World Academy of Science, Engineering and Technology
International Journal of Structural and Construction Engineering
Vol:12, No:01, 2018

Improving the Training for Civil Engineers by Introducing Virtual Reality Technique

Authors : Manar Al-Ateeq

Abstract : The building construction industry plays a major role in the economy of the word and the state of Kuwait. This paper evaluates existing new civil site engineers, describes a new system for improvement and insures the importance of prequalifying and developing for new engineers. In order to have a strong base in engineering, educational institutes and workplaces should be responsible to continuously train engineers and update them with new methods and techniques in engineering. As to achieve that, school of engineering should constantly update computational resources to be used in the professions. A survey was prepared for graduated Engineers based on stated objectives to understand the status of graduate engineers in both the public and private sector. Interviews were made with different sectors in Kuwait, and several visits were made to different training centers within different workplaces in Kuwait to evaluate training process and try to improve it. Virtual Reality (VR) technology could be applied as a complement to three-dimensional (3D) modeling, leading to better communication whether in job training, in education or in professional practice. Techniques of 3D modeling and VR can be applied to develop the models related to the construction process. The 3D models can support rehabilitation design as it can be considered as a great tool for monitoring failure and defaults in structures; also it can support decisions based on the visual analyses of alternative solutions. Therefore, teaching computer-aided design (CAD) and VR techniques in school will help engineering students in order to prepare them to site work and also will assist them to consider these technologies as important supports in their later professional practice. This teaching technique will show how the construction works developed, allow the visual simulation of progression of each type of work and help them to know more about the necessary equipment needed for tasks and how it works on site.

Keywords : three dimensional modeling (3DM), civil engineers (CE), professional practice (PP), virtual reality (VR)
Conference Title : ICCEM 2018 : International Conference on Construction Engineering and Management
Conference Location : Dublin, Ireland
Conference Dates : January 30-31, 2018