IDC '23 Workshop Position Statement

Participatory Approaches to the Ethics of Emerging Technologies for Children

Teaching, researching, and writing about ethical issues related to children's digital experiences

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In this position statement, I address my motivation for participating in the workshop, what I bring to the workshop, and what I am hoping to get out of my participation.

CCS CONCEPTS • **Human-centered computing**

Additional Keywords and Phrases: ethical issues, child-computer interaction, participatory design

1 POSITION STATEMENT

In both my research and university teaching, I frequently encounter and address ethical issues surrounding the design and dissemination of emerging technologies for children and adolescents. I regularly draw on participatory approaches in research involving the design of technology experiences that support young people's learning, development, and well-being. I would like to participate in this IDC workshop because I am excited to (1) learn from other researchers and stakeholders about the work they are doing in this area, (2) share my work with others, and (3) contribute to building a community of researchers and stakeholders who are concerned with the ethics of emerging technologies for children. With respect to what I would like to get out of the workshop, I am hoping to (1) meet new people who are interested in this topic, (2) reconnect with those I already know and learn about their latest work, and (3) explore potential research collaborations. In the remainder of this position statement, I describe some of my research and teaching that address the workshop topic with the purpose of demonstrating what I can contribute to this workshop.

1.1 Teaching

In 2021, I developed a doctoral-level course on Child-Computer Interaction. The course focuses on research related to the design of interactive technologies for and with children; the various ways children use interactive technologies; and the impact of children's technology-related experiences on their health, well-being, learning, and other key aspects of child

development. Focal questions guiding the course include: How do children of different ages, abilities, and interests engage with and make sense of their experiences with interactive technologies? What role do development factors, family context, peers, school, and socio-cultural influences play in shaping these experiences? How should designers approach the design of interactive technologies for children? How should researchers approach the study of children's use of new and emerging technologies?

Throughout the course, we consider ethical issues associated with the design of new technologies for children, but there is one week that we devote entirely to this topic. Drawing on Van Mechelen et al. [8], we reflect on how the field of CCI has approached ethics in the context of research involving new and emerging technologies for children. In addition, we read Antle's [1] paper exploring the ethics of doing research with vulnerable populations, and Walsh's [9] paper that surfaces equity considerations in co-design with children.

1.2 Research

Much of my work involves working with youth of various ages in co-designing technology experiences that support learning, development, and well-being. For instance, my research group's Digital Badges for STEM Education project co-designing a digital badge platform with high school students participating in an out-of-school science program at Seattle's Pacific Science Center. In Pitt et al. [7], we considered the power dynamics involved in bringing researchers, program staff, and teens together in co-design work and how these dynamics impacted youth's participation and, ultimately, the design of the badge system. In Pitt et al. [6], we explored the ethical issues that arise when teens' disparate social contexts inadvertently collide in online spaces and how design can be used to address such context collapse.

In another project, our research group created *NatureCollections*, a mobile app that engages children in playful, social, and interest-driven outdoor exploration. NatureCollections encourages children to go outside to take photographs of nature, classify the plants, bugs, and animals in their photos, and organize them into photo collections based on their species (e.g., insects and mammals). We worked with UW KidsTeam in the design and development of the app. Through this co-design work, we developed an interest-centered design framework for mobile technologies to promote children's interest in nature [3]. Our field deployments revealed that NatureCollections supports children's nature-based explorations in a variety of settings, including school [5] and family contexts [4].

In an ongoing project, we worked with groups of teens to design *Locus*, mobile application that shapes adolescents' entry experiences into the social media apps on their phones by prompting them to reflect on their social media intentions before they open an app and at the end of the day [3]. In designing Locus, we combined psychology theories—to identify design targets—with co-design approaches—to design around these targets for youth's lived experiences. Following co-design work with nine teens (M_{age}=15.7 years), we conducted an open trial field deployment ($N = 54$; M_{age}=16.2 years) to explore how Locus was used and experienced by adolescents during their daily lives. Results provide preliminary evidence that in-the-moment interventions for self-regulation skills can support adolescents' intentional social media use.

I would be delighted to draw on any and all of these projects during the workshop in an effort to bring in concrete examples pertaining to the ethics of co-designing technologies with and for youth.

1.3 Technology's Child

I recently published a book called *Technology's Child: Digital Media's Role in the Ages and Stages of Growing Up* [2]. *Technology's Child* examines technology's role in the full arc of child development, from early childhood to emerging adulthood. Drawing on my work in developmental science and human-computer interaction, I explore what happens when

child development and technology design interact and how this interaction is complicated by children's individual characteristics as well as social and cultural contexts.

In the final chapter of the book, I present a child-centered design framework that addresses ethical dimensions associated with the design of new technologies for children and adolescents. The properties associated with the framework include: (1) prioritizing self-paced, flexible interactions over system-paced, closed-ended ones; (2) designs that enable shared experiences with meaningful people in children's lies; (3) consideration of the range of cognitive and physical abilities that children bring to their digital experiences; (4) drawing on research evidence to identify common developmental vulnerabilities of children at different stages of development; (5) providing opportunities for a broad range of youth to engage meaningfully in a digital experience; (6) involving children and the members of their communities in the design process; (7) avoiding dark patterns in design; and (8) surfacing high-quality digital content rather than placing the burden on users (particularly parents) to search for and identify it on their own.

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