Augmented Reality in Character Modeling Education as Course Material

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Biography

Levent Çoruh is a graphic designer, researcher and academic. He earned PhD in Graphic Design Education in 2011 from the University of Gazi, Turkey. His thesis is "Assessment of The Effectiveness of Virtual Reality Applications in Art History Course as a Learning Model". Currently he is working as Assistant Professor at Erciyes University, Faculty of Fine Arts, Department of Visual Communication Design in Kayseri-Turkey. His works focused on innovative technologies in animation & design education with a practice-based approach.

Yusuf Osman Taşdelen is a computer engineer. He holds a degree in computer engineering from Erciyes University (Kayseri,2018). He has worked with augmented reality ,virtual reality and game development. He is currently a game developer in Warlock Arts Software.

Abstract

In this study, an approach to the development process of an Augmented Reality based innovative course material is proposed. This approach is explained through a sample application developed for digital character modeling course.

In the traditional method, the character modeling education is carried out in three-dimensional (3D) virtual environments as its nature, while the artist or tutor controls these works on two-dimensional (2D) screens. Students follow what tutor does as a passive audience. The screen and point of view are controlled by the teacher and there is no control of the student on the virtual environment. For this reason, the student cannot participate actively in the majority of the course and this leads to the learning by doing.

The methodology used for the course material has been inspired from the ADDIE (Analysis, Design, Development, Implementation, Evaluation) method. The educational needs and the new possibilities of the AR were analyzed to develop a course material. This step aims to define outcomes of the course according to needs.

Features of the software are smart phone and google cardboard compatible, offering a shareable experience between teacher-student-student, 3D virtual environment that can represented within the physical world, students can monitor the progress of the modeling work on individual controls with phone-compatible bluetooth device (rotate, zoom, navigating through the modeling stages), managing virtual objects through physical objects (orbit), it is possible to explore the relationship between the physical reference (blueprint) and the virtual model during the modeling phase through virtual images superimposed on the physical medium.