutions” created by scholars targeting neurodivergence. The new use case of celebratory technology for neurodiversity aims to create a positive projection of the spectrum of human diversity to the broader public to reduce the stigma of neurodivergence.

These activities suggested that technologies supporting neurodiversity can be viewed as part of a larger ecosystem. Assistive technologies address functional barriers; accessible technologies reduce barriers to participation; inclusive technologies broaden participation between populations; and celebratory technologies focus on shaping public understanding and appreciation of neurodivergence and neurodiversity. Early explorations also led to the development of the 5A framework for Awareness, Accommodation, Acceptance, Advocacy, and Appreciation as an emerging conceptual foundation for celebratory approaches [5].

Building on the prior work, the current workshop seeks to bring together researchers, practitioners, designers, advocates, and neurodivergent community members to collaboratively examine, refine, and extend the concept of celebratory technology.

The workshop has three primary goals:

1) Develop shared language and understanding around Celebratory Technology for Neurodiversity. 2) Identify emerging design principles, research questions, and methodological considerations for future work. 3) Strengthen an interdisciplinary community interested in advancing celebratory approaches within accessibility and HCI research.

2 Workshop Format

We propose a half-day virtual workshop for approximately 20–25 participants, including organizers. While celebratory technology benefits from relationship-building and collaborative discussion, a virtual format broadens participation across geographic regions and reduces barriers for neurodivergent researchers, practitioners, self-advocates, and community members. The workshop emphasizes active participation through small-group discussions, collaborative design activities, and shared synthesis.

3 Workshop Activities

The workshop is structured around a progression from reflection, to reframing, to future directions.

Welcome and Shared Language. Organizers will begin by presenting several themes that emerged across participants' position papers, providing a shared starting point for discussion. The workshop will begin with introductions and collaborative activities designed to establish a shared language around celebratory technology. Participants will be invited to reflect on technology experiences that affirmed or diminished their sense of identity. Organizers will introduce the ecosystem of assistive, accessible, inclusive, and celebratory technologies and facilitate discussion regarding the relationships among these approaches.

Critical Reflection Activity. Participants will build upon the opportunities and unanswered questions identified in the submitted position papers to envision future directions for celebratory technology. Through guided reflection, groups will identify underlying assumptions, deficit-oriented framings, and opportunities for more celebratory approaches.

Freedom to Be Me Futures Activity. Building upon prior symposium and design sprint work, participants will engage in a collaborative futures activity exploring what technology might look like if its primary purpose were to support the freedom of neurodivergent individuals to be themselves. Participants will generate concepts, identify design opportunities, and discuss possible implementation challenges.

Collective Synthesis. The workshop will conclude by synthesizing insights from both the position papers and collaborative activities to identify emerging design principles, methodological considerations, and future research priorities. Organizers will use these materials to develop a post-workshop community report shared with participants.

4 Expected Outcomes

Participants will collaboratively develop: an initial vocabulary for celebratory technology, a set of emerging design principles, priority research questions, methodological recommendations for future studies, and a community roadmap that will serve as the basis for a post-workshop report and future collaborations.

5 Diversity and Inclusion Considerations

Diversity, inclusion, and accessibility are central to both the topic and the design of this workshop.

The workshop will actively seek participation from researchers, practitioners, advocates and members of the neurodivergent community representing a range of disciplines, career stages, identities, geographic regions, and lived experiences. Organizers will conduct outreach through accessibility, disability studies, neurodiversity, and HCI communities to encourage broad participation.

The workshop will incorporate accessibility-focused facilitation practices including clear agendas, structured transitions, multimodal participation options, collaborative note-taking, captioning support when available, and opportunities for participation through written, verbal, and visual formats.

Workshop activities will emphasize psychological safety, respect for lived experience, and community-centered discussion. Participants will be encouraged to engage at their own comfort level and contribute in ways that best support their participation needs.

6 Organizers

The organizing team brings expertise across Human-Computer Interaction, accessibility, disability studies, participatory design, neurodiversity research, workplace inclusion, and critical approaches to technology design. More than half of the authors identify as neurodivergent.

- **LouAnne Boyd** — Dr. Boyd is an Associate Professor and Assistant Dean at Chapman University. Her research explores sensory-first and neuro-inclusive design, aiming to create technology that is accessible and beneficial for all users. Dr. Boyd introduced the Celebratory Technology for Neurodiversity paradigm in 2023, which highlights the strengths and unique perspectives of neurodiverse individuals in tech design.
- **Annuska Zolyomi** — Dr. Zolyomi is an Assistant Professor with a Ph.D. in Information Science from the University of Washington, awarded in 2021. With a background as a user experience expert in the technology industry and academia, Dr. Zolyomi brings a wealth of user-centered design, accessible technology, and socio-technical collaboration. Dr. Zolyomi employs participatory design approaches to collaboratively envision how technology can enhance communication, foster social connections, and promote self-agency.
- **Rua M. Williams** — Dr. Williams is an Assistant Professor in User Experience Design at Purdue University and PI of the CoLiberation Lab. As a former SSRC Just Tech Fellow (2022-2024), Dr. Williams’s work explores how disabled people imagine and build their own sociotechnical worlds, often in spite of and orthogonal to existing structures of bias, stigma, and exclusion. They also investigate how issues in technology policy and research practice interact to disrupt disabled people’s bodily autonomy and access to meaningful public life.
- **Andrew Begel** — Dr. Begel is an Associate Professor of Computer Science in the Software and Societal Systems Department at Carnegie Mellon University, where he is also affiliated with the Human-Computer Interaction Institute. Additionally, he serves as an Affiliate Professor at the Information School at the University of Washington. He leads the VariAbility Lab, which is dedicated to creating inclusive workplaces where disabled and neurodivergent individuals can succeed without discrimination.
- **Nick Dalton** — Dr. Dalton is an Associate Professor of Computing at Northumbria University, specializing in human-computer interaction. His work explores the relationship between people, technology, cognition, and space. His 2013 paper “Neurodiversity and HCI” was an early argument for designing interactive systems around cognitive difference, rather than around an assumed “normal” user.

7 Website

A workshop website will be maintained to provide workshop information, accessibility details, organizer biographies, timelines, participant resources, and accepted workshop materials.

URL: <https://celebrating-neurodiversity.github.io/index.html>

8 Pre-Workshop Plans

To support community-building prior to the workshop, organizers will distribute a Call for Participation through professional networks spanning accessibility, HCI, disability studies, neurodiversity research, and advocacy communities.

9 Call for Participation

Prior to the workshop, participants will submit a 3–5 page position paper describing their perspective, ongoing work, design experiences, or open questions related to celebratory technology and neurodiversity. We view these submissions as invitations into conversation rather than finished arguments. Organizers will review submissions in advance to identify recurring themes, methodological approaches, tensions, and emerging research questions. These themes will directly inform breakout group composition, discussion prompts, and workshop activities, ensuring that participant contributions shape the workshop agenda. Following the workshop, organizers will synthesize both the position papers and workshop discussions into a community report summarizing emerging design principles, research priorities, and opportunities for future collaboration.

10 Attendee Selection

Selection will prioritize assembling a diverse and interdisciplinary community rather than evaluating traditional research contributions. We welcome submissions from researchers, practitioners, designers, advocates, and neurodivergent community members representing a wide range of perspectives and experiences.

Accepted participants will receive workshop materials in advance, including accessibility information, discussion prompts, and optional background readings. Organizers will also provide opportunities for participants to introduce themselves and connect prior to the workshop.

References

- [1] Monique Botha, Bridget Dibb, and David M Frost. 2022. "Autism is me": an investigation of how autistic individuals make sense of autism and stigma. *Disability & Society* 37, 3 (2022), 427–453.
- [2] Monique Botha and David M Frost. 2020. Extending the minority stress model to understand mental health problems experienced by the autistic population. *Society and mental health* 10, 1 (2020), 20–34.
- [3] LouAnne Boyd. 2023. Conceptualizing Celebratory Technologies for Neurodiversity to Reduce Social Stigma. In *Proceedings of the 25th International ACM SIGACCESS Conference on Computers and Accessibility*. 1–4.
- [4] Louanne Boyd and Annuska Zolyomi. 2024. Designing Celebratory Technology for Neurodiversity with Neurodivergent Scholars. In *Extended Abstracts of the CHI Conference on Human Factors in Computing Systems*. 1–3.
- [5] LouAnne Boyd, Annuska Zolyomi, Saad Hassan, Seray Seray Ibrahim, Guande Wu, and Kay Kender. 2024. Exploring the "Freedom to be Me" through Design Sprints with Neurodiverse Scholars. In *Proceedings of the 26th International ACM SIGACCESS Conference on Computers and Accessibility*. 1–6.
- [6] Cheryl L Dickter and Joshua A Burk. 2021. The effects of contact and labeling on attitudes towards individuals with autism. *Journal of Autism and Developmental Disorders* 51, 11 (2021), 3929–3936.
- [7] Danny Dunn, Jay D de la Garza, Desiree R Jones, and Noah J Sasson. 2023. Awkward but so what: Differences in social trait preferences between autistic and non-autistic adults. *Neurodiversity* 1 (2023), 27546330231203833.
- [8] Hasan Shahid Ferdous, Frank Vetere, Hilary Davis, Bernd Ploderer, Kenton O'hara, Rob Comber, and Jeremy Farr-Wharton. 2017. Celebratory technology to orchestrate the sharing of devices and stories during family mealtimes. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*. 6960–6972.
- [9] Andrea Grimes and Richard Harper. 2008. Celebratory technology: new directions for food research in HCI. In *Proceedings of the SIGCHI conference on human factors in computing systems*. 467–476.
- [10] Jan Grue. 2016. The problem with inspiration porn: A tentative definition and a provisional critique. *Disability & Society* 31, 6 (2016), 838–849.
- [11] Jennifer Mankoff, Gillian R Hayes, and Devra Kasnitz. 2010. Disability studies as a source of critical inquiry for the field of assistive technology. In *Proceedings of the 12th international ACM SIGACCESS conference on Computers and accessibility*. 3–10.
- [12] Ingunn Moser. 2017. Disability and the promises of technology: Technology, subjectivity and embodiment within an order of the normal. In *Disability, Space, Architecture: A Reader*. Routledge, 227–234.

- [13] Sandy Thompson-Hodgetts, Jacalyn Ryan, Emily Coombs, Heather M Brown, Adrian Xavier, Christina Devlin, Austin Lee, Adam Kedmy, and Anne Borden. 2023. Toward understanding and enhancing self-determination: A qualitative exploration with autistic adults without co-occurring intellectual disability. *Frontiers in Psychiatry* 14 (2023), 1250391.
- [14] Rua Mae Williams, LouAnne Boyd, and Juan E Gilbert. 2023. Counterventions: a reparative reflection on interventionist HCI. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems*. 1–11.
- [15] Annuska Zolyomi, LouAnne Boyd, Mizuko Ito, and Ayumi Oishi. 2025. Exploring HCI Neurodiversity Research in Japan: Lessons Learned in Cross-Cultural Relationship Building and Community-Based Research. *Interactions* 33, 1 (2025), 9–11.