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INNOVATIVE APPROACHES TO THE USE OF COMPUTER GRAPHICS IN THE PREPARATION OF STUDENTS OF PEDAGOGICAL SKILLS

Introduction of modern computer technologies, namely the development of interactive virtual objects in the learning process can achieve significant results in terms of dynamic update of the educational process organization, its forms and methods; it will also give students an opportunity to actively participate in the preparation and implementation of these changes.

Development of an interactive model of architectural tour to Berdyansk State Pedagogical University with the help of three-dimensional graphics is actual because, firstly, in the present time there is no visualization of this architectural complex from the aesthetic and historical perspective. The University building has an interesting history, and we as the heirs need to preserve the memory of it. Secondly, there's a cognitive and informative component: you can always help an applicant, a student, a lecturer or a visitor to plunge into the atmosphere of the educational establishment, see the plan of the lecture rooms, and show to a general viewer the architectural elements and to interact with many elements of the interior space. Thirdly, this project can be used in advertising and career-oriented work. And it is an affordable and easy resource due to intensive development of computer technologies, one of the important directions of which is Internet-based technologies.

There are very many programs for three-dimensional modeling, visualization and animation. We perform an analysis of software for 3D modeling. We have chosen 3D Studio MAX – the market leader of software for three-dimensional modeling, animation and visualization.

This is one of the most famous three-dimensional editors and it has huge tools to create different shapes and complexity of three-dimensional computer models of real or fantastic objects of the surrounding world using a variety of techniques and devices, which include the following: Polygonal modeling which includes the Editable mesh (editable surface) and the Editable poly (editable polygon) – the most common modeling method WHICH is used to create complex models; modeling based on non-uniform rational B-splines (NURBS); modeling based on Bezier surface portions (Editable patch) is suitable for modeling of bodies rotation; modeling with the use of built-in libraries of the standard parametric objects (primitives) and modifiers. Blender was chosen as the engine of an interactive model – a Cross-platform graphics 3D package with an open source code. We also used the program Autodesk Mudbox – a professional graphics program designed for modeling of high poly digital sculptures and texture painting of 3D models.