



**Politecnico  
di Torino**

## **Honors Thesis**

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### **Master of Science in Architecture Construction City**

#### **Abstract**

The Facebook Connect 2021 conference brought attention to virtual environments, presenting plans for further development of the so-called "Metaverse," a three-dimensional immersive space not associated with any specific physical context, where individuals can transpose their lives and connect with other inhabitants. It is both a place that technically "doesn't exist" today and a frontier of possibilities to explore. Similar to the launch of the pioneer Second Life, companies and professionals have started testing the virtualization of their activities, including architects. Zaha Hadid Architects has created a "cyber-urban" city, a virtual extension of the Free Republic of Liberland. BIG has designed a virtual office for Vice Media Group. Younger studios such as FAR and Spaces DAO specialize in sculpting voxel-based and polygonal spaces.

But how do these "buildings" relate to architectural practice? Are they abstractions or a different dimension of architecture? Starting with the Virtual Home competition organized by Buildner, the thesis "Virtual Interfaces" investigates the elements that mediate between the conception and realization of real and virtual architectural projects, with a particular focus on the application of digital technologies in this field.

The architectural design competition serves as a means to define the experimental nature of design - proving to be a fundamental practice for the exchange and dissemination of new reflections - as well as for understanding the complexity and interconnectedness that characterize architecture. This process begins with the creation of textual or graphic documents, where the latter plays a significant role in transforming a design idea into its corresponding realization. Despite the facilitation of complex form parameterization made possible by new digital tools, which was unthinkable until the 1990s, allowing the breakdown of barriers between

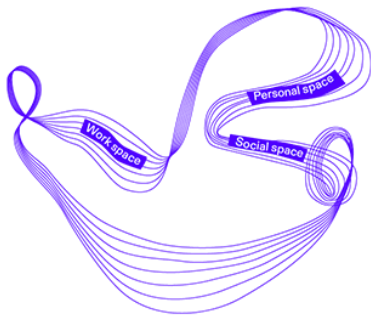
the concept and its materialization, representation still carries a limitation: the estrangement of the project that filters the environmental, social, political, and economic context to which it is destined, becoming an abstraction of itself.



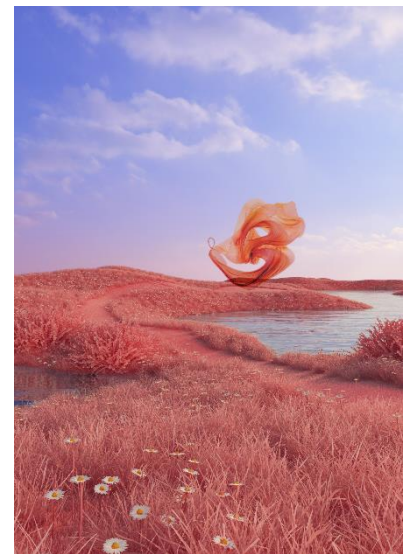
1. Generative design of Moebius's strip from Midjourney

The thesis engages with a design scenario in the Metaverse, where virtual environments, apart from being free from gravitational, physical, and material constraints, can benefit from neural rendering to redefine, firstly, the relationship between architectural practice and innovative digital tools (such as parametric modeling softwares and artificial intelligence), and, secondly, it aims to redefine the limits and progressive redefinitions between architectural artifact, its preliminary ideation, and the context in which it exists. This experimentation has been applied to the design of a dwelling, a symbolic place in both real and virtual life, with a particular focus on its personal and physical-sensory experiential aspect. Through the use of landmarks, unique objects, and natural settings,

efforts have been made to evoke sensations and emotions in person-avatar, aiming to "reterritorialize" another "here", where art can become useful.



2. Distribution of Mind Space



3. External panoramic view of Mind Space

**Title**

**Virtual Interfaces: representing and inhabiting architectures**

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