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CHALLENGES FOR THE THIRD MILLENNIUM

Education in Engineering: BIM and VR Technologies Improving Collaborative Projects

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ABSTRACT

Building Information Modelling (BIM) is defined as the process of generating, storing, managing, exchanging, and sharing building information. The potential of BIM methodology to support a transformation of the processes of design and construction has been evident in the construction industry. A current topic that requires attention is the integration of BIM with Virtual Reality (VR) where the user visualizes a virtual world through interactive devices or a total immersion. VR combines several devices for interaction, creating virtual environment, and this must followed by studies concerning how to use devices or how to establish links for the presentation of information contained in a BIM model. By adding VR, the BIM solution can address retrieving and presenting information and increasing efficiency on communication and problem solving in an interactive and collaborative project. BIM + VR allow two main capacities: walkthrough and consulting data, and currently BIM tools allow links to VR plugins in order to achieve both capacities. As such, it is expected to be further explored in the near future. The text presents a review of actual perspective of the VR use applied over 3D/BIM models to supports multi-dimensional BIM applications, namely, 4D/BIM and 7D/BIM models. The objective of the study is to report the improvement of BIM uses with the addition of interactive capacities allowed by VR technology. Being the school the main actor in the formation of new engineers, it has the mission prepare students for the professional activity, giving the most advanced technology knowhow allowing them to make a difference in the job market.