Manual
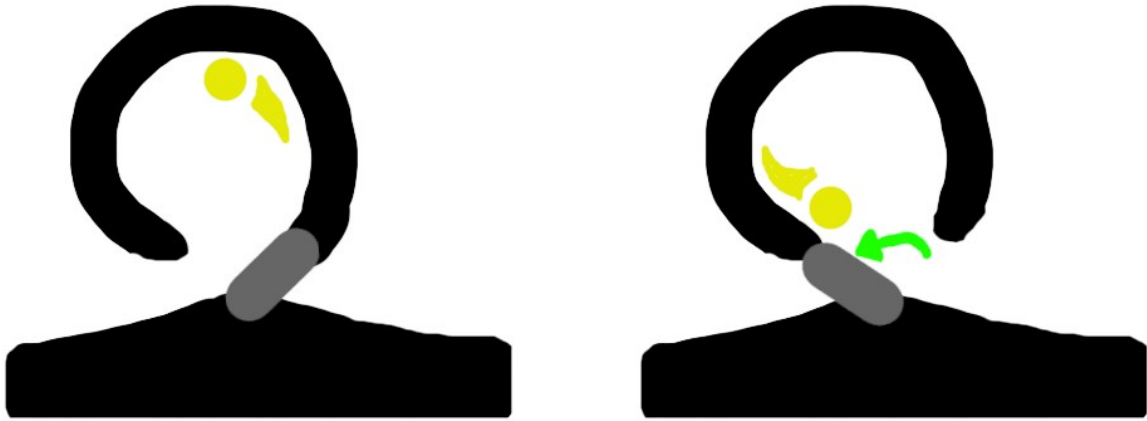

Looping in 2.5D with 2D physics.

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1. Understanding how it works (aka „what are ZFields?!?")

In order for a looping to be possible in 2D you have to cut a hole into the collider at some point as in 2D objects can not pass behind each other (there is no depth). A common solutions is to add a moving part into the loop to allow objects to pass through on demand.

In principle this is what this asset does as well, only that there is no moving part but a hidden collider swap.
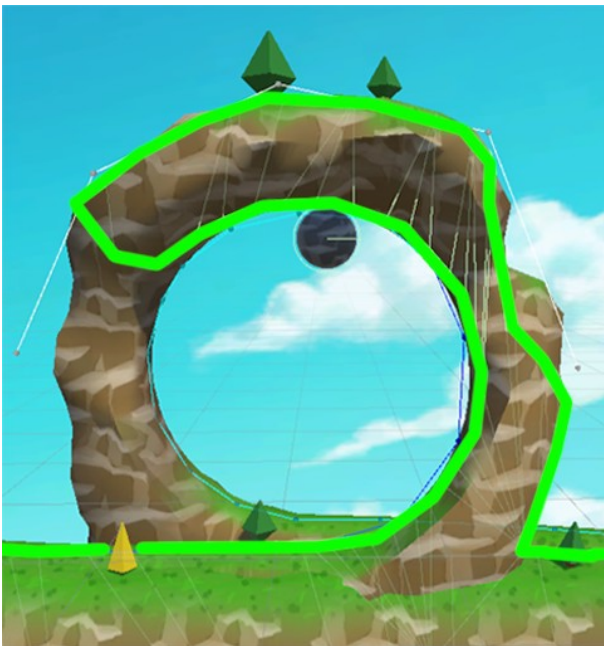
Now the remaining problem is the position of the object in depth. The object (the ball) has to move back to avoid a visual collision with the terrain (notice the difference between ball z position and the 2d collider position).

To control the z position we use a list of points connected by lines. In the code those are called „**ZFields**".
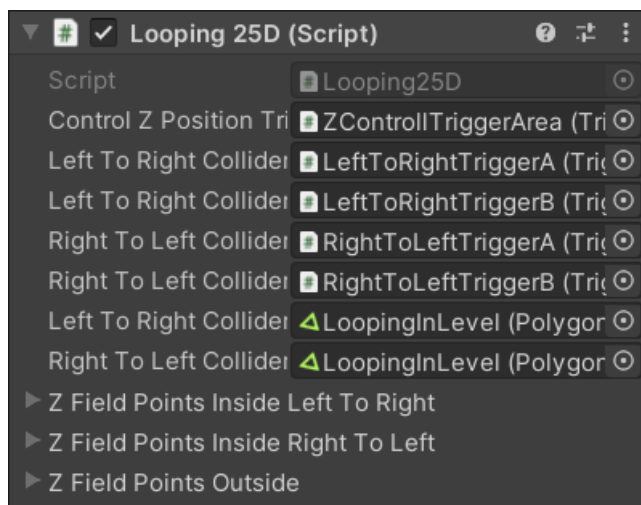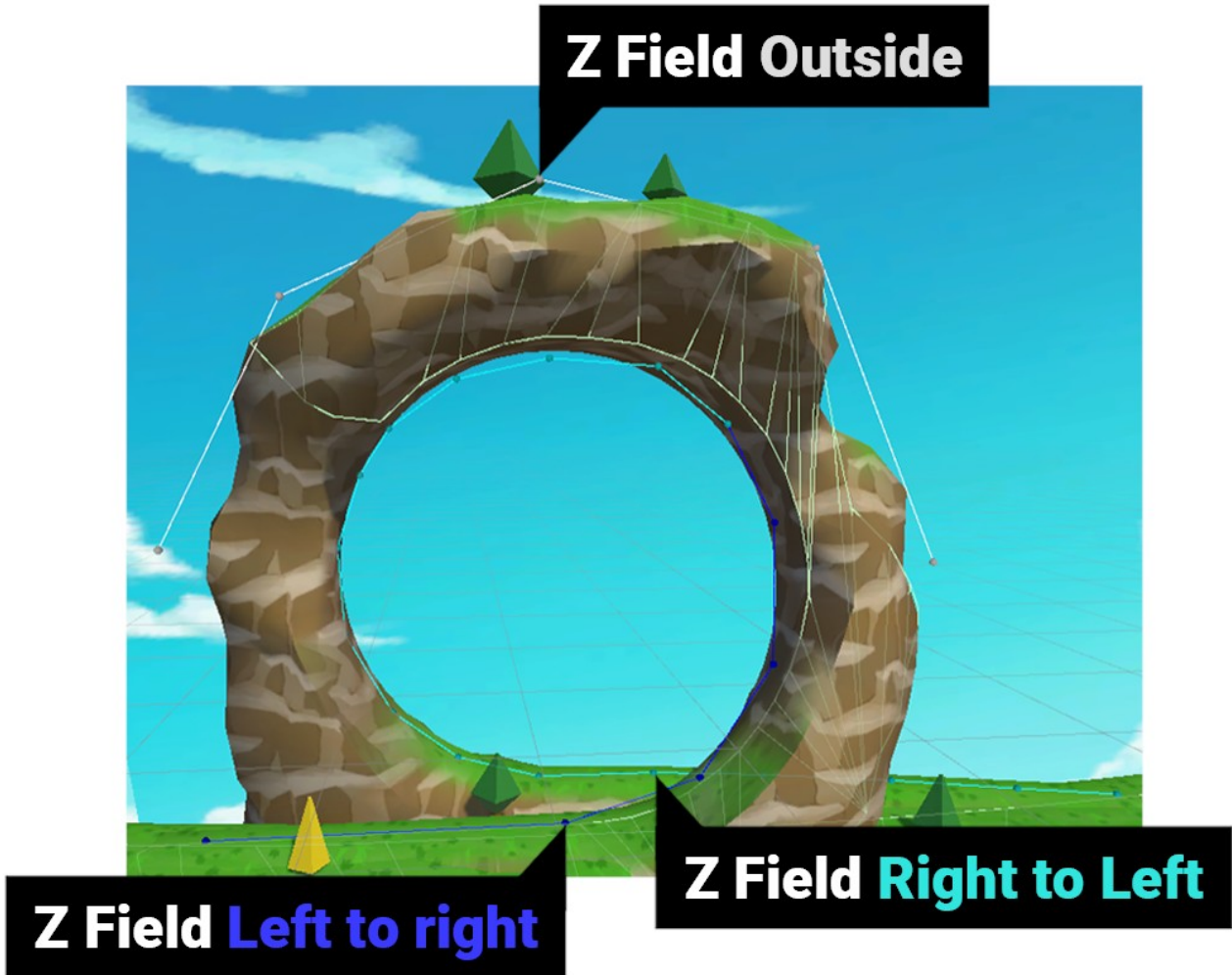

Z Field points are blue or cyan or white

There are three lists of points:

LeftToRight (blue): Are for when the object moves from left to right.
RightToLeft (cyan): Are for when the object moves from right to left.
**Outside (white):** Are for when the object moves on the outside.

Once the object enters the „**ZControlTriggerArea**" the z-position will be controlled by the closest point in the currently active ZFields.

The points are actually just empty game objects in the scene which are assigned to a list on the loop object. You can easily modify them (for example if you want to use them on a custom mesh).

The change of the z position is done via a call to „**IloopingReceiver**".
In fact any object which should be handled by the looping logic needs to have a script which implements this interface.
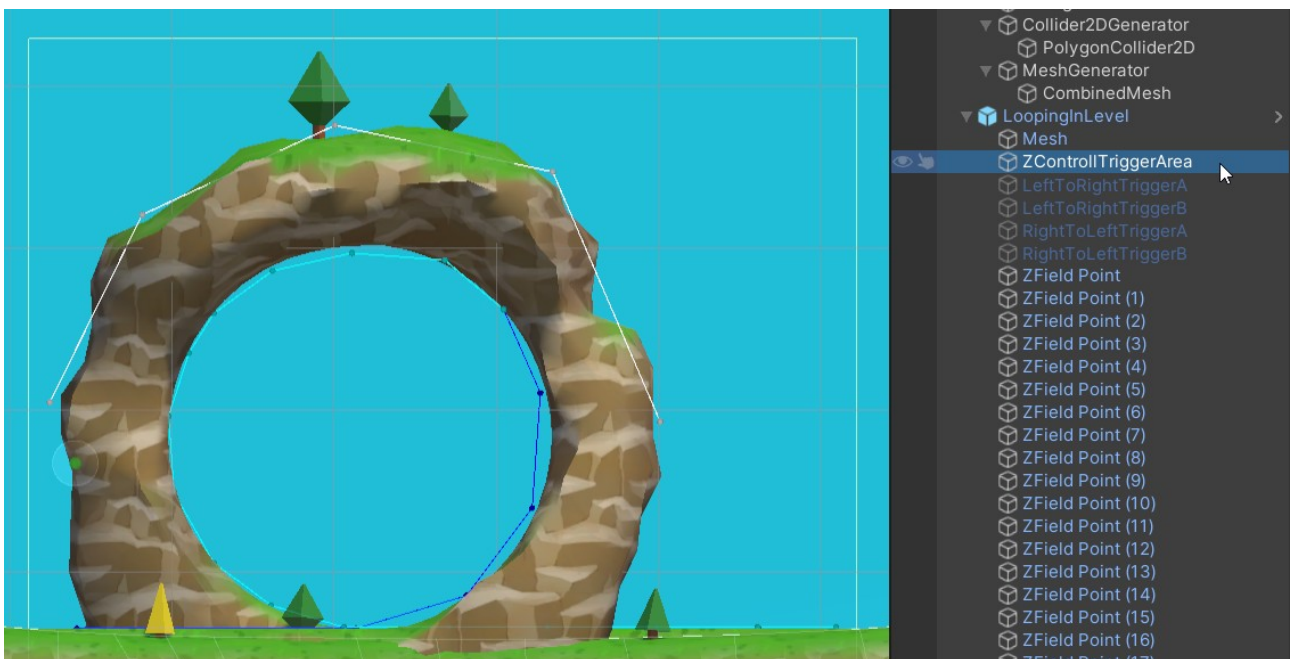
2. Using the demo

Under **Assets/2.5D Looping/Examples/DemoWithTerrain** you will find a ready-to-play demo scene. Open it and press play in the editor.

Once the demo scene is running press „D" to start accelerating to the right.
You can control the ball with the A and D keys or the arrow keys. Press „SPACE" to jump.

Take a look at the scripts under **Assets/2.5D Looping/Examples** to get a feeling for how things work.

Under **Assets/2.5D Looping/Models/Blender.zip** you will find the original Blender file of the loop model. Notice: The actual models used in the prefabs are the .fbx files under **Assets/Models**.

The terrain in the demo scene has been created with **2.5D Terrain** and the bridge with **2.5D Bridge Builder**.

If you like this asset please consider leaving a review.
Thank you!