

Chapter 32

Use of Augmented Reality a New Vision on the Massive Open Online Courses

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ABSTRACT

This study explains the importance of use Augmented Reality in education and how it can be used on the Massive Open Online Courses (MOOCs) in order to improve specific advantages. Augmented reality (AR) is an area that mixes real-world images, whose elements are augmented by computer-generated sensory input such as sound, video, graphics or GPS data. This study further shows the development tools, application areas, and results obtained through augmented reality in the education, as a support tool to achieve the primary objective of education, which is learning through the use of MOOCs, making it a more attractive with the use of information and communication technologies. Currently there is a great variety of applications that use the augmented reality in areas such as medicine, military, education, among others.

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INTRODUCTION

Massive Open Online Courses (MOOCs)

The new education era requires greater use of the Information and Communication Technologies (ICT). In some countries there are politics about the incorporation of the technology on the Education System, new technologies have allowed us to extend the teaching and learning environments. New learning models have been implemented such as e-learning, b-learning, m-learning in order to develop interactive environments by using different educational resources that allow us to achieve learning goals. Because of this, educational tools have been developed to support the courses and training programs using ICT, such as Learning Objects (digital resources that are considered as a minimum unit of learning), augmented reality (environments real elements that coexist with the virtual), etc. This technology is used to create teaching resources that can include and display the information in a way that is attractive and interactive for people to use technology.

Thus, making use of the potential of these tools, the aim is to reach the primary goal in the education process, that of which students easily learn specific knowledge to be conveyed. This may provide new educational tools available to the student community at any level of education (Ponce, et. al 2015).

In early days, the use of information technology focused on learning was only used for electronic presentations, video and audio resources, among others. However, throughout time new methodologies emerged and converged into one tool by taking advantage of all technological resources mentioned above resulting in learning resources (Area, 2009).

Nevertheless, the gradual development in the information technologies as well as the availability to these resources by a growing amount of users and the use of internet generated new trends in the education and its scope. E-learning mainly appeared as a supporting tool to education. And, currently it is widely used in higher education, continuing education, special education to vulnerable learners, businessmen, occupational group of learners, among others. E-learning is a type of teaching-learning method that it is based on multimedia material design, use of learning platform, and learning evaluation through the use of computer nets which allows users to be linked everywhere. Another innovation is that this type of education does not depend on a specific time in order to participate in the online course; neither does it depend on a teacher-specialist in the study area which is being taken.

This type of education has grounded the actual development and implementation of Massive Open Online Courses (MOOCs). A relatively new addition to the world of online education is the MOOCs. These are a revolutionary new concept in higher education by which course content is delivered online, and it is aimed at unlimited participation and open access via the web.

The first MOOCs emerged from the open educational resources (OER) movement. This term was coined in 2008 by Dave Cormier.

The original concept of MOOCs is to offer free and open access courses for massive number of learners. However, there are some problems with the quality learning of the students, like escalability issues and low completion rates, (less than 10% of students registered in most of the offered MOOCs complete the course) which constantly concerns the MOOC providers (Brown, 2013).

MOOCs have been offered in conjunction with academic institutions and independently by facilitators: to date, topics have remained within the E-learning and educational technologies fields. Some MOOCs have had more than 2,000 registrations (McAuley, 2010). Some MOOCs elements are showed in the Figure 1.

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