**Getting Started - Chapter 7 - Day to Night**

**@@启程-第七章-白天变成黑夜@@**

**Day to Night**

**@@白天变成黑夜@@**

One useful way to add a graphical user interface to a scene is the Babylon.js GUI. When working in virtual reality this GUI is necessary as it is designed to be within and part of the Babylon.js scene canvas rather than the HTML document. This GUI is pre-loaded into the playground but is an additional script to load in your own projects with

@@一种非常有用的在场景中添加图形用户接口（GUI）的方法是使用Babylon.js GUI。当处理虚拟现实场景时GUI会显得非常必要，因为它被设计作为Babylon.js场景画布的一部分，而不是HTML文档的一部分（所以可在虚拟现实设备中正常显示）。GUI已经被预加载到训练场中，但在你自己的工程里，你需要这样加载一个额外的脚本文件。@@

<script>https://cdn.babylonjs.com/gui/babylon.gui.min.js</script>

For the village world we will a GUI stack panel to contain two GUI elements. A text block for the heading and a slider bar to change day to night and back by setting the intensity of the light.

@@对于这个村庄世界，我们将用一个GUI堆栈面板容纳两个GUI元素——一个文本块作为标题，以及一个滑块用来将白天调整为黑夜，背后的原理是设置光的强度。@@

The first thing we need to do is create a special texture, called an *AdvancedDynamicTexture*, on which the GUI elements will be drawn.

@@我们要做的第一件事是建立一种特殊的纹理，它叫做“高级动态纹理”，GUI元素将绘制在这个高级动态纹理上。@@

const adt = BABYLON.GUI.AdvancedDynamicTexture.CreateFullscreenUI("UI");

For our world the GUI will be one based on the full screen.

@@对于这个示例世界，GUI将会覆盖在整个屏幕上。@@

We create the container panel to hold the other elements in the bottom right corner of the screen. Then add it to the advanced dynamic texture.

@@我们在屏幕的右下角建立容器面板，用来容纳其他元素。然后把它添加到高级动态纹理中。@@

const panel = new BABYLON.GUI.StackPanel();

panel.width = "220px";

panel.top = "-50px";

panel.horizontalAlignment = BABYLON.GUI.Control.HORIZONTAL\_ALIGNMENT\_RIGHT;

panel.verticalAlignment = BABYLON.GUI.Control.VERTICAL\_ALIGNMENT\_BOTTOM;

adt.addControl(panel);

Next create the text block and add it to the panel

@@然后建立文本块并把它添加到面板中@@

const header = new BABYLON.GUI.TextBlock();

header.text = "Night to Day";

header.height = "30px";

header.color = "white";

panel.addControl(header);

We create and add the slider to the panel.

@@创建滑块，并把它添加到面板中。@@

const slider = new BABYLON.GUI.Slider();

slider.minimum = 0;

slider.maximum = 1;

slider.borderColor = "black";

slider.color = "#AAAAAA";

slider.background = "#white";

slider.value = 1;

slider.height = "20px";

slider.width = "200px";

panel.addControl(slider);

We need to add an observable event to the slider in order to change the light intensity.

@@我们需要为滑块添加一个可观察的事件（ES6观察者模式），以修改光照强度。@@

slider.onValueChangedObservable.add((value) => {

if (light) {

light.intensity = value;

}

});

Now we can control the light in our village world.

@@现在，我们可以控制村庄世界的光照了。@@

Adding a Gui Slider

添加GUI滑块

https://playground.babylonjs.com/#KBS9I5#95

Where there is light there are shadows. In Babylon.js this is only true when you make it true.

@@有光的地方就会有影子。而在Babylon.js中只有当你做了正确的设置后这句话才会成立。@@