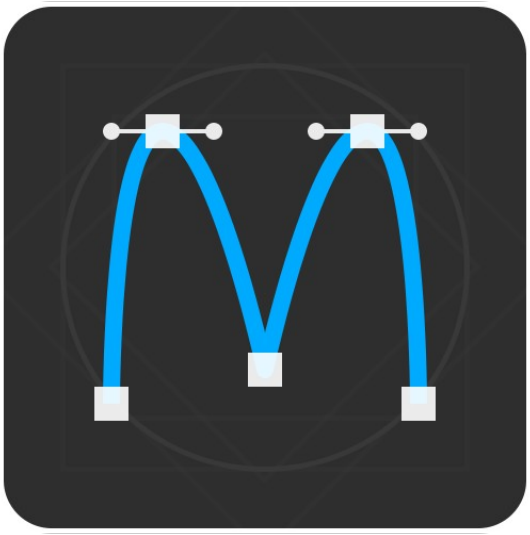


Motion Path

Animation Editor

version 2.6.0

Introduction

This tool gets the active animation clip in the animation window and visualizes the motion of objects as paths. You can modify these paths with handles if they are made of position changes.

Topics

Getting Started

1. Create a new **GameObject**.
2. Open the **Animation** window.
3. Create an **AnimationClip** in the **Animation** window.
3. Animate your **GameObject**. (Move it from point A to point B!)
4. Open the **MotionPathAnimEditor** window. (Tools > Script Boy > Motion Path Animation Editor)
5. Select that gameobject and go to **MotionPathList** then click the + button.

That's it! You can see the path of your object.

MotionPathAnimEditor Window

How to open?

In the Unity menu bar, go to Tools > Script Boy > Motion Path Animation Editor.

Top Bar Buttons

 : Enable/Disable the path handles.

 : Open/Close the Settings window.

Motion Path List Buttons

 : Create a motion path of the selected object in the hierarchy.

 : Delete the selected motion path in the list.

Motion Path Buttons

 : Enable/Disable the visibility of the motion path.

 : Enable/Disable the motion path handles.

 : Loop the motion path. (Connect the start point of the path to the end point.

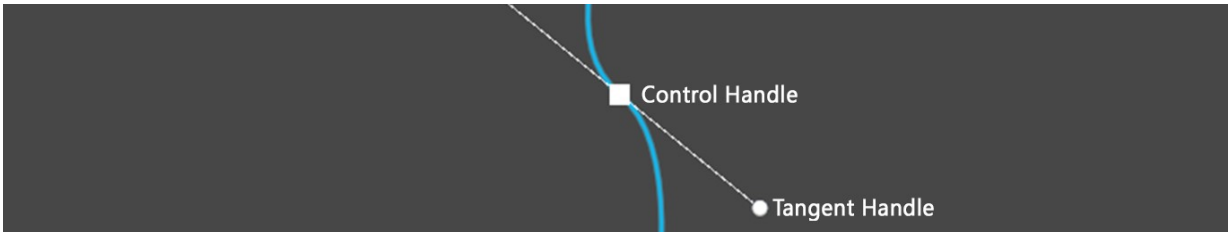
Path Handles

Handle Types

There are 2 types of handles:

■ **Control Handle**

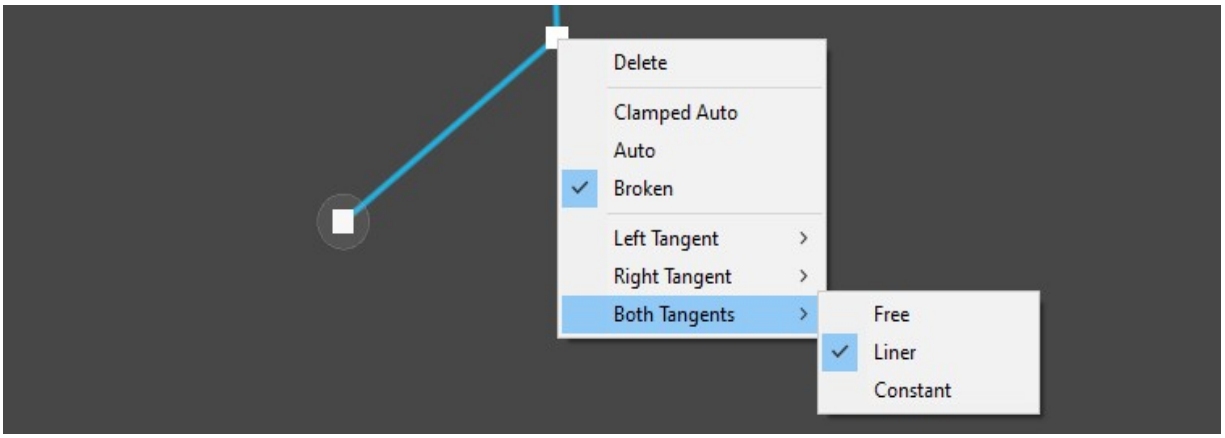
● **Tangent Handle**



Note: The tangent handle is only visible when the tangent mode is free.

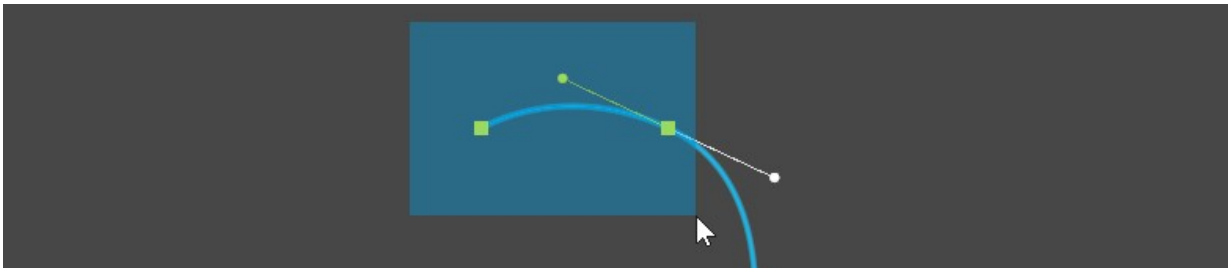
Handle Menu

You can edit the tangent mode of the handle if you right click on the control handle.

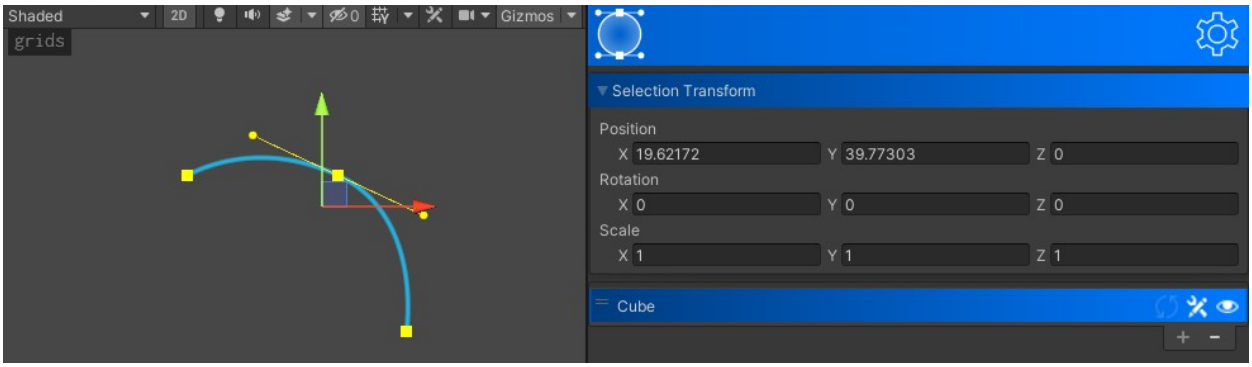


Selection

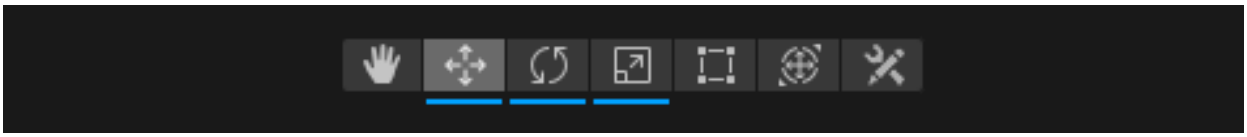
You can select 2 or more handles.



Then change their positions at the same time!



You can move/rotate/scale a selection of handles.



Hotkeys

When Dragging Handles

Holding Ctrl: Snap a handle to the grid.

When Dragging Control Handles

Holding Alt: Rest tangent handles.

When Dragging Tangent Handles

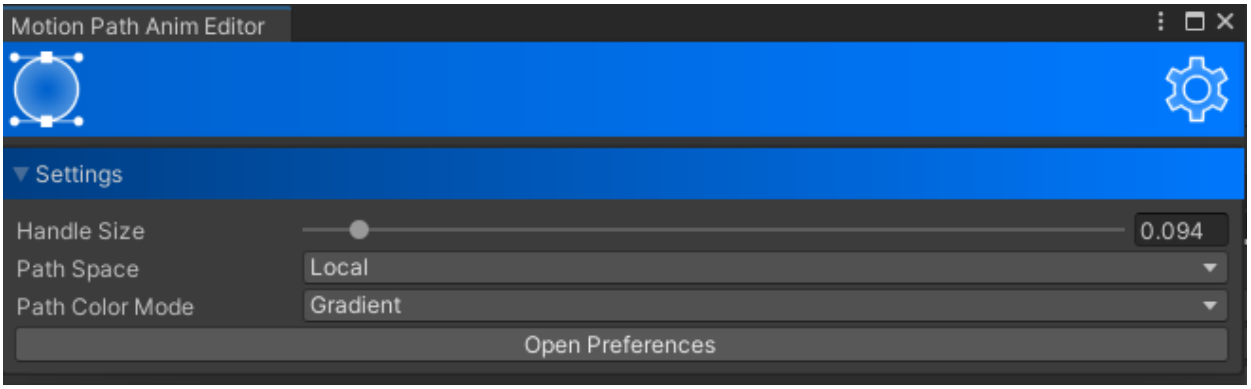
Holding Alt: Break the connection between the left tangent and the right tangent.

When Selecting Handles

Holding Shift: Add more handles to the selection.
Holding Ctrl: Remove handles from the selection.

Settings

You can open this window by clicking the settings icon in the MotionPathAnimEditor window.

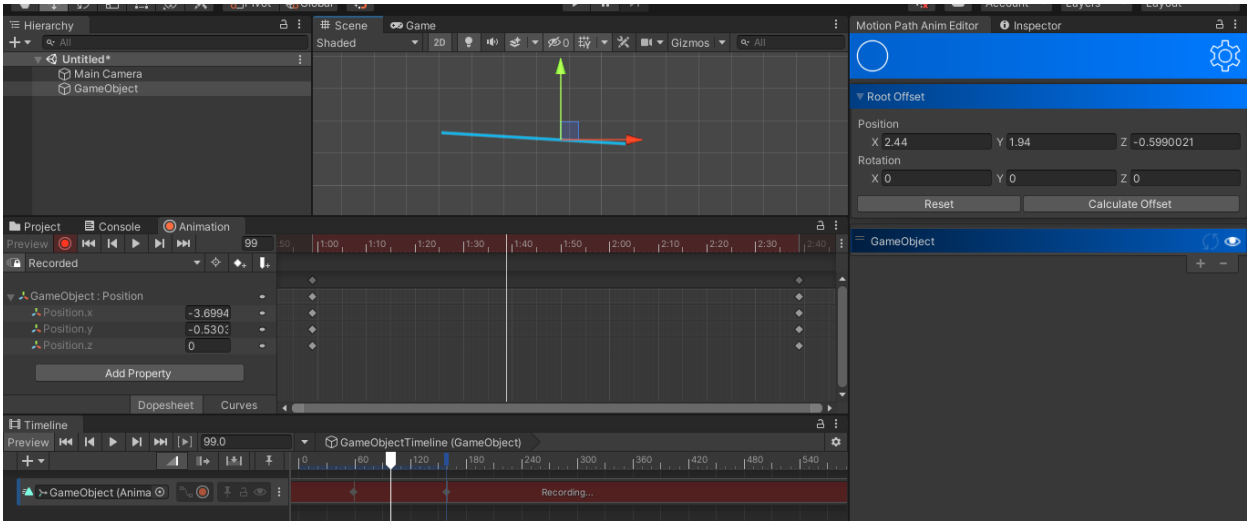


Handle Size: Set the size of the editor handles.
Path Space (Local/World)
Local: The path shows the position of the object through local space.
World: The path shows the position of the object through world space.
Path Color Mode (Color/Gradient)
PathColor: Draw paths with a single color.
Gradient: Draw paths with a gradient.
(The path color changes based on the object's velocity.)
Path Color Mode (Color/Gradient)
Open Preferences (Added in v.2.4.0): Click this button to quickly open the Preferences window.

Root Offset

(Added in v.2.2.0)

You can apply a custom offset to the path of the root object. It is useful when you are using Timeline and your Animation Track has offsets.



To enable this feature:

- In the Unity menu bar, Go to Edit > Preferences > Motion Path Animation Editor
- Set the **Use Root Offset** to **True**.
- Set the **Path Space** to **Local**.

Hide Handles

(Added in v.2.4.0)

This feature allows you to hide controls or tangents.

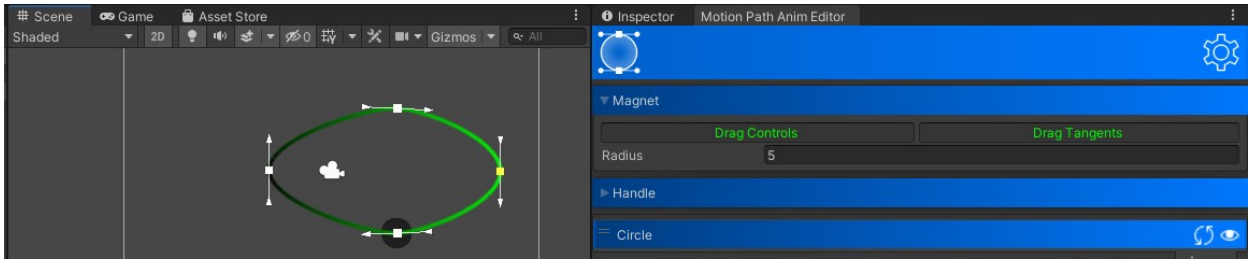
To enable this feature:

- In the Unity menu bar, Go to Edit > Preferences > Motion Path Animation Editor
- Set the **Use Hide Handles** to **True**.

Magnet

(Added in v.2.4.0)

This feature allows you to smoothly drag neighboring handles of selected handles.

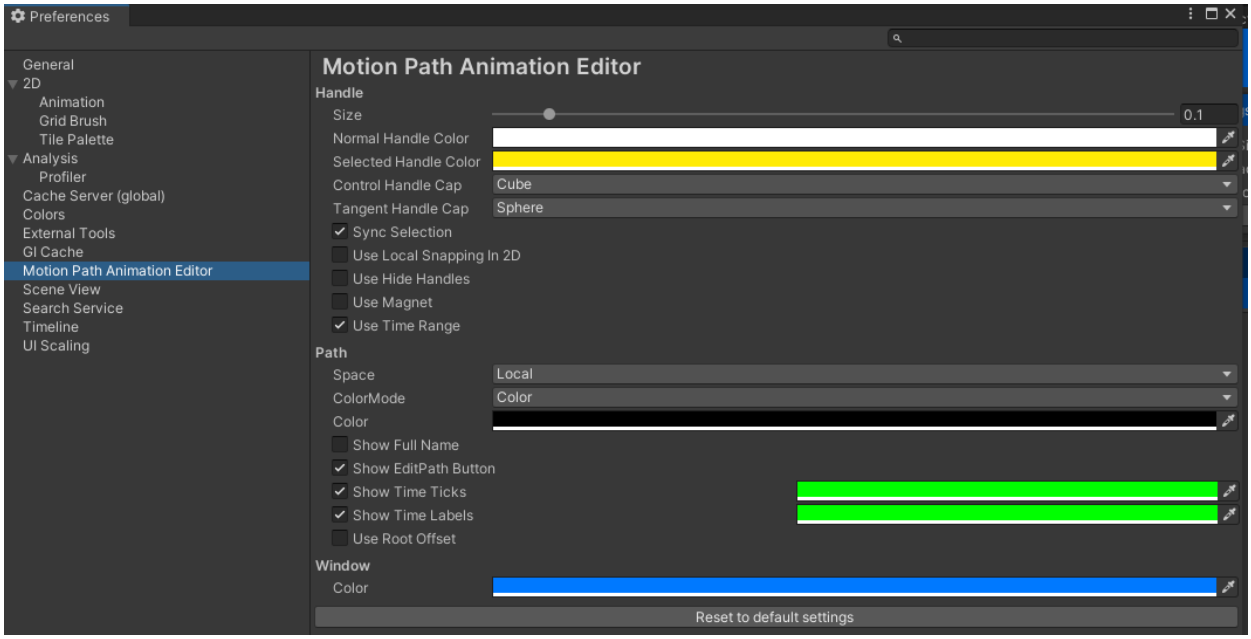


To enable this feature:

- In the Unity menu bar, Go to Edit > Preferences > Motion Path Animation Editor
- Set the **Use Magnet** to **True**.

Preferences

In the Unity menu bar, go to Edit > Preferences > Motion Path Animation Editor.



Handle

Size: Set the size of the editor handles.
Normal/Selected Handle Color: The color of the editor handles.
Control/Tangent Handle Cap: Set the cap shape of the editor handles. **(Cube/Sphere/Cone)**
☑ **Sync Selection (Added in v.2.5.0):** Synchronize handle selection with keyframe selection.
☑ **Use Local Snapping In 2D:** By default you can only snap a handle to the world grid.
You can enable this feature to snap a handle to the local grid related to the parent object.
(It only works in 2D!)
☑ **Use Hide Handles (Added in v.2.4.0):** This feature allows you to hide controls or tangents.
☑ **Use Magnet (Added in v.2.4.0):** This feature allows you to smoothly drag neighboring handles of selected handles.
☑ **Use Time Range (Updated in v.2.6.0):** This feature allows you to hide handles and paths outside of the visible time range in the Animation window.

Path

Space (Local/World)

Local: The path shows the position of the object through local space.

World: The path shows the position of the object through world space.

Color Mode (Color/Gradient)

Color: Draw paths with a single color.

Gradient: Draw paths with a gradient.

(The path color changes based on the object's velocity.)

Accuracy: Set the number of path segments between 2 keyframes. (if ColorMode == Gradient)

☑ **Show Full Name:** Show the motion path full name in the MotionPath list.

☑ **Show EditPath Button (Added in v.2.2.0):** Show the EditPath button in the MotionPath list.

If you turn this off, all paths will be editable only based on the EditMode button.

☑ **Show Time Ticks (Added in v.2.6.0):** This feature allows you to display time ticks along motion paths.

☑ **Show Time Labels (Added in v.2.6.0):** This feature allows you to display time labels along motion paths.

☑ **Use Root Offset (Added in v.2.2.0):** You can manually apply a custom offset to the path of the root object.

Window

Color: Set the color of the MotionPathAnimEditor window.

Scripting API

(Added in v.2.6.0)

Motion Path Utility

This class provides functions for creating or removing motion paths. It is useful when you have characters with many IKs, so you don't need to click the + button many times.

public static void Create(Transform root, List<Transform> transforms)
Creates motion paths for the specified transforms under the given root transform.

public static void Remove(Transform root, List<Transform> transforms)
Removes motion paths associated with the specified transforms under the given root transform.

public static void Clear(Transform root)
Remove all motion paths under the given root transform.

public static void Get(Transform root, List<Transform> transforms)
Retrieves the transforms of motion paths under the given root transform.

Here is an example that automatically finds character effectors and creates their motion paths:

```
using System.Collections.Generic;
using UnityEngine;
using ScriptBoy.MotionPathAnimEditor;

public class Example : MonoBehaviour
{
    [SerializeField] Animator m_Animator;

    [ContextMenu("Test")]
    public void Test()
    {
        Transform root = m_Animator.transform;

        LimbSolver[] limbSolvers = root.GetComponentsInChildren<LimbSolver>();

        List<Transform> effectors = new List<Transform>();

        foreach (var limbSolver in limbSolvers)
        {
            effectors.Add(limbSolver.effector);
        }

        MotionPathUtility.Clear(root);

        MotionPathUtility.Create(root, effectors);
    }
}
```

✉ Links & Contact Info

https://youtube.com/MotionPathAnimationEditor

ScriptBoyTools@outlook.com

ScriptBoyUnity@gmail.com

Have Fun!
Script Boy
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