**Getting Started - Chapter 6 - A Lathe Turned Fountain**

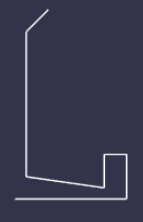
**@@启程-第六章-一座旋转切削而成的喷泉@@**

**A Lathe Turned Fountain**

**@@一座旋转切削而成的喷泉@@**

Time to introduce another of the many ways to create a mesh, the *CreateLathe* method. We start with a profile for the fountain.

@@是时候介绍建立网格的多种方式中的又一种了——“建立切削网格”方法。我们先从喷泉的轮廓开始。@@



The profile is described, in an array, using the x and y components of a 3D vector.

@@这个轮廓以数组方式描述，数组里的元素是三维向量，而我们只用到三维向量的x、y分量。@@

const fountainProfile = [

new BABYLON.Vector3(0, 0, 0),

new BABYLON.Vector3(10, 0, 0),

new BABYLON.Vector3(10, 4, 0),

new BABYLON.Vector3(8, 4, 0),

new BABYLON.Vector3(8, 1, 0),

new BABYLON.Vector3(1, 2, 0),

new BABYLON.Vector3(1, 15, 0),

new BABYLON.Vector3(3, 17, 0)

];

The array is used in shape property of the options parameter in the *CreateLathe* method.

@@这个数组将在“建立切削网格”方法的设置参数的形状属性中用到。@@

const fountain = BABYLON.MeshBuilder.CreateLathe("fountain", {shape: fountainProfile, sideOrientation: BABYLON.Mesh.DOUBLESIDE}, scene);

As before the scene parameter is optional. In this case the mesh is set to double sided because the inside is visible because of the slope at the top and the hollow middle.

@@与之前一样“场景”参数是可选的。在这个例子中，网格被设置为双面可见的，因为喷泉顶部的斜坡和中间的空洞@@

Basic Lathe Fountain

基础的切削喷泉

https://playground.babylonjs.com/#TC31NV#3

With appropriate change of scale and positioning this is added to the village.

@@经过适当的缩放和位置设置之后，这座喷泉被添加到村庄场景里@@

Add the Fountain

添加喷泉

https://playground.babylonjs.com/#KBS9I5#91

A fountain without a spray of water is a little boring so we simulate the spray with particles.

@@不会喷水的喷泉有些无趣，所以接下来我们要模拟喷水。@@

const createScene = function () {

    const scene = new BABYLON.Scene(engine);

    const camera = new BABYLON.ArcRotateCamera("camera", -Math.PI / 1.5, Math.PI / 2.2, 15, new BABYLON.Vector3(0, 0, 0));

    camera.upperBetaLimit = Math.PI / 2.2;

    camera.attachControl(canvas, true);

    const light = new BABYLON.HemisphericLight("light", new BABYLON.Vector3(1, 1, 0));

    const fountainOutline = [

        new BABYLON.Vector3(0, 0, 0),

        new BABYLON.Vector3(0.5, 0, 0),

        new BABYLON.Vector3(0.5, 0.2, 0),

        new BABYLON.Vector3(0.4, 0.2, 0),

        new BABYLON.Vector3(0.4, 0.05, 0),

        new BABYLON.Vector3(0.05, 0.1, 0),

        new BABYLON.Vector3(0.05, 0.8, 0),

        new BABYLON.Vector3(0.15, 0.9, 0)

    ];

    //Create lathed fountain

    const fountain = BABYLON.MeshBuilder.CreateLathe("fountain", {shape: fountainOutline, sideOrientation: BABYLON.Mesh.DOUBLESIDE});

    fountain.position.x = -4;

    fountain.position.z = -6;

    //Skybox

    const skybox = BABYLON.MeshBuilder.CreateBox("skyBox", {size:150}, scene);

      const skyboxMaterial = new BABYLON.StandardMaterial("skyBox", scene);

      skyboxMaterial.backFaceCulling = false;

      skyboxMaterial.reflectionTexture = new BABYLON.CubeTexture("textures/skybox", scene);

      skyboxMaterial.reflectionTexture.coordinatesMode = BABYLON.Texture.SKYBOX\_MODE;

      skyboxMaterial.diffuseColor = new BABYLON.Color3(0, 0, 0);

      skyboxMaterial.specularColor = new BABYLON.Color3(0, 0, 0);

      skybox.material = skyboxMaterial;

    BABYLON.SceneLoader.ImportMeshAsync("", "https://assets.babylonjs.com/meshes/", "valleyvillage.glb");

    return scene;

};