POLITECNICO DI TORINO

Honors thesis

MASTER COURSE IN

ARCHITECTURE BUILDING CITIES

Abstract

Space. The future is all about communication

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Can Virtual Reality help and enhance design capabilities nowadays available for architects?

To answer this question we decided to project a sacred space, a chapel to be placed on the Preikestolen, a natural context with strong distinctive features.

Turning our sight to the future is a necessary action, especially in our professional sphere, even though it's always better to keep a solid link with the past. Studying and doing research about Norwegian architecture's history and tradition wasn't enough for us, that's why we decided to fly to Norway, as young architects have been doing since the 17th century with the *Grand Tour*. The direct contact with the context allowed us to better understand its implications in the design of the chapel, as well as the crucial relationship between Norwegians and religion, different from the one we are used to in Italy.

The design phase started directly on the site, trying to absorb images and culture while investigating the size and the features of the space at our disposal.

The project started with the creation of several models representing our idea of sacred space. We modelled eight different solutions which have been useful to immediately visualize the suggestions that their forms return. The virtual experience has been a crucial element starting from this very first phase to make a choice between the different options.

The use of the BIM method allowed us to have full control of the geometries from the first 3D sketches to the final design and shape of the portals that compose the chapel through the use of parametric families. The design proceeded with constant cross-checks between the screen and the VR goggles in order to achieve a quality of the designed space, even in its smallest details, suitable to the context and the destination.

Our answer to the initial question is, therefore, a firm 'YES'. Virtual reality has allowed us to enrich the design process with the emotional component in the simulation of space, to materialize and transform the idea *in itinere*, which no method of architectural representation used up to now can even imagine to achieve.

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