

Advanced Weapon Component - Blueprint-Only, Fully Customizable

[YouTube V1.3.0 Preview](#)

[YouTube Preview](#)

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Roadmap

These are the changes planned for the product. All buyers will receive them for free.

Ongoing:

- ~~YouTube presentation video~~ **Done**
- ~~Product description update~~ **Done**
- ~~Recoil bug fixing, improvements and modularization~~ **Done**

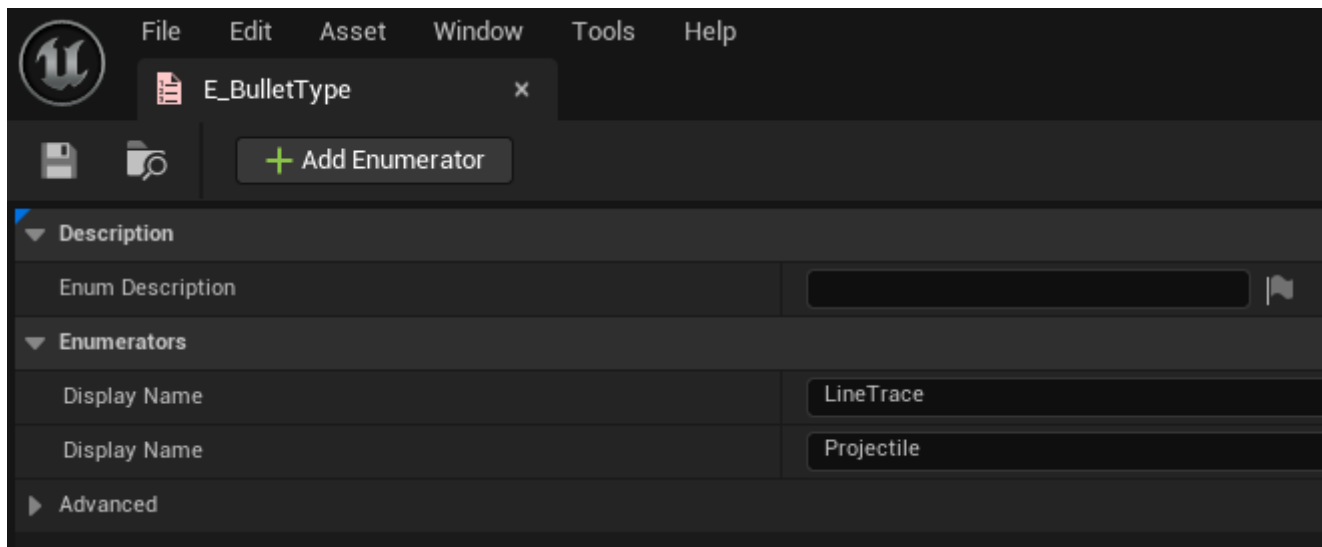
Future plans:

- Code comments *(tooltips already present)*
- ~~Free demo~~ **Done**
- New features
 - ~~Replication~~ **Done**
 - Bullet penetration Not started

Configuration

/All/Game/WeaponComponent/Data

E_BulletType



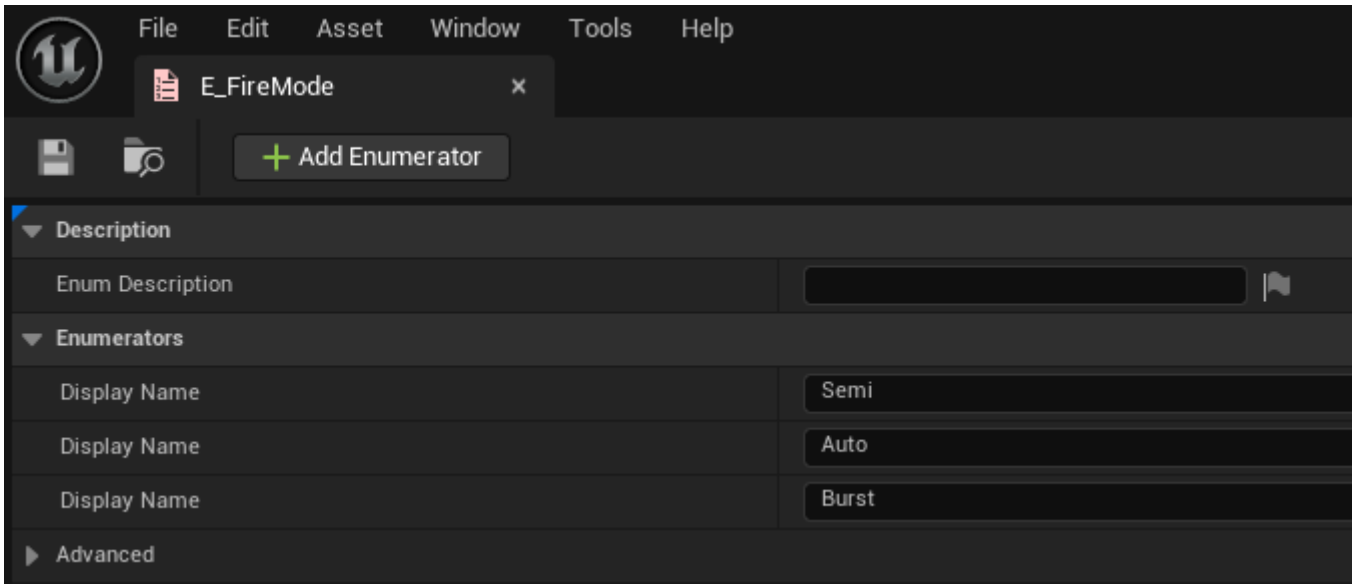
Description

- Enum for type of bullet - i.e. can be hitscan or projectile based

Possible values

- **LineTrace** - used for hitscan ("bullet" hit will be instant)
- **Projectile** - used for spawning projectile when shooting

E_FireMode



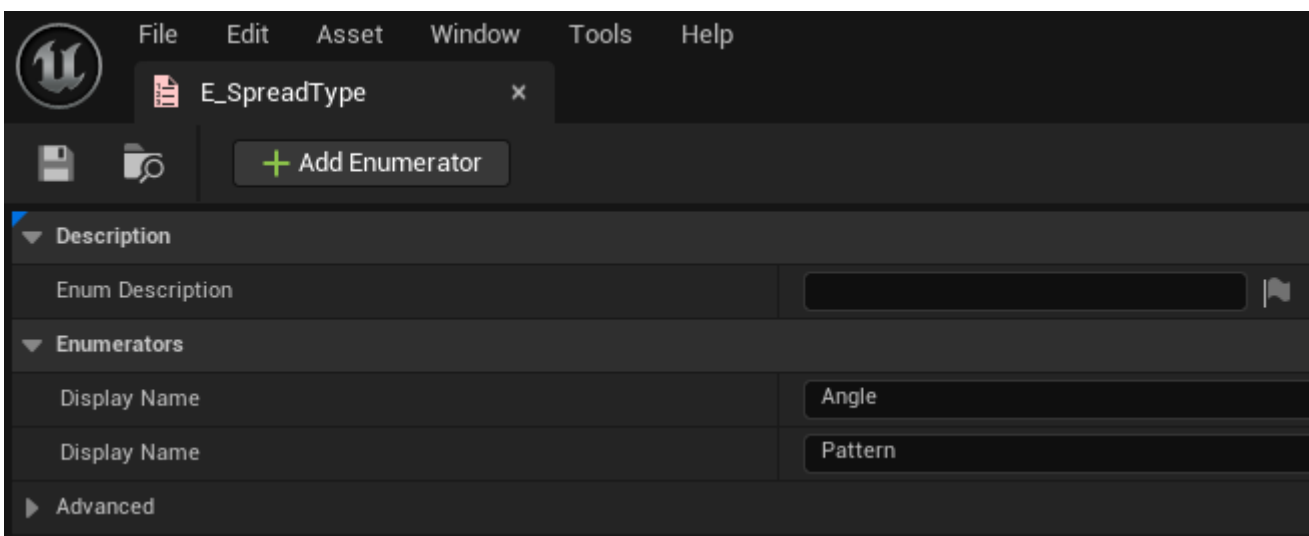
Description

- Enum for fire mode of the weapon

Possible values

- **Semi** - semi automatic - it will shoot one bullet per input pressed
- **Auto** - automatic - it will shoot multiple bullets, one after the other, as long as input is pressed
- **Burst** - burst - it will shoot multiple bullets, all at once, when input is pressed

E_SpreadType



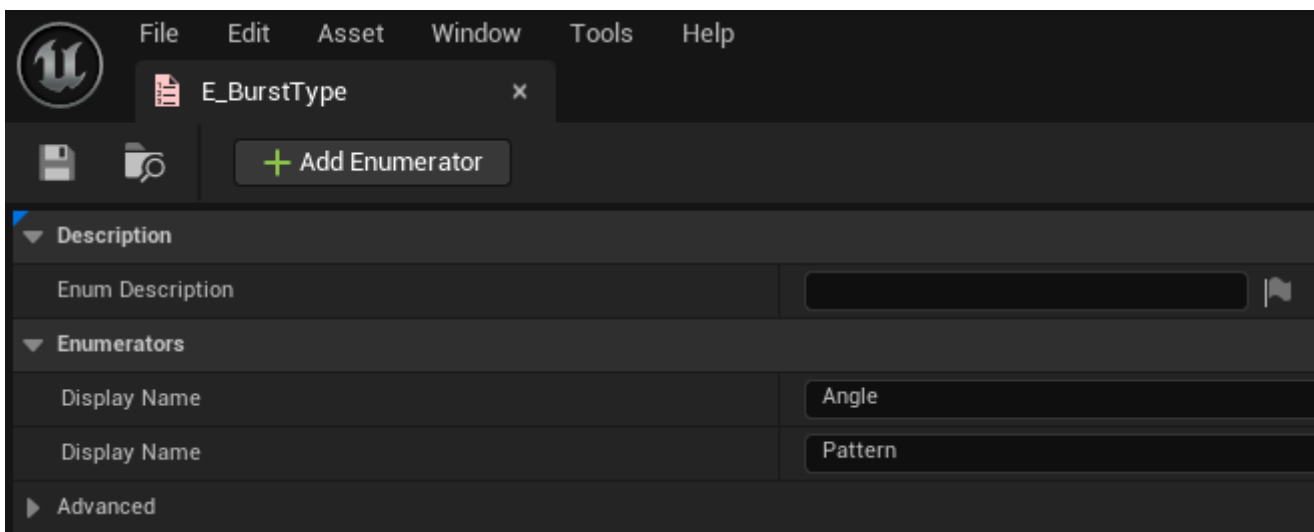
Description

- Enum for bullet spread

Possible values

- **Angle** - bullet spread will be based on provided angle(float value) - the spread will be in a cone with that angle as diameter
- **Pattern** - pattern exported from **EUW_SpreadPattern** tool(shipped with the product) will be used for bullet spread

E_BurstType



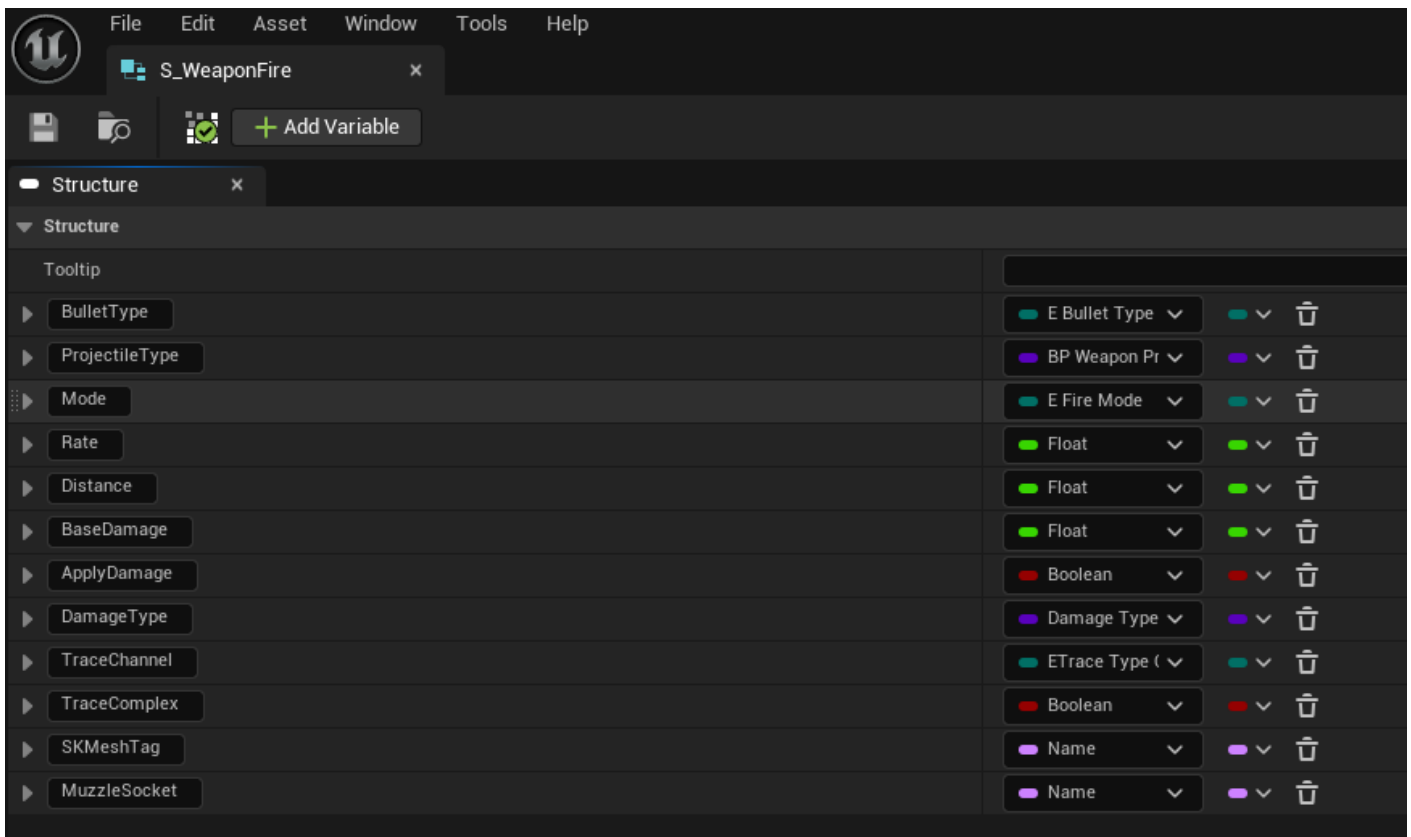
Description

- Enum for burst - same as the one for bullet spread but will be used only for Burst fire mode

Possible values

- See **E_SpreadType** - it's the same

S_WeaponFire



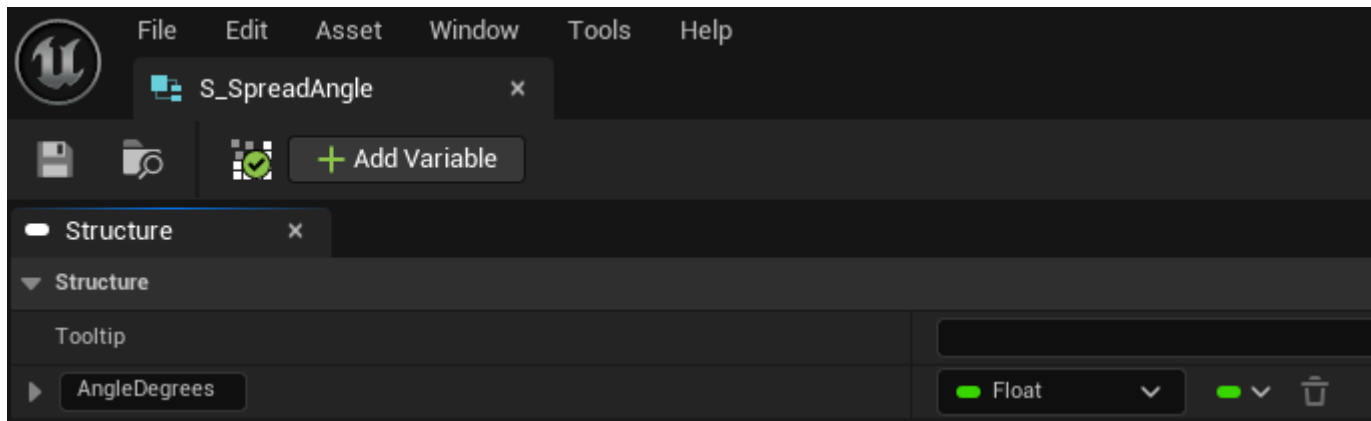
Description

- General configuration for weapon firing

Parameters

- **BulletType** - the type of firing (hitscan or projectile based) (see E_BulletTypeo)
- **ProjectileType** - the class type of the projectile, only used if BulletType = Projectile
- **Mode** - firing mode of the weapon (see E_FireMode)
- **Rate** - fire rate of the weapon in bullets/second
- **Distance** - distance that the bullet can travel in UE units (cm)
- **BaseDamage** - base damage to apply per bullet hit
- **ApplyDamage** - let the AWC handle the damage application (UE5 damage system) or let user handle it - if false, no damage application will be done
- **DamageType** - type of damage for weapon
- **TraceChannel** - channel to be used for traces when firing (this is also used for projectile based fire, not only for hitscan)
- **SKMeshTag** - tag that is set on the Weapon skeletal mesh - this is needed in order to find the **MuzzleSocket**
- **MuzzleSocket** - the muzzle socket on the Weapon skeletal mesh - basically, it's the starting position of the bullet

S_SpreadAngle



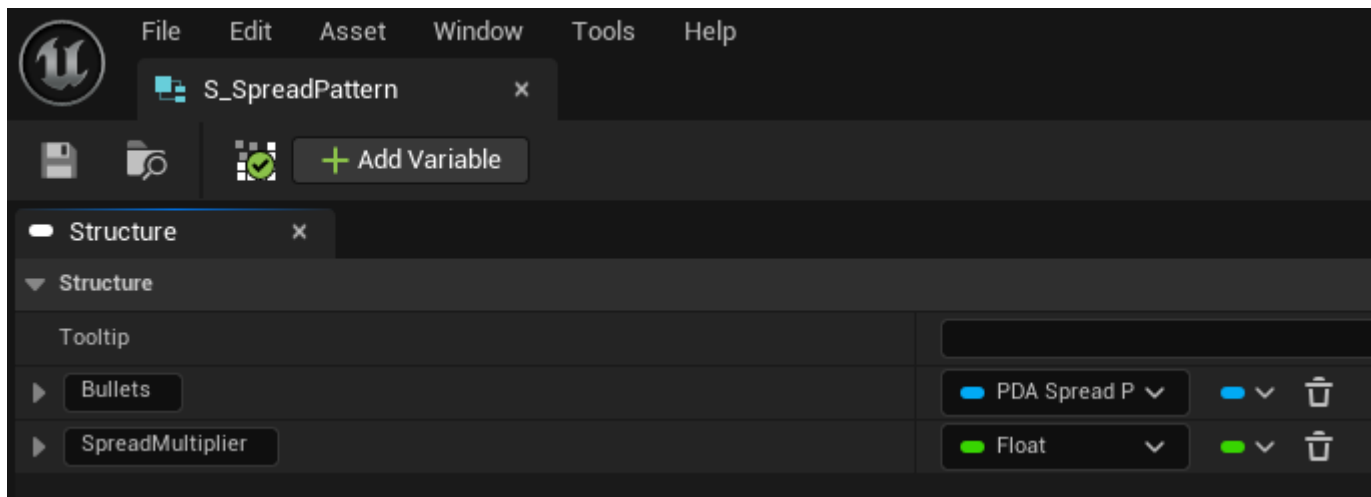
Description

- Used for weapon spread - only if SpreadType == Angle (see E_SpreadType)

Parameters

- **AngleDegrees** - the angle in degrees for the cone in which the bullets will spawn

S_SpreadPattern



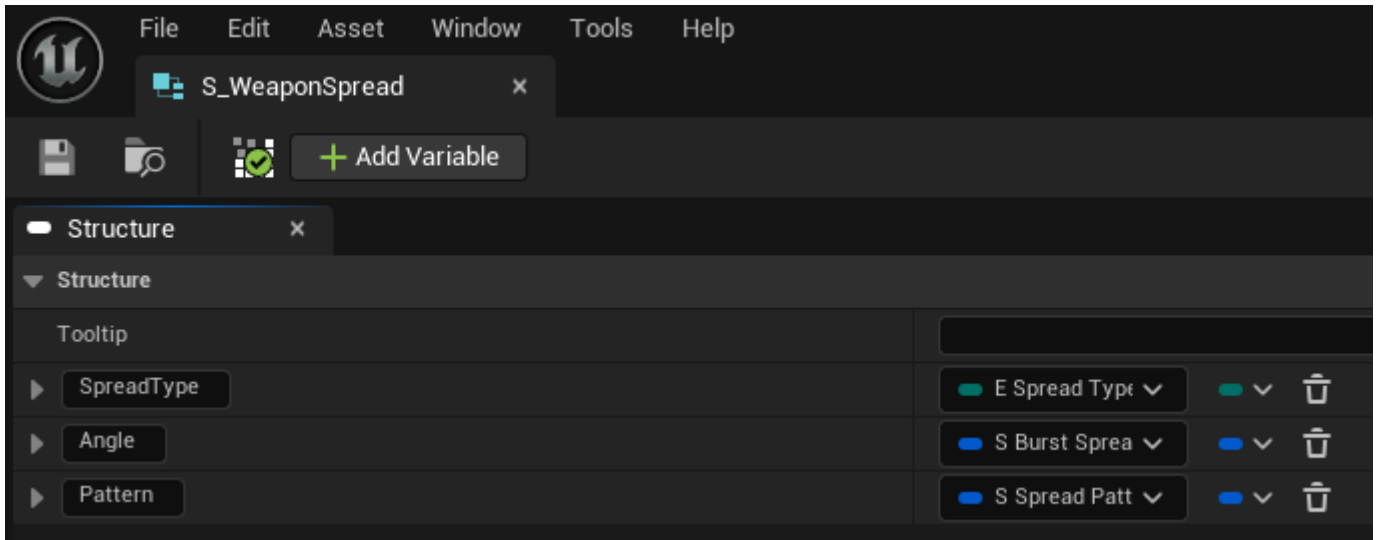
Description

- Used for weapon spread - only if SpreadType == Pattern(see E_SpreadType)

Parameters

- **Bullets** - spread pattern generated by **EUW_SpreadPattern** tool
- **SpreadMultiplier** - the spread pattern is normalized and this is used for how much spread to apply - can be changed for more/less spread per bullet

S_WeaponSpread



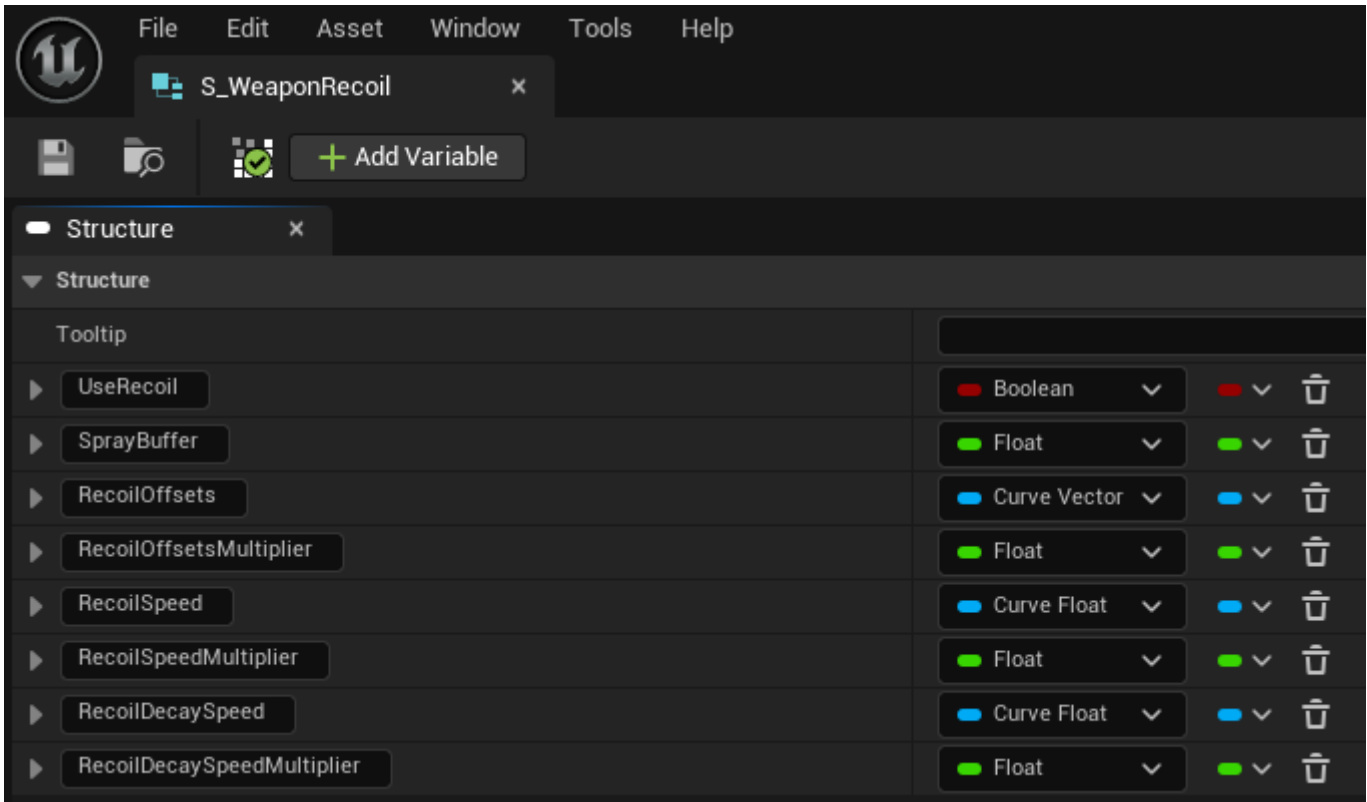
Description

- Weapon spread settings - uses **E_SpreadType**, **S_BurstSpreadAngle** and **S_SpreadPattern**

Parameters

- **SpreadType** - how to calculate the spread (angle or pattern)
- **Angle** - if SpreadType == Angle, see **S_BurstSpreadAngle**
- **Pattern** - if SpreadType == Pattern, see **S_BurstPattern**

S_WeaponRecoil



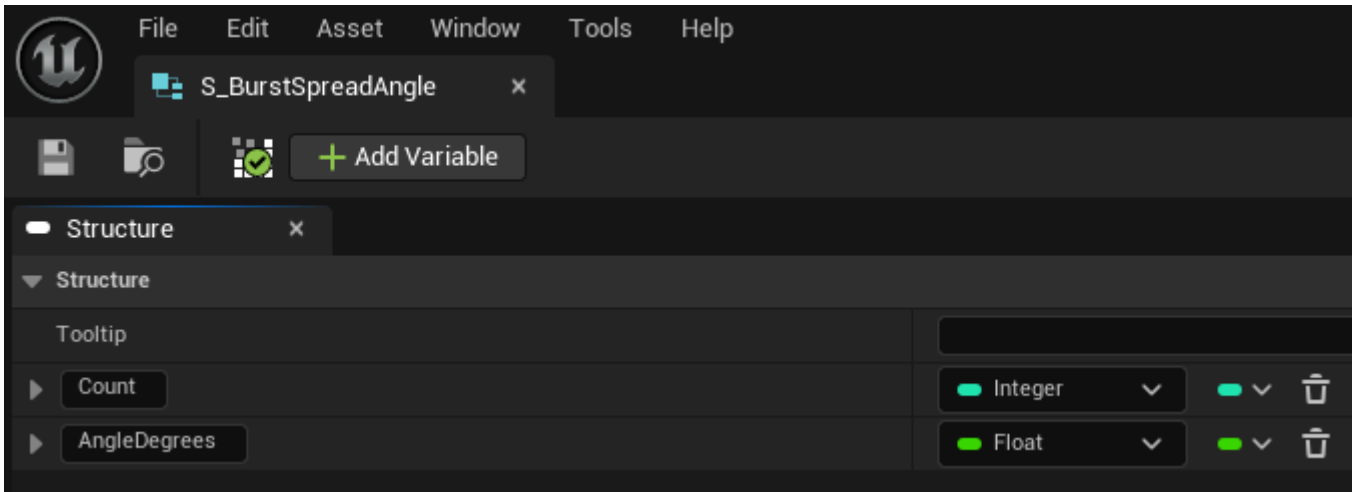
Description

- Settings for weapon recoil

Parameters

- **UseRecoil** - controls whether recoil to be applied or not(if false, other settings do not matter)
- **SprayBuffer** - buffer of time for each shot in order to be considered spraying - i.e. if fire rate is 3 and buffer is 0.5 it means that if the weapon is shot faster than $0.33s(3 \text{ bullets/sec}) + 0.5s$, it is spraying
- **RecoilOffsets** - recoil to be applied/bullet as a curve (x and y -> pitch and yaw offsets, time is the actual bullet index, z is not used)
- **RecoilOffsetsMultiplier** - multiplier for RecoilOffsets
- **RecoilSpeed** - how fast to apply the recoil
- **RecoilSpeedMultiplier** - multiplier for RecoilSpeed
- **RecoilDecaySpeed** - how fast to decay recoil
- **RecoilDecaySpeedMultiplier** - multiplier for RecoilDecaySpeed

S_BurstSpreadAngle



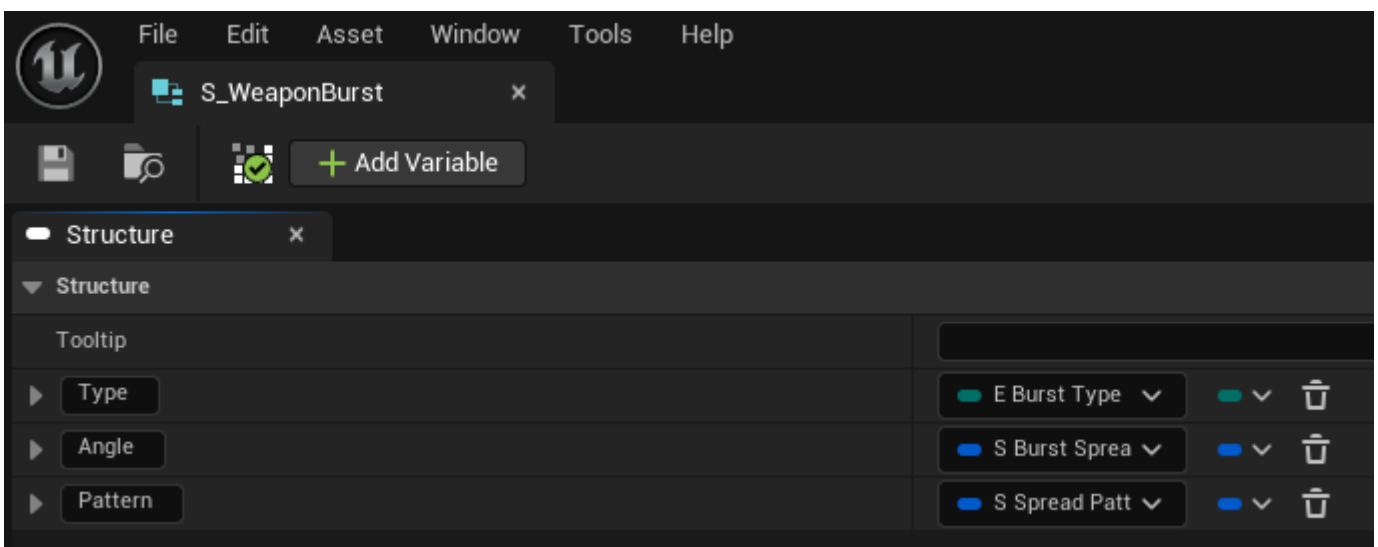
Description

- Settings for BurstMode when Type == Angle

Parameters

- **Count** - number of bullets to be shot
- **AngleDegrees** - bullet spread will be based on provided angle(float value) - the spread will be in a cone with that angle as diameter

S_WeaponBurst



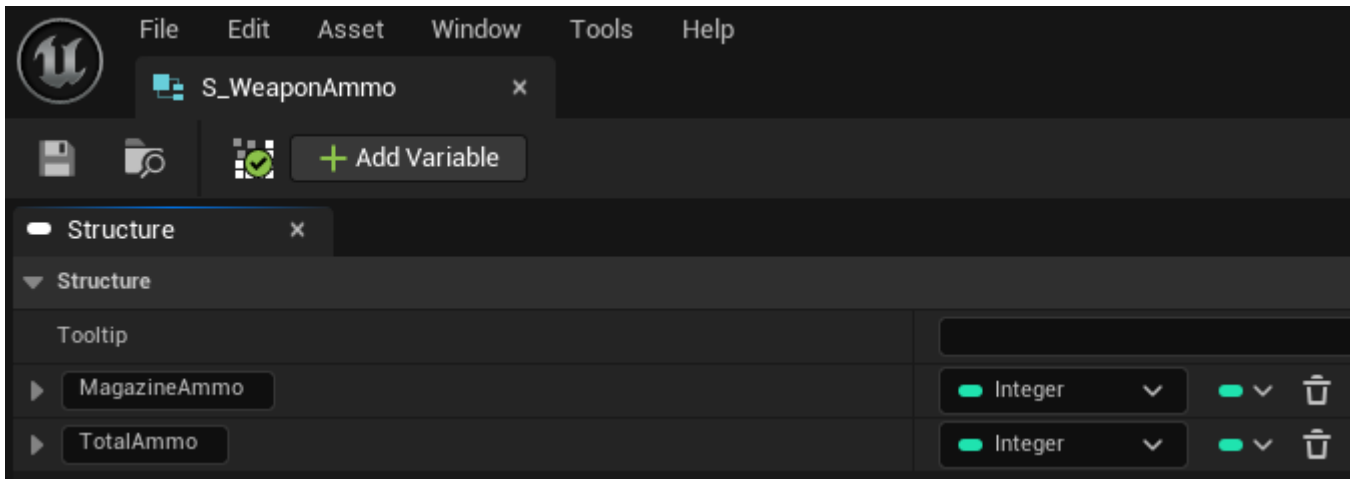
Description

- Settings for Burst Mode (only used when `E_FireMode == Burst`)

Parameters

- **Type** - type to use for weapon burst, either angle or pattern
- **Angle** - only used if Type == Angle
- **Pattern** - only used if Type == Pattern

S_WeaponAmmo



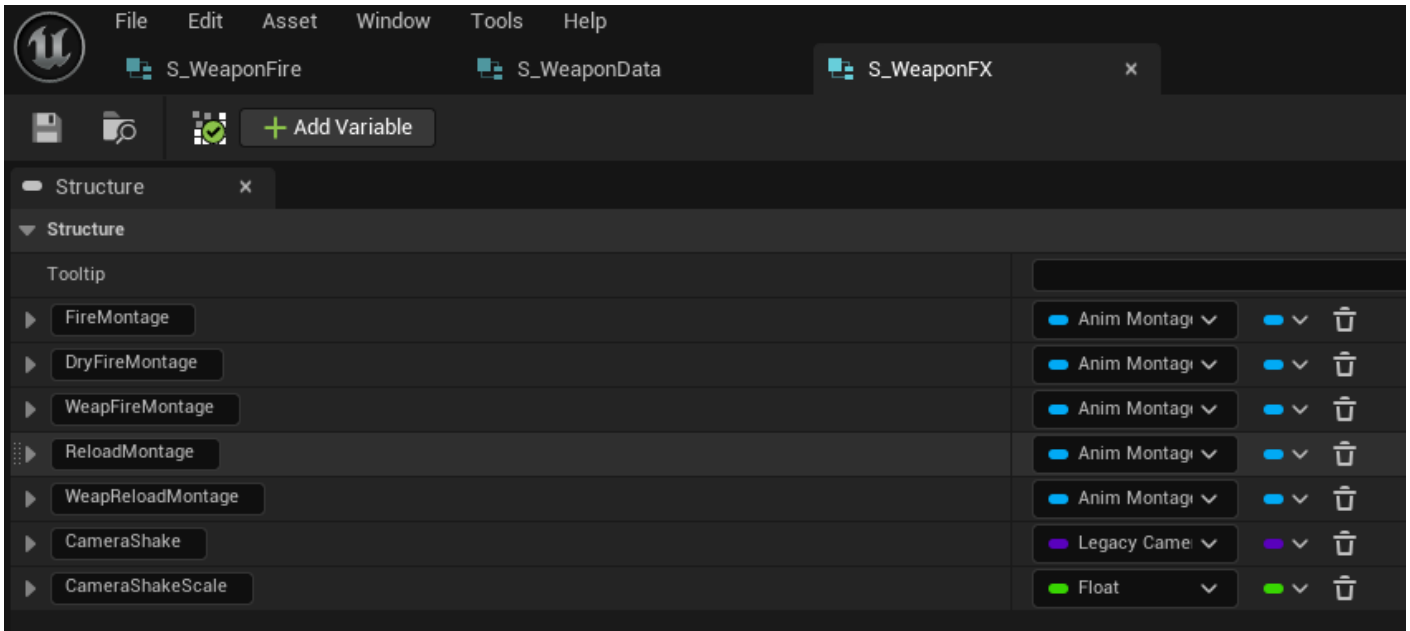
Description

- Simple settings for Ammo logic

Parameters

- **MagazineAmmo** - how many bullets there are per magazine
- **TotalAmmo** - how many bullets does the gun have - this is without what is in the magazine

S_WeaponFX



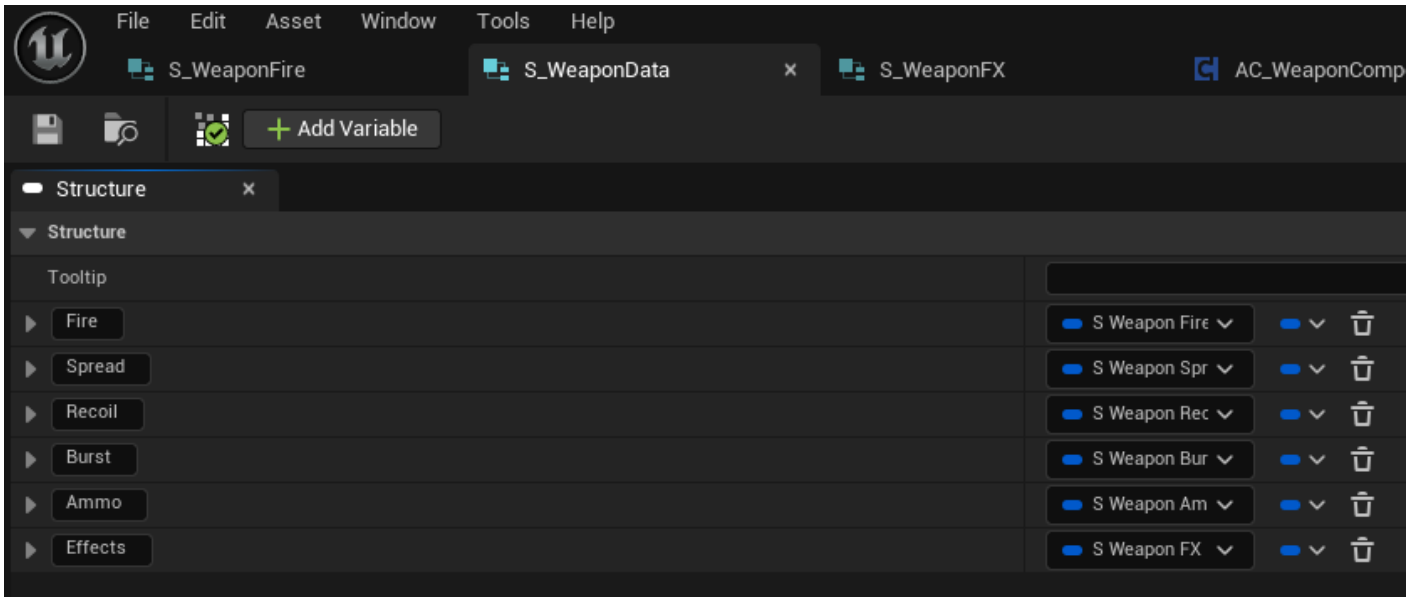
Description

- Configuration for montages and camera shake effects - sfx and vfx can be applied directly from montages or by using OnBulletHit/OnBulletShot/OnWeaponFired events

Parameters

- **FireMontage** - montage to be played on the character when StartShooting event is called, as long as there is ammo in the magazine
- **DryFireMontage** - montage to be played on the character when StartShooting event is called, but there's no ammo in the magazine
- **WeapFireMontage** - montage to be played on the weapon when StartShooting event is called
- **ReloadMontage** - montage to be played on the character when Reload event is called
- **WeapReloadMontage** - montage to be played on the weapon when Reload event is called
- **CameraShake** - camera shake effect to be played when shooting
- **CameraShakeScale** - scale of the previously mentioned CameraShake effect

S_WeaponData

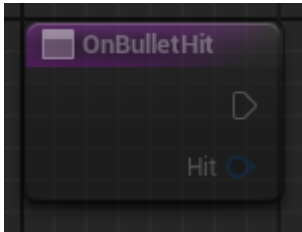


Description

- Configuration for the weapon. This aggregates all the previously mentioned data types. This is needed per weapon to configure everything.

Events

OnBulletHit



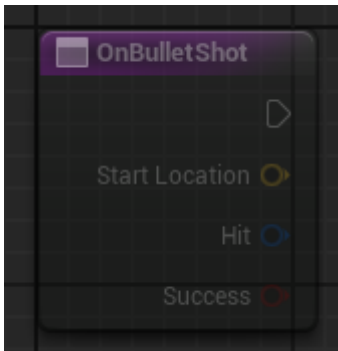
Description

- Called when a bullet hits something
- Can be used to apply damage, spawn decals etc

Arguments

- **Hit** - the HitResult structure

OnBulletShot



Description

- Called when a bullet spawns (or the line trace is fired)
- Can be used for playing sounds, niagara fx and others.

Arguments

- **StartLocation** - the location where the bullet has spawned (i.e. the muzzle socket position)

- **Hit** - HitResult of the actual trace
- **Success** - if the trace hit something or not

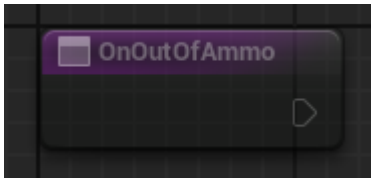
OnMagazineEmpty



Description

- Called when there are no more bullets in the current magazine

OnOutOfAmmo



Description

- Called when there are no more bullets

OnWeaponFired



Description

- Called when the weapon is fired (not per bullet - i.e. on burst, will be called once even if the burst has more bullets)

Projectile

The Projectile Actor used for the Advanced Weapon Component is BP_WeaponProjectile.

It is a simple Projectile type Actor that only has two important updates:

1. Calls BulletHit event from AC_AdvancedWeaponComponent when Hit event occurs
2. Uses custom collision settings: object type is Destructible and response to Destructible is "Ignore"
 - this setup is done in order for burst to work accordingly when using projectiles - projectile should not collide with each other

Any custom Projectile can be used as long as it calls BulletHit when Hit event occurs and uses object type that does not respond to itself. Aside from that, the type of "ProjectileType" variable in "S_WeaponFire" should be changed from "BP_WeaponProjectile" to custom provided Projectile type.

Known Bugs

Recoil

1. ~~Decay recoil overshoots~~ Done
2. ~~Decay recoil speed timeline is not used – it has linear decay~~ Done

General Shooting

1. ~~Shooting spread is not reset if no recoil applied~~ Done
2. ~~In example, effects are not shown if the bullets do not hit~~ Done