The possibilities of digital communication in architecture
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The present generation of planners is facing an epochal change. The computer age is expanding its ramifications to every field, and architecture is no exception. During this dissertation we analyzed the potentialities of computer as a support to communication in the architectural field. Previewing that this *medium* is going to have always greater importance, we thought to analyze how the computer has become part of the architect's work. Particularly, we paid attention to virtual models and their possible uses. The dissertation has been articulated in two parts. In the first part, we analyzed the traditional uses of architectonic models, confronting plastic models with virtual ones. Then we aimed to put in evidence the added values of virtual modelling. The advantages offered from virtual models can be enclosed in two great groups of values: best potential in perception of the architecture and great dynamism.
In these terms, therefore, we interpret the interactivity, the possibility to simulate the superficial aspect of the buildings, the introduction of light as a plan element, the creation of effective communicative productions, the opportunity to differentiate the points of view. These and other merits are joining to those values that, by now, are generally admitted to be advantages of the computer-aided design (precision, possibility to repeat the same operation several times, speed in making changes). Recently, to those advantages, we can add the possibility for every designer to create their own expressive mark, giving a personal and - why not? - artistic touch to their productions. The entertainment area (cinema, advertising, videogames) has played a role of driving-force in the development of these instruments that on the other side used to have, and in part still have, a lot of detractors in the world of architecture. Recently, great investments have been made, finalized to the development of hardware and more user-friendly software.

In the second part of the dissertation, an application case has been developed, on which the method previously outlined has been applied, in order to try the effectiveness of our theory, asserting that digital technologies would really add something to the communication in architectonic field. The choice of the study-case has called for some preliminar esteem: the goal was to illustrate a plan in all its facets, supporting its comprehension, also from part of the less expert observers.
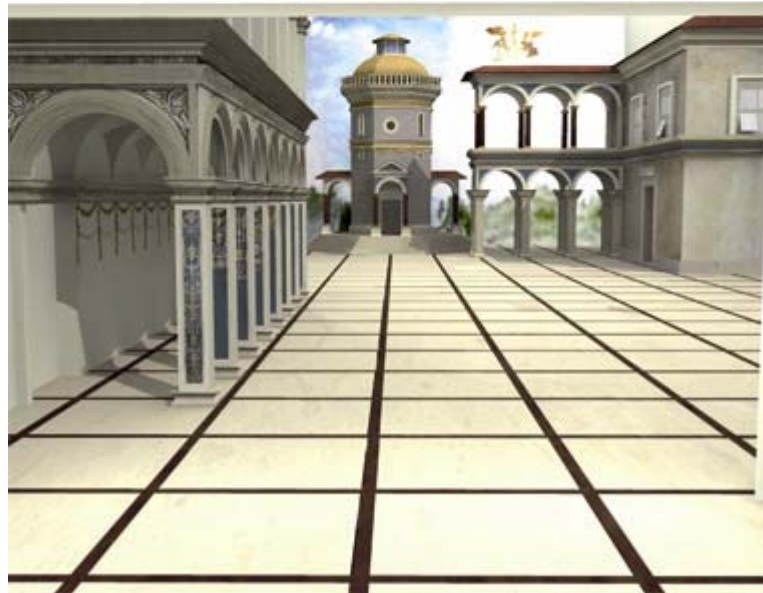
Pinturicchio's fresco and corresponding virtual scene

After several considerations, we chose to represent painted architecture, and particularly some Renaissance experiences. In fact, we noticed that, based on the architectonic painted systems, there was certainly a plan and some interesting and innovative suggestions that acted as a guideline for the architects of following generations. The considered cases, drawn following the principles of perspective, show, on the background, a building with central plan, two lateral curtains of buildings and a modular flooring. Between the examples considered (some of which are very famous, such as the *Vergin's Nuptials* by Raffaello) we chose a fresco by Pinturicchio, *Saint Bernardino's Funeral*. Through a geometric procedure we deduced real dimensions and mutual proportions of painted buildings. Then we modelled the buildings through the digital instruments in our possession. At last, we simulated light conditions and material's aspect, referring to the painting. Finally, we proposed interesting views and made a short video illustrating the scene.

Two different "views" of the scene

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