

UseParentSpace for Spawners using Relative Position and Scale

This is a follow-on from [UseParentSpace for Relative Object Positioning and Scaling](#).

In the same way that child Objects can use the UseParentSpace property to operate within a Parent's relative position and scale... spawners can benefit from the same functionality.

Setting up a new project

To help you work through this tutorial, first [create a new blank project using the init script](#).

Objects and Spawners

In general when specifying what object to spawn, the object is given co-ordinates in world space like:

```
Position = (35, 100, 0.0)
```

With relative positioning, the object that is spawned will be positioned relative to the Parent Object's Size (The Parent Object is one that has a spawner attached).

That can be confusing. Let's view it as a tree:

- Main Object
 - Spawner connected
 - Object to Spawn

It is the Object to Spawn, that will use the UseParentSpace property.

But before we get there, let's set up a spawner in the usual way using world coordinates.

Making it rain

Start by making a rain cloud that spawns raindrops. Here's a cloud for you to use:



Define a Cloud object in config:

```
[Cloud]
Spawner = RainSpawner
Pivot = center
Graphic = @
Texture = cloud.png
Position = (0.0, -200.0, -0.1)
```

Then change the Object to Cloud in the create line in the code:

```
orxObject_CreateFromConfig("Cloud");
```

This will create a cloud object a little up from the centre of the screen. We haven't provided a spawner yet so it doesn't do anything. So define both the spawner and object to spawn with:

```
[RainSpawner]
Object = RainDrop
TotalObject = 0
ActiveObject = 1000
WaveSize = 5
WaveDelay = 0.016 ~ 0.03
ObjectSpeed = (0, 800)
Rotation = 22.5
UseRelativeSpeed = true

[RainDrop]
Graphic = @
Texture = pixel
Size = (1,20) ~ (1,40)
Alpha = 0.3 ~ 0.8
Color = (255,255,255)
Pivot = top
AutoScroll = both
DepthScale = true
LifeTime = 1.0
Smoothing = true
Position = (-50.0, 00.0, 0.0) ~ (90.0, 00.0, 0.5)
```

In the spawner config above, we're making RainSpawner spawn RainDrop objects, lots of them, in a fast down direction, but rotating the spawner by 22 degrees (plus using relative speed) to get a nice down-left direction for the rain.

For the RainDrop objects themselves, we vary their alpha transparency, stretched size and their

starting position on screen between $X = -50.0$ to 90.0 .

There is no image for the raindrops, we're just using a stretched pixel. That will do nicely.



Relative Spawner Positioning

The last step is to convert the positioning to be relative to the Cloud's size. This means changing the `Position` property of the `RainDrop` and setting `UseParentSpace` to `position`:

```
[RainDrop]
Graphic      = @
Texture      = pixel
Scale        = (1,20) ~ (1,40)
Alpha        = 0.3 ~ 0.8
Color        = (255,255,255)
Pivot        = top
AutoScroll   = both
DepthScale   = true
LifeTime     = 1.0
Smoothing    = true
```

```
Rotation      = 22.5  
Position      = (-0.3, 0.0, 0.0) ~ (0.45, 0.0, 0.5)  
UseParentSpace = position
```

Because the pivot of the Cloud is centred, the coordinate range is (-0.5, -0.5) to (0.5, 0.5). I've adjusted the X positions to between -0.3 and 0.45 to bring the positions in a little to work nicer with the cloud itself.

The result should be the same:



Further information

1. Ordered List Item [UseParentSpace for Relative Object Positioning and Scaling](#)
2. [Object Configuration](#)

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