Operations Training Using Immersive Technologies: A Development Experience

Authors : A. Aman, S. M. Tang, F. H. Alharrassy

Abstract : Omanisation was established to increase job opportunities for national employment in Sultanate of Oman. With half of the population below 25 years of age, the sultanate is striving to diversify the economy fast enough to meet the burgeoning number of jobseekers annually. On the other hand, training personnel to be competent oil and gas operators and technicians is a difficult task in a complex reservoir structures in Oman using highly advanced and sophisticated extracting processes. Coupled towards Omanisation which encourages nationals into the oil and gas sector so as to create sustainable employment for the local population, the challenge to churn out competent manpower became a daunting task. Immersive technologies provided the impetus to create a new digital media sector which provided job opportunities as well as the learning contents to enhance the competency-based training for the oil and gas sector in the Sultanate. This lead to a win-win-win collaboration amongst the government represented by the Information Technology Authority (ITA), private sector specialised company (represented by ASM Technologies), jobseekers and oil and gas organisations. This is also one of the first private-public partnership model in the Information Communication Technology (ICT) sector in Oman. A pilot phase was conducted for 8 months to develop four virtual applications for training in equipment and process engineering; oil rig familiarisation, Health Safety Environment (HSE) application, turbine application and the mechanical vapour compressor (MVC) water recycling plant in order to enhance the competency level of the trainees. The immersive applications were installed in operational settings which enabled new employees to practice and understand various processes and procedures regarding enhanced oil recovery. Existing employees used the application to review the working principles in order to carry out troubleshooting scenarios. Concurrently, these applications were also developed by local Omani resources within the country. This created job opportunities for job-seekers as well the establishment of a digital media sector. The purpose of this paper is to discuss how immersive technologies can enhance operational competencies, create job and establish a digital media sector in the Sultanate of Oman.

Keywords : immersive, virtual reality, operations training, Omanisation
Conference Title : ICVAR 2016 : International Conference on Virtual and Augmented Reality
Conference Location : Singapore, Singapore
Conference Dates : January 07-08, 2016