**Unity3D脚本：Unity3D+Kinect OpenNI开发获取身高**

Posted on 2013年02月04日 by U3d / [Unity3D脚本/插件](http://www.unitymanual.com/category/script)/被围观 357 次

Kinect Openni在Unity3D中获取人的身高的脚本。

using UnityEngine;  
using System.Collections;  
using System;  
using System.Collections.Generic;  
public class GetHeight : MonoBehaviour {  
public static double height=0.0; //人的身高  
public float people\_kinectSpleed=2.4f; //人到kinect的距离，（kinect自身有效距离大概在1.2m-3.5m之间【XBOX】）  
public bool isDynamicGetHeight=false; //是否动态获取身高

void Zig\_Update(ZigInput zig) {  
foreach (ZigTrackedUser trackedUser in zig.TrackedUsers.Values) {  
if(isDynamicGetHeight){ //  
if(trackedUser.SkeletonTracked){  
height=Height(trackedUser.Skeleton);  
}  
}else{  
if(Math.Round(trackedUser.Position.z / 1000,1)<-people\_kinectSpleed){  
if (trackedUser.SkeletonTracked && height==0.0) {  
height=Height(trackedUser.Skeleton); //得到当前使用用户所有的节点  
}  
}  
}  
}  
}

public double Height(ZigInputJoint[] skeleton)  
{

const double HEAD\_DIVERGENCE = 0.1;  
ZigInputJoint head = skeleton[(int)ZigJointId.Head];  
ZigInputJoint neck = skeleton[(int)ZigJointId.Neck];  
ZigInputJoint spine = skeleton[(int)ZigJointId.Torso];  
ZigInputJoint waist = skeleton[(int)ZigJointId.Waist];  
ZigInputJoint hipLeft = skeleton[(int)ZigJointId.LeftHip];  
ZigInputJoint hipRight = skeleton[(int)ZigJointId.RightHip];  
ZigInputJoint kneeLeft = skeleton[(int)ZigJointId.LeftKnee];  
ZigInputJoint kneeRight = skeleton[(int)ZigJointId.RightKnee];  
ZigInputJoint ankleLeft = skeleton[(int)ZigJointId.LeftAnkle];  
ZigInputJoint ankleRight = skeleton[(int)ZigJointId.RightAnkle];  
ZigInputJoint footLeft = skeleton[(int)ZigJointId.LeftFoot];  
ZigInputJoint footRight = skeleton[(int)ZigJointId.RightFoot];  
// Find which leg is tracked more accurately.  
int legLeftTrackedJoints = NumberOfTrackedJoints(hipLeft, kneeLeft, ankleLeft, footLeft);  
int legRightTrackedJoints = NumberOfTrackedJoints(hipRight, kneeRight, ankleRight, footRight);  
double legLength = legLeftTrackedJoints > legRightTrackedJoints ? Length(hipLeft, kneeLeft, ankleLeft, footLeft) : Length(hipRight, kneeRight, ankleRight, footRight);  
return Math.Round(Length(head, neck, spine, waist) + legLength + HEAD\_DIVERGENCE,2);  
}

public double Length(ZigInputJoint p1, ZigInputJoint p2)  
{

return Mathf.Sqrt(Mathf.Pow((p1.Position.x - p2.Position.x) / 1000, 2) +Mathf.Pow((p1.Position.y - p2.Position.y) / 1000, 2) + Mathf.Pow((p1.Position.z - p2.Position.z) / 1000, 2));  
}

public double Length(params ZigInputJoint[] joints)  
{  
double length = 0;  
for (int index = 0; index < joints.Length - 1; index++)  
{  
length += Length(joints[index], joints[index + 1]);  
}  
return length;  
}

public int NumberOfTrackedJoints(params ZigInputJoint[] joints)  
{  
int trackedJoints = 0;  
foreach (ZigInputJoint joint in joints)  
{

trackedJoints++;

}  
return trackedJoints;  
}  
}