Beyond the End User: Diversifying Co-Design to Address Ethics in Children's Mixed Reality

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ABSTRACT

Traditional co-design opts to engage participants who will most likely be end-users of the final product. As this rule applies to child-based technologies, it creates a blind spot where the level of awareness for ethical implications is limited due to the co-designer's age and/or experience. Thus, our research team has embarked on a mission to buck traditional co-designing experience for new mixed reality technologies by focusing on adults that can act as proxies for children and caregivers as a method for ensuring inclusivity across design, implementation, and progressive societal integration. Our concept of diversity extends beyond characteristics of the intended child users to also include considerations of individuals who are likely to experience the benefits and challenges of mixed reality technologies by their close approximation to the user.

KEYWORDS

Co-Design, Mixed reality, Proxy participants, Design ethics

Context and Importance

Aligned with the Interaction Design and Children Conference 2025 theme of hope for a better future, our team envisions more ethically designed technologies, especially as they concern potential implications for child development. The research that informs our position is based on an empirical study conducted to better understand adult perceptions of ethical implications with children's use of mixed reality. We believe that our findings should be shared to offer additional methods and techniques supporting interaction design for and with children, and to inspire ethical solutions for integrating mixed reality technologies into education.

Challenges and Open Questions

Because our research was designed to enlighten the perspectives of co-design, we did not work directly with children. The exclusion of children from our study was intentional but not without consequence; our research did not provide insights around child perceptions of the ethical implications of mixed reality use. Although age and experience may provide a limited worldview, they do not negate children's ability to identify unique ethical concerns or prioritize them according to perceived impact. This missed perspective raises an important question: how do adult and child perceptions differ when it comes to the ethical implications of mixed reality use?

This presents a broader challenge for the IDC community: to better understand the feelings and experiences mixed reality may incite in children and in those who are responsible for their care. Participation in the upcoming IDC workshop offers an opportunity to engage with researchers who have likely explored the mixed reality concerns of children through traditional co-design and/or have studied the direct effects of mixed reality on child users. Ideally, the exchange of information would lead to more enlightened perspectives that foster conscientious innovation.

Our contribution in the workshop will be realized with our case study of non-intergenerational co-design (with 18-24 year olds acting as proxies) techniques, our unique and diverse participants, and our scalable approach to qualitative human-computer research. As attendees, our team hopes to connect with other researchers who have experience in ethics and new technologies as well as those that have a difficult time working with their institutions on institutional review boards that are adverse to child-computer interaction research.

Conclusion

Our work argues for a broader, more inclusive approach to co-design in children's mixed reality technologies—one that incorporates peripheral perspectives to better anticipate ethical implications. While traditional child-centered design remains crucial, expanding the range of voices during co-design can surface unseen challenges and promote more responsible innovation. We urge the IDC community to consider expanding the voices included in co-design to ensure new mixed reality technologies for children are not only innovative but also responsibly integrated into society.