Towards Designing a Transparent and Child-Understandable EULA Simplification Tool for XR Applications

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Abstract

This position statement outlines my current research on ethical and child-centered design for Extended Reality (XR) technologies, particularly focusing on improving transparency in End User License Agreements (EULAs) for children. I discuss why I am interested in participating in the IDC 2025 Workshop, what I can contribute in terms of ongoing research, and what I hope to gain from this opportunity. My thesis explores the development of a transparent and child-understandable EULA simplification tool using participatory design with children, aiming to address privacy, data ethics, and accessibility in XR environments.

CCS Concepts

• Human-centered computing \rightarrow Usability testing; Virtual reality.

Keywords

Extended Reality, Children, EULA, Privacy, Participatory Design, Usability, XR Ethics

ACM Reference Format:

1 Introduction

Augmented, virtual, and mixed reality systems – collectively referred to as Extended Reality (XR) – have become increasingly popular among children due to their immersive and engaging experiences [5, 6]. These technologies provide valuable opportunities for learning, creativity, and entertainment. However, their growing appeal also presents significant risks, such as privacy concerns and data exploitation [4]. These technologies can track users and passersby by capturing behavioral data, actions, and surroundings, which, if not properly managed, can lead to vulnerabilities such as privacy violations, exploitation of behavioral data for targeted advertising, and identity theft [1]. These privacy concerns,

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© 2018 Copyright held by the owner/author(s). Publication rights licensed to ACM. ACM ISBN 978-1-4503-XXXX-X/2018/06 https://doi.org/XXXXXXXXXXXXXXX along with other critical information, are typically communicated to users through text-based documents [1] known as End User License Agreements (EULAs). Although EULAs serve as the primary framework that governs the use of such technologies, they are often criticized for their inefficacy due to low user engagement, complex legal language, lack of transparency, and placement in obscure sections of websites [2, 3]. The popularization of these technologies leaves open questions as to how these technologies may impact children and families and how important it is to maintain a high level of transparency in the positive and negative aspects of these technologies with regards to the kinds of information and interactions they enable.

In order to explore potential solutions to this gap, I am conducting thesis research on the design of a transparent & child-understandable EULA Simplification Tool tailored for XR applications, which will be created through direct input from children.



Figure 1: Child and graduate student co-designing XR content focused on EULA comprehension

2 Position Statement

My thesis research takes a participatory approach, involving children directly in the co-design of a simplified EULA tool for XR applications. By combining readability assessments, stakeholder interviews, and insights from co-design sessions, the research aims to re-imagine how legal and privacy-related information can be communicated to children in immersive environments. The goal

is to create an appropriate tool that supports informed decisionmaking, enhances transparency, and addresses ethical concerns surrounding data collection and consent in XR.

The IDC 2025 workshop aligns with my research interests as it brings together researchers studying the ethical challenges and opportunities XR presents for children. I believe participating in this workshop will offer valuable discourse, help refine my ideas, and connect me with a supportive community working on related themes

I bring an in-progress thesis titled 'Designing a Transparent and Child-Understandable EULA Simplification Tool for XR Applications' to the workshop. My work combines readability analysis, stakeholder interviews with parents and children, XR usability testing, and participatory design with children. I also bring an experience working with children in an intergenerational co-design team setting, where I've facilitated collaborative design sessions to gather insights directly from young users. Through this research, I aim to develop a prototype tool that helps children understand the implications of XR EULAs. I can share preliminary findings about the readability of XR EULAs, children's experiences reading in XR environments, and insights from co-design sessions. I hope these contributions can spark discussions on policy transparency, ethical risk communication, and child-centered design in XR. I hope to engage in discussions that critically examine the assumptions and design norms of XR technologies for children, especially as they pertain to ethics and data practices. I am particularly interested in hearing others' experiences designing for and with children,

navigating institutional challenges (e.g., industry constraints), and exploring how co-design methods are being adapted in XR. I would love feedback on my current design process and to explore opportunities for collaboration with other researchers working on transparency, privacy, and safety in XR.

3 Acknowledgments

<To be added based on acceptance and approval from funder.>

References

- [1] Melvin Abraham, Pejman Saeghe, Mark Mcgill, and Mohamed Khamis. 2022. Implications of XR on Privacy, Security and Behaviour: Insights from Experts. In Nordic Human-Computer Interaction Conference (Aarhus, Denmark) (NordiCHI '22). Association for Computing Machinery, New York, NY, USA, Article 30, 12 pages. doi:10.1145/3546155.3546691
- [2] Thomas D. Grace, Ian Larson, and Katie Salen. 2022. Policies of Misconduct: A Content Analysis of Codes of Conduct for Online Multiplayer Games. Proc. ACM Hum.-Comput. Interact. 6, CHI PLAY, Article 250 (Oct. 2022), 23 pages. doi:10.1145/ 3540513
- [3] Ewa Luger, Stuart Moran, and Tom Rodden. 2013. Consent for all: revealing the hidden complexity of terms and conditions. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (Paris, France) (CHI '13). Association for Computing Machinery, New York, NY, USA, 2687–2696. doi:10.1145/2470654. 2481371
- [4] Summer Schmuecker, Juan Pablo Hourcade, Meryl Alper, Jerry Alan Fails, Saba Kawas, and Svetlana Yarosh. 2024. Democratizing the Ethics of Emerging Technologies for Children. *Interactions* 31, 5 (Aug. 2024), 32–37. doi:10.1145/3686703
- [5] WeProtect Global Alliance. 2023. The emergence of Extended Reality (XR) technologies. https://www.weprotect.org/thematic/extended-reality/ Accessed: 2025-01-29.
- [6] Julie Williamson. 2024. Being Social in XR. In Companion Proceedings of the 16th ACM SIGCHI Symposium on Engineering Interactive Computing Systems (Cagliari, Italy) (EICS '24 Companion). Association for Computing Machinery, New York, NY, USA, 1–2. doi:10.1145/3660515.3661322