

SPRAWOZDANIE

Zajęcia: Grafika komputerowa

Prowadzący: prof. dr hab. Vasyl Martsenyuk

Laboratorium 9

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Temat: Konstruowanie obiektów z użyciem Three.js

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Informatyka I stopień,

stacjonarne,

4 semestr,

Gr. 2a

1. Polecenie:

Celem jest konstruowanie modelu figury szachowej zgodnie z wariantem zadania używając three.js w oparciu na omówione na zajęcie metody konstruowania obiektów.

2. Wprowadzane dane:

```
function createWorld() {

    renderer.setClearColor("black"); // Background color for scene.
    scene = new THREE.Scene();

    // ----- Make a camera with viewpoint light -----

    camera = new THREE.PerspectiveCamera(30, canvas.width/canvas.height, 0.1, 100);
    camera.position.z = 60;
    var light; // A light shining from the direction of the camera; moves with the camera.
    light = new THREE.DirectionalLight(0x404040,3);
    light.position.set(5,5,5);
    camera.add(light);
    scene.add(camera);

    //----- Create the scene's visible objects -----

    var base1;
    base1 = new THREE.Mesh(
        new THREE.CylinderGeometry(6.9,7,2,128,1),
        new THREE.MeshPhongMaterial(
            {
                color:0xffffff,
                specular: 0x000000,
                shininess: 16,
                shading: THREE.FlatShading
            }
        ));

    base1.position.x=0;
    base1.position.z=0;
    base1.position.y=-10;
    scene.add(base1);

    var base2;
    base2 = new THREE.Mesh(
        new THREE.CylinderGeometry(7.1,7.2,1,128,1),
        new THREE.MeshPhongMaterial(
            {
                color:0xffffff,
```

```
        specular: 0x000000,  
        shininess: 16,  
        shading: THREE.FlatShading  
    }));
```

```
base2.position.x=0;  
base2.position.z=0;  
base2.position.y=-11;  
scene.add(base2);
```

```
var collar1;  
collar1 = new THREE.Mesh(  
    new THREE.CylinderGeometry(4.5,4.5,1,128,1),  
    new THREE.MeshPhongMaterial(  
    {  
        color:0xffffff,  
        specular: 0x000000,  
        shininess: 16,  
        shading: THREE.FlatShading  
    }));
```

```
collar1.position.x=0;  
collar1.position.z=0;  
collar1.position.y=6;  
scene.add(collar1);
```

```
var collar2;  
collar2 = new THREE.Mesh(  
    new THREE.CylinderGeometry(6,4,2.5,128,1),  
    new THREE.MeshPhongMaterial(  
    {  
        color:0xffffff,  
        specular: 0x000000,  
        shininess: 16,  
        shading: THREE.FlatShading  
    }));
```

```
collar2.position.x=0;  
collar2.position.z=0;  
collar2.position.y=7;  
scene.add(collar2);
```

```
var sphere;  
sphere = new THREE.Mesh(  
    new THREE.CylinderGeometry(6,6,3,128,1),
```

```

        new THREE.MeshPhongMaterial(
        {
            color:0xffffff,
            specular: 0x000000,
            shininess: 16,
            shading: THREE.FlatShading
        }));

sphere.position.x=0;
sphere.position.z=0;
sphere.position.y=9.5;
scene.add(sphere);

//-----
var height=0.15;
var step=0.5;
var tempCore;
var i;
var prevRadius=6.7;
for(i=1;i<=100;i++)
{

    tempCore = new THREE.Mesh(
        new THREE.CylinderGeometry(prevRadius-(step/(i)),prevRadius,height,128,1),
        new THREE.MeshPhongMaterial(
        {
            color:0xFFFFFF,
            specular: 0x000000,
            shininess: 16,
            shading: THREE.FlatShading
        }));

    tempCore.position.x=0;
    tempCore.position.z=0;
    tempCore.position.y=-9+(i-1)*(height);
    scene.add(tempCore);
    prevRadius= prevRadius-(step/i);
}
}

```

3. Wykorzystane komendy:

<https://github.com/99lucky8/Grafika-komputerowa.git>

4. Wyniki działania

