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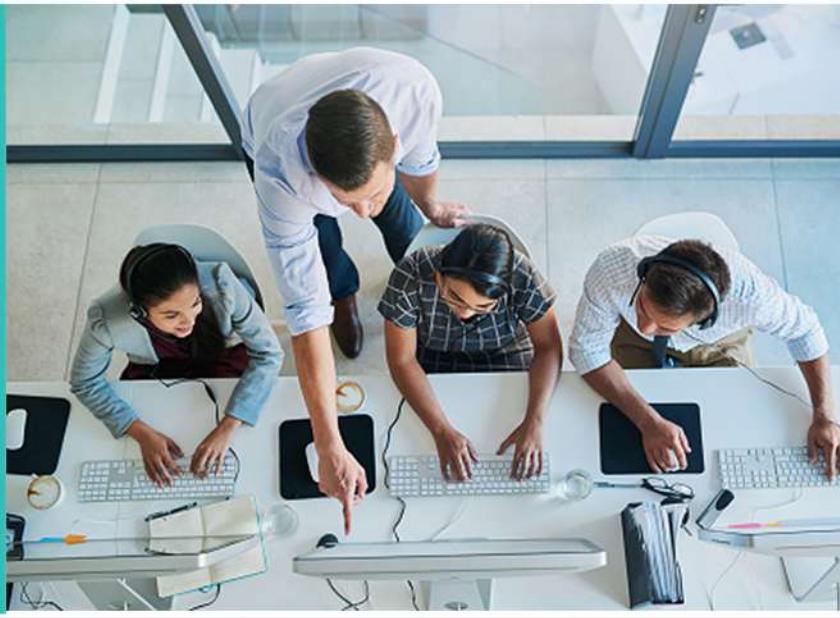


Game Development Using Buildbox

Effects

EFFECTS

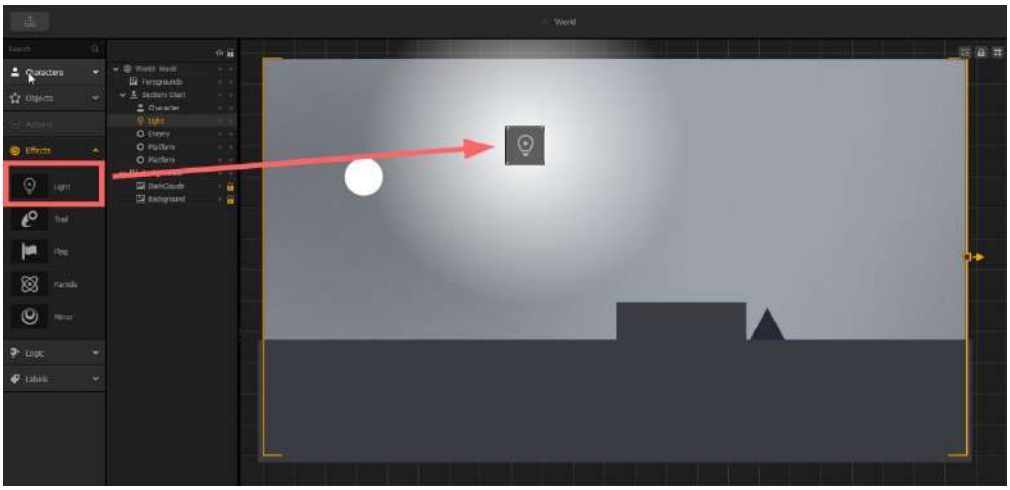
6.1 What is Effect

All the Effects work in a similar way. They are not Objects, so cannot be given physical properties. Some you can attach to objects however so you can in some cases make appear to have physics properties - by making the attached object bounce and move. In Buildbox , we have 5 popular effects used they are:

6.1 Effect Types

1. Light Effect:

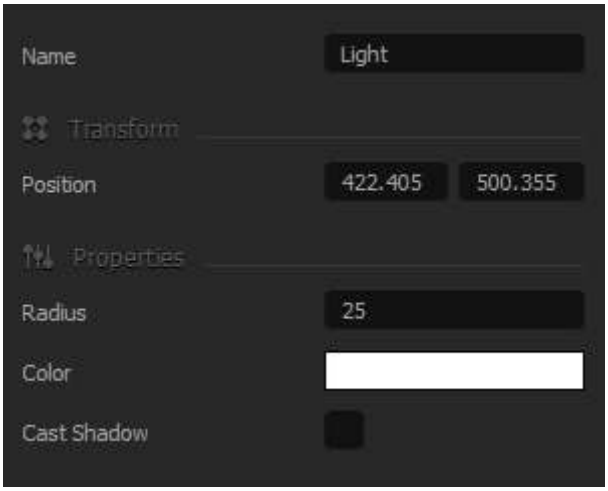
Lights are a nice simple way of providing atmosphere to a game. Be cautious about over using them however a too many will start to use up available CPU time. Using the Light effect is simple. To use it, grab the light icon from the effects category on the left and drag it in to the scene editor.



6.2 Scene View of Light Effect

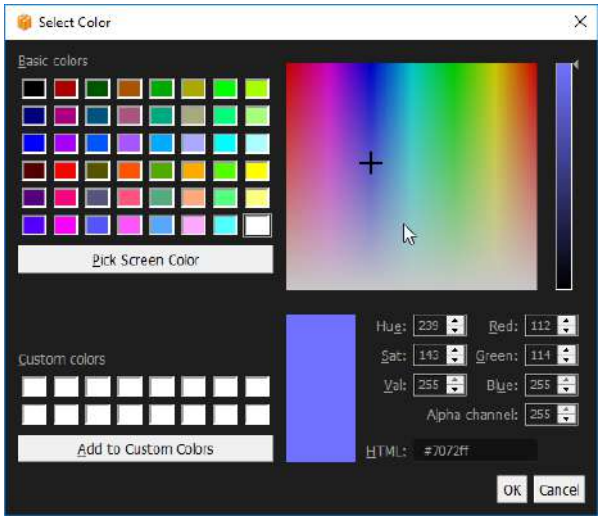
Properties:

Once you select it you will see its available options on the right hand side.



6.3 Light Effect Properties

- **Position (x,y):** As for any other placed item.
- **Radius:** How big the light is.
- **Color:** What color the light is. This can have some non-obvious effects, like making the light object into a spreading darkness by making it a dark or black color. It is a full color-picker so you can set anything including transparency. You also have the option to change its color.

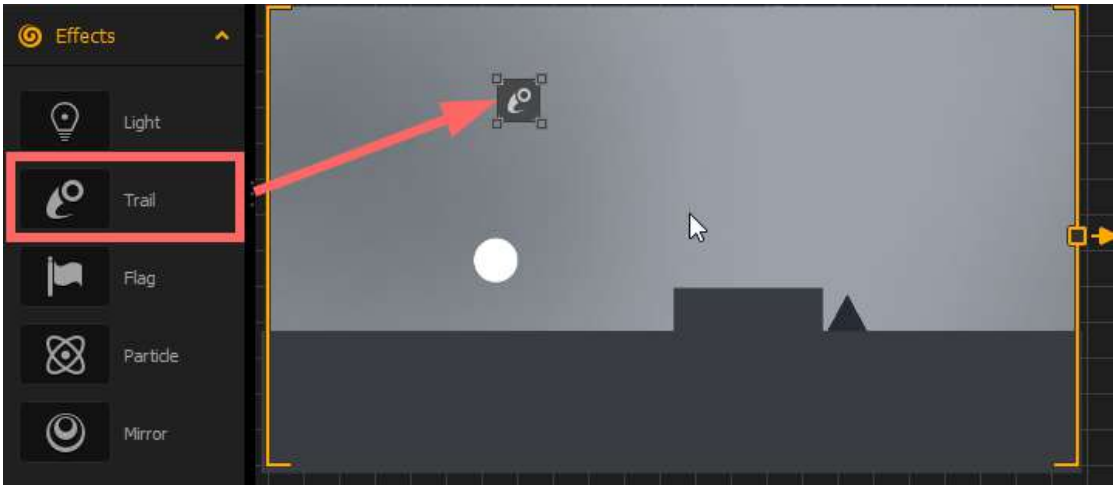


6.4 Color Window

- **Cast Shadow:** A great way to add atmosphere. The various objects' collision boxes will be used for the shadows cast.

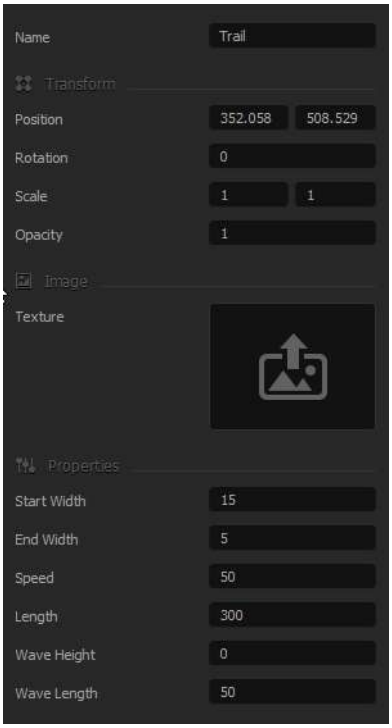
2. Trail Effect:

Trails can do all sorts of things, largely limited by your imagination. They can be used to show creepy tentacles, waving grass, smoke, etc. The Trail is a simple effect that can add a trail to your character or any object in the game. This trail will move around with the physics in the world of your game. To use the Trail, drag and drop the trail icon from the effects section into your scene.



6.5 Scene View of Trail Effect

Once you select it you will see its available options on the right hand side.



6.6 Trail Effect properties

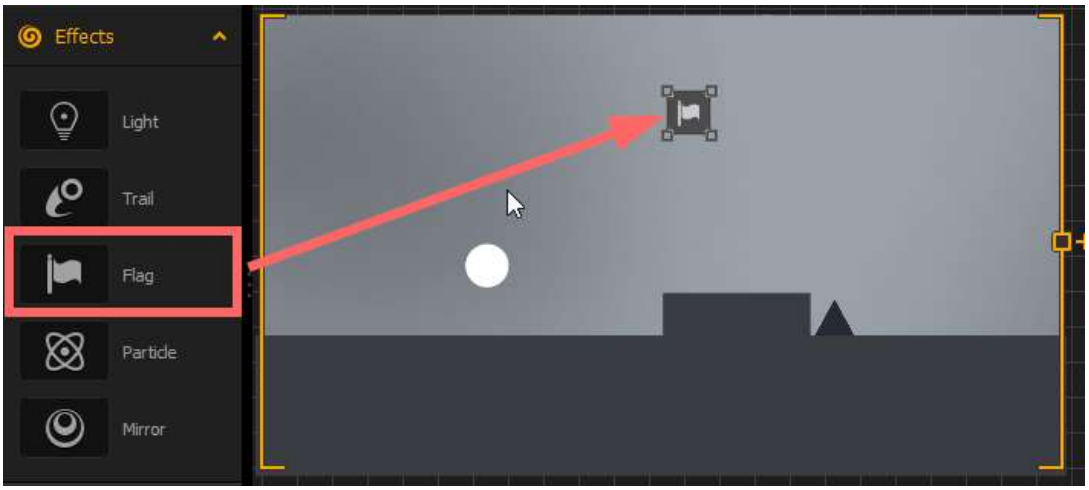
Properties:

- **Position (x,y):** As for any other placed item.
- **Rotation:** What direction it is pointed

- **Scale (x,y):** After the other options are calculated, the scale values are used to resize/distort the trail.
- **Texture:** A PNG drop box that lets you paint the trail with a particular texture.
- **Start Width:** How wide the tail will start with.
- **End Width:** How wide the tail will be at the end.
- **Speed:** How fast the tail will move.
- **Length:** How long in pixels the tail should be.
- **Wave Height:** How high each wave movement will be - the distance from the very bottom to the very top of the wave.
- **Wave Length:** How long each wave movement will be - the distance from peak to peak.

3. Flag Effect:

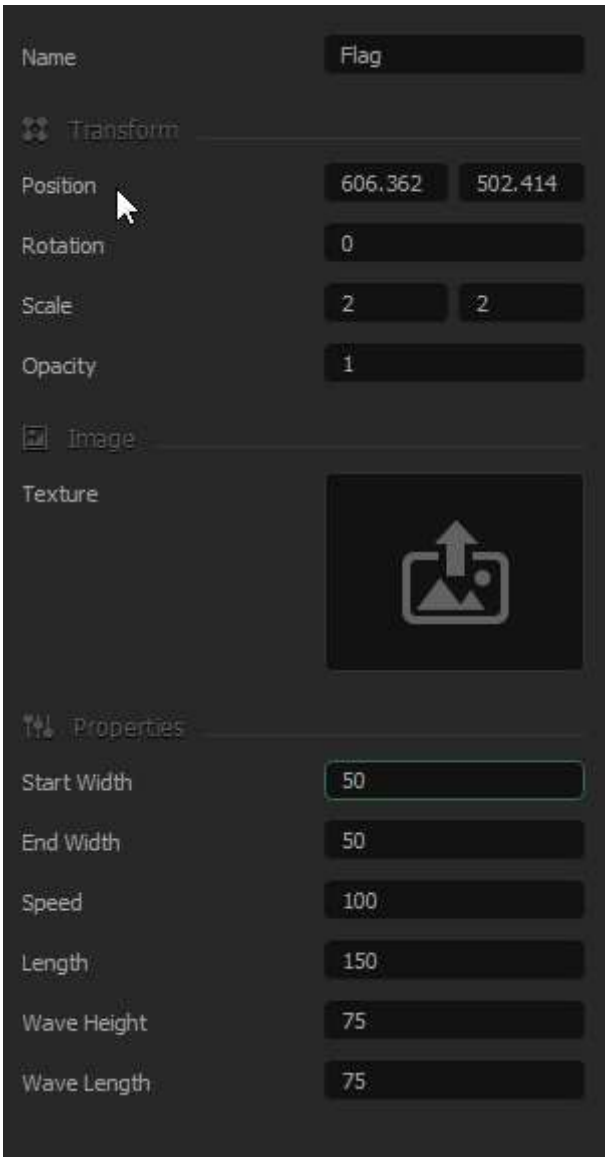
A flag is just what it sounds - an image that appears to be rippling in a breeze. Now you are not limited to just flags - you may use this effect to animate jellyfish or similar. Just remember that if you want this effect on an enemy, that there needs to be an actual Object attached that will kill the player character. The Flag is an easy to use effect which will allow you to create moving flags in your game. The behavior is similar to the Trail effect with a few differences that makes it better for flag effects. Let us drag and drop a Flag icon to our Scene.



6.7 Scene View of Flag Effect

Properties:

When the Flag is selected, you will be able to change its options in the right hand side.



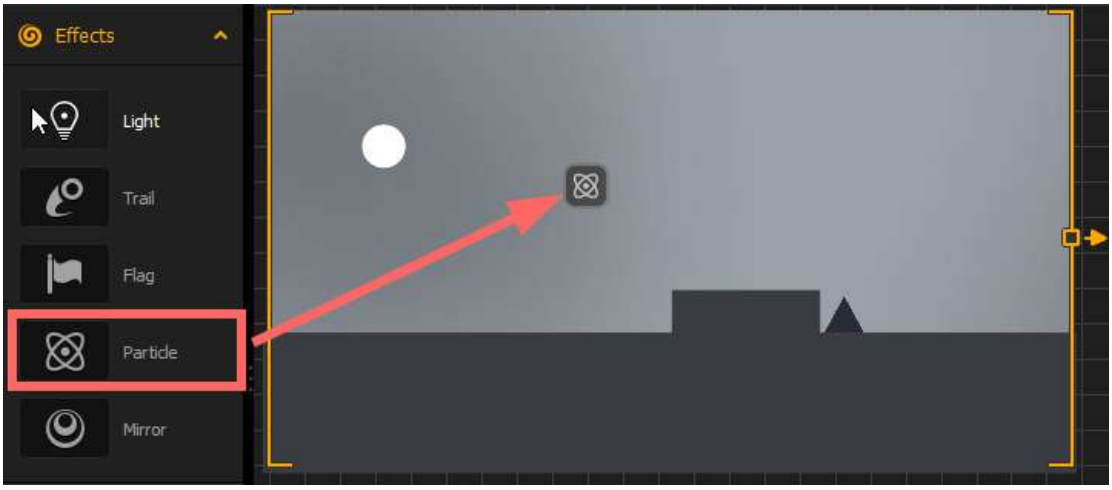
6.8 Flag Effect Properties

- **Position (x,y):** As for any other placed item.
- **Rotation:** Angle in degrees that this should be rotated.
- **Scale (x,y):** You would usually leave this at a value of 1,1 - because the other settings will make things bigger already. You can use these to distort the result.
- **Texture:** A PNG drop box that lets you paint the trail with a particular texture.
- **Start Width:** How wide the tail will start with.
- **End Width:** How wide the tail will be at the end.
- **Speed:** How fast the tail will move.
- **Length:** How long in pixels the tail should be.

- **Wave Height:** How high each wave movement will be - the distance from the very bottom to the very top of the wave.
- **Wave Length:** How long each wave movement will be - the distance from peak to peak.

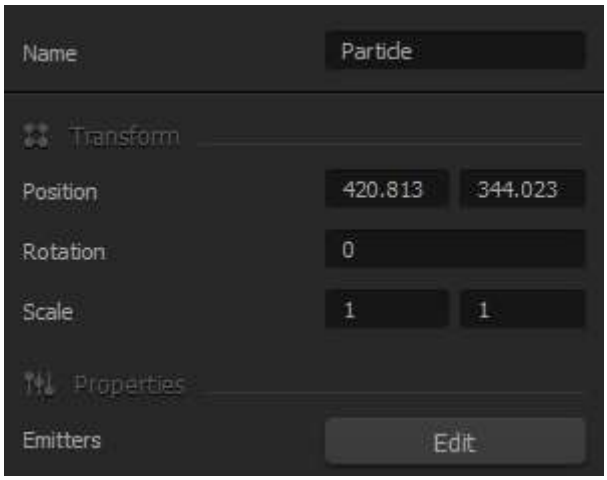
4. Particle Effect:

Particle Effects can add a seriously professional touch to your game. Let us drag a particle effect to our scene.



6.9 Scene View of Particle Effect

While the Particle effect is selected, let's click the edit button to edit the emitters.



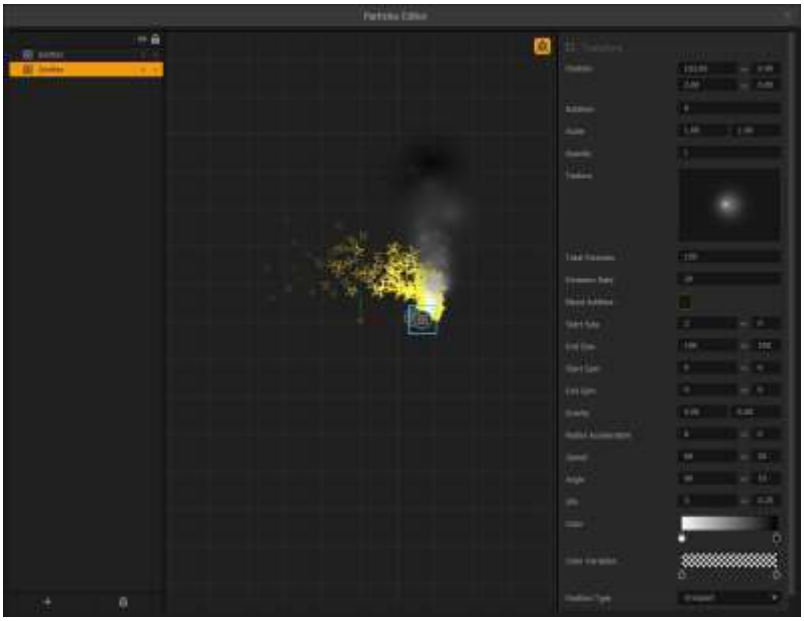
6.10 Particle Effect Properties

Particles Editor:

With this screen you have the full power of any of the market leading particles editors – but built into the Buildbox program. If you find a particle effect you like in another program, just note down the settings and fill them out. It may not be obvious at first, but you can create a particle effect using multiple emitters. The example screenshot shown is using two. Just

remember that using a lot of particle effects can use a lot of CPU capacity. On the left of the screen you will see a list of emitters. Similar to the Scene Editor, you can lock or hide an emitter. You can delete them by clicking on the trash icon down the bottom, or add a new emitter by clicking on the [+] icon.

Also like the Scene Editor, at the top of the centre section you will see the debug icon, which turns on or off the emitter symbols. It can be handy to turn them off to better see the animation. Drag your emitters around till you are happy with their placement, in the knowledge that in-game they will be placed according to the centre of the screen marked with the cross.Emitters are small PNG files that make up a piece of your particle. When you select the Emitter in the middle, you will be able to edit its properties.



6.11 Particles Editor

The following options are available for each emitter:

- **Position (x,y):** As for any other placed item.
- **Rotation:** Angle in degrees that this should be rotated. Not normally used.
- **Scale (x,y):** Does not have an actual effect.
- **Opacity:** How transparent the emitter is.
- **Texture:** The image used for every particle this emitter spawns.
- **Total Particles:** How many particles to have on the on screen at any one time. More particles will not be spawned until existing particles disappear. Increase this to increase your particle volume i.e. more smoke, fire, etc.
- **Emission Rate:** How fast to emit particles.

- **Blend Additive:** Overlapping particles add to each other making the overlapped areas brighter. Useful for flames.
- **Start Size (and random variation):** The size of the particle when it is first spawned.
- **End Size (and random variation):** The size of the particle when it is destroyed.
- **Start Spin (and random variation):** The spin of the particle when it is first spawned.
- **End Spin (and random variation):** The spin of the particle when it is destroyed.
- **Gravity(x,y):** Gravity or wind force on the particles.
- **Radial Acceleration (and random variation):** How much acceleration away from the point of emission is given to a particle. An explosion will have a high number, here, while smoke or water will have 0.
- **Speed (and random variation):** Initial speed of particles when spawned.
- **Angle (and random variation):** Initial direction of travel of particles when spawned.
- **Life (and random variation):** How long will the particles live before they are removed.
- **Color:** Color tint of the particles.
- **Color Variation:** How that color tint will be varied.
- **Position Type:** How the particles will act once emitted into the world. The effect of this Setting can only be seen when you have a moving particle emitter.
    - Free: Particles are attached to the world and unaffected by the emitter movement.
    - Relative: Particles are attached to the world but will follow the emitter as it moves. (this mimics real-world behaviour)
    - Grouped: Particles are attached to the emitter and move directly with it.

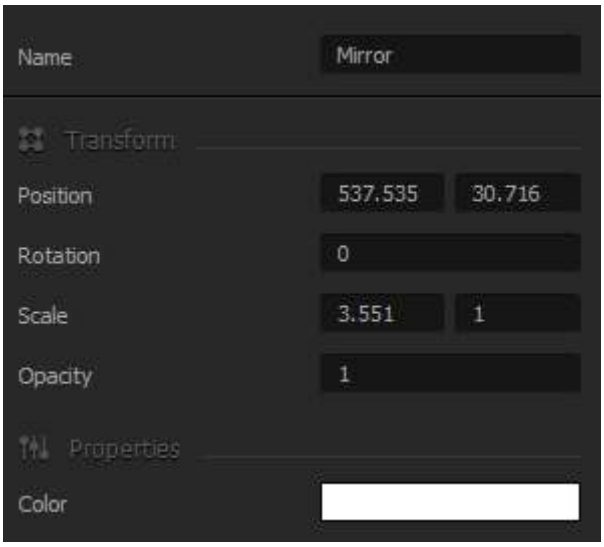
5. Mirror Effect:

The mirror effect is very easy to use and has many applications. This is a reflecting water effect. This is great when making a game with water. Let us drag a mirror effect to our scene.

6.12 Scene View of Mirror Effect

Properties:

Once you select it you will see its available options on the right hand side.



6.13 Mirror Effect Properties

The following options are available for each mirror:

- **Position (x,y):** As for any other placed item.
- **Rotation:** Angle in degrees that this should be rotated. Determines what side of the mirror is nearest the screen.
- **Scale (x,y):** Does not have an actual effect.
- **Opacity:** How transparent the emitter is.
- **Color:** Color tint for the mirror.