

BLENDER GRAPHICS FOR 3D MODELING TECHNOLOGIES FOR WORKING WITH EDITORS

Abdugafurova Irodabegim Laziz kizi¹

¹ 3rd grade student of Navoi State Pedagogical Institute of Mathematics and Informatics

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In the field of three-dimensional modeling, the Blender graphics editor stands out for its powerful capabilities and open source nature. Blender is widely used not only for modeling, but also for animation, visualization and rendering processes. In this article, we will talk about the technologies of working with Blender and its main capabilities.

INTRODUCTION. Three-dimensional (3D) graphics is one of the branches of computer graphics and is a set of methods and tools that allow you to create three-dimensional objects using shape and color. It differs from two-dimensional images in that it involves the construction of a geometric projection of a three-dimensional scene (virtual space) model on a plane with the help of special programs. The resulting object can be specific to a specific and vital object or describe a completely abstract event.

Blender is a professional-grade 3D modeling software that provides users with a wide range of tools and features. Since the software is open source, users can download it for free and modify it according to their needs. Blender's interface is intuitive and easy to use even for beginners.

Using the polygon modeling method in Blender, users can create objects. In this method, users create complex shapes using vertices, edges, and surfaces. Editing and changing objects in Blender is easy in Edit Mode. Using the ray modeling method in Blender, users can create simplified shapes. This method is mainly used in the fields of architecture and

interior design. Blender has the ability to model sculptures. With this method, users can manually shape objects and add intricate details. Blender's Sculpt Mode gives users a high level of control.

The animation process in Blender is very convenient and intuitive. In Blender, you can add widgets to automate actions. Users need to set controls on the timeline to control the movement of objects. Using the rigging process in Blender, users can create bone systems to move 3D models. This process is very important for animation because it ensures natural movement of objects. Blender has the ability to simulate liquids, gases and other natural phenomena. These capabilities enrich the animation process and provide a realistic look.

In Blender, you can improve the appearance of objects using materials and lighting systems. In Blender, users can add different materials to objects. With materials, users can define the color, texture, and other properties of objects. In Blender, lighting systems can be used to illuminate the scene and enhance the appearance of objects. Blender has a variety of lighting sources, such as artificial lighting, light sources, and other lighting methods. The rendering process in Blender is important for rendering the scene to its final appearance. Blender has two main render engines. With Cycles, users can get high-quality and realistic renderings. It takes into account the complexity of the motor, materials, and lighting. With Eevee, users can quickly render, which is very convenient for animation and games.

It should be noted that three-dimensional graphics programs

it makes very high demands on the knowledge of computer devices, its software, and the designer working with it. When working with three-dimensional graphics, special attention should be paid to the space where the shapes are created. In this case, the traditional 2D plane is suitable for the purposes of three-dimensional graphics. In 3D graphics, the working space should be represented in such a way that it should take into account not only the three-dimensional geometric shape being modeled, but also its geometric location and position. Cartesian, cylindrical and spherical coordinate systems are used in three-dimensional graphics.

All drawn three-dimensional objects can be divided into geometric and non-geometric objects.

The geometric object is mainly used for the construction of scene organizers (characters, bodies, in other words - existing objects of existence). Non-geometric objects are used to give a sense of life to the scene (correct lighting), to model forces acting on objects (for example, gravity or wind blowing, etc.). In other words, geometric objects appear directly (lines and surfaces), and non-geometric objects appear intermediate (shadows, acceleration,

etc.) in the displayed frame. The company Discreet, a very powerful and widely used 3D package for viewing geometric objects, chooses 3D Studio Max program and shows the main types of objects and modeling technology.

Conclusion:

Blender graphics editor is widely used in the fields of three-dimensional modeling, animation and visualization. Its powerful features and open source nature help users realize their creative ideas. Blender's technologies, including modeling, animation, materials and lighting, as well as rendering processes, allow users to create high-quality 3D models. Blender is constantly being updated and adding new features, making it one of the most popular programs in the field of 3D modeling.

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