﻿using UnityEngine;

namespace UnityStandardAssets.Utility

{

public class SmoothFollow : MonoBehaviour

{

// The target we are following

[SerializeField]

private Transform target;

// The distance in the x-z plane to the target

[SerializeField]

private float distance = 10.0f;

// the height we want the camera to be above the target

[SerializeField]

private float height = 5.0f;

[SerializeField]

private float rotationDamping;

[SerializeField]

private float heightDamping;

// Use this for initialization

void Start() { }

// Update is called once per frame

void LateUpdate()

{

// Early out if we don't have a target

if (!target)

return;

// Calculate the current rotation angles

var wantedRotationAngle = target.eulerAngles.y;

var wantedHeight = target.position.y + height;

var currentRotationAngle = transform.eulerAngles.y;

var currentHeight = transform.position.y;

// Damp the rotation around the y-axis

currentRotationAngle = Mathf.LerpAngle(currentRotationAngle, wantedRotationAngle, rotationDamping \* Time.deltaTime);

// Damp the height

currentHeight = Mathf.Lerp(currentHeight, wantedHeight, heightDamping \* Time.deltaTime);

// Convert the angle into a rotation

var currentRotation = Quaternion.Euler(0, currentRotationAngle, 0);

// Set the position of the camera on the x-z plane to:

// distance meters behind the target

transform.position = target.position;

transform.position -= currentRotation \* Vector3.forward \* distance;

// Set the height of the camera

transform.position = new Vector3(transform.position.x ,currentHeight , transform.position.z);

// Always look at the target

transform.LookAt(target);

}

}

}