RESEARCH THEME

XXXIX cycle – a.y. 2023/2024

Title of the doctoral research	Avatars and human digital twins: exploring the multiple opportunities and folds of digital personal representations in real world and the Metaverses
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Abstract

Virtual worlds allow for immersive interactions and collaboration, evolving from virtual reality and the internet. Their development can transform how we work, socialize, and live our lives, offering benefits in increased social connection, collaboration, health care, education, training, entertainment, and economic opportunities. Avatars are digital representations of users; they can be customized to reflect their identity, appearance, personality, and preferences. Avatars can also reflect the creative interpretation of personal identity, allowing users to express themselves and explore experiences in the virtual world outside of the boundaries of physical resemblance. Human digital twins are based on data collection and mathematical modeling of personal characteristics; they have multiple potential applications, from the tailored production of products to personalized services. However, regardless of the level of realism and the application domain, digital personal representations impact users regarding self-perception and social interactions. Furthermore, concerns exist around the potential for the metaverses to exacerbate existing inequalities and enable harmful behaviours. Thus, it is essential to balance the potential benefits with the risks, investigate the facets of the user experience related to virtual personal representations, and the implications this has for users. The research aims at theoretical and experimental investigations of the topic from a design perspective.

Keywords

Avatar, human digital twin, metaverse, user experience design, digital identity.