

## About the Smooth Collider Obj component

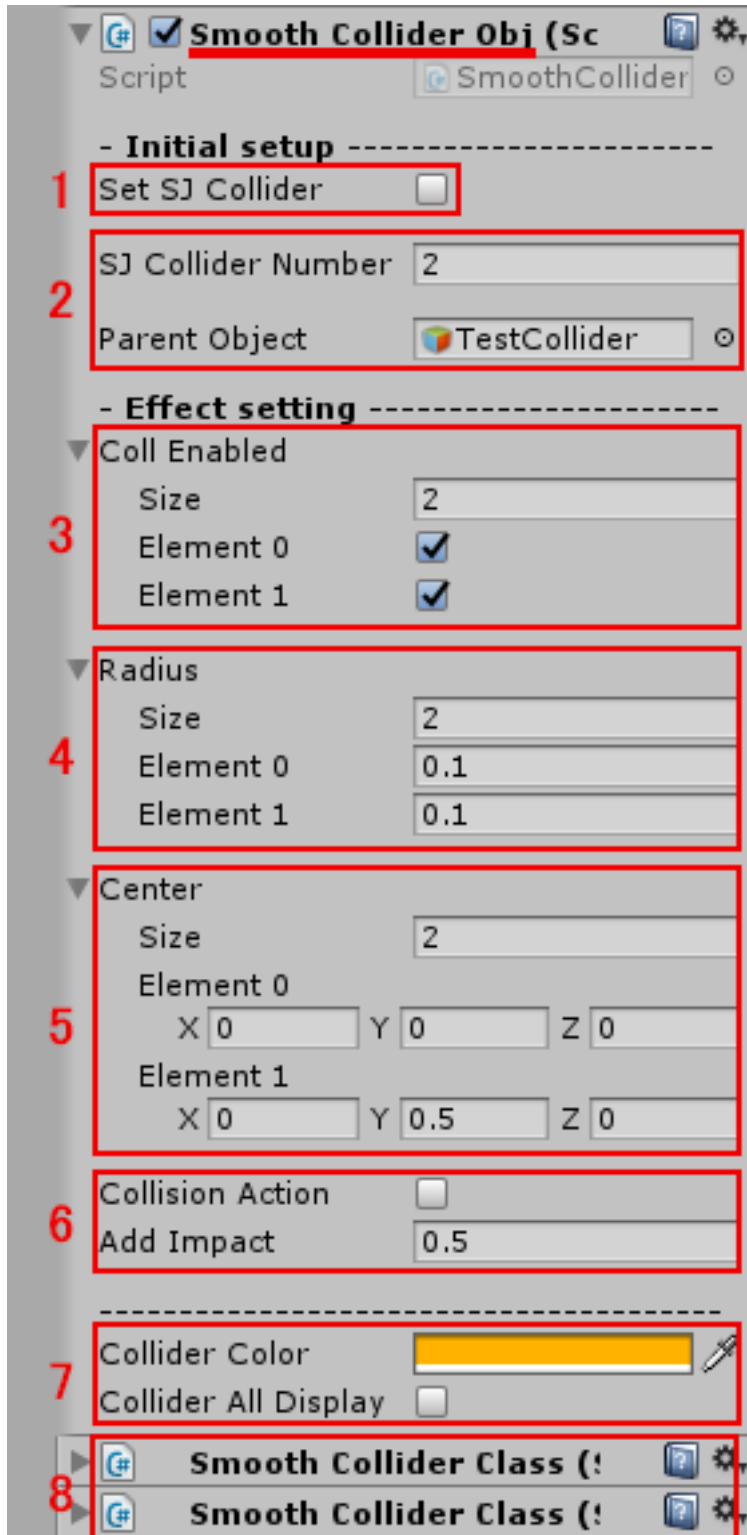
Smooth Joint Asset has unique capabilities of collision detection and avoidance processing with no use of the physical computation function of Unity3d; Unity3d's Collider and RigidbodyComponent are not necessary.

Smooth Collider Obj is a component that sets the collision range and points in place of Unity3d.

The Smooth Collider Class component is used to exchange the real-time data between Smooth Joint and Smooth Collider Obj.

There is no content that the customer sets about Smooth Collider Class.

Currently, only the sphere-shaped type is available for collision detection. We believe this is the best decision based on our examination on processing load, etc. Sorry for any inconvenience caused thereby.



### Setting of Smooth Collider Obj

(script that controls collision judgment destination)

#### Item explanation

##### – Initial setup –

- 1 Set SJ Collider

Button that sets GameObject that does collision judgment to customer's Project automatically.

- 2 SJ Collider Number

The number is set. how many GameObject that does the collision judgment to GameObject that sets the collision to add

- 2 Parent Object

GameObject that sets the collision is set automatically.

##### – Effect setting –

- 3 Coll Enabled

You can temporarily enable or disable the Collider generated by Smooth Collider Obj.

(When SJ Collider Number is changed, the number of lists is updated in the automatic operation.)

As the collision destination is referenced on the Smooth Joint side, delete the Collider registration instead of just specifying as invalid when it is unnecessary in the end.

Even when checking the collision area (Collider) of the editing destination, it can be used by switching the display by valid or invalid.

#### 4 Radius

The radius of the impingement region of the ball type is set.

(When SJ Collider Number is changed, the number of lists is updated in the automatic operation. )

#### 5 Center

The impingement region of the ball type is set to the local coordinate on GameObject that sets the collision.

(When SJ Collider Number is changed, the number of lists is updated in the automatic operation. )

#### 6 Collision Action

To control the behavior of GameObject at the time of the collision.

(Adds a vector of collision avoidance on the world coordinates)

#### 6 Add Impact

Adjustment of the collision avoidance vector. (Addition magnification)

#### 7 Collider Color

The ball display color for the collision judgment setting is set.

#### 7 Collider All Display

The ball for the collision judgment setting is displayed always.

#### 8 Smooth Collider Class

When the Set SJ Collider button is pushed, an additional update is done by the automatic operation.

There is no setting item for Smooth Collider Class.

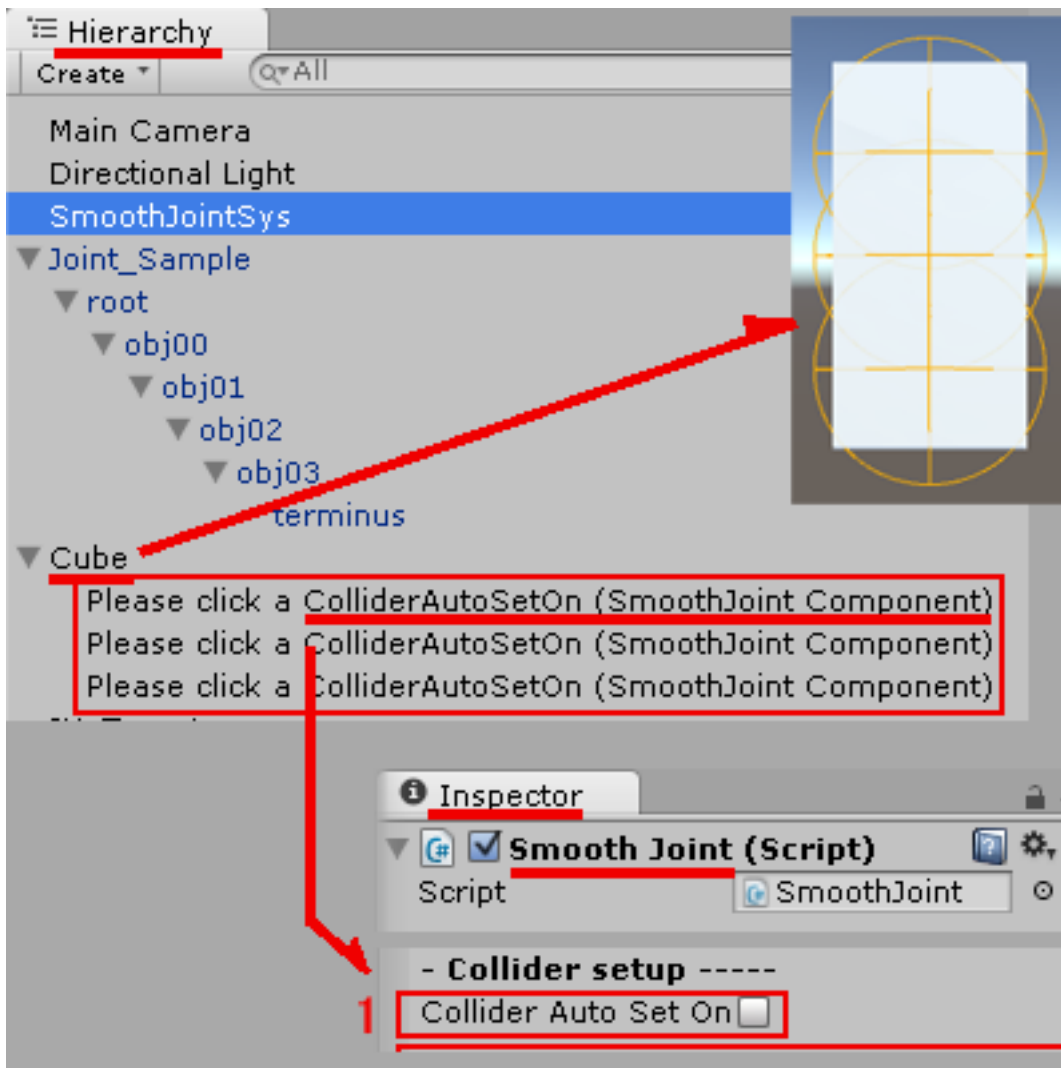
### **GameObject that does the collision judgment is set.**

1 Add Smooth Collider Obj with Add Component to the GameObject you want to specify as a collision destination.

2 Set the sphere type collision range (Collider) according to the shape of GameObject specified as the collision destination.

After setting the required number to SJ Collider Number, click the Set SJ Collider button.

3 The number of elements in the array list is updated. (Coll Enabled, Radius, Center, Smooth Collider Class)



The impingement region of the ball type is added to GameObject with which customer's Project collides as a child of the hierarchy. (Please click a ColliderAutoSetOn (~)GameObject of the mark is it )

4 The radius of the impingement region of the ball type is set. Please set the value of Radius.

5 The impingement region of the ball type is set to the local coordinate on GameObject that sets the collision.

The numerical value is input to Center. Or, it moves with the mouse on Scene after it selects it with Hierarchy and it sets it.

6 If there are other GameObjects for collision in your project and you want to reuse the Smooth Collider Obj as is, use Copy Component in the Inspector.

The mouse is right-clicked on the Smooth Collider Obj component that reproduces.

Copy Component > Another colliding GameObject > Inspector > Paste Component As New

The Smooth Collider Obj setting is an automatic renewal. Smooth Collider Class is added.

7 It returns to the Smooth Joint component to control the hierarchy to be done the collision processing after the setting of Smooth Collider Obj.

8 GameObject that sets Smooth Collider Obj to Collider Root Obj on Smooth Joint (Refer to the collision setting) is set. You may set the root in case of the situation such as rig.

9 When the Collider Auto Set On button on Smooth Joint (Refer to the collision setting) is clicked, it is registered automatically.

(Impingement region GameObject name of the ball type displayed on Hierarchy by the automatic operation is changed. )

10 The content of Smooth Collider Obj registered in Coll List on Smooth Joint (Refer to the data confirmation) after registration can be confirmed. When you want to optimize the processing speed and the memory efficiency Please edit Element of a collision unnecessary judgment in this list.

11 If you want to delete the generated collision range (Collider) because you no longer need it, on the Smooth Collider Obj component

Set SJ Collider Number to 1 and click Set SJ Collider several times

The number of items will be 1 (Col Enabled, Radius, Center, Smooth Collider Class).

Since the generated collision range (Collider) is also one, please manually delete the collision range (Collider), Smooth Collider Class, and Smooth Collider Obj components afterward.

If you want to delete the collision range (Collider) individually, delete the collision range (Collider) manually.

If you click Set SJ Collider after deleting a collision range (Collider), each item (Coll Enabled, Radius, Center, Smooth Collider Class) that is no longer needed is also deleted.

## **Attention.**

If you add a collision destination in the Smooth Collider Obj component, be sure to click the Collider Auto Set On button on the Smooth Joint component (see Collision setting) to update the information.

If you change the value of Radius or the coordinates of Center, there is no need to update.

If you delete the collision range (Collider) on the hierarchy, etc.  
Be sure to click the Set SJ Collider button on Smooth Collider Obj to update the settings.

When you delete Smooth Collider Obj Component from the Inspector, please delete Smooth Collider Class Component at the same time.

Please delete impingement region GameObjec of the ball type similarly. (Hierarchy)

If any failure occurs, first click the Set SJ Collider button on Smooth Collider Obj to refresh the settings and see if the failure recurs.

When the problem does not solve by setting Smooth Collider Obj

Please delete Smooth Collider Obj, Smooth Collider Class, and impingement region GameObject of the ball type and set it from the start again.