



Chapter 6

Exploring New Frontiers: Design Thinking Guidelines for Virtual Built Environments Within the Metaverse


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ABSTRACT

With the emergence of the Metaverse, the concept of the built environment has transformed, presenting architects and designers with both new opportunities and challenges. Unlike physical spaces, the Metaverse offers freedom from physical constraints and provides immersive user experiences. This research explores how design thinking for virtual environments differs from established theories for physical and gaming spaces. It aims to develop a new set of design thinking guidelines for the Metaverse through literature review and one-on-one interviews with architects and designers working in virtual environments. The literature review informs the interview questions to ensure relevance, while the interviews uncover how practitioners approach designing in the Metaverse. Ultimately, this research seeks to bridge the gap between physical and virtual design thinking, ensuring architects remain relevant in the face of advancing technologies by equipping them with tools

DOI: 10.4018/979-8-3373-5278-7.ch006

tailored for designing in the Metaverse.

BACKGROUND

In the midst of the ever-evolving digital age, society is experiencing a profound transformation, transcending the boundaries of the physical world into uncharted territories of the digital realm. One of the most remarkable developments in this digital era is the meteoric rise of the Metaverse, a multifaceted, interconnected virtual universe where people interact, create, socialize, and even engage in economic activities. The development of the Metaverse, already underway before the COVID-19 pandemic, has accelerated exponentially in the wake of the global health crisis. With restrictions on physical interactions and a heightened reliance on digital platforms, the Metaverse has witnessed a surge in users and platforms. An intriguing aspect of this Metaverse development is the emergent trend of commissioning architects to design spaces within the virtual world (Finney. A., 2022).

Finney (2022) has mentioned a fascinating trend of architects being commissioned to design spaces within the virtual world. With the start of this, it could significantly alter how architects design as it challenges the traditional design thinking methods to be adapted towards the Metaverse. The exploration of this evolution of design thinking is paramount due to the diverse qualities between the physical built environment and virtual built environment. The Metaverse's unique qualities that differs from the physical world allows for boundless creative opportunities. Moneta (2020) agrees that the virtual environment requires an in-depth exploration for its own theory and rules due to its distinctive qualities. The influence of the Metaverse can't be avoided with the advancement of technology and time. In order to grow along with time, architects need to learn and design this unprecedented environment which requires a new set of design thinking.

As architects, we have been taught a relatively standardized set of design thinking procedures to follow when initiating the development of a design. Since the start of our architectural journey, we have been taught a fixed process when designing. Factors such as the site's physical characteristics, budgetary constraints, and compliance with building regulations and codes play pivotal roles in shaping the architectural design process. Bielefeld (2013) suggested that architecture design is portrayed as a reaction to the specific context in which it transforms into a tangible reality. It is shaped by ecstatic intuition, active spatial engagement and the transformation of an abstract concept into a tangible material form. In contrast to traditional design approaches for physical places, the ability to design the Metaverse require different methodologies due to their diverse and multifaceted methods of interactivity with the user within a virtual environment. Kim, Lee and Lee, (2017), discussed that

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