**32004 Game Development**

Assessment

1. Programming Exercises: 30% weekly

2. Quiz: 15% week10 (open book)

3. Classic Game Recreation(娱乐，消遣)-Getting Started: 20% week7

4. Classic Game Recreation-Enhancing and Innovation: 35% week12

**Week 2**

1. Camera:

A window into the game’s scene that represents the player’s view

– What the camera sees is what the player sees

– Where the camera goes is where the player goes

A camera is just a game object with a Camera component

– You can have multiple cameras in one scene

– Either with only one active at a time OR all active and rendering(着色, 这里翻译成渲染) to different parts of the player’s screen

– Good for splitscreen(分画面) multiplayer, rendering minimaps, and overlaying(覆盖) weapons(武器) in first person view

1.1 Camera Properties

Clear Flags

Each Camera stores color and depth information when it renders its view. The portions of the screen that are not drawn in are empty, and will display the skybox by default. When you are using multiple Cameras, each one stores its own color and depth information in buffers, accumulating more data as each Camera renders. As any particular Camera in your scene renders its view, you can set the Clear Flags to clear different collections of the buffer information. This is done by choosing one of the four options:

[每个相机在渲染时会存储颜色和深度信息。屏幕的未绘制部分是空的，默认情况下会显示天空盒。当你使用相机时，每一个都将自己的颜色和深度信息存储在缓冲区中，还将积累大量的每个相机的渲染数据。当场景中的任何特定相机进行渲染时，你可以设定清除标记以清除缓冲区信息的不同集合。可以通过下面四个四个选项之一来完成

Skybox

This is the default setting. Any empty portions of the screen will display the current Camera's skybox. If the current Camera has no skybox set, it will default to the skybox chosen in the Render Settings (found in Edit->Render Settings). It will then fall back to the Background Color. Alternatively a Skybox component can be added to the camera

Solid Color 纯色

Any empty portions of the screen will display the current Camera's Background Color.

Clipping planes [　建材平面：从相机到开始渲染和停止渲染之间的距离。]

– Near plane – anything closer to the camera than this distance will not be rendered

– Far plane – anything further than this plane will not be rendered

1.2 Camera projection [相机投影]

Perspective[透视]:近大远小，有距离之分

Orthographic[正交相机]: 没有近大远小距离之分，如两个一样大的物体放在相机相同位置，或者有远近的放置，是看不出来大小缩放的，也看不出谁前谁后。

1. Lighting [详见：<https://blog.csdn.net/qq_30687901/article/details/53792155]>
2. 3D Models

Unity has 6 primitives: cube, sphere,plane, capsule, cylinder, quad

1. Materials

4.1Color, texture, light bounce

Shader [着色器]: code that dictates how a material is applied to a mesh

Albedo[反照率]: 256是峰值

Metallic and Smoothness: how light distributes over the surface of the material [光是否均匀的分布在材料]

4.2 normal map, bump map, height map

4.3 particle effects [颗粒特效]

**Week 3**

1. Animation : An Animator Component uses an Animator Controller

An Animator Controller organizes multiple Animations

Animations are always just a series of images, shown in rapid succession, to give thee illusion of motion.