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METHODS OF PERFORMING THE OPERATION OF SEPARATING OBJECTS IN 3DS MAX

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Abstract:
This article provides information on how to split objects in 3DS max.

Keywords: object, operations, geometry, sphere, command, button, volume, image.

Three-dimensional graphics are widely used in scientific investigations, engineering project work, and building computer models of physical objects. Three-dimensional graphics is the most complex and comprehensive field of computer graphics. A user working with three-dimensional graphics should have knowledge in areas such as design, lighting, moving objects and cameras, using sound and visual effects. Here is information about the organizers of this field - spaces, object modeling, display.

Separate Objects

Object separation is done using the tool buttons and the Edit button in the menu. To work with these commands, we will create several geometric objects.

1. If you press the button in the LM Perspective projection window, the window will become active.
2. On the Create command panel, click Geometry, point to Standard Primitives in the list, click Sphere, create a sphere in the Perspective window.
3. Make a Cone in this way. Pay attention to the toolbar. All the buttons are related to object allocation.

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4.Click the LM Select Object button and move the cursor shaft to the sphere. Press LM when the cursor shaft takes the shape of a cross. You have allocated one object. A cone is added to it again.

1. Press the <Ctrl> key and, without releasing it, click LM on the cone. Now a cone is added to the previously separated sphere. An action performed with the <Ctrl> key will add any number of objects to the previously selected objects. If it is necessary to exclude individual objects from the group of separated objects, the <Alt> key is used.

2. Hold the <Alt> key and release the LM on the sphere without releasing it.

3. The sphere is removed from the allocated group. If you want to completely abandon the process of separating objects, it is enough to release the LM at any point outside the window's dimension container.

Change object separation modes. The object selection mode toggle buttons have the ability to introduce two different modes: **Window** and **Cross-sing Selection.** Mode switching is done by pressing the LM button on the data line at the bottom of the screen.

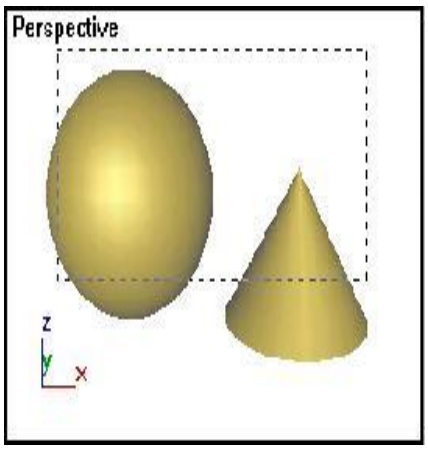
If the mode is activated using the Crossing Selection button, the object will be separated if at least one point falls within the selection area. If the mode is introduced using the **Window button**, the object will be separated only when the spring point falls within the separation area.

Delimiting an object using a border. "Hoshiya" equipment is designed to separate a group of objects. It is used when there are several objects in the scene that need to be separated.

1. Release the LM on the **Select Object** button and enter the **Crossing Selection** mode.

2. Release the LM in the projection window and, without releasing the mouse button, move the cursor diagonally in such a way that the desired group of objects falls into the selection rectangle. (Figure 1).

3. **Release the mouse button**. Even with a single point, all objects falling within the rectangular border are considered separated. You used a



1-figure.

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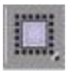
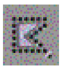
rectangular border. Other forms of borders are also available. For example, the Rectangular Selection Region button is used to select objects.

4. Release the LM  on the Select Object button and, without releasing the mouse button, click the Rectangular Selection Region button. As a result, a drop-down menu with two different border selection buttons will appear, as shown in Figure 2.

5. Extrude the LM  on the **Circular Selection Region** button and then on the projection window. Expand the circle in such a way that the separated objects fall inside it with at least one point. The center of the circle will be located at the selected point in the projection window.

6. Deselect the objects  and release the LM in the **Fence Selection** Region button.

7. Extrude the LM outside the objects and draw the first joint of the border with the cursor. Release the mouse button and the first syllable is recorded. Move the cursor to the point where the second joint of the border ends and release the LM.

8. Continue drawing the joints delimiting the desired scene. Move the cursor drawing the last joint to the starting point of the first joint to close the border. The cursor will turn into a thin cross, indicating that the border can be closed. Release LM and the window will close.

9. Exit RM or press <Esc> to exit border drawing mode.

10. Practice drawing cross-shaped crossing borders using the Crossing Selection mode on the **Window** button.

Sort object by color. In case of silence, the created color will be given to one object by the program itself with an arbitrary color from its color palette. If it is necessary to give the same color to all objects, it is necessary to refer to the Edit item in the main menu.

1. Draw a sphere in the same color as the cone.

2. In the Edit menu, select Select By and then Color (Figure 3)

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Figure 3. A menu bar to select by character.

3. Select an object whose color the others should be, and release the LM.

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Objects that should be in the color of the selected object are highlighted.

Allocating all objects on the screen. To separate all objects, select Select All from the Edit menu. All objects in the scene are separated.

1. To continue working, release the LM at any point in the window and cancel the separation.

Inversion of separated objects. Sometimes it is necessary to allocate all objects except the allocated object.

1. Separate the sphere.
2. Run the Select **Invert command** in the **Edit menu.** The work of separating the sphere is removed, and the other two objects remain separated.

Locking a pool of allocated objects. By selecting a group of objects, you can block (protect) it. This is done, for example, to avoid accidentally dropping the allocation.

1. Distinguish between a cone and a sphere based on one of the ways shown above.

2.Release LM on the Lock **Selection Set button**, which has a lock icon and is located in the status bar at the bottom of the screen.  When the lock is on, the button turns yellow. Until the blocking is removed, one of the objects belonging to this group cannot be allocated, it will not be possible to lose the allocation. The block is removed by pressing that button.

1. Release the LM on the **Lock Selection Set button** and remove the lock.

Grouping of objects. A group is a collection of objects that, when grouped together, represent a single object. Any shape changes that can be made to one object in a group will apply to all objects in the group. Any number of groups of objects can be created within a scene. It is also possible to create groups from introduced groups, that is, from an unlimited number of groups.

BIBLIOGRAPHY:

1.Абдурахмонов Ш. Чизма геометрия (Маърузалар матни). — Наманган: НамМПИ кичик босмахонаси, 1999. — 68 б.

2.Абдурахмонов Ш. «Бликоид» деб аталувчи геометрик сирт чизмасини хосил қилиш масалалари. – НСТИ нинг илмий ишлари, IV тўплам. Наманган, 1995.

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3.Абдурахмонов Ш., Бадриддинов С. «Бликоид» номли геометрик образнинг тасвирини компьютерда хосил қилиш масаласи. – УзР кибернетика институти «Алгоритмлаш муаммолари» илмий конференцияси материаллари тўплами. Тошкент, 2000.
4.Абдурахмонов Ш., Занжирова Х. 3ds max.4.2. Методическое пособие, состоящее из 2-х книг для желающих изучить работу в программе 3ds max.4.2. Книга первая. - НамМПИ кичик босмахонаси, 2004.
5.Абдурахмонов Ш., Занжирова Х. 3ds max.4.2. Методическое пособие, состоящее из 2-х книг для желающих изучить работу в программе 3ds max.4.2. Книга вторая. - НамМПИ кичик босмахонаси, 2004.
6.Абдурахманов Ш., Мадумаров К. Х. К геометрии поверхностей, гранями которых служат ленты Мёбиуса //Сб. Нам. филиала ТашПИ: Вопрос динамики сооружений и надежности машин. Вып. 4. — Наманган, 1990.
7.Алимов И., Абдурахмонов Ш., Бадриддинов С. «Бликоид» номли геометрик образ чизмасини компьютерда хосил килиш масаласи. - УзР кибернетика институти «Алгоритмлаш ва дастурлашнинг замонавий муаммолари» илмий конференцияси материаллари тўплами. Тошкент, 2001
8.Бубенников А. В. Начертательная геометрия. 3-ье изд., переработ. и доп. - М.: «Высш. шк.», 1985. - 288 с.
9.Бордман Т. «3ds max5». Учебный курс. Дизайн и графика. Москва — Санкт-Петербург - Нижний Новгород - Воронеж Ростов на - Дону - Екатиринбург - Самара - Новосибирск - Киев - Харьков - Минск, 2004. - 442 с.
10.Владимирский Г.А. Перспектива. 3-е изд. М., «Просвещение», 1969. - 127 с.
11.Геннадий Тёмин. 3D Studio MAX-5. (Современные методы изучения на основе реалных проектов) Эффективный самоучитель. Москва - Санкт-Петербург- Киев, 2003. - 454 с.
12.Громов М. Я. К геометрии односторонних развертвающихся поверхностей //Вопросы начертательной геометрии и инженерной графики. Труды ТашИИТ. Вып. 26. — Ташкент: «Ўзбекистон», 1963. — С.: 21 — 34.