Identity in New Realities: Future Trajectories for Forming Identities and Social Lives in Extended Realities

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Abstract

The metaverse and extended reality (XR) environments are becoming increasingly prominent in everyday life, catalyzed by investments from major companies like Apple, Meta, and Google. These immersive environments offer new platforms for interaction, particularly through games and play, which provide unique opportunities for identity formation and expression. This panel explores the complex dynamics of digital identity in XR, focusing on how users create and navigate identities within gaming contexts. It addresses key questions about the overlap and discrepancies between real and virtual identities, the tools and technologies that facilitate identity expression, and the new modalities of emotional and psychological engagement in XR. Featuring experts from industry and academia, the discussion aims to bridge the gap between traditional social media and immersive XR experiences, providing insights into the future of digital identity. The panel will delve into how companies not traditionally involved in gaming can leverage gaming principles to enhance identity formation and communication in the metaverse. Attendees will gain a deeper understanding of identity dynamics in XR, practical insights for designing inclusive environments, and opportunities for networking and further research.

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CCS Concepts

• **Human-centered computing** → **Virtual reality**; **Mixed / augmented reality**; **Interactive systems and tools**.

Keywords

Identity, Virtual Reality, Augmented Reality, Extended Reality, Avatar, Wearables, Fashion

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1 Introduction

Metaverse and extended reality (XR) environments are rapidly becoming accessible to every day users, especially following significant investments and iniatives by major companies such as Meta, Google or Apple. These environments provide users with a novel sense of reality, offering platforms that exist in alternate dimensions where individuals can engage with each other's virtual avatars and perform various activities.

In these virtual worlds, users have a plethora of options to represent themselves. Some choose to create avatars that closely resemble their real-life selves, while others opt for entirely different or fantastical representations [4]. This raises numerous questions about

the formation of identity in digital and online spaces, especially within the context of play and gaming.

Alternative identities have long been a part of digital environments, as social media accounts serve as interfaces between individuals' real and digital selves [17]. However, XR introduces new modalities and profound implications for existing within these immersive realities. Full body avatars that can mimic user's movements, sounds, and gestures are commonly used in XR environments [9] which is a significant departure from traditional social media platforms. Moreover, while social media generally presents a filtered version of reality, there remains a substantial overlap between online representations and real-life identities, e.g., online representaions being the "ideal" offline identities users would like to have, or overlap between online and offline friends [13, 18]. In contrast, the metaverse can facilitate complete concealment of one's real identity, encouraging and facilitating the creation of new personas deeply integrated into gaming and playful contexts.

Games, both analog and digital, have historically provided people with the opportunity to claim different identities [16]. Games allow individuals to imagine themselves in different realities and act through their characters, offering abilities and experiences not possible in real life. While games within the metaverse, like those on platforms such as VRChat [10], Roblox [G2], or Horizon Worlds [G3], enable flexible communication and interaction among many users, it is still less common to see games akin to World of Warcraft [G1] that promise vast environments for longitudinal social interaction.

The transformative potential of XR for identity forming and social interaction brings forward numerous questions: How are identities expressed and formed in XR, particularly through play? How do these virtual identities overlap with or diverge from real-life identities? What tools and technologies can bridge the gap between real and virtual identities? How can emotions and identities be conveyed from reality to the metaverse, and what new forms of identity expression might emerge in these digital play spaces?

As the metaverse becomes increasingly accessible, these questions will grow in importance. This panel aims to explore these issues with experts from leading companies, entrepreneurs, researcher and R&D leaders with a special focus on understanding what we can learn from games and play in shaping digital identities in XR. More importantly, the discussion will address how companies not traditionally involved in gaming, such as Meta and Google, can learn from games and play to facilitate identity formation and communication in extended realities.

2 Panel Objectives

(1) **Examine Identity Formation in XR**: Explore how identities are formed and expressed in metaverse and XR environments and what we can learn from games and play.
(2) **Analyze Overlap, Discrepancies and Challenges**: Investigate the overlap between real-life and virtual identities, the potential discrepancies, challenges and implications of those.
(3) **Identify Tools and Technologies**: Discuss tools and technologies that can help bridge identity gaps between real and virtual worlds, particularly playful technologies.
(4) **Explore New Expressions of Identity**: Consider new ways of expressing and forming identities in XR play spaces compared to real life, and discuss emotional and psychological aspects.

3 Panelists

Ella Dagan. **User Experience Researcher at Google**: Ella Dagan is a wonderer. She questions perceptions and perspectives as these influence our human experience and connection with each other. Ella earned a PhD in Computational Media from University of California Santa Cruz where she investigated social wearables. While at Snap and Niantic Labs, Ella researched opportunities for in-person social connection with mobile-AR experiences. Previously, Ella earned a Master's degree in Interactive Telecommunications from New York University, and worked several years as a fashion designer. Together with Oz Buruk and colleagues, Ella co-authored a book on Playful Wearables (MIT 2024). Now at Google, Ella's research focus is on inclusive UX.

Bendikt Morschheuser. **Assistant Professor at Friedrich-Alexander-Universität Erlangen-Nürnberg**: Benedikt Morschheuser is a researcher focusing on the convergence of gaming and everyday life. His research particularly focuses on designing gamified information systems and understanding the psychological and behavioral outcomes of gameful design. Further, he studies emerging trends in the gaming industry (e.g., AR/VR, metaverse, virtual goods) and advances our understanding of the increasing penetration of technology, economy, and everyday life with digital games. With his research, he aims to enable people and organizations to use gameful technologies to overcome urgent challenges in business and society.

Ansgar Depping. **User Researcher at Meta**: Ansgar Depping is a User Researcher at Meta. His work focuses on technology mediated social connection on WhatsApp. He is interested in helping users build and maintain fulfilling social ties online.

Santeri Saarinen. **R&D Lead / Technology Specialist at Metropolia University of Applied Sciences / Helsinki XR Center**: Santeri Saarinen is an XR technology specialist in Metropolia UAS's RDI Unit and the R&D Lead of Helsinki XR Center. Santeri received a Master's degree in Interactive Technology from University of Tampere, and worked there as a researcher in Tampere Unit for Computer-Human Interaction for six years before moving to Metropolia in 2017. Santeri has extensive experience in VR, AR and MR technologies, game and mobile application development, gesture and speech interaction and user experience design. Santeri also works as an expert reviewer for EU Commission's Horizon Europe and Creative Europe research projects. He is a member for XR4Europe's board of directors, and on the advisory board for Finnish National Metaverse Strategy development and FIVR's academic advisory board.

Emma Varjo. **Design Manager at Redhill Games, Co-founder of Bitmagic**: Emma Varjo is a designer with a passion for experiences. In her career she has explored and improved the experience of games, game developers, doctors and hospital staff, bank tellers,

and others. For example, Bitmagic, the company she co-founded, is focused on making game creation fast and accessible to everyone.

Shiva Jabari. **Doctoral Researcher and Business Champion at Tampere University, VirtuFashion Project**: Shiva Jabari is a doctoral researcher at the Gamification Group at Tampere University. As a Fashion-Tech designer, she is focusing on creating playful and fashionable wearable designs that can connect the physical and virtual worlds. Presently, she works on VirtuFashion Project, which aims to employ fashionable accessories to bridge the gap between these two realms. Her innovative work blends technology and fashion in order to create interactive designs and transform the way we experience clothing.

4 Moderators

Zampeta Legaki. **Data Analyst at Rovio**: Dr. Nikoletta-Zampeta Legaki is a Data Analyst at Rovio and a Senior Researcher at the Gamification Group, Tampere University. Having successfully completed her post-doctoral research project GANDALF (Marie Sklodowska Curie IF 840809) on gamification and datafication to improve public understanding of data, she is fostering her expertise in data analytics, reporting, and statistical analysis in the gaming industry. Dr. Legaki continues her academic research, and her research interests include gamification, game-based learning, human-computer interaction, interactive data visualizations, Sustainable Development Goals, time series and business forecasting, machine learning, and educational methods in teaching forecasting and statistics.

Mattia Thibault. **Associate Professor at Tampere University**: Dr. Mattia Thibault is an Associate Professor in Translation in the Creative Industries at Tampere University and has a PhD in Semiotics and Media (Turin University). His research interests include semiotics and translation, extended realities, speculative research, and playfulness in the built environment (real and digital). He is the leader of the research group InterReality which focuses on the relations between different virtual spaces (and their inhabitants) and their connections with the "real" world.

5 Discussion Topics

(1) **Diverse Identity Representation in Play**: *How do users choose to represent themselves in the metaverse during gaming and playful interactions, and what factors influence these choices?*
Extended Reality (XR) environments offer unique opportunities for self-expression that go beyond traditional methods like facial expressions or emojis. In these immersive spaces, users can employ unconventional and novel ways to convey their emotions and identities. For instance, a user's avatar might shine when they are excited [2], or they could use non-human features, such as animal ears, to express themselves [6]. The possibilities for self-expression can be further expanded with peripherals like wearables, allowing for a wide range of creative expressions. However, the scenarios in which users might prefer these more natural or novel forms of expression are not well understood. This panel will explore the factors influencing users' choices in these contexts and discuss the potential for further research into these innovative modes of self-expression.

(2) **Identity and Reality in Gaming**: *What are the implications of overlapping or diverging identities between real life and XR gaming environments?*
Previous studies suggest that maintaining multiple identities in alternative realities can lead to discrepancies among these different identities, spanning various virtual environments and real life [1]. The widespread use of extended realities (XR) could have significant societal implications for identity formation in the long term. This panel will explore the likelihood of this becoming a widespread phenomenon and examine how sustaining multiple identities over time might result in diverse lifestyles, opportunities, and potential challenges.

(3) **Technological Tools for Play**: *What technologies can aid in the seamless expression and integration of identities in both real and virtual gaming worlds?*
Apart from extended reality headsets, these virtual environments can be enhanced by other peripherals and devices. Wearables, for instance, are a promising technology that can help individuals seamlessly experience virtual environments [5], providing tactile feedback [12], augmenting their expressions [8], and enhancing their virtual appearances [5]. These devices can also bridge identities across virtual and real worlds, such as through wearables or fashion pieces that have both physical and virtual representations. Additionally, environmental peripherals like smart home systems can be integrated into extended realities [11], further enriching the immersive experience. Ongoing work on identity and self-expression in virtual reality underscores the need for continued discussions to understand, envision, and develop new technologies that support these aspects.

(4) **Emotional Expression through Play**: *How can emotions be authentically expressed in the metaverse during play, and what new forms might emerge?*
Extended Reality (XR) environments have inherently playful affordances. Similar to games, they immerse users in virtual environments, and most of the current control mechanisms were derived from gaming devices such as game controllers and joysticks. Also, games have been one of the driving forces of XR research and development. Regarding self-expression, social interaction, and identity formation, games offer valuable insights through common practices such as role-playing [3], character creation [14], and customization [15], as well as various systems that foster connections among players. These range from simple mechanisms, like signs and sounds in games such as Journey [G4], to sophisticated communication and interaction systems in MMORPGs like World of Warcraft [G1]. Exploring how the field of games and play can support the development of new methods for social presence, self-expression, and identity in XR is a promising topic for discussion.

6 Expected Outcomes

(1) **Enhanced Understanding**: Attendees will gain a deeper understanding of identity formation and expression in XR environments, particularly through games and play.
(2) **Research Directions**: Identification of key research areas and questions for further investigation in the context of playful interactions.
(3) **Practical Insights**: Practical insights for developers and designers on creating more inclusive and representative XR gaming environments.
(4) **Networking Opportunities**: Opportunities for attendees to connect with experts and peers in the field.

7 Conclusion

The panel will provide a comprehensive exploration of identity in the metaverse and XR environments, addressing the challenges and opportunities these technologies present, with a specific focus on games and play. By bringing together experts from industry, we aim to foster a deeper understanding, have a glance into industry's perspective and drive future research and innovation in this rapidly evolving field.

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