**制作滚动的方块**

Posted on 2013年04月28日 by U3d / [Unity3D脚本/插件](http://www.unitymanual.com/category/script)/被围观 131 次

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|  |  |
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| 001 | **var** cubeSize: **float** = 1; |
| 002 |  |
| 003 | **var** cubeSpeed: **float** = 500; |
| 004 |  |
| 005 | **var** UpFace: Transform; |
| 006 |  |
| 007 | **private** |
| 008 |  |
| 009 | **var** totalRotation: **float** = 0; *// determines if we're past the 90 degrees* |
| 010 |  |
| 011 | **private** |
| 012 |  |
| 013 | **var** beRolling: boolean = **false**; |
| 014 |  |
| 015 | **private** |
| 016 |  |
| 017 | **var** RotateDir: **int**; |
| 018 |  |
| 019 | **private** |
| 020 |  |
| 021 | **var** startRotate: boolean = **false**; |
| 022 |  |
| 023 | **private** |
| 024 |  |
| 025 | **var** RotatePivot: Vector3; |
| 026 |  |
| 027 | **private** |
| 028 |  |
| 029 | **var** NextRot: Vector3; |
| 030 |  |
| 031 | **private** |
| 032 |  |
| 033 | **var** NextPosi: Vector3; |
| 034 |  |
| 035 | *// Use this for initialization* |
| 036 |  |
| 037 | function Start() { |
| 038 |  |
| 039 | NextRot = transform.rotation.eulerAngles; |
| 040 |  |
| 041 | NextPosi = transform.position; |
| 042 |  |
| 043 | } |
| 044 |  |
| 045 | *// Update is called once per frame* |
| 046 |  |
| 047 | function Update() { |
| 048 |  |
| 049 | **if** (beRolling == **false**) { |
| 050 |  |
| 051 | **if** (Input.GetKey(“left”)) { |
| 052 |  |
| 053 | **if** (NextPosi.x > -4) { |
| 054 |  |
| 055 | *//print(“rolling”);* |
| 056 |  |
| 057 | beRolling = **true**; |
| 058 |  |
| 059 | startRotate = **true**; |
| 060 |  |
| 061 | RotateDir = 0; |
| 062 |  |
| 063 | NextPosi.x--; |
| 064 |  |
| 065 | } |
| 066 |  |
| 067 | } **else** **if** (Input.GetKey(“up”)) { |
| 068 |  |
| 069 | **if** (NextPosi.z < 4) { |
| 070 |  |
| 071 | *//print(“rolling”);* |
| 072 |  |
| 073 | beRolling = **true**; |
| 074 |  |
| 075 | startRotate = **true**; |
| 076 |  |
| 077 | RotateDir = 1; |
| 078 |  |
| 079 | NextPosi.z++; |
| 080 |  |
| 081 | } |
| 082 |  |
| 083 | } **else** **if** (Input.GetKey(“right”)) { |
| 084 |  |
| 085 | **if** (NextPosi.x < 4) { |
| 086 |  |
| 087 | *//print(“rolling”);* |
| 088 |  |
| 089 | beRolling = **true**; |
| 090 |  |
| 091 | startRotate = **true**; |
| 092 |  |
| 093 | RotateDir = 2; |
| 094 |  |
| 095 | NextPosi.x++; |
| 096 |  |
| 097 | } |
| 098 |  |
| 099 | } **else** **if** (Input.GetKey(“down”)) { |
| 100 |  |
| 101 | **if** (NextPosi.z > -4) { |
| 102 |  |
| 103 | *//print(“rolling”);* |
| 104 |  |
| 105 | beRolling = **true**; |
| 106 |  |
| 107 | startRotate = **true**; |
| 108 |  |
| 109 | RotateDir = 3; |
| 110 |  |
| 111 | NextPosi.z--; |
| 112 |  |
| 113 | } |
| 114 |  |
| 115 | } |
| 116 |  |
| 117 | } **else** { |
| 118 |  |
| 119 | DoRoll(RotateDir); |
| 120 |  |
| 121 | } |
| 122 |  |
| 123 | } |
| 124 |  |
| 125 | function DoRoll(Direct: **int**) { |
| 126 |  |
| 127 | **var** spinAmount: **float** = Time.deltaTime \* cubeSpeed; |
| 128 |  |
| 129 | **var** t: **float**; |
| 130 |  |
| 131 | **var** pos: Vector3; |
| 132 |  |
| 133 | **if** (startRotate) { |
| 134 |  |
| 135 | **if** (Direct == 0) { |
| 136 |  |
| 137 | NextRot.z += 90; |
| 138 |  |
| 139 | RotatePivot = transform.position + new Vector3(-0.5, -0.5, 0); |
| 140 |  |
| 141 | } **else** **if** (Direct == 1) { |
| 142 |  |
| 143 | NextRot.x += 90; |
| 144 |  |
| 145 | RotatePivot = transform.position + new Vector3(0, -0.5, 0.5); |
| 146 |  |
| 147 | } **else** **if** (Direct == 2) { |
| 148 |  |
| 149 | NextRot.z -= 90; |
| 150 |  |
| 151 | RotatePivot = transform.position + new Vector3(0.5, -0.5, 0); |
| 152 |  |
| 153 | } **else** { |
| 154 |  |
| 155 | NextRot.x -= 90; |
| 156 |  |
| 157 | RotatePivot = transform.position + new Vector3(0, -0.5, -0.5); |
| 158 |  |
| 159 | } |
| 160 |  |
| 161 | NextRot.z = NextRot.z % 360; |
| 162 |  |
| 163 | NextRot.x = NextRot.x % 360; |
| 164 |  |
| 165 | totalRotation = 0; |
| 166 |  |
| 167 | startRotate = **false**; |
| 168 |  |
| 169 | } |
| 170 |  |
| 171 | **if** (beRolling) { |
| 172 |  |
| 173 | **if** (Direct == 0) { |
| 174 |  |
| 175 | transform.RotateAround(RotatePivot, Vector3.forward, spinAmount); |
| 176 |  |
| 177 | } **else** **if** (Direct == 1) { |
| 178 |  |
| 179 | transform.RotateAround(RotatePivot, Vector3.right, spinAmount); |
| 180 |  |
| 181 | } **else** **if** (Direct == 2) { |
| 182 |  |
| 183 | transform.RotateAround(RotatePivot, Vector3.forward \* -1, spinAmount); |
| 184 |  |
| 185 | } **else** { |
| 186 |  |
| 187 | transform.RotateAround(RotatePivot, Vector3.right \* -1, spinAmount); |
| 188 |  |
| 189 | } |
| 190 |  |
| 191 | *// add to amount of spin in this update the total rotation* |
| 192 |  |
| 193 | totalRotation += spinAmount; |
| 194 |  |
| 195 | *// check if we have to move to the next edge* |
| 196 |  |
| 197 | **if** (totalRotation >= 90) { |
| 198 |  |
| 199 | *// we move to next corner as pivot point* |
| 200 |  |
| 201 | totalRotation = 0; |
| 202 |  |
| 203 | beRolling = **false**; |
| 204 |  |
| 205 | **var** ri: **int** = 0; |
| 206 |  |
| 207 | **var** rf: **float** = transform.eulerAngles.x; |
| 208 |  |
| 209 | **if** (rf < 0) rf = 360 + rf; |
| 210 |  |
| 211 | ri = rf / 90.0; |
| 212 |  |
| 213 | **if** ((rf % 90.0) > 45) { |
| 214 |  |
| 215 | ri += 1; |
| 216 |  |
| 217 | } |
| 218 |  |
| 219 | ri = ri \* 90; |
| 220 |  |
| 221 | transform.eulerAngles.x = ri; |
| 222 |  |
| 223 | rf = transform.eulerAngles.y; |
| 224 |  |
| 225 | **if** (rf < 0) rf = 360 + rf; |
| 226 |  |
| 227 | ri = rf / 90.0; |
| 228 |  |
| 229 | **if** ((rf % 90.0) > 45) { |
| 230 |  |
| 231 | ri += 1; |
| 232 |  |
| 233 | } |
| 234 |  |
| 235 | ri = ri \* 90; |
| 236 |  |
| 237 | transform.eulerAngles.y = ri; |
| 238 |  |
| 239 | rf = transform.eulerAngles.z; |
| 240 |  |
| 241 | **if** (rf < 0) rf = 360 + rf; |
| 242 |  |
| 243 | ri = rf / 90.0; |
| 244 |  |
| 245 | **if** ((rf % 90.0) > 45) { |
| 246 |  |
| 247 | ri += 1; |
| 248 |  |
| 249 | } |
| 250 |  |
| 251 | ri = ri \* 90; |
| 252 |  |
| 253 | transform.eulerAngles.z = ri; |
| 254 |  |
| 255 | transform.position = NextPosi; |
| 256 |  |
| 257 | print(“rolling OK rotation :” + transform.eulerAngles); |
| 258 |  |
| 259 | } |
| 260 |  |
| 261 | } |
| 262 |  |
| 263 | } |