Instant Tropical Fish

Cosmocat Games

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Thanks for downloading Instant Tropical Fish! Instant Tropical Fish provides everything you need to quickly add a variety of tropical fish to your scene, including a simple fish AI, water shader, caustics projector, and decor.

ONE

QUICK START

To get started, simply drag and drop a fish prefab into your scene. Upon playing, the fish will swim around the scene, avoiding any colliders.

You can find the fish prefabs in: `Cosmocat\InstantFish\Prefabs`

Important: If you modify a prefab be sure to save it as a new prefab (or prefab variant) outside of the Cosmocat directory.

By default, the water level is 0 on the Y-axis. The fish will not swim above this level. If you would like to override this, add a `WaterLevel` component to your scene and adjust as needed.

CUSTOMIZING FISH

The appearance of fish is made up of two parts:

- A prefab, which dictates the structure of the fish (body shape, head shape, number of fins and fin locations)

- A profile, which dictates the textures, fins, and eyes

Upon dragging a prefab into the scene, have a look at the Fish component. You'll notice a `Profile` attribute. Here you can specify a different profile. If you wish to preview profiles in the editor, click the Refresh button. (Note: this will happen automatically when playing the scene.)

Tip: Several pre-defined profiles are available and can be mixed & matched with any prefab. For even more variation, a Random profile has been provided. This pulls from all available textures and fin types, creating new and interesting combinations.

Tip: You can see a variety of fish on display in the `FishViewer` demo scene.

THREE

SPAWNING FISH

Instant Tropical Fish comes bundled with a fish spawning component which will spawn fish on a 3D grid, avoiding any colliders in your scene. To make use of this component, add a new GameObject to your scene and assign the `FishSpawner` component. Adjust the following parameters as needed:

- **Fish:** Type of fish to spawn
- **Bounds:** Bounding box for fish spawning
- **Cast Shadows:** Should fish cast shadows?
- **Receive Shadows:** Should fish receive shadows?
- **Fish Density:** Percentage of bounds to fill with fish

Tip: The bounding box provides an editor to make adjustments.

Important: This asset is not optimized for large quantities of fish. Spawning too many fish will degrade performance. Always be sure to profile your game relative to the target hardware.

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PERFORMANCE & OPTIMIZATION

Each fish prefab is comprised of the following:

- Two skinned mesh renderers

- A mesh renderer per additional body (jaw, fins, eyes, etc.)

- Two or more materials (body, fins, eyes, etc.)

Fish are approximately 2-3K triangles, depending on the number and type of fins.

Instant Tropical Fish performs the following optimizations automatically:

- Converting one skinned mesh renderer to a regular mesh renderer (the skinned mesh renderer is only needed for blend shapes, which aren't used at runtime)

- Combining meshes where possible

The following additional optimizations can be carried out by the user if needed:

- Turning off `Cast Shadows`

- Turning off `Receive Shadows`

FIVE

EXTRAS

Several extras are provided to help you get you up and running quickly (these are all located in the `Prefabs` folder):

- **Decor:** bushes, trees, corals, sunken ship
- **Water:** water meshes w/ `WaterLine` component
- **Utility\Caustics:** water caustics projector

Tip: You can see all of the above in action in the `Aquarium` demo scene.

FREQUENTLY ASKED QUESTIONS

Q: Can I use my own textures?

Of course!

- Import your texture(s)

- Create a new material and assign the texture(s)

- Create a new `FishProfile` and set the materials as desired. (Note that it may be easier to copy an existing profile, as this will retain the fin settings.)

Q: Can I change the physical shape or structure of the fish?

The structure of the fish can be altered in various ways:

- The head and body expose several blend shape keys which can be used to alter their appearance.

- (Advanced) Those with knowledge of modelling tools can create custom fin meshes. Open `fish_parts.fbx` (the original .blend file is also included) to see how the anchors are set. Once modelled, create a new (or copy an existing) profile and assign your custom fins.

- (Advanced) Fins can be added, repositioned, or moved. Note that adding or removing fins will require updating references on the Fish component.

As always, when modifying any of the base prefabs be sure to create a new prefab (or prefab variant) outside of the Cosmocat directory.

Q: Can I use my own AI?

To use your own AI, uncheck the Move checkbox on the Fish component.

As always, when modifying any of the base prefabs be sure to create a new prefab (or prefab variant) outside of the Cosmocat directory.

Q: Can I use my own animations?

Due to the procedural nature of the fish, this is not recommended, but if you are interested in doing so please contact adam@cosmocatgames.com.