

Fly 2D

version 1.3.1

Introduction

This is a 2D Fly Particle System.

The flies can land on obstacles.

They can avoid obstacles.

They can have fly path.

They can be affected by explosions.

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FlyZone

Description

The FlyZone component creates a swarm of flies.

Getting Started

To add a FlyZone:

- 1. In the Unity menu bar, go to GameObject > Create Empty
- 2. In the Unity menu bar, go to Component > Script Boy > Fly 2D > Fly Zone

Properties

Zone Center: The zone center transform.

Note: The gameobject that the FlyZone is attached to has a fixed position (0,0,0).

So there is a second gameobject for the zone center.

Zone Radius: Set the radius of the zone. (Flies only fly in the radius)

Simulation Speed: Set the speed of the flies.

Fly Count: Set the count of flies. **Fly Size:** Set the size of flies.

✓ Landing: Enable landing feature. (Flies can land on obstacles.)
 ✓ Collision: Enable collision feature. (Flies can avoid obstacles.)

Material: The material of flies.

Sorting Layer: The name of this Renderer's Sorting Layer. **Order in Layer:** The Renderer's order within a Sorting Layer.

Texture Sheet Animation Settings

Tiles: The number of tiles the Texture is divided into in the X (horizontal) and Y (vertical) directions. Each tile is an animation frame.

We can limit the number of tiles by setting the Idle Frame Count and Fly Frame Count.

Idle Frame Count: The number of frames for idle animation. **Fly Frame Count:** The number of frames for fly animation.

Frame Per Second: The speed of animation.

Landing Settings

Flying Duration: The length of time flies fly before landing. **Landing Duration:** The length of time flies stay in landig mode.

Landing Check Per Frame (The batch size): The number of flies that will be checked for landing. **For example:** If it is 100 and the fly count is 150, it will check 100 of them in the first frame

and 50 of them in the next frame.

Landing On: The LayerMask of landing land. **Landing Mask:** Set the LandingMask component.



Collides With: The LayerMask of obstacles. **Casting Method:** How to check collision?

Circlecast: Use the Physics2D.CircleCast to detect collisions.

RaycastAndCirclecast: Use the Physics2D.Raycast to detect collisions.

(Use CircleCast only if a fly is overlapping obstacles)

Max Collision Shapes: How many flies have collision shapes?

Collision Force Scale: The magnitude of the force to be added to the particles.

Radius Scale: Adjust the radius of the fly particle collision shape.

☑ Visualize Collision: Render the collisions.

FlyZoneManager

Description

This component will be created automatically. It runs a preview of the flies in the edit mode.

Properties

Preview: Set the preview mode. **Selected:** Only selected flies. **All:** All flies in the scene.

LandingMask

Description

The flies won't land outside of this mask.

By default, The flies can only land inside of the fly zone circle, so the LandingMask can remove this limit.

Getting Started

To create a LandingMask:

- 1. In the Unity menu bar, go to GameObject > Create Empty.
- 2. In the Unity menu bar, go to Component > Script Boy > Fly 2D > Landing Mask.

Properties

Type: The AreaType of the mask. **Circle:** Use a circle with a radius.

Collider: Use a Collider2D that is attached to this gameobject.

Explosion

Description

This component adds explosion force to flies.

Getting Started

To create an Explosion:

- 1. In the Unity menu bar, go to GameObject > Create Empty
- 2. In the Unity menu bar, go to Component > Script Boy > Fly 2D > Explosion

Properties

Radius: The radius of the explosion.

Force Magnitude: The magnitude of the force to be added to the particles.

Delay (if Auto Explode = true): The delay before exploding.

☑ Auto Explode: It will explode in Start function.

☑ **Auto Destroy:** The gameobject will destroy after explosion.

Static Methods

You can call these static methods instead of creating a Gameobject with Explosion component:

```
//namespace: ScriptBoy.Fly2D
//class: F2DExplosion

void Explode(Vector2 center, float radius, float forceMagnitude)
IEnumerator Explode(Vector2 center, float radius, float forceMagnitude, float delay)

//Examples:
//ScriptBoy.Fly2D.F2DExplosion.Explode(mousePosition, 1, 5);
//StartCoroutine(ScriptBoy.Fly2D.F2DExplosion.Explode(mousePosition, 1, 5, 1));
```

FlyPath

Description

It contains a list of positions.

The FollowPath uses this component to move the GameObject.

Getting Started

To create a FlyPath:

- 1. In the Unity menu bar, go to GameObject > Create Empty
- 2. In the Unity menu bar, go to Component > Script Boy > Fly 2D > Fly Path

Edit Path Button

You can edit the positions by moving handles.

Adding New Point: Hold Alt button then drag a Point.

Delete A Point: You can delete a point by holding Ctrl Button. **Grid Snapping:** You can snap a point by holding Shift Button.

FollowPath

Description

It uses FlyPath to move the GameObject.

Getting Started

To create a FollowPath:

- 1. In the Unity menu bar, go to GameObject > Create Empty
- 2. In the Unity menu bar, go to Component > Script Boy > Fly 2D > Follow Path

Properties

Transform: The zone center transform. **Path:** Set the FlyPath component. **Speed:** The movement speed.

Wait Time: It will wait for an amount of time before going to a new position.

☑ **Looping:** Connect the start point of the path to the end point.

☑ Random Selection: It selects the next position randomly.

Links & Contact Info https://youtube.com/fly2d_playlist

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Have Fun!
Script Boy