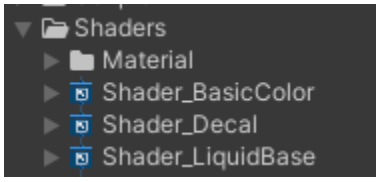
Blood Pack Documentation Guide

Materials

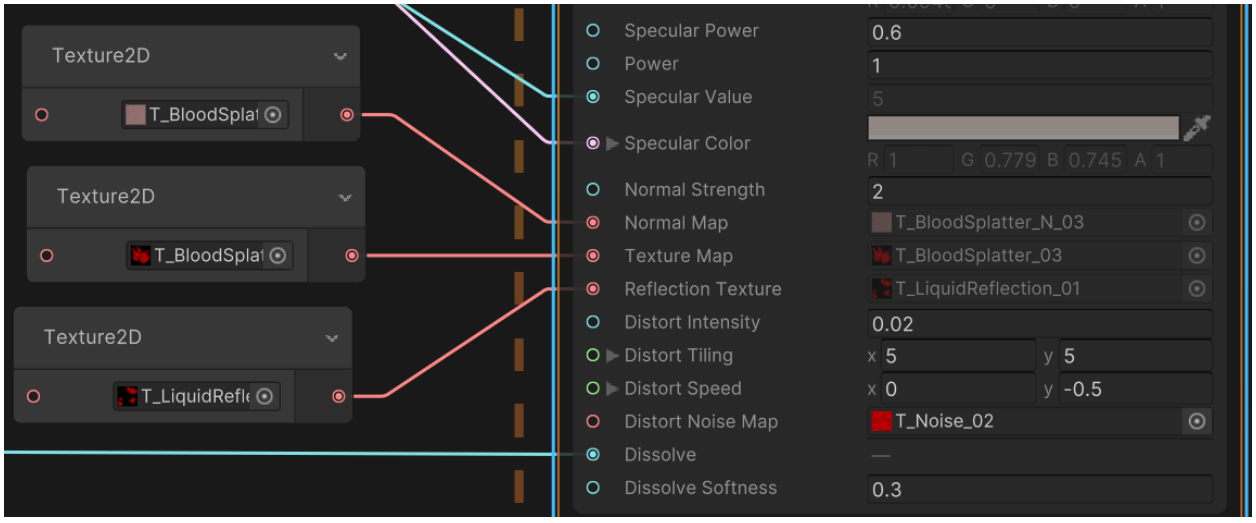
Master Materials/Shaders



Shader_LiquidBase - Master material/shader for particle-based effects

Shader_LiquidDecalBase - Basic deferred decal-based material/shader with dissolve

Texture Samplers



The material requires 3 main maps in order to mimic a liquid-like shine

Alpha Mask Map - This is the primary source of the color modifiers, dissolve, and opacity.
Normal Map and ReflectionTexture - By sampling these two textures you mimic a fake specular behavior.

Modifiers

NormalStrength - Normal map intensity control

Power - Alpha Mask exponent control used for lerping two colors

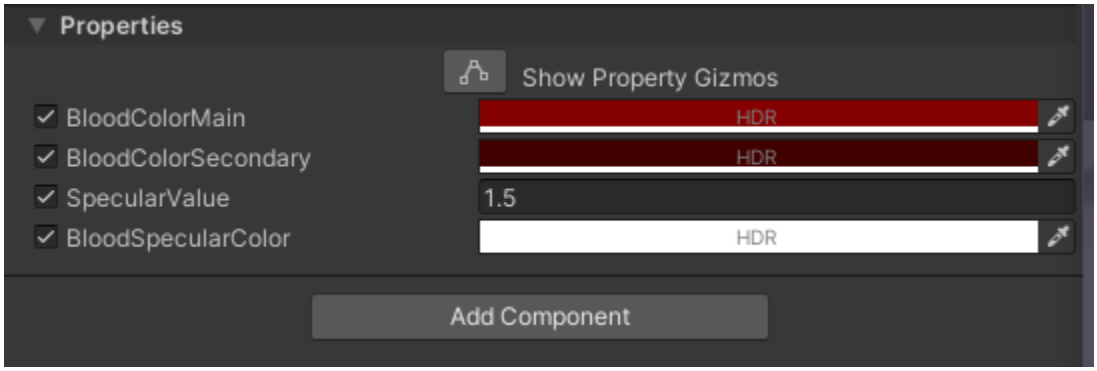
Softness - Edge Softness

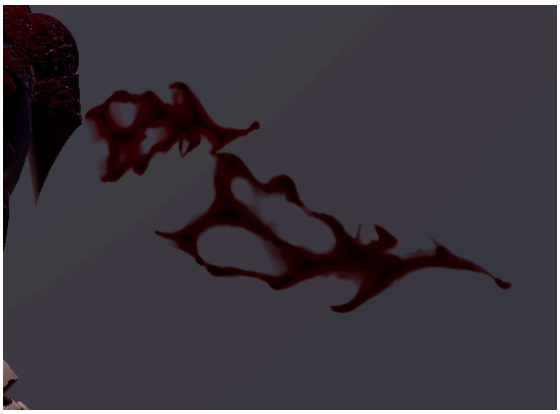
SpecularPower - Fake specular exponent control

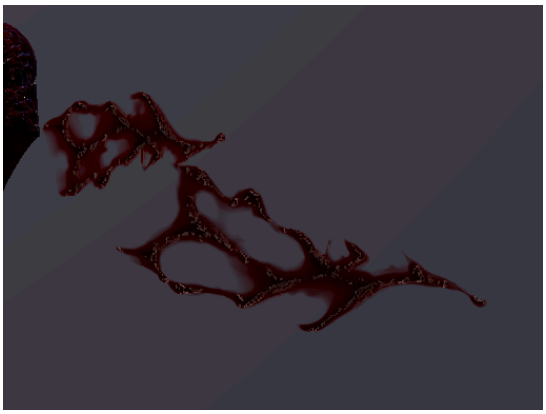
SpecularValue - Fake specular intensity multiplier

Power: 1
Softness: 0.3
SpecularPower: 0.6
SpecularValue: 5

Colors





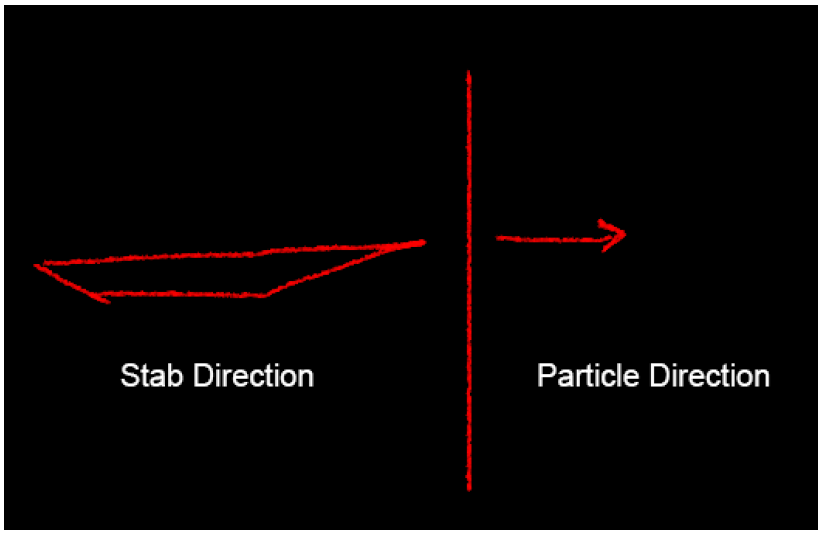


Normal Strength = 0

Normal Strength = 5

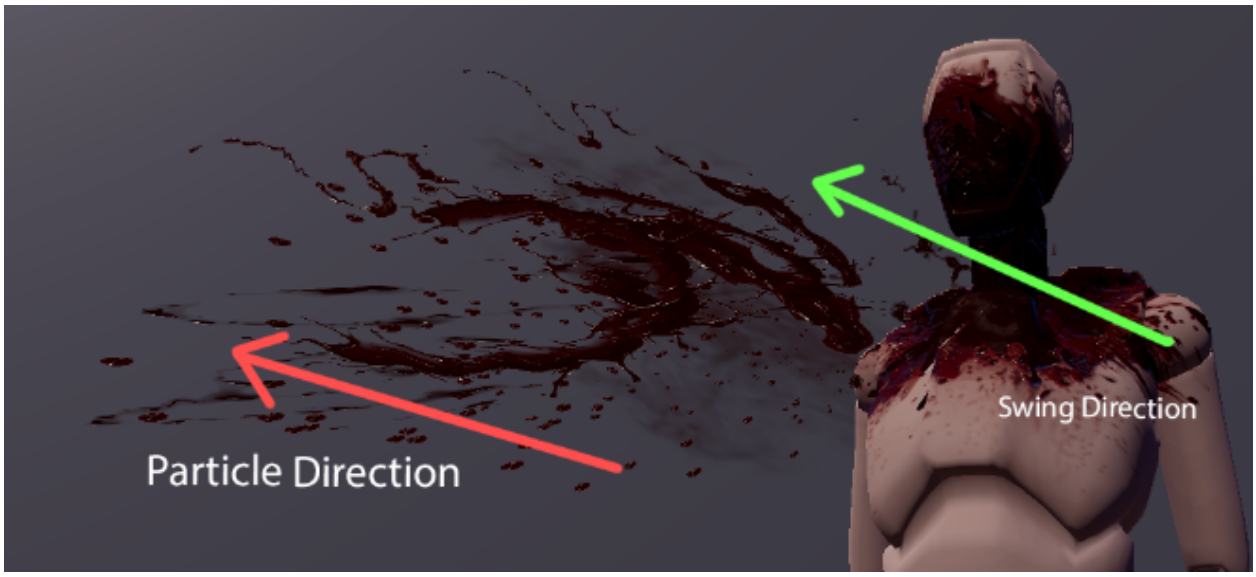
VFX Graph Effects

Stab

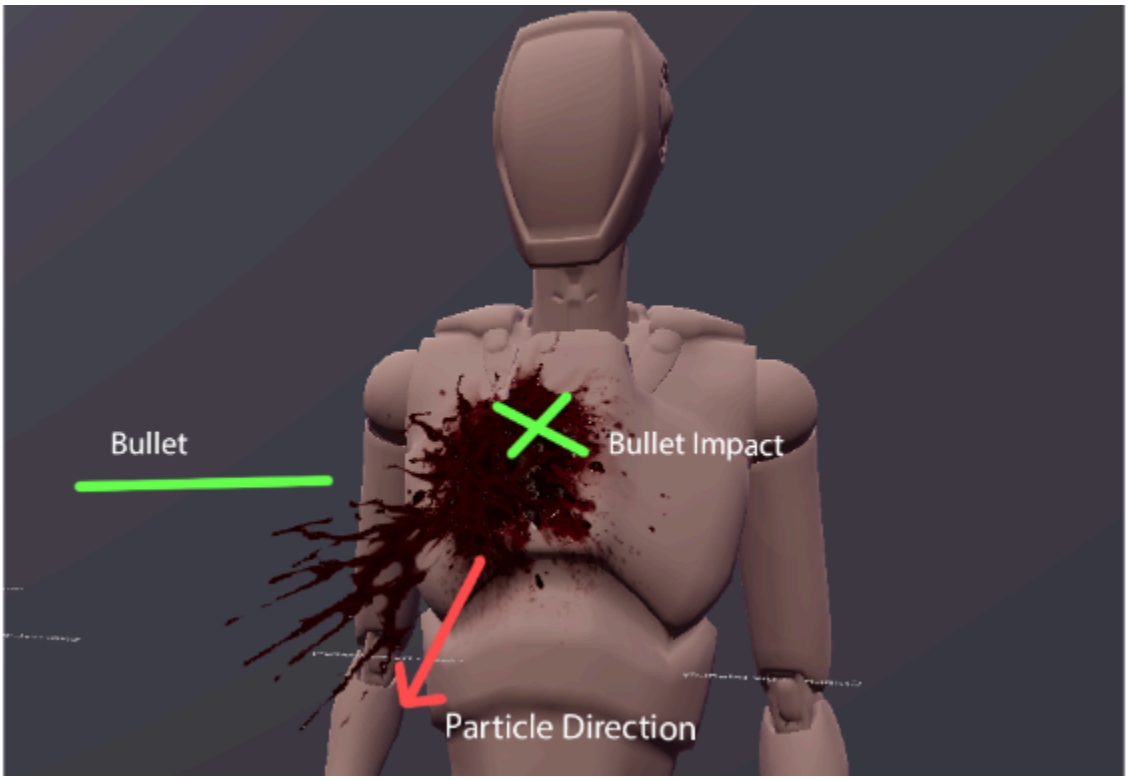


The Particle Effect should be towards the direction of the stab.

Slash



Bullet Hit

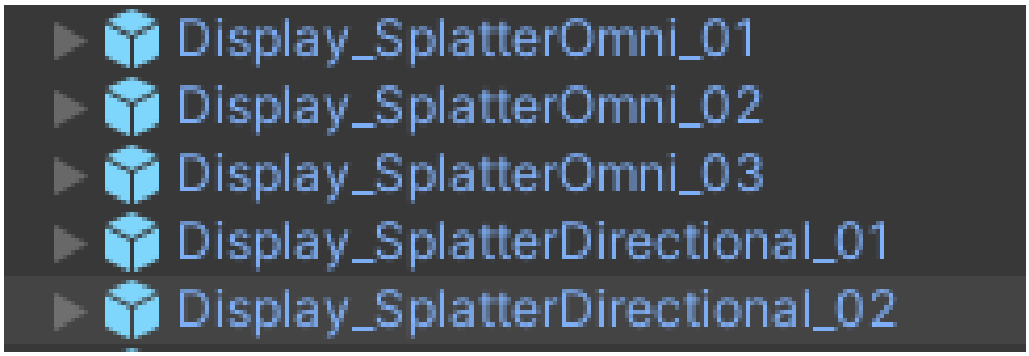


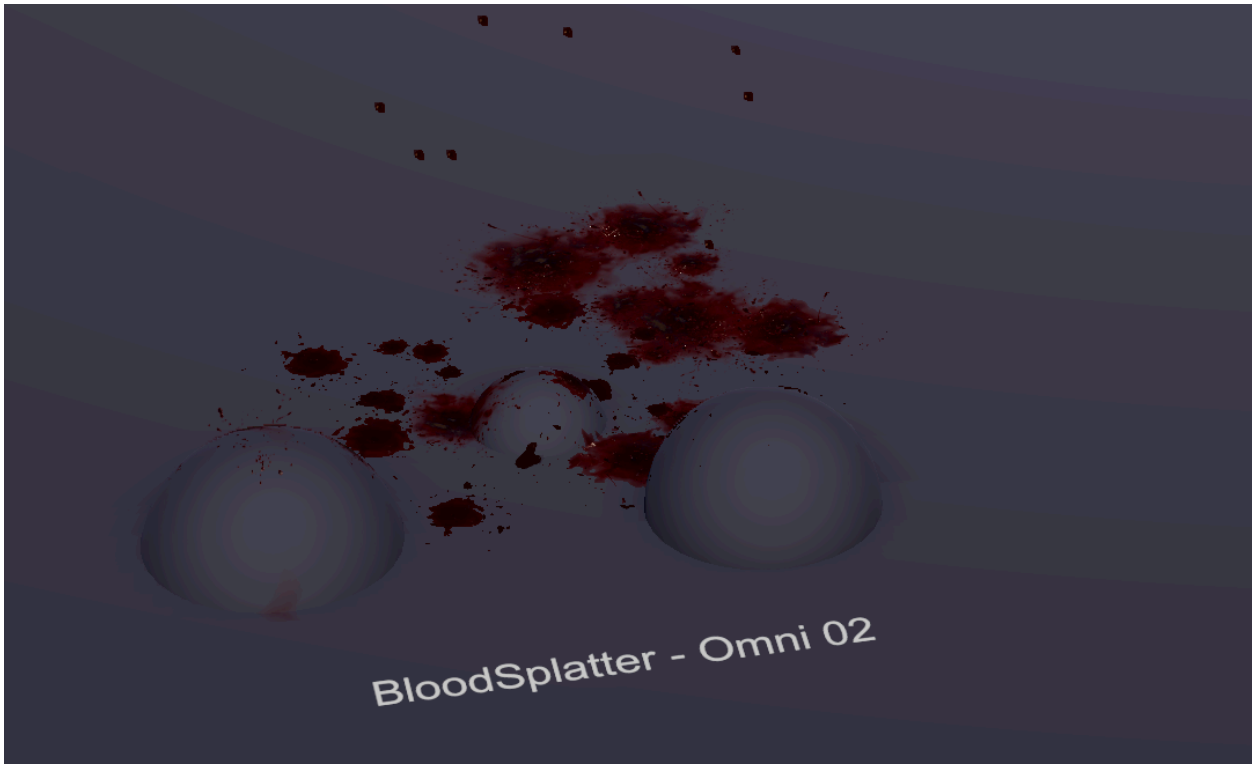
Splash/Burst

Splatters

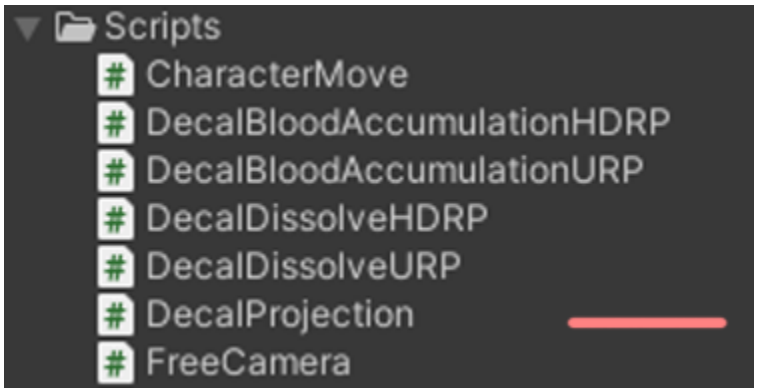
Particle Decal Renderer (NEW)

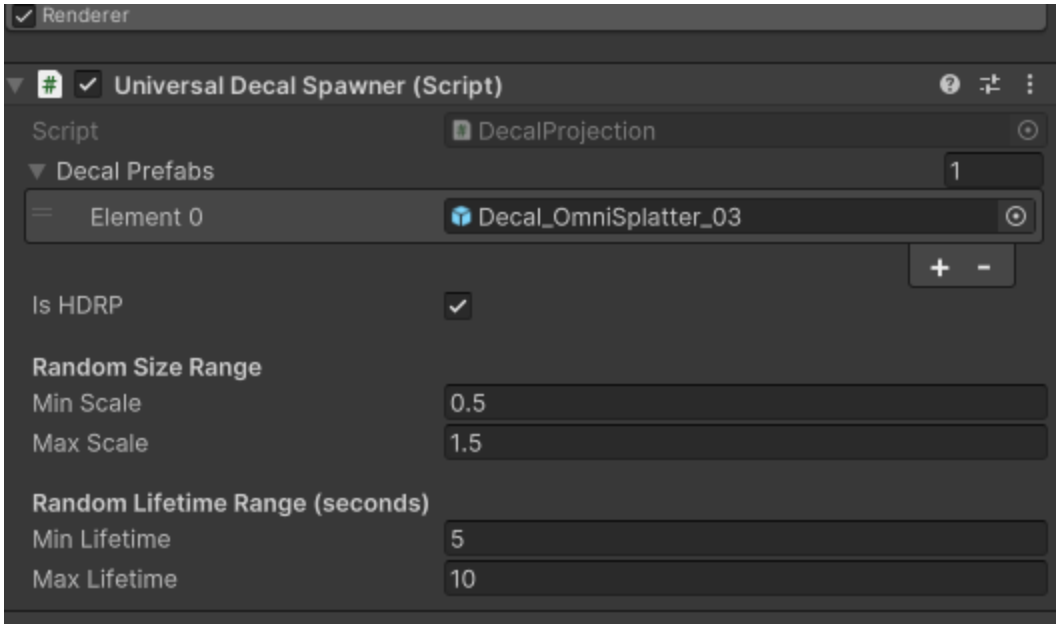
- Can disable projection to specific Meshes using *Decal Layers*
- Uses Decal Projector Prefabs
- Reacts to lighting condition (LIT)





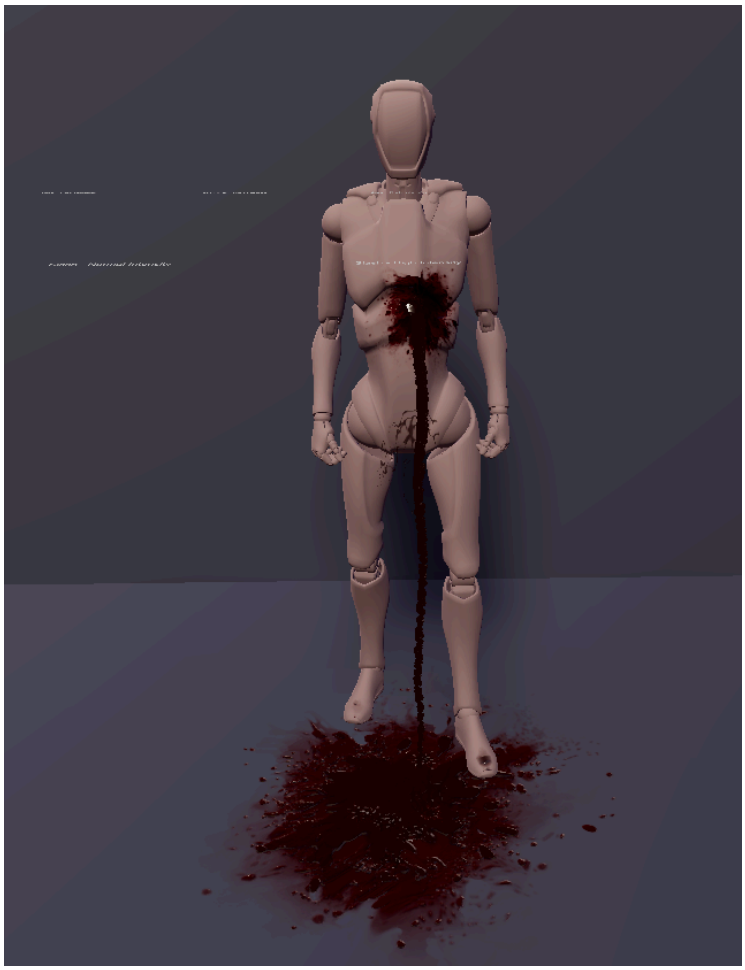
Uses a Decal Projection Script in a particle system





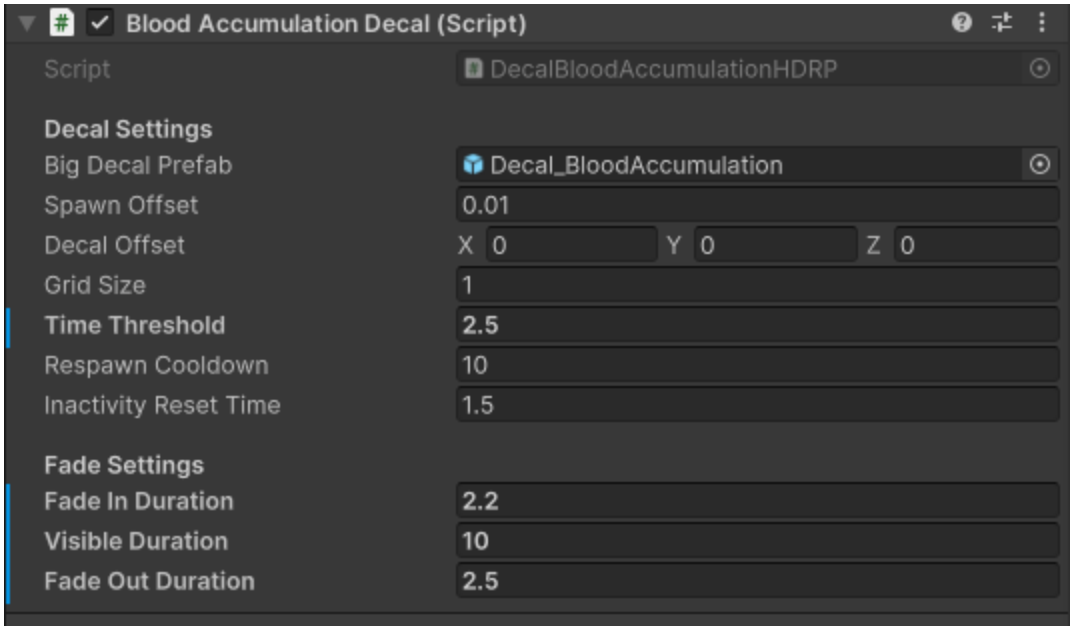
- Can adjust the minimum and maximum scale as well as its lifetime

Artery/Dripping



Shader Controls

Build up animation for the puddles via Blood Accumulation Script



spawnOffset - Slight offset along the surface normal to prevent z-fighting

decalOffset - Additional fixed offset added to each decal position

gridSize - Controls how close decals can be to each other

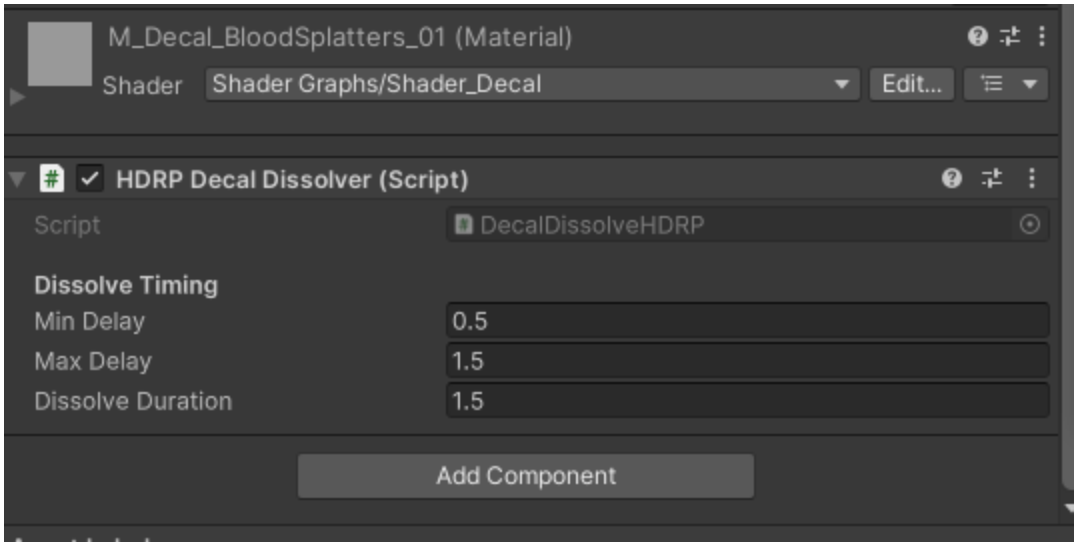
timeThreshold - How long particles must continuously hit the same grid point before a decal is spawned.

respawnCooldown - Time before the same spot is allowed to spawn another decal again

inactivityResetTime - Time after which, if a spot hasn't been hit again, the "charge-up" time is reset

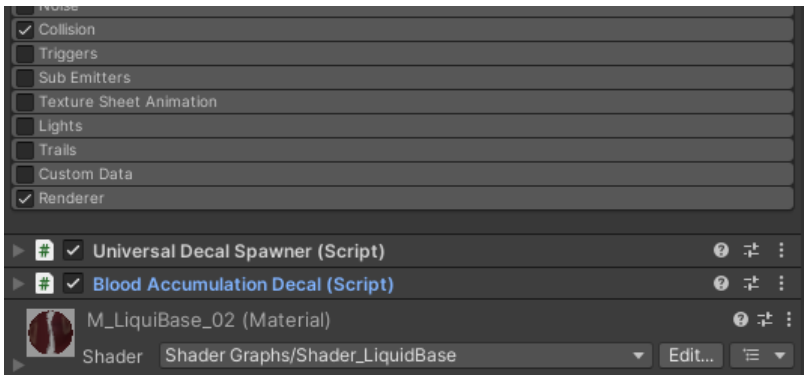
Dissolve

For dissolving the decals that just react to the collision, the Decal Dissolve Script should be added to the preferred Decal Prefab.


M_Decal_BloodSplatters_01 (Material)
Shader
Shader Graphs/Shader_Decal
Edit...
HDRP Decal Dissolver (Script)
Script
DecalDissolveHDRP
Dissolve Timing
Min Delay
0.5
Max Delay
1.5
Dissolve Duration
1.5
Add Component

Demos

Use Case - Blood Linger and Accumulation



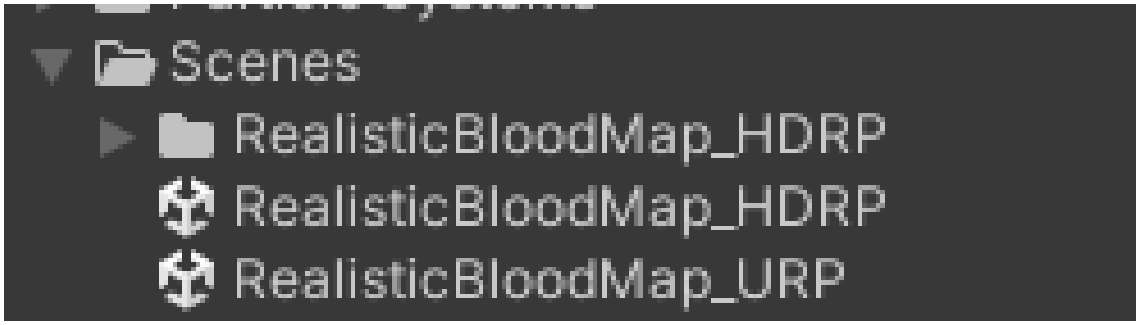
Attach *PS_Blood Particle System* to desired bone/socket location.

The emitter has a collision event that spawns splashes and splatters.

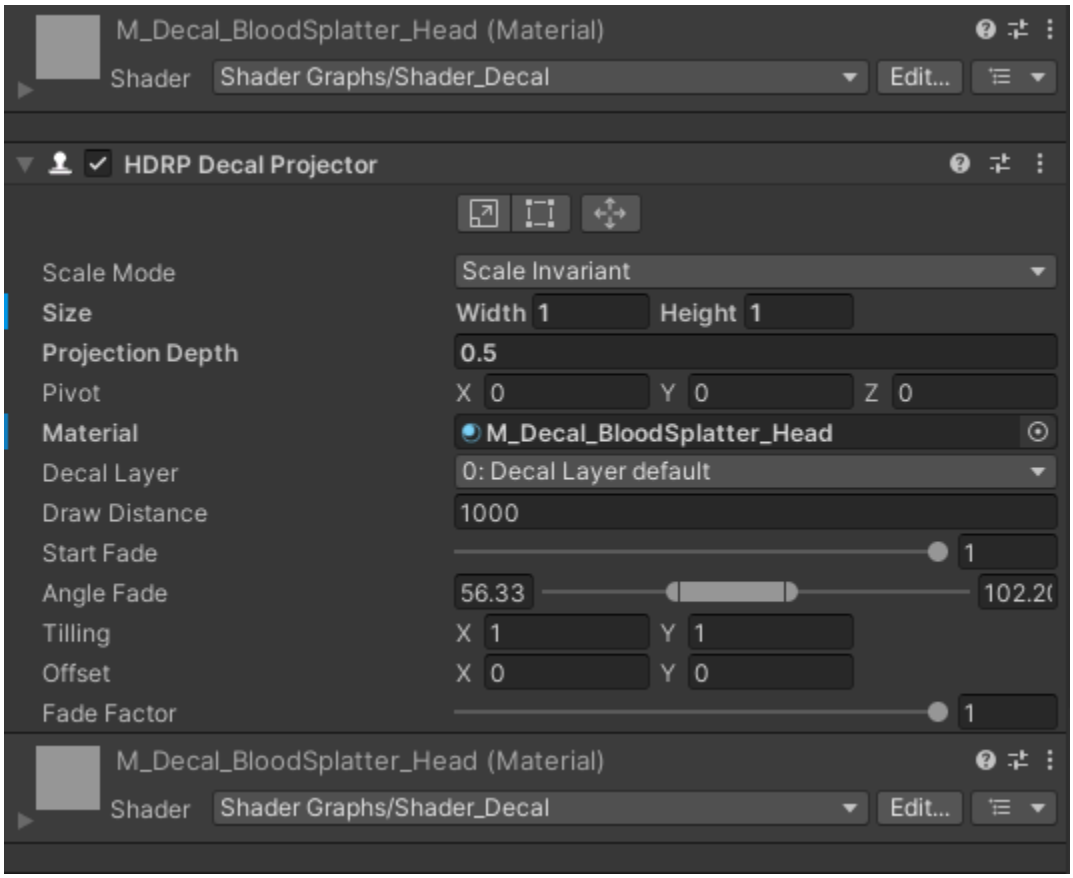
In case that other particle systems will be used, add the DecalBloodAccumulation Script to the system together with the Decal projection script, adjust the parameters accordingly.

Preview

You can check more demos by going to this scene: RealisticBloodMap_HDRP*



Decal Projectors



Projection Depth - How deep the decal can project into the surface

Decal Layer - Which decal layer this belongs to. Useful for sorting decals or limiting them to affect certain layers.

Draw Distance - Maximum distance from the camera where the decal will still be rendered. Beyond this, it disappears.

Start Fade - Distance from the camera where decal starts fading out. For example, if set to 1000 and Fade Factor is 1, it fades out after 1000 units.

Angle Fade - Controls how much the decal fades based on the angle between the decal and the surface which is useful for steep edges.

Fade Factor - Controls how strong the fade-out distance is. 1 = full fade, 0 = no fade at all.