

New technologies for virtual space design: Augmented reality as a design tool

Today society is under the weight of the immediate and the instantaneous, as a result several sectors are affected and the reign of the new technologies acts strongly. Indeed, through this present communication we are interested in the new models of learning and precisely around new technologies related to architectural design. A conception around invention and design not of real spaces but of virtual spaces; Possible architectural and visitable in immediacy; That today allows the digital revolution. For this kind of design we quote augmented reality¹ (RA). Moreover, among the fields of application that arouse our attention is that of the heritage and more specifically the architectural heritage.

Generally, RA. Has intervened in this sector to promote a local culture and valorize a wealth patrimoniale. This involves increasing the reality of the architectural object by adding information (texts, images, 3D animation, etc.) to a heritage object via a "device"² or a video projector.

It is clear that this RA. Applied to the architectural heritage and the design of virtual spaces offers us an instantaneous spectacle that mixes the real with the virtual and puts us face to a new perception and new reading of the architectural space where the visitor is only a Simple spectator but it becomes actor of its discovery. It is a new way of giving to see the architectural by combining the playful with the utilitarian. This new process of architectural design is taking hold, of a material and immaterial experience and of the history of the places to create a kind of digital trompe l'oeil. It is a possibility of simultaneously seeing the past and the present time also the space of yesterday and the space of today. Here, time contracts, becomes short and visible, while space intensifies and penetrates into the movement of time and history. Around this digital design, we hope to see also how the space-time binomial; Such as Mr. BAKHTIN's chronotopes; Is inseparable from this simulation.

Moreover, through this digital design and RA, the architectural space is modified in real time and unveils a new identity called digital identity. In this new identity, what about the architectural identity system that attaches itself to values and to a reality that is both sensitive and intelligible? It is incontestable that this identity is inseparable from the sensitive and intelligible reality of the architectural (heritage) object, then in this passage from the real to the virtual the modified architectural identity is not it duplicated? Does it reveal a hidden side of architecture by this need to restore lost spatial identity? Heritage through this creative process, it is about reinventing it or seeing it and perceiving it differently?

As an example of study we think we are interested in the work applied in the Abbey of Cluny and see how the augmented reality tries to re-imagine, to restore the places and to make us relive a

¹ Ronald T. Azuma defines Augmented Reality as "an interface between" virtual "data and the real world" in <http://www.realite-virtuelle.com/definition-realite-augmentee>

² According to Fabrice Arsicot, Director of the Digital Division, Publicorp, a device is of the smartphone, tablet or computer type equipped at minimum with a webcam or camera sensor, as well as an application. in <http://www.realite-virtuelle.com/definition-realite-augmentee>

reality both material and immaterial. The objective is to substitute for the real, by offering the visitor the possibility to increase the meaning of places and to add to them other meanings through a machine to go back in time in the immediacy. Indeed, through this example, we can participate in a re-reading of the heritage space and a new perception committed through virtual images associated with historical places. These digital performances redefine the spatio-temporal dimension of these places, giving them a new meaning, a new connotation and a new digital identity.

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Afef Trabelsi/ trabelsiafef@yahoo.fr

- PhD student in arts sciences and techniques, University of Tunis, Institut Supérieur des Beaux Arts de Tunis.
- Member of the research laboratory "Sémiotique des Espaces Architecturés (SEA.)", Under the direction of Professor Ali Djerbi.
- Assistant, University of Manouba, Higher Institute of Multimedia Arts Manouba