**使用Unity在屏幕上画个框**

Posted on 2013年07月24日 by U3d / [Unity3D脚本/插件](http://www.unitymanual.com/category/script) /被围观 48 次

Unity3D使用的图形引擎是DirectX，OpenGL和自带的APi（Wii），这里使用OpenGL的渲染方式

（使用过OpenGl的应该相对容易理解。另外：代码中使用Shader是因为矩形框中部的透明部分需要）

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| --- | --- |
| 001 | **using** UnityEngine; |
| 002 | **using** System.Collections; |
| 003 |  |
| 004 | **public** **class** DrawRect : MonoBehaviour { |
| 005 |  |
| 006 | **private** Vector2 mMouseStart, mMouseEnd; |
| 007 | **private** **bool** mBDrawMouseRect; |
| 008 |  |
| 009 | **private** Material rectMat = **null**;*//画线的材质 不设定系统会用当前材质画线 结果不可控* |
| 010 |  |
| 011 | **void** Start() |
| 012 | { |
| 013 |  |
| 014 | mBDrawMouseRect = **false**; |
| 015 |  |
| 016 | rectMat = new Material("Shader **\"**Lines/Colored Blended**\"** {" + |
| 017 | "SubShader { Pass { " + |
| 018 | " Blend SrcAlpha OneMinusSrcAlpha " + |
| 019 | " ZWrite Off Cull Off Fog { Mode Off } " + |
| 020 | " BindChannels {" + |
| 021 | " Bind **\"**vertex**\"**, vertex Bind **\"**color**\"**, color }" + |
| 022 | "} } }");*//生成画线的材质* |
| 023 | rectMat.hideFlags = HideFlags.HideAndDontSave; |
| 024 | rectMat.shader.hideFlags = HideFlags.HideAndDontSave; |
| 025 | } *//Unity3D教程手册：www.unitymanual.com* |
| 026 |  |
| 027 | **void** Update() |
| 028 | { |
| 029 | **if** (Input.GetMouseButtonDown(0)) |
| 030 | *//按下鼠标左键* |
| 031 | { |
| 032 | Vector3 mousePosition = Input.mousePosition; |
| 033 | mMouseStart = new Vector2(mousePosition.x, mousePosition.y); |
| 034 | } |
| 035 |  |
| 036 | **if** (Input.GetMouseButton(0)) |
| 037 | *//持续按下鼠标左键* |
| 038 | { |
| 039 | mBDrawMouseRect = **true**; |
| 040 | Vector3 mousePosition = Input.mousePosition; |
| 041 | mMouseEnd = new Vector2(mousePosition.x, mousePosition.y); |
| 042 | } |
| 043 |  |
| 044 | **if** (Input.GetMouseButtonUp(0)) |
| 045 | { |
| 046 | mBDrawMouseRect = **false**; |
| 047 | } |
| 048 | } |
| 049 | *//Unity3D教程手册：www.unitymanual.com* |
| 050 | **void** OnGUI() |
| 051 | { |
| 052 | **if** (mBDrawMouseRect) |
| 053 | Draw(mMouseStart, mMouseEnd); |
| 054 | } |
| 055 |  |
| 056 | *//渲染2D框* |
| 057 | **void** Draw(Vector2 start, Vector2 end) |
| 058 | { |
| 059 | rectMat.SetPass(0); |
| 060 |  |
| 061 | GL.PushMatrix();*//保存摄像机变换矩阵* |
| 062 |  |
| 063 | Color clr = Color.green; |
| 064 | clr.a = 0.1f; |
| 065 |  |
| 066 | GL.LoadPixelMatrix();*//设置用屏幕坐标绘图* |
| 067 | *//透明框* |
| 068 | GL.Begin(GL.QUADS); |
| 069 | GL.Color(clr); |
| 070 | GL.Vertex3(start.x, start.y, 0); |
| 071 | GL.Vertex3(end.x, start.y, 0); |
| 072 | GL.Vertex3(end.x, end.y, 0); |
| 073 | GL.Vertex3(start.x, end.y, 0); |
| 074 | GL.End(); |
| 075 |  |
| 076 | *//线* |
| 077 | *//上* |
| 078 | GL.Begin(GL.LINES); |
| 079 | GL.Color(Color.green); |
| 080 | GL.Vertex3(start.x, start.y, 0); |
| 081 | GL.Vertex3(end.x, start.y, 0); |
| 082 | GL.End(); |
| 083 |  |
| 084 | *//下* |
| 085 | GL.Begin(GL.LINES); |
| 086 | GL.Color(Color.green); |
| 087 | GL.Vertex3(start.x, end.y, 0); |
| 088 | GL.Vertex3(end.x, end.y, 0); |
| 089 | GL.End(); |
| 090 |  |
| 091 | *//左* |
| 092 | GL.Begin(GL.LINES); |
| 093 | GL.Color(Color.green); |
| 094 | GL.Vertex3(start.x, start.y, 0); |
| 095 | GL.Vertex3(start.x, end.y, 0); |
| 096 | GL.End(); |
| 097 |  |
| 098 | *//右* |
| 099 | GL.Begin(GL.LINES); |
| 100 | GL.Color(Color.green); |
| 101 | GL.Vertex3(end.x, start.y, 0); |
| 102 | GL.Vertex3(end.x, end.y, 0); |
| 103 | GL.End(); |
| 104 |  |
| 105 | GL.PopMatrix();*//还原* |
| 106 | } |
| 107 | } |