

Children, XR Ethics, and Research Ethics

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ABSTRACT

As members of the XR for Youth Ethics Consortium we would like to participate in this workshop to contribute our experiences in four research activities related to the workshop's topic, as well as learn from others' experiences. The four research activities include participatory sessions with adults and children on the ethics of extended reality (XR) technologies for children, participatory sessions with adults on the ethics of research studies where children use XR technologies, and an ongoing systematic review of ethical practices in previous studies where children used XR technologies.

CCS CONCEPTS

•Human-centered computing~Human computer interaction (HCI)
•Social and professional topics~User characteristics~Age~Children

KEYWORDS

Children, extended reality, virtual reality, augmented reality, smart glasses, ethics.

1 Why We Want to Participate

At the University of Iowa, we are one of six sites that are part of the XR for Youth Research Consortium [3], which aims to develop foundational ethical principles for conducting research with youth for extended reality (XR) technologies. Our focus at Iowa has been on incorporating perspectives from rural stakeholders (e.g., parents, professionals who work with children), as well as stakeholders who are parents or who work with younger children (as young as 2 years old). By the time the workshop meets, the three of us would have been engaged in consortium research for 1-2 years each.

The workshop will be an opportunity to share findings from our research activities on this topic with other members of the XR for Youth Consortium, but also with others interested in ethics, XR, and emerging technologies. We are also interested in others'

experiences, both in terms of findings, as well as in terms of methods used. Workshops can often surface useful information that may not make it to formal publications, but can be of great help in planning future research.

2 What We Can Contribute

So far, we have completed three lines of research with respect to ethics, children, and XR, which we can contribute during the workshop. We are also working on a fourth line of research.

The first was featured in an IDC 2024 paper [1] and involved 24 participatory sessions with adult stakeholders to understand their ethical perspectives with respect to children's potential use of XR devices. Those activities yielded some findings that involved concerns similar to those regarding other technologies, including privacy and safety, managing content, and developmental impacts [1]. It also included other findings that were more specific to XR, including balancing XR and reality, issues surrounding the emerging nature of XR with respect to children, and contextual aspects [1].

The second involved four sessions with 3-5-year-old children using play-based design methods [2] to understand how they would like to use smart glasses. In these activities, children experienced stories that set them up to role play with glass frames (no technology) such that they pretended to see things that were not physically present. The participating children were very imaginative. Some highlights of their preferences involved having group perceptions (i.e., if two people are wearing smart glasses they see the same virtual content), while sometimes preferring content to be private.

The third project was similar to the first, engaging adult stakeholders over 20 participatory sessions, but this time with the goal of discussing ethical aspects of research involving children and XR devices. Highlights of these sessions included the great importance stakeholders gave to the social purpose of the research, concerns about side effects, interest in innovative forms of consent and assent, and serious apprehension about certain types of data collection and processing.

The fourth project, which is ongoing, involves conducting a systematic review of the literature on ethical practices in research in which children use XR devices. We are currently working through more than 600 publications and checking them against inclusion and exclusion criteria. Our goal is to then extract approaches to ethics in the literature to better understand current practices and opportunities for improvements, in particular by

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contrasting stakeholders' perspectives from our third project with current research practices.

3 What We Want to Get Out of the Workshop

We have a strong interest in learning about what others are doing in the space of XR and children, in particular with respect to ethics. Within this interest, we are keen to learn about methods used in XR research with children, any additional ethical considerations that are specific to XR or children, and any outcomes of this research, from ethical perspectives to applications.

We would also like to learn about these outcomes to develop a set of ethical principles that can guide future research involving XR devices and children.

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