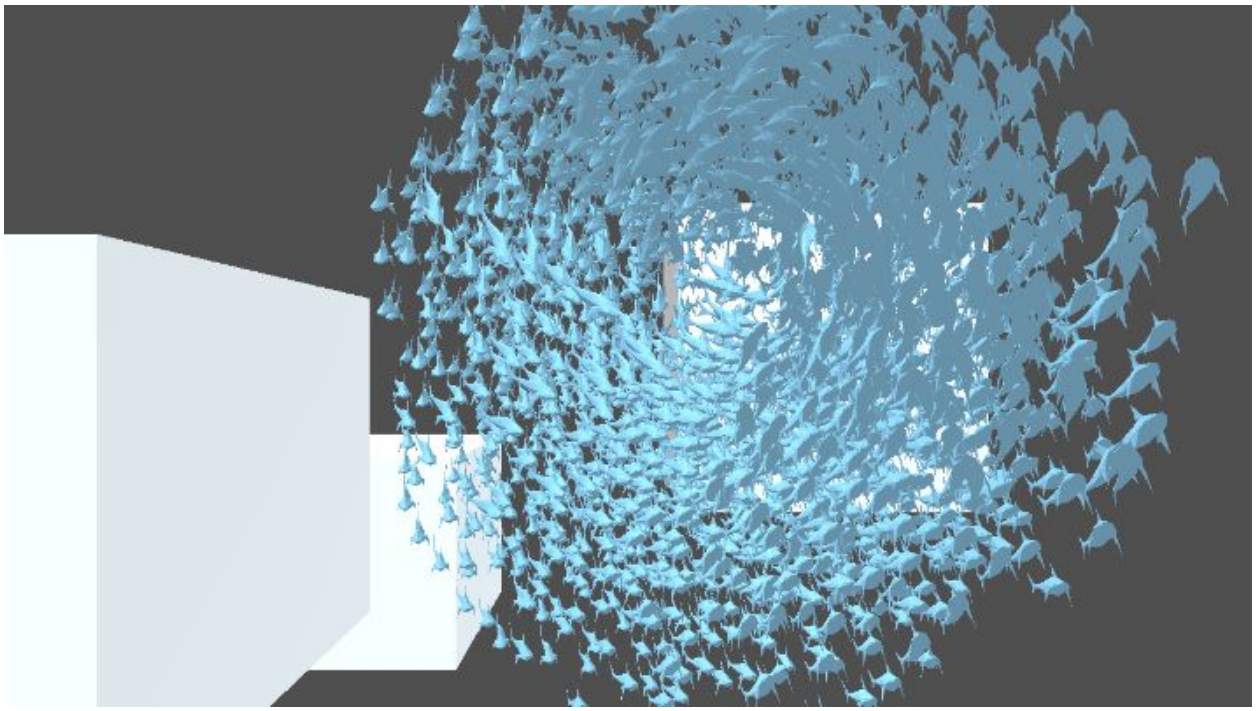
Fish Flock



Drag and drop the Fish Flock Controller script to any object on your scene, and configure each property through the inspector. Each property is described with a tooltip, just put the mouse cursor over the property and it will show a description of it. The CPU controller uses a separated thread to calculate the flocking behaviours that are applied to the fishes, the GPU controller uses a compute shader and an instanced shader to calculate the fishes flocking.

On the demo's folder, there are demos like:

- FollowTarget: This demo will show you how the fishes behave when they follow a specific target on the scene.
- FollowRandomPoints: This demo will show you how the fishes behave when they follow a segment of generated points on the scene, inside the bounds of the controller.
- MultiControllers: This demo will show you how to use two controllers on the same scene.
- Predator: This demo will show you an example of a predator fish eating the fish from the shoal.
- CustomBehaviourControl: This demo will show you an example of how to modify the FishBehaviour data using a simple script that increases and decreases the acceleration, speed and turn speed of the fishes.
- GPU: It shows how you can use the flocking on the GPU, it's way faster and allows you to use a lot more fishes. This demo has 12k fishes, 4 different instances on the hierarchy shows you some of the options you can change on this controller.

- FishFlockController V2: This is a demo that shows the new version of the “CPU mode”, it was created with the purpose of simulating the same behaviour as the GPU mode, and also it supports instancing rendering.

Note 1: Besides the demos scene there is a “Menu” scene that contains buttons so you can select a demo that you want to see, and by pressing “Esc” you can go back to the menu from any demo.

Note 2: If you are planning to use more than one flock of fishes that has fishes rendered with the instancing mode or the GPU version that is also using instancing (it calculates the fishes behaviours through a Compute Shader), you MUST have two different materials for each instance of the flock controller, I wasn’t able to track down why, but it seems that drawing graphics with the same material in the same scene will just draw the last created one, because I think it sends the fishes data directly to the material asset, not a different instance in runtime. So wether you use the flock CPU mode V2 with the flock GPU mode, or two flocks GPU mode, or any combination of those who use the instancing feature and do not spawn any game object in the scene to render, each one of them must have a different material to use. If you want something as a reference look at the GPU demo, it has 4 different instances of the flock controller and it uses different materials with same properties (just different colors).

No code is required to use the asset, except if you want to use the Custom Behaviour to modify the data values of the fishes, it requires very simple knowledge on C# as you can see through the demo, the rest you just have to manipulate it through the editor.

Besides the Fish Flocking, there is 1 shader included that applys a simple effect on the fish model that simulates a fish swimming, it has these properties on it’s material:

- Animation Speed: The speed that the fish will animates to simulate the swimming.
- Scale: How much the fish will animate, the lower the value is less movements it does.
- Yaw: The usual swimming effect where the fish makes a “ping-pong” effect with his head and it’s body follows.
- Roll: The movement scale the fish does with the lower part of it’s body to the left/right.

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Thanks for purchasing!
Good luck!