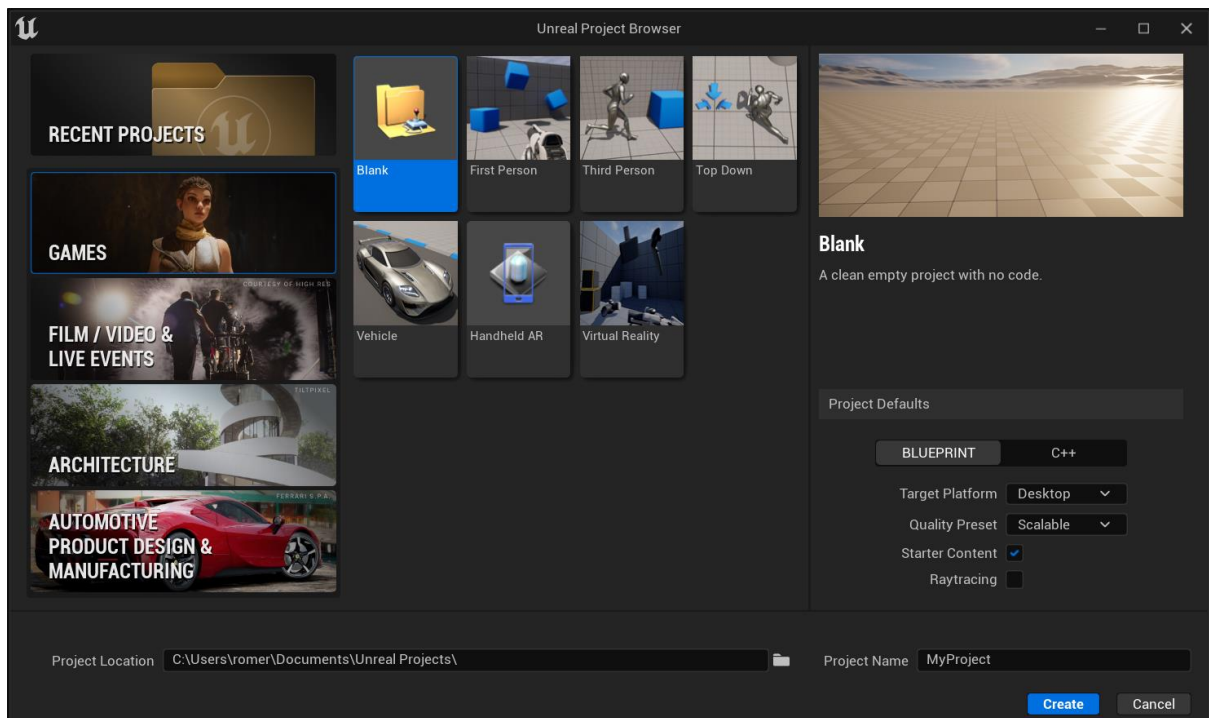
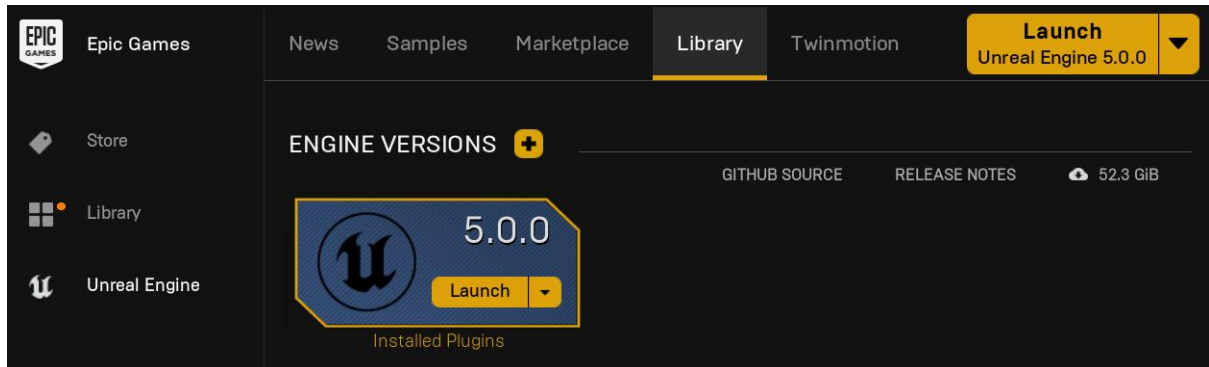
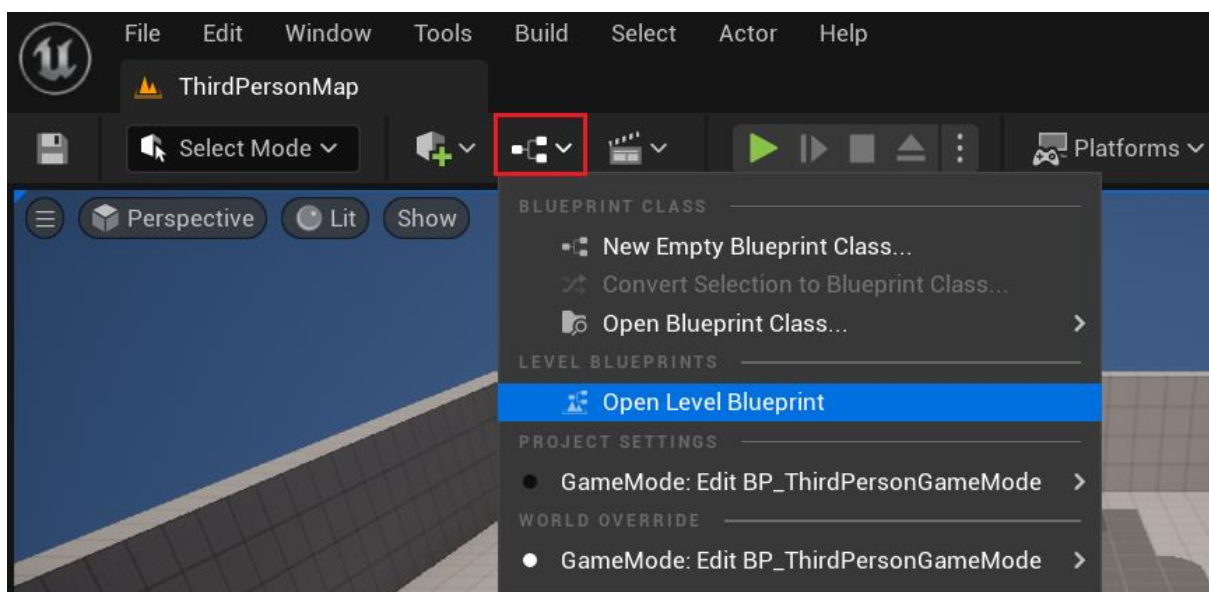
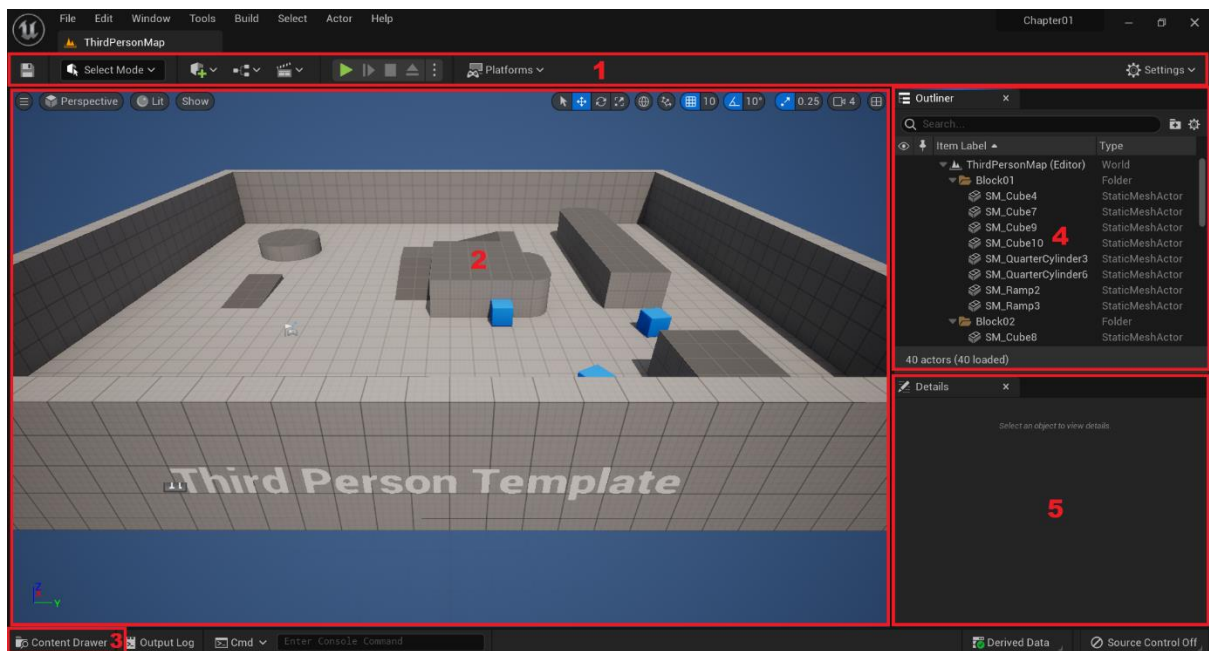
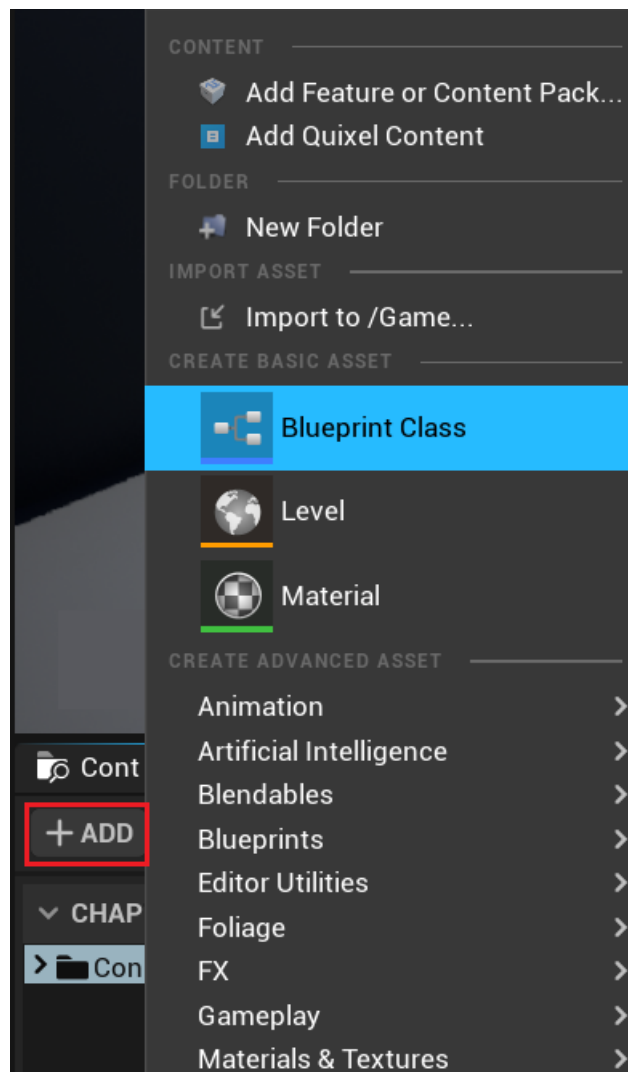
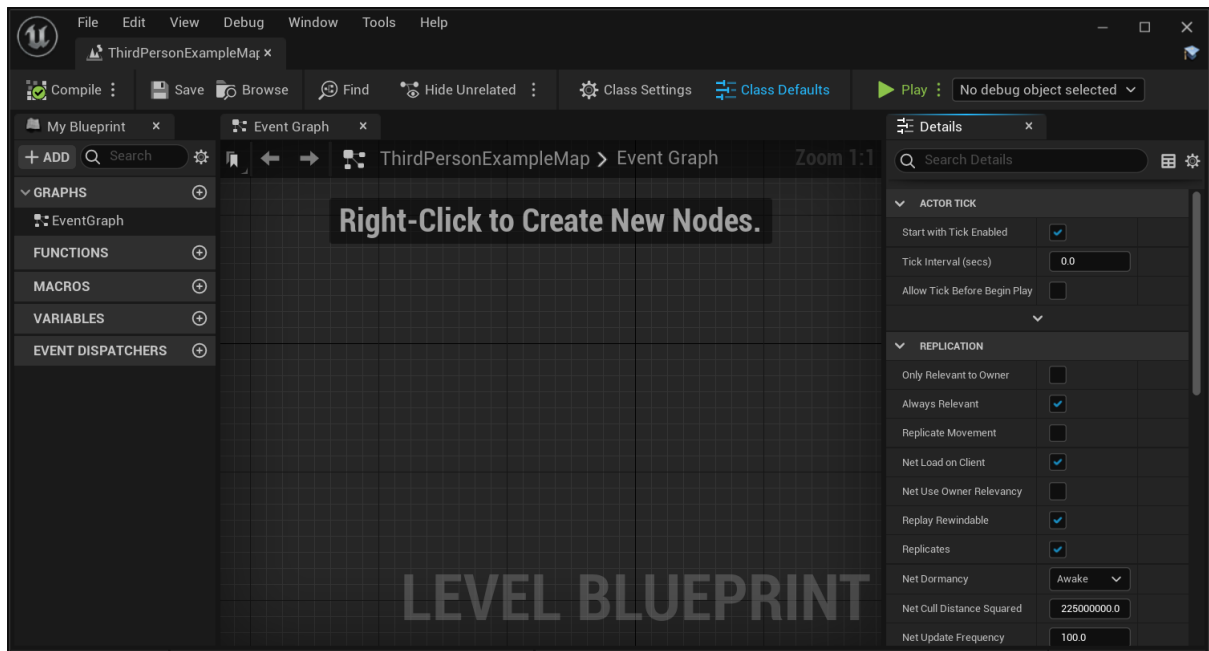


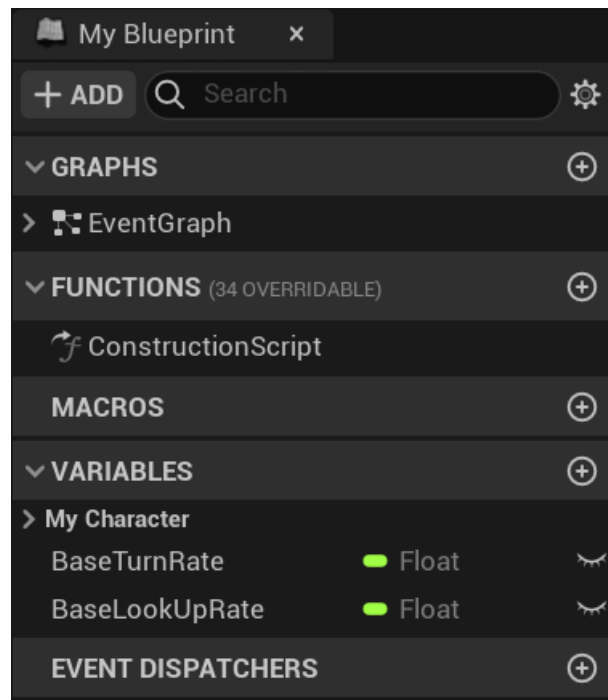
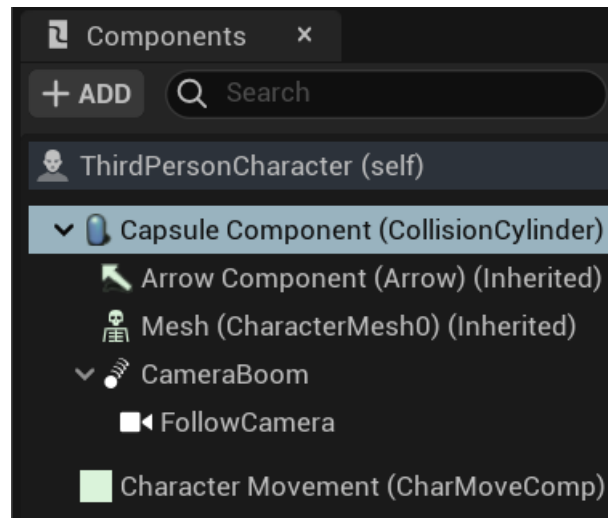
# Chapter 1: Exploring the Blueprint Editor











Details

Search Details

▼

VARIABLE

Variable Name	CapsuleComponent	
Tooltip		
Category	Character	▼
Editable when Inherited	<input checked="" type="checkbox"/>	

▶

TRANSFORM

▼

SOCKETS

Parent Socket		<div><div></div><div></div></div>	
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▼

SHAPE

Capsule Half Height	96.0	↶
Capsule Radius	42.0	↶

▼

▼

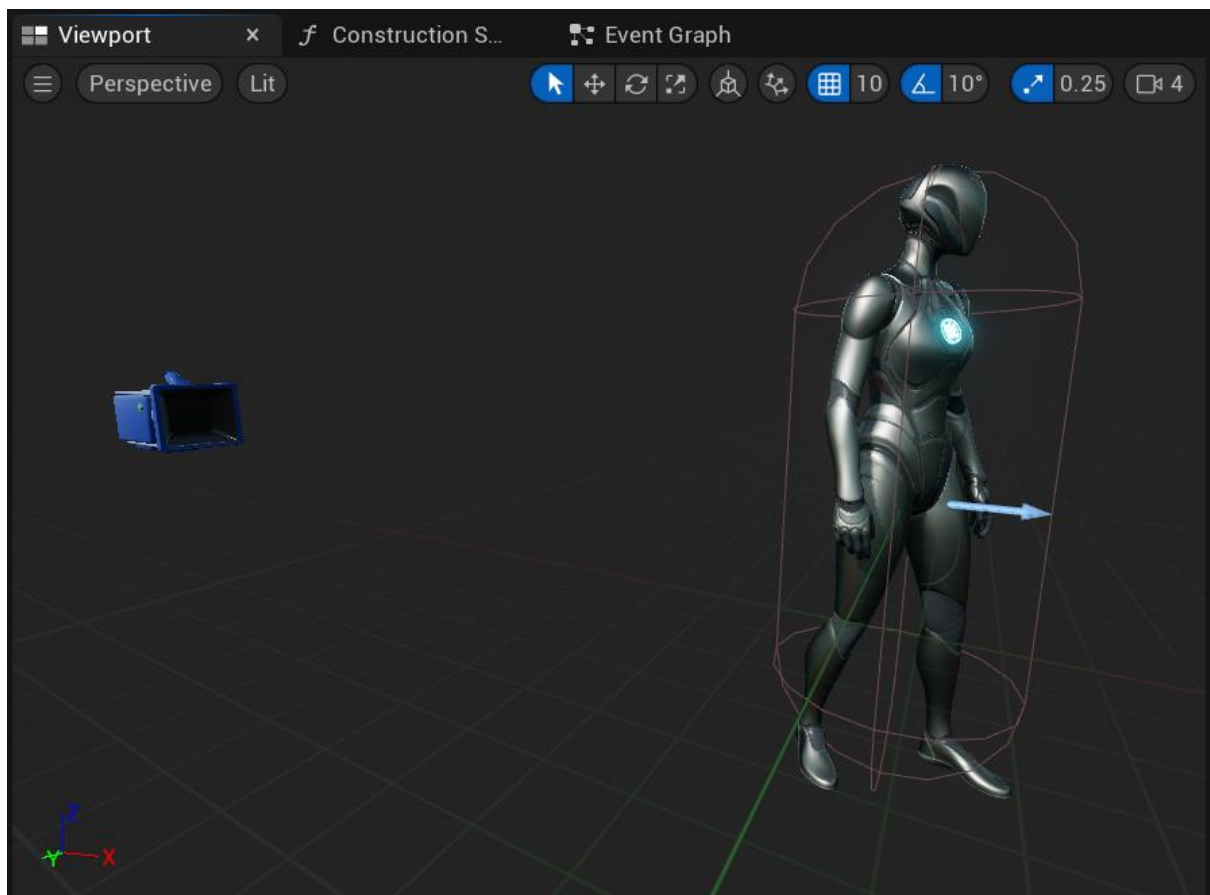
NAVIGATION

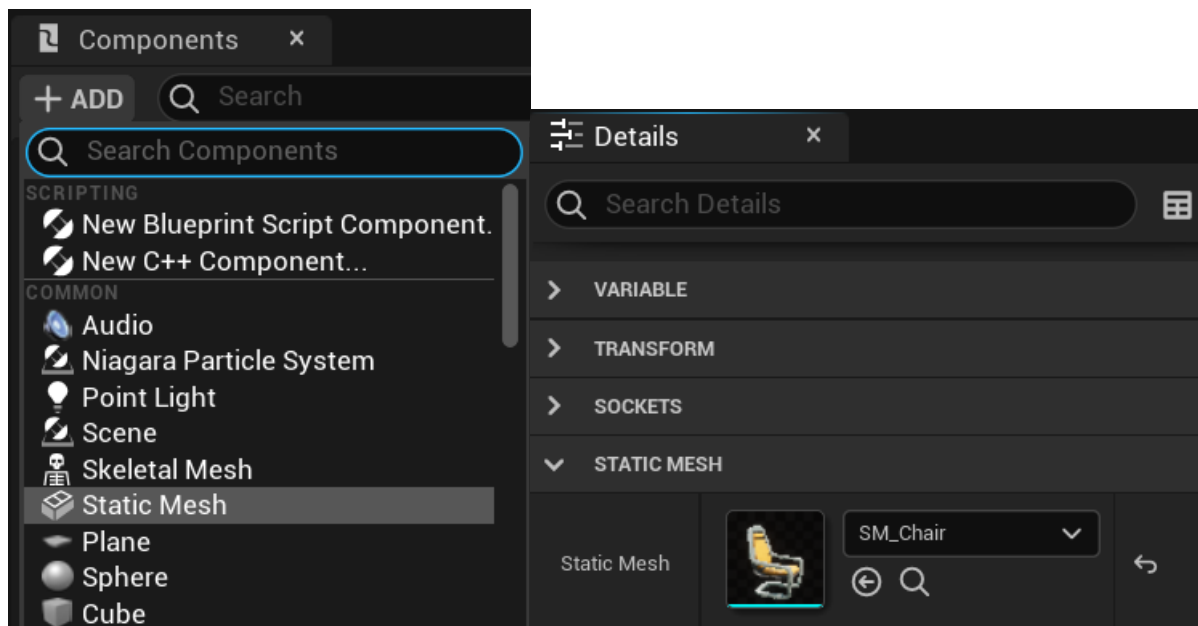
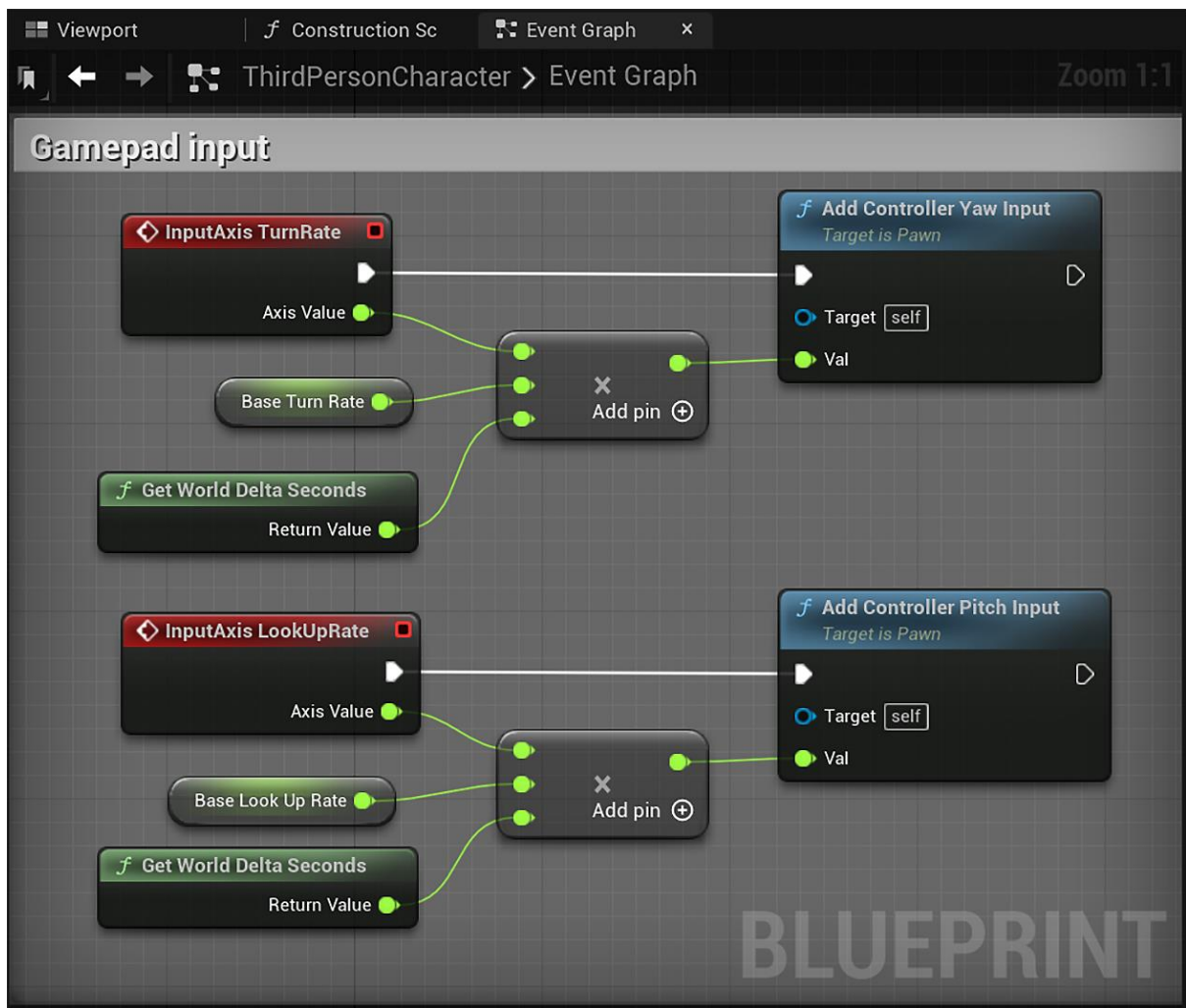
Area Class	NavArea_OI	↶	<div><div></div><div></div></div>	↶
Dynamic Obstacle	<input checked="" type="checkbox"/>			
Fill Collision Underneath	<input type="checkbox"/>			

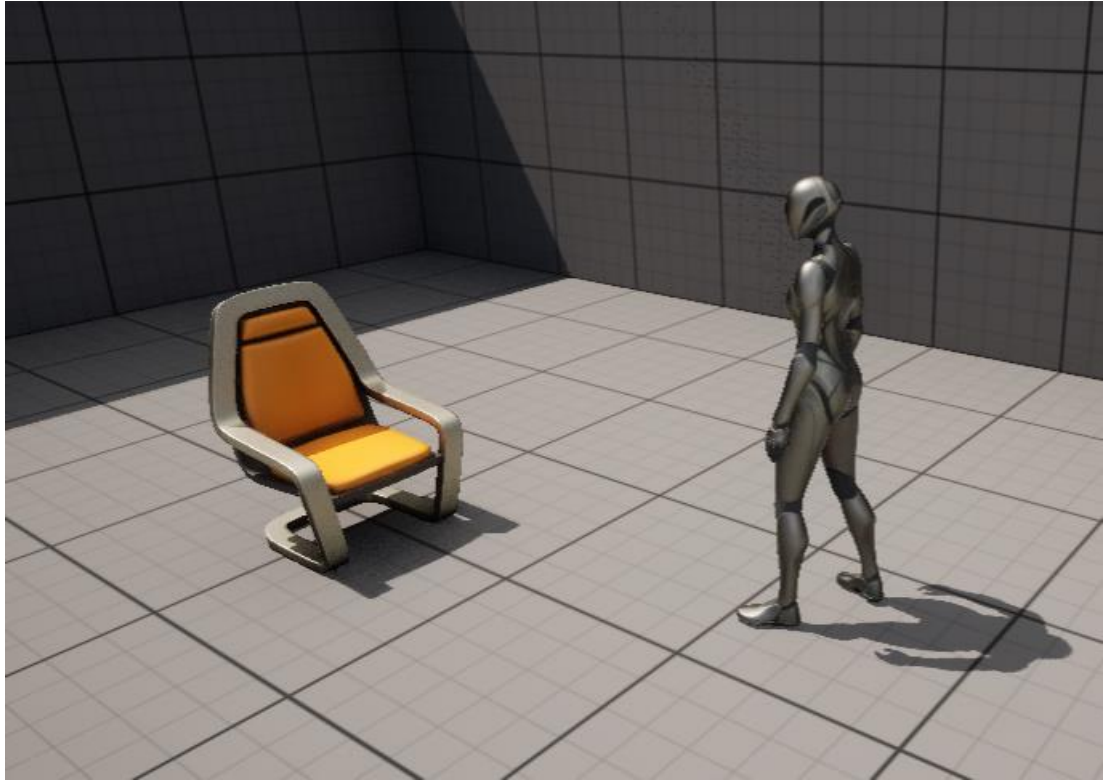
▼

COMPONENT TICK

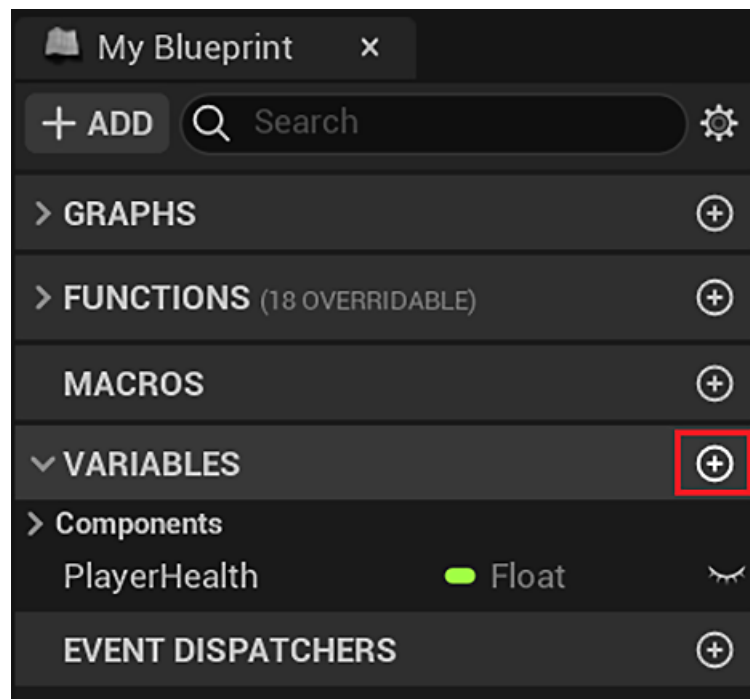
Start with Tick Enabled	<input checked="" type="checkbox"/>	
-------------------------	-------------------------------------	--

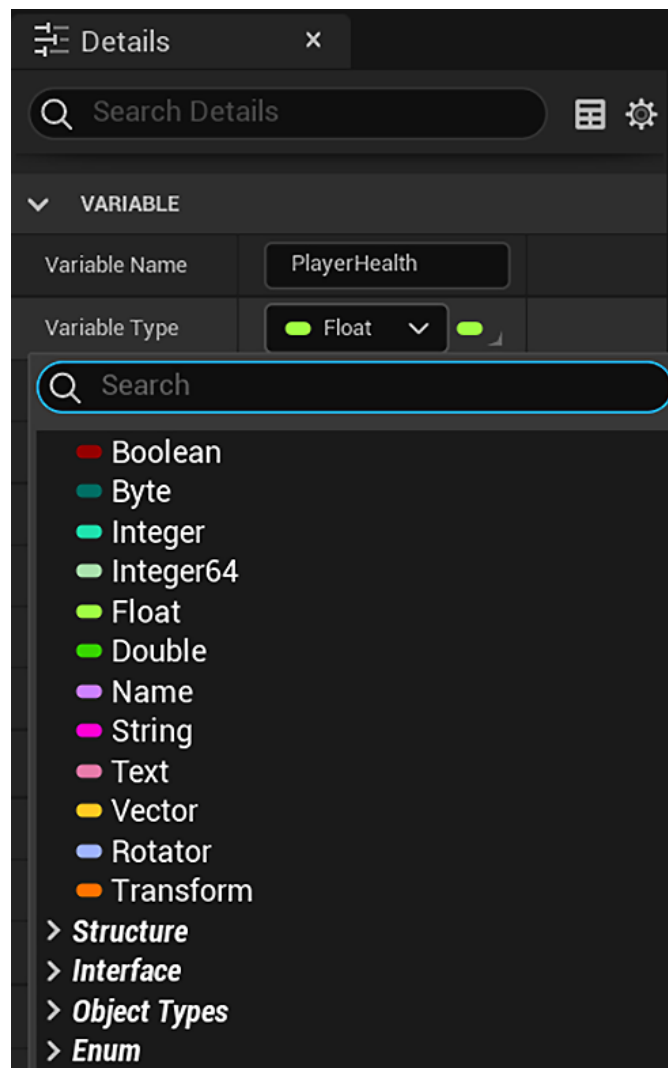








## Chapter 2: Programming with Blueprints





 Details ×

 Search Details

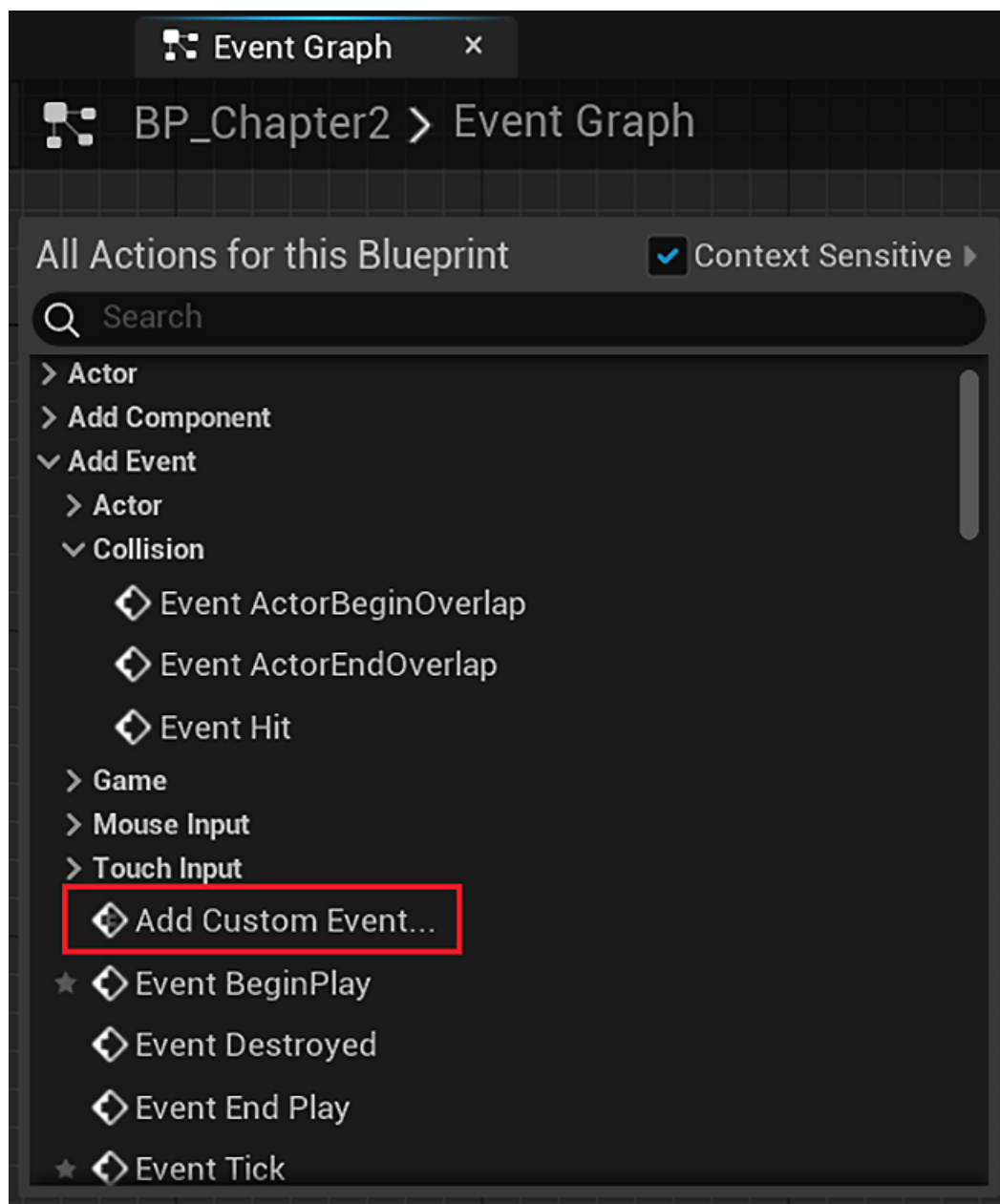
▼ VARIABLE

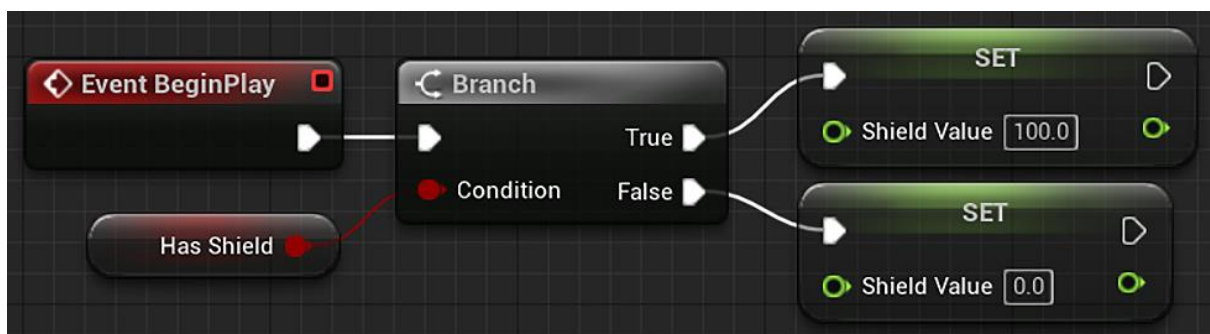
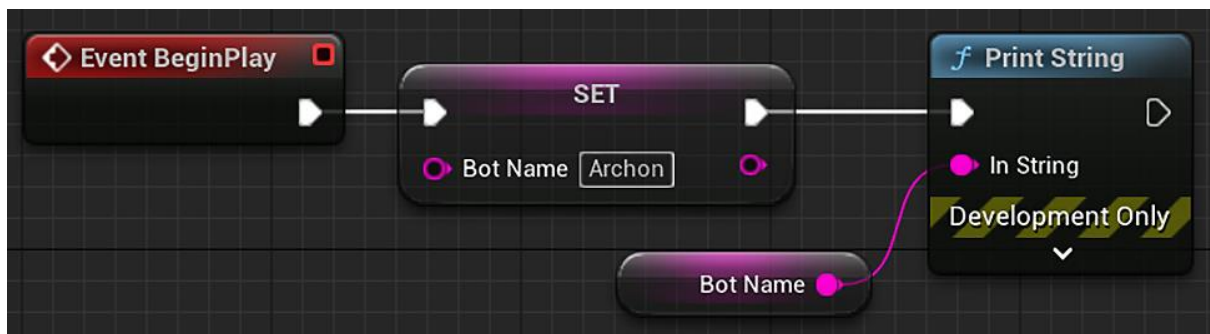
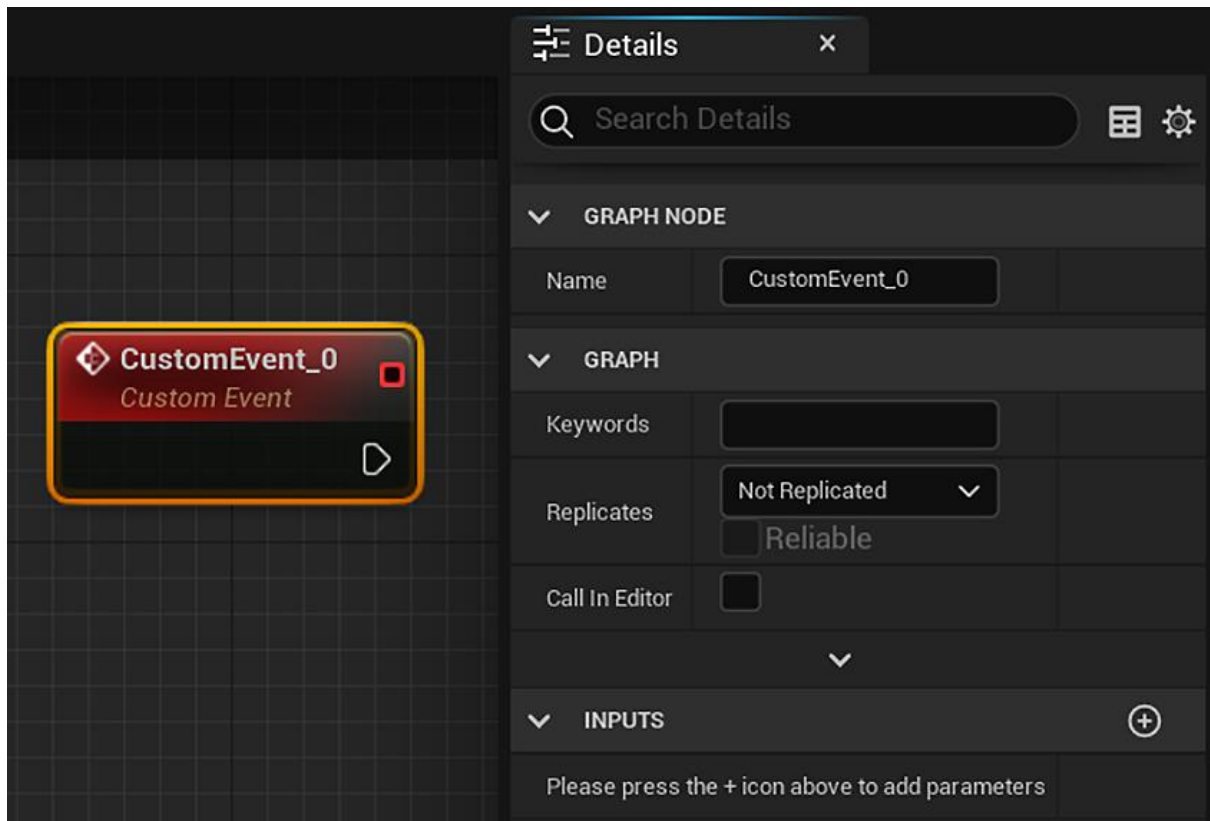
Variable Name	PlayerHealth
Variable Type	<span>Float</span> ▼
Instance Editable	<input type="checkbox"/>
Blueprint Read Only	<input type="checkbox"/>
Tooltip	
Expose on Spawn	<input type="checkbox"/>
Private	<input type="checkbox"/>
Expose to Cinematics	<input type="checkbox"/>
Category	Default ▼
Slider Range	<input type="text"/> .. <input type="text"/>
Value Range	<input type="text"/> .. <input type="text"/>
Replication	None ▼
Replication Condition	None ▼

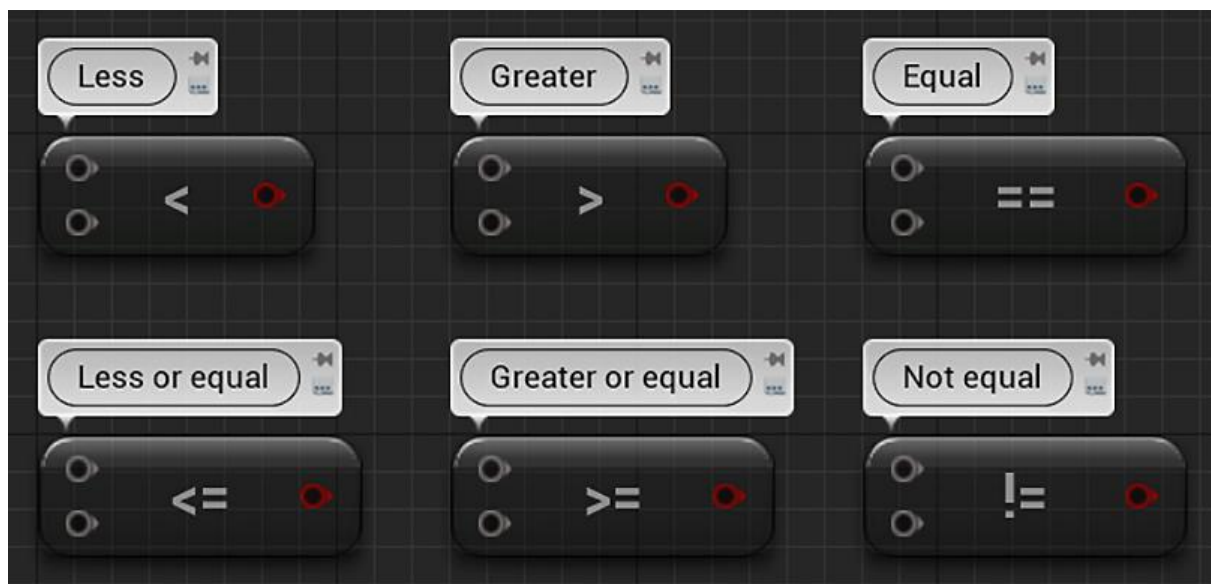
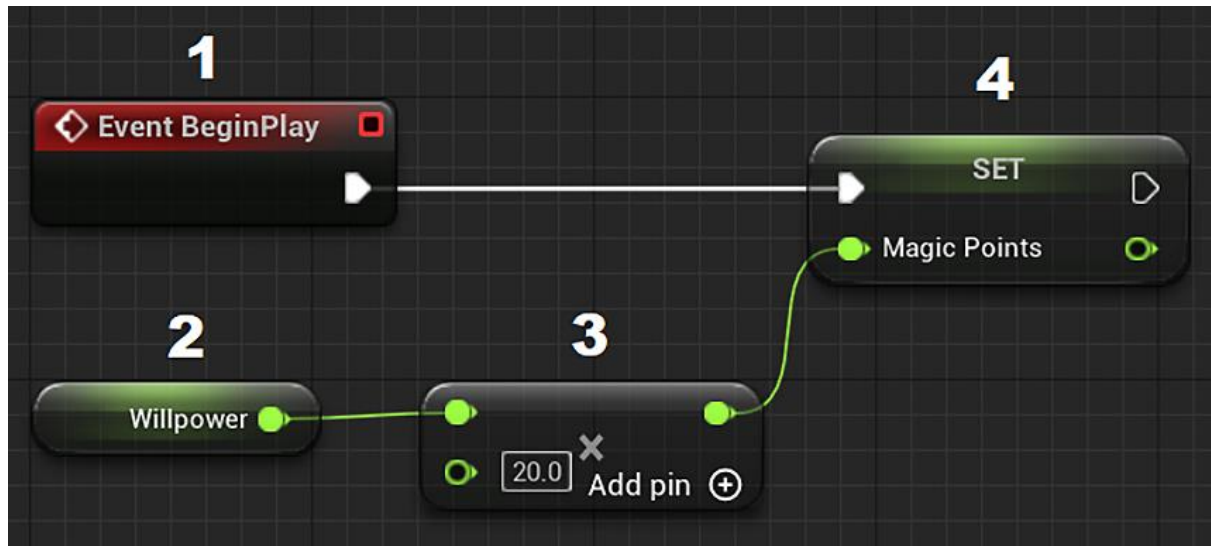
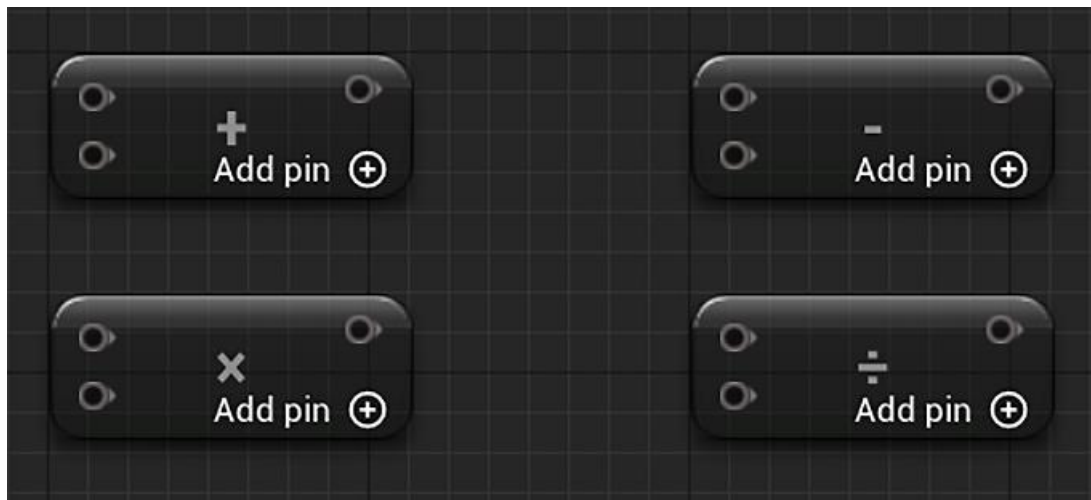
▼

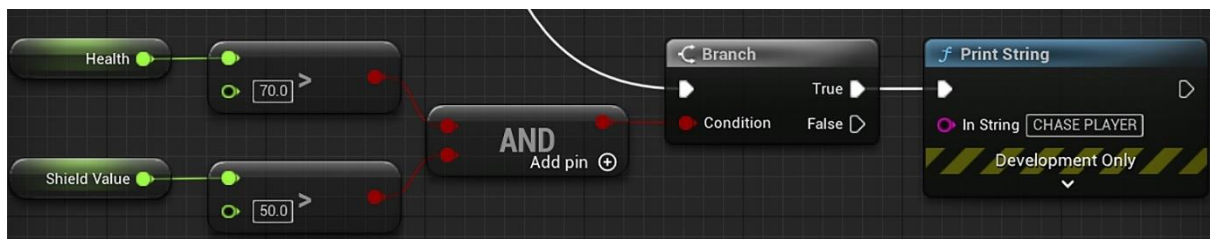
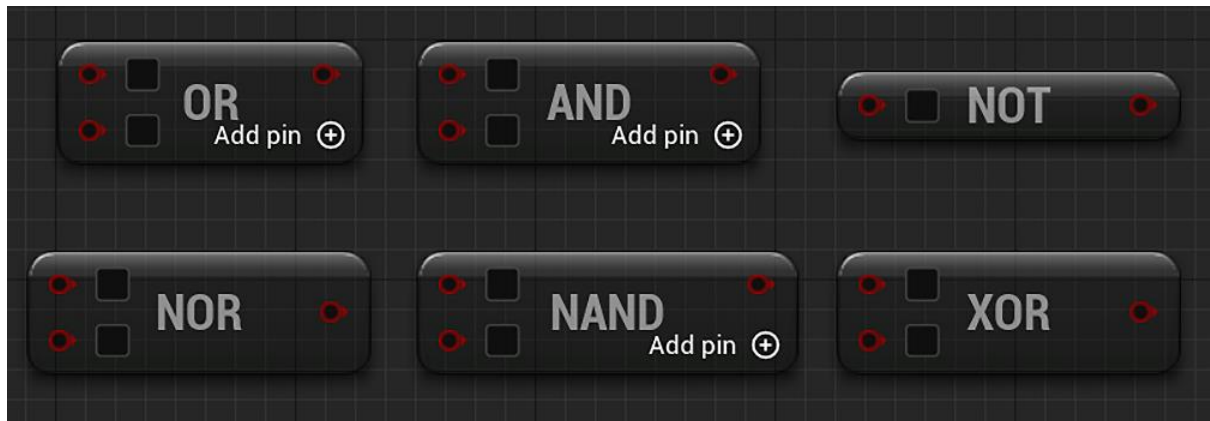
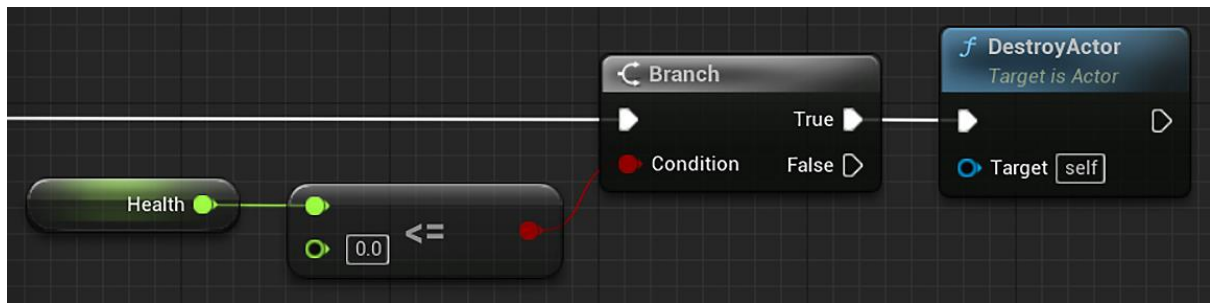
▼ DEFAULT VALUE

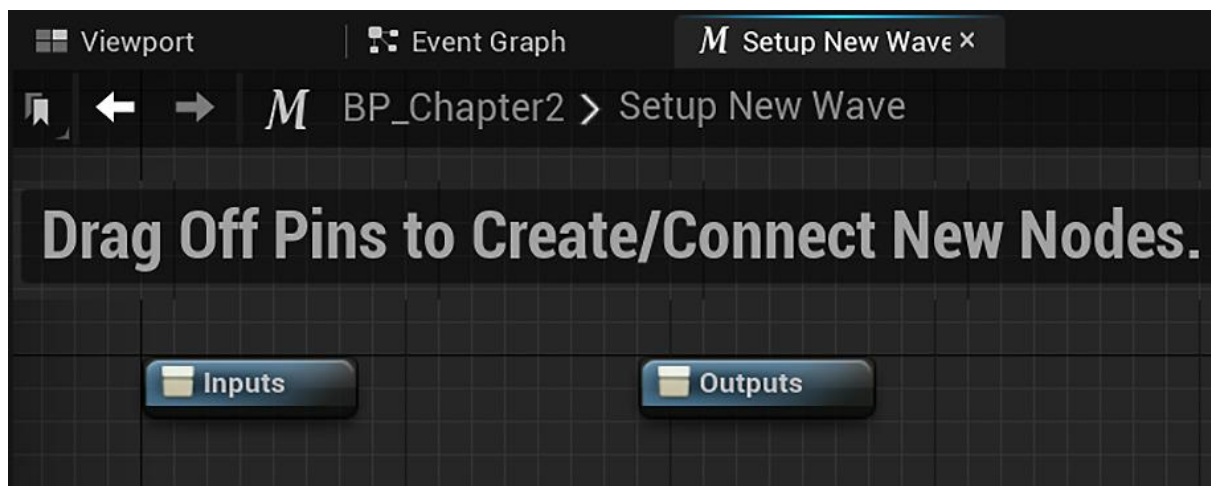
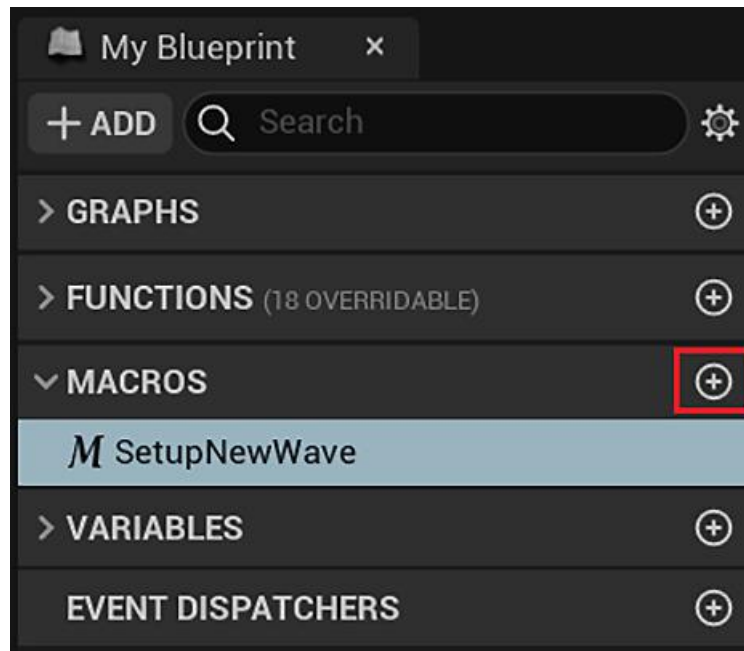
Player Health	100.0
---------------	-------











Details

Search Details

GRAPH

Description		
Category	Default	
Keywords		
Compact Node Title		
Instance Color		
Call In Editor		

INPUTS

In

Exec

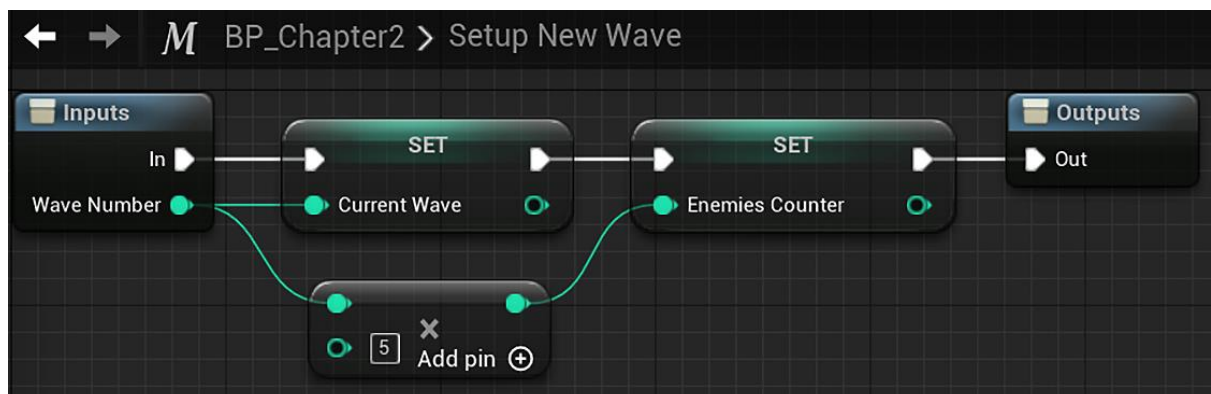
WaveNumber

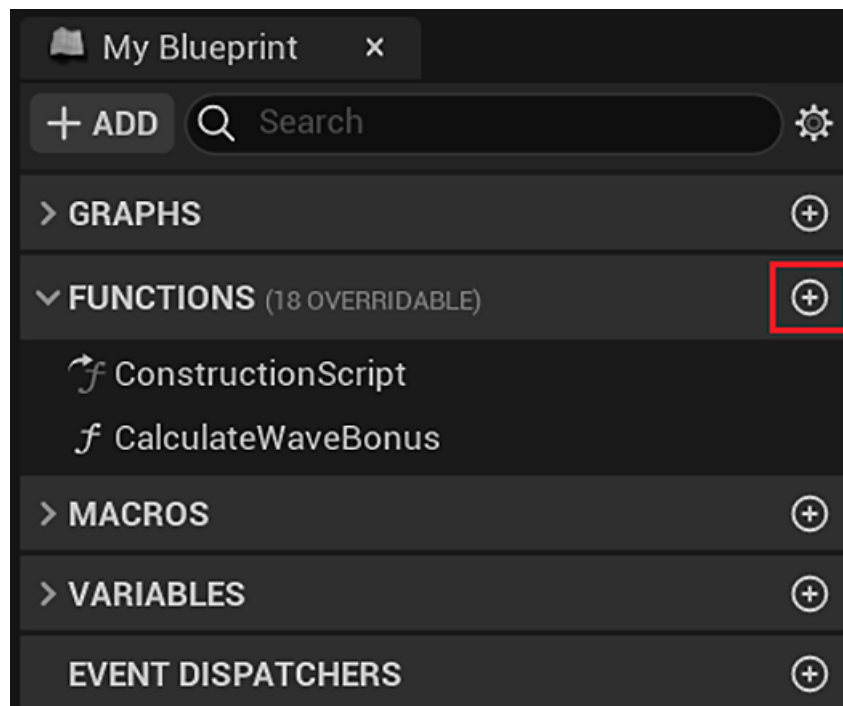
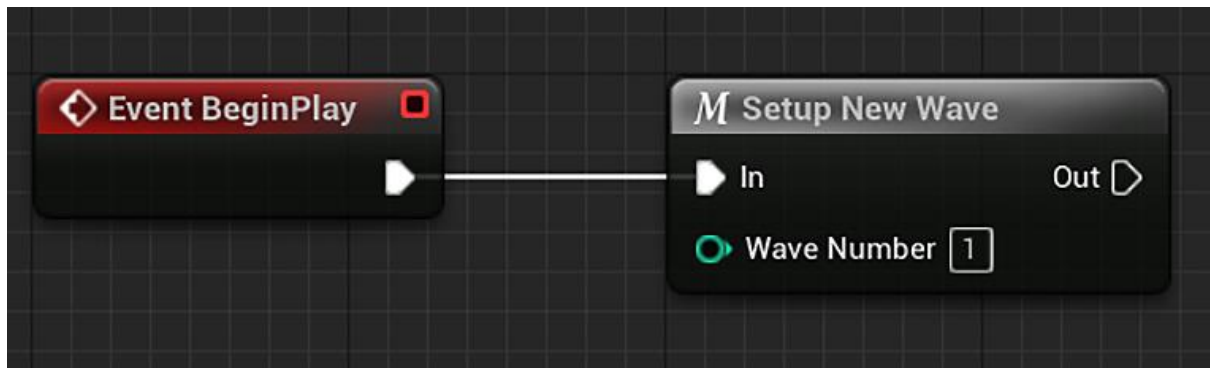
Integer

OUTPUTS

Out

Exec





Details

Search Details

GRAPH

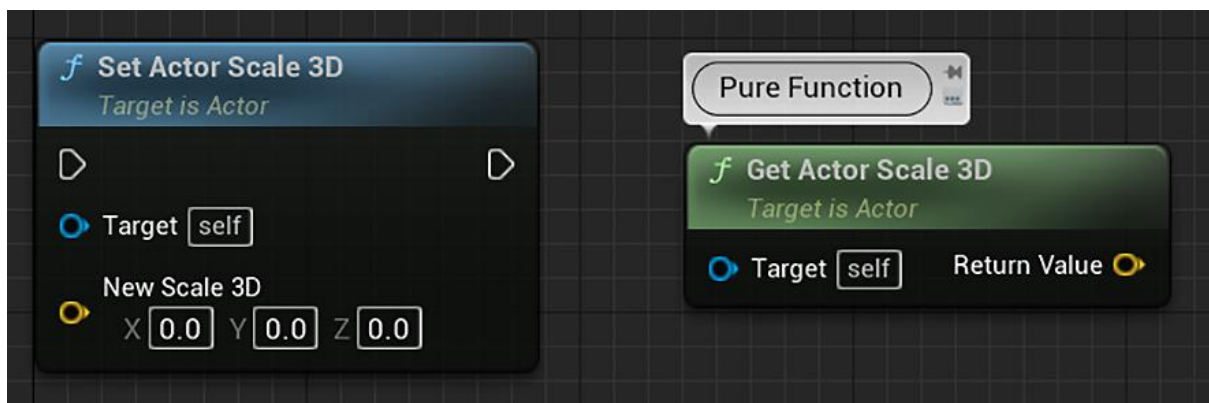
Description		
Category	Default	
Keywords		
Compact Node Title		
Access Specifier	Public	
Pure	<input type="checkbox"/>	
Call In Editor	<input type="checkbox"/>	

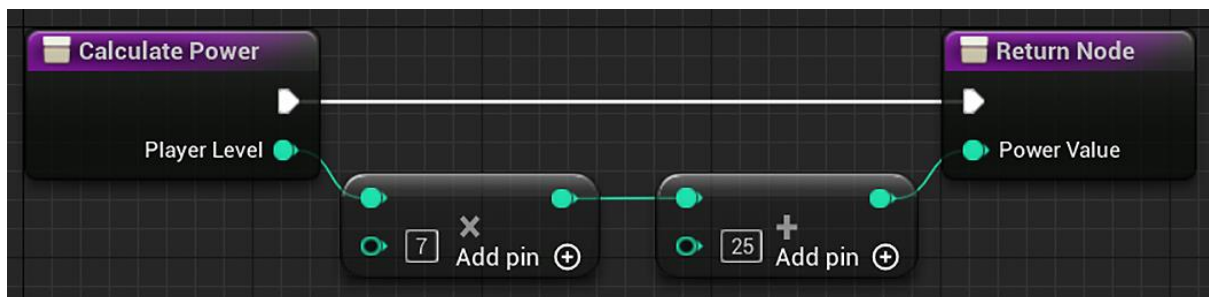
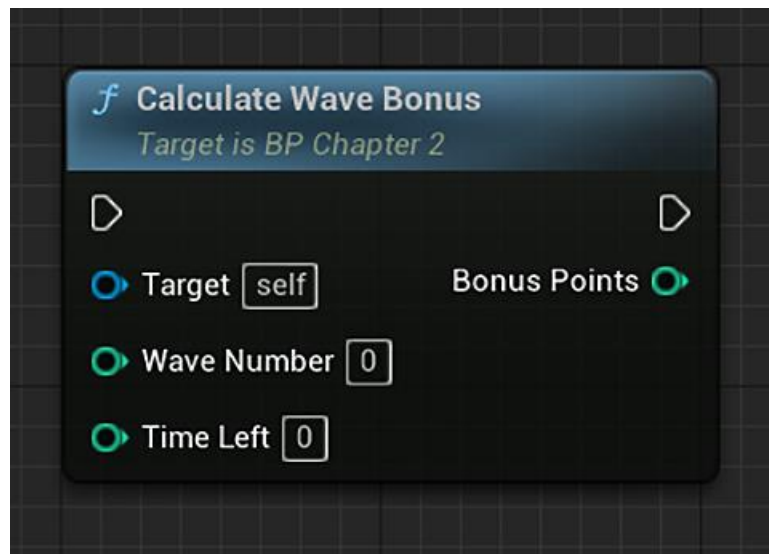
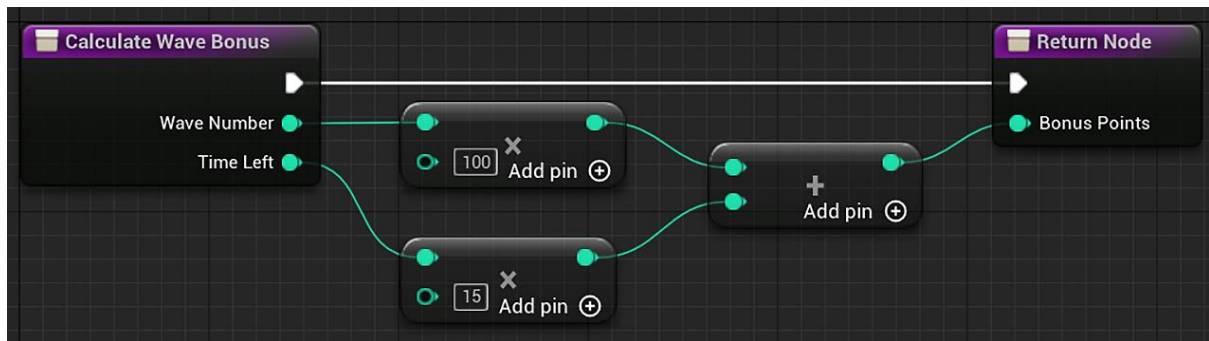
INPUTS

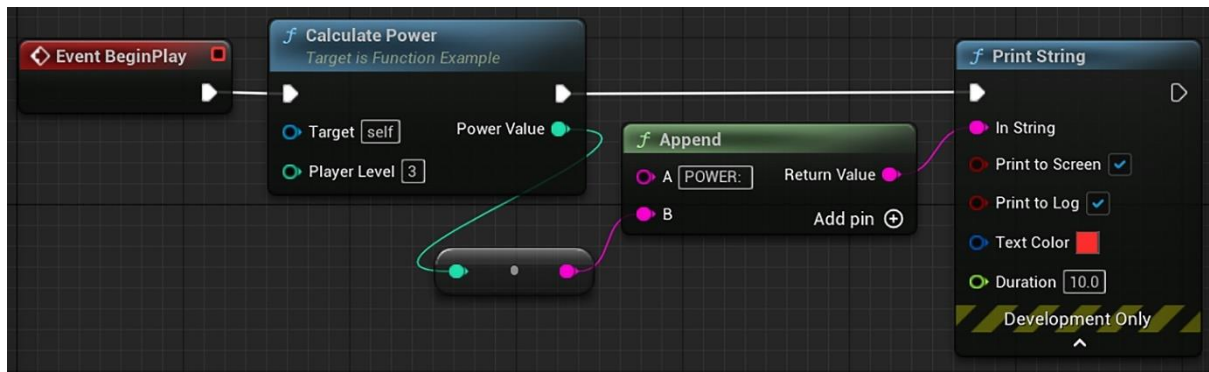
>	WaveNumber	<input checked="" type="checkbox"/> Integer	
>	TimeLeft	<input checked="" type="checkbox"/> Integer	

OUTPUTS

BonusPoints	<input checked="" type="checkbox"/> Integer	
-------------	---------------------------------------------	--

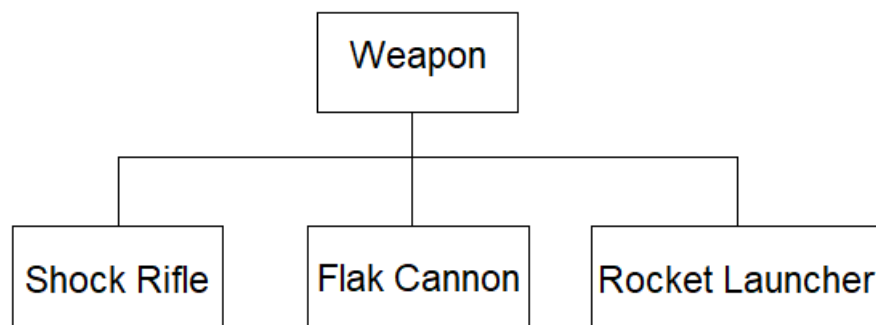
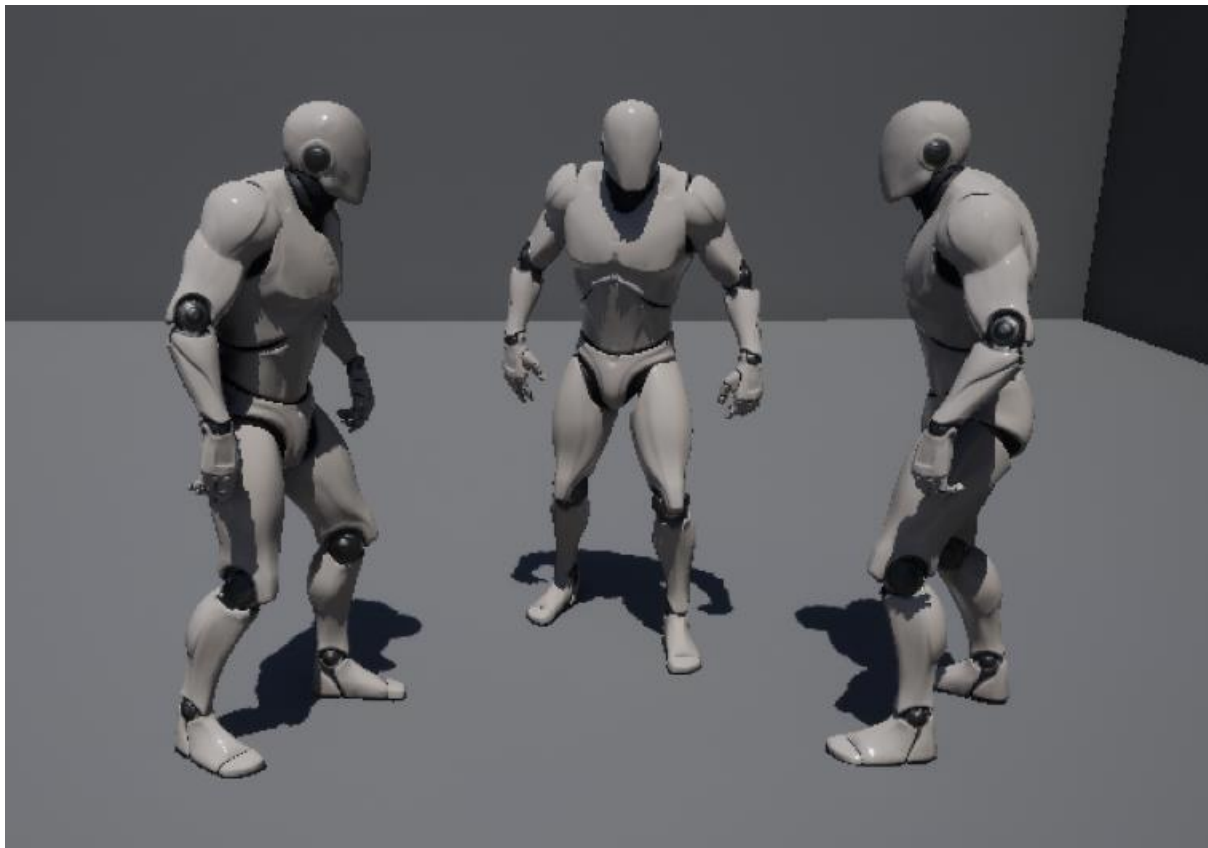
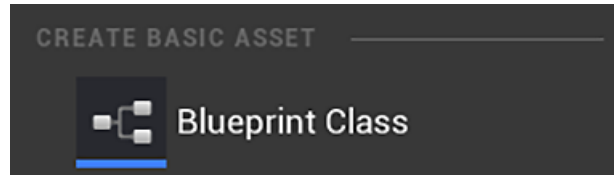


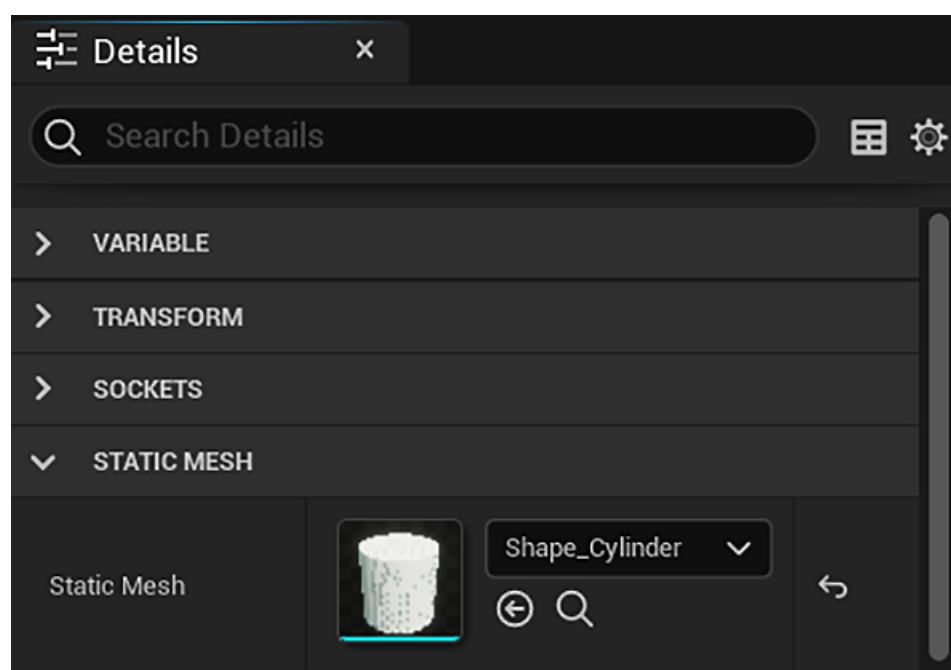
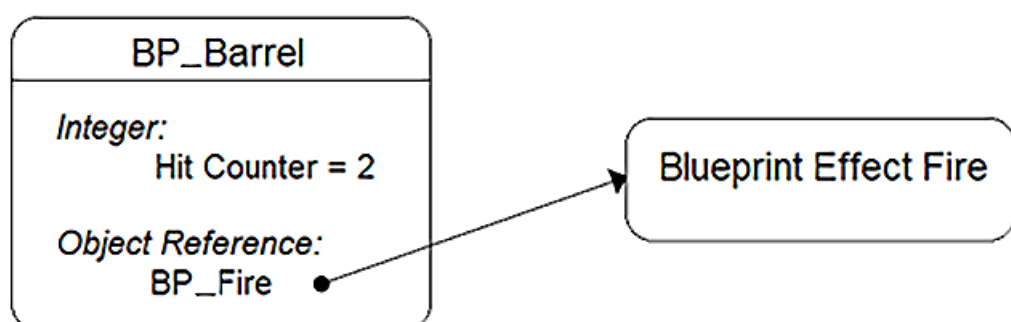


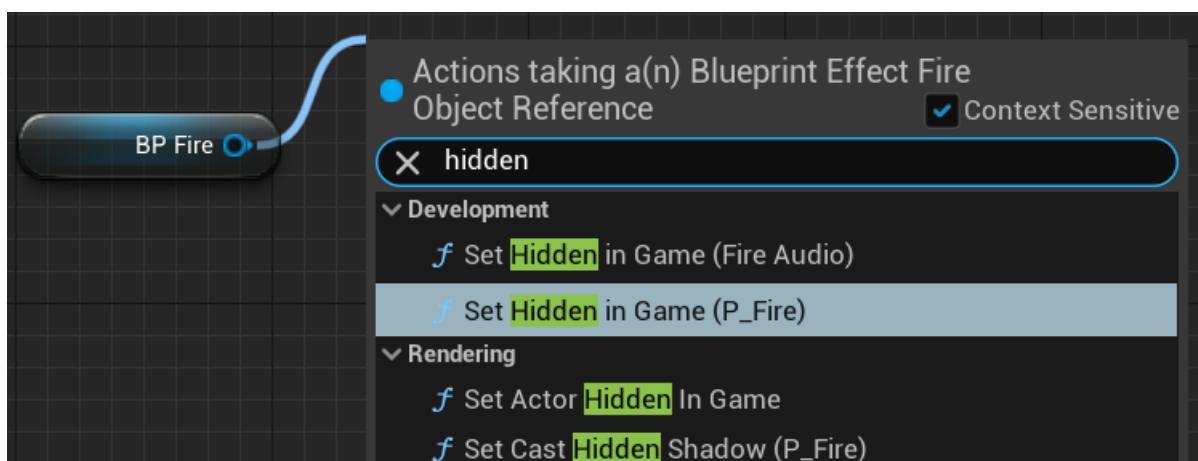
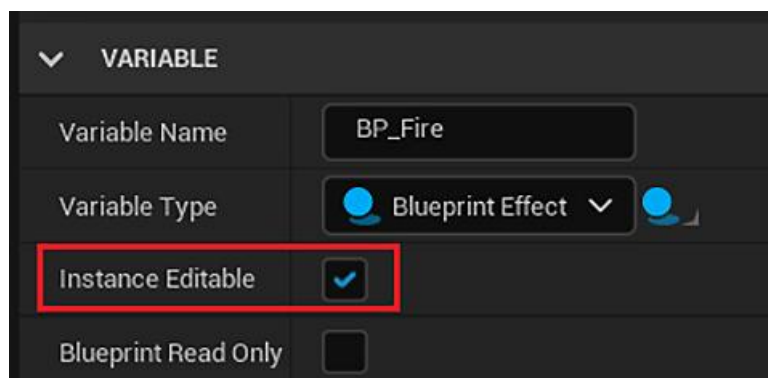
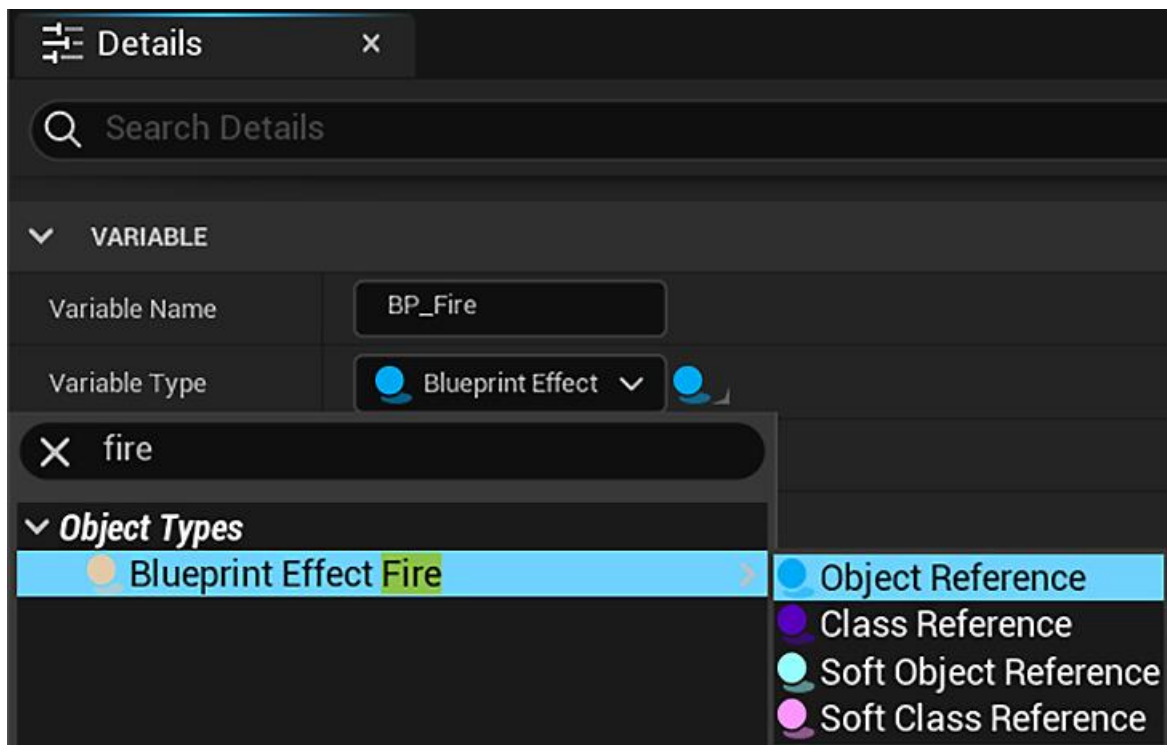


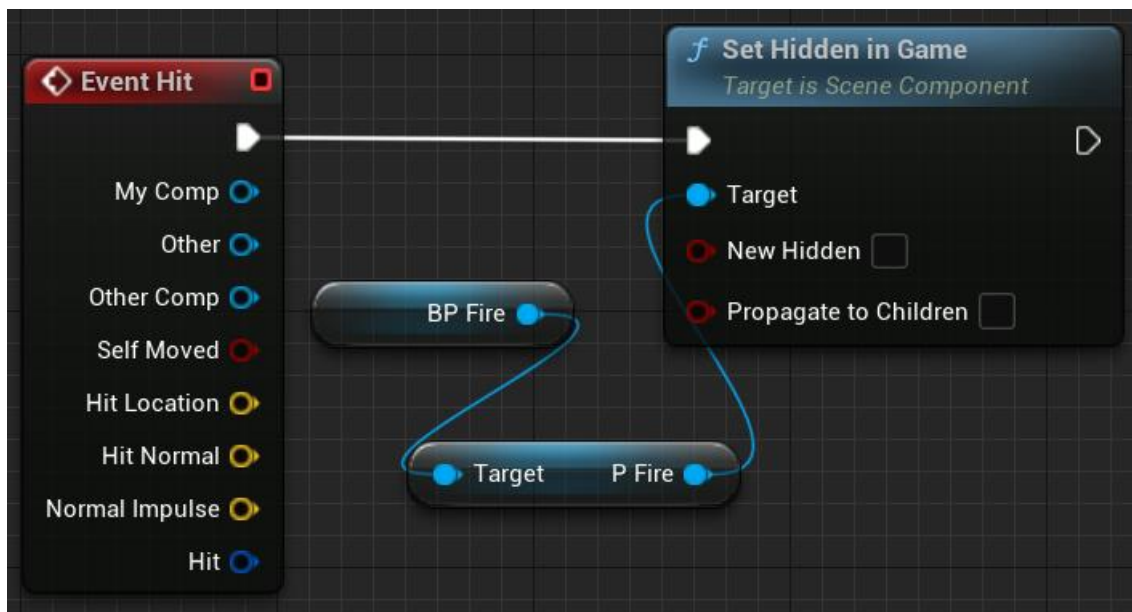
	Macros	Functions	Events
Input parameters	Yes	Yes	Yes
Output parameters	Yes	Yes	No
Multiple execution paths (input/output)	Yes	No	No
Callable by another Blueprint	No	Yes	Yes
Latent actions (for example, delay)	Yes	No	Yes
Timeline nodes	No	No	Yes

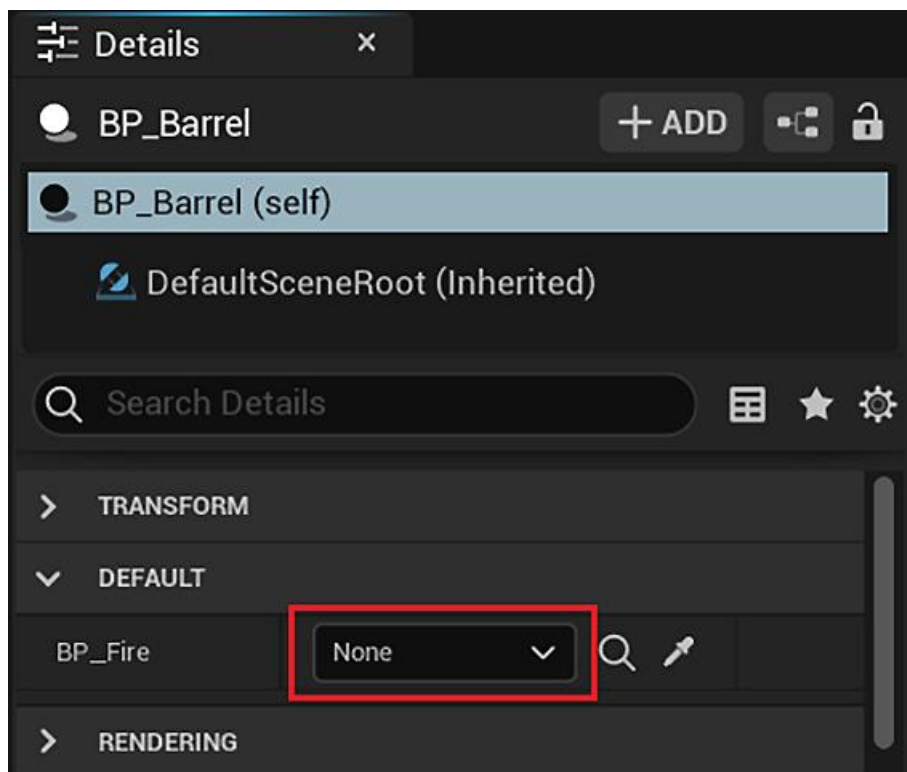
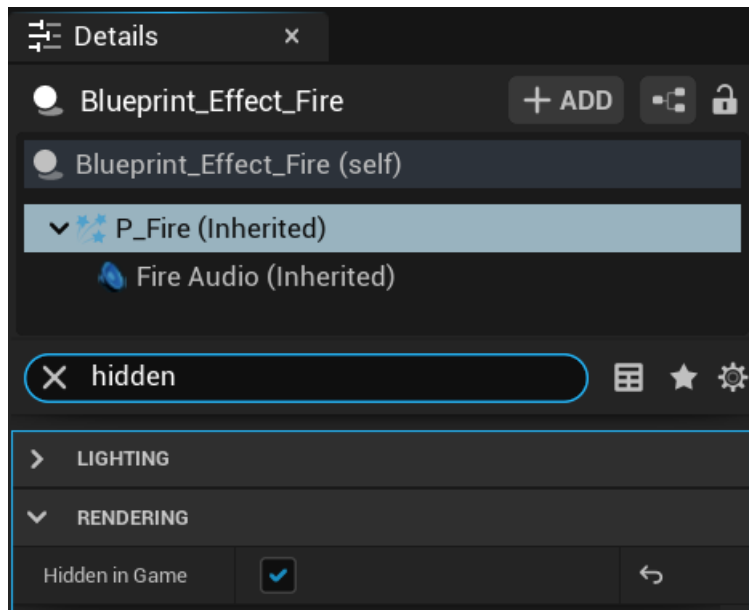
## Chapter 3: Object-Oriented Programming and the Gameplay Framework

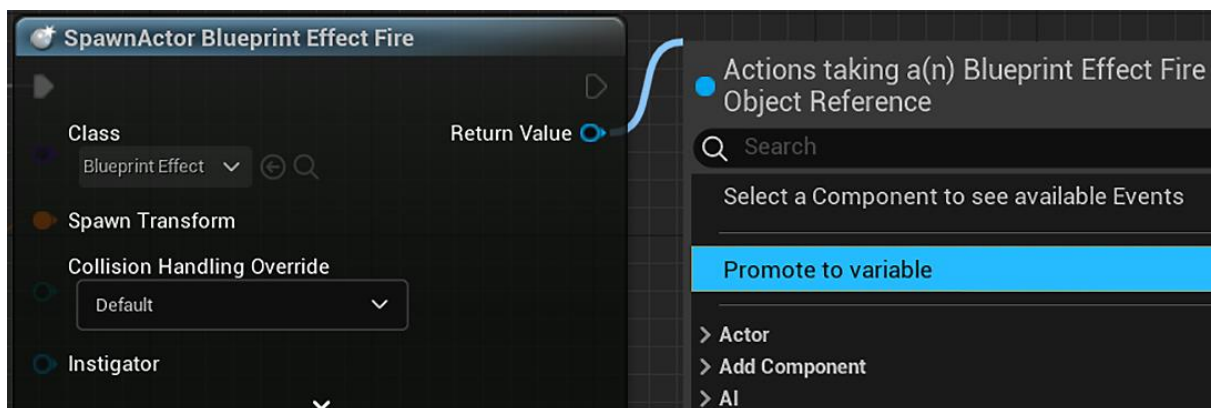
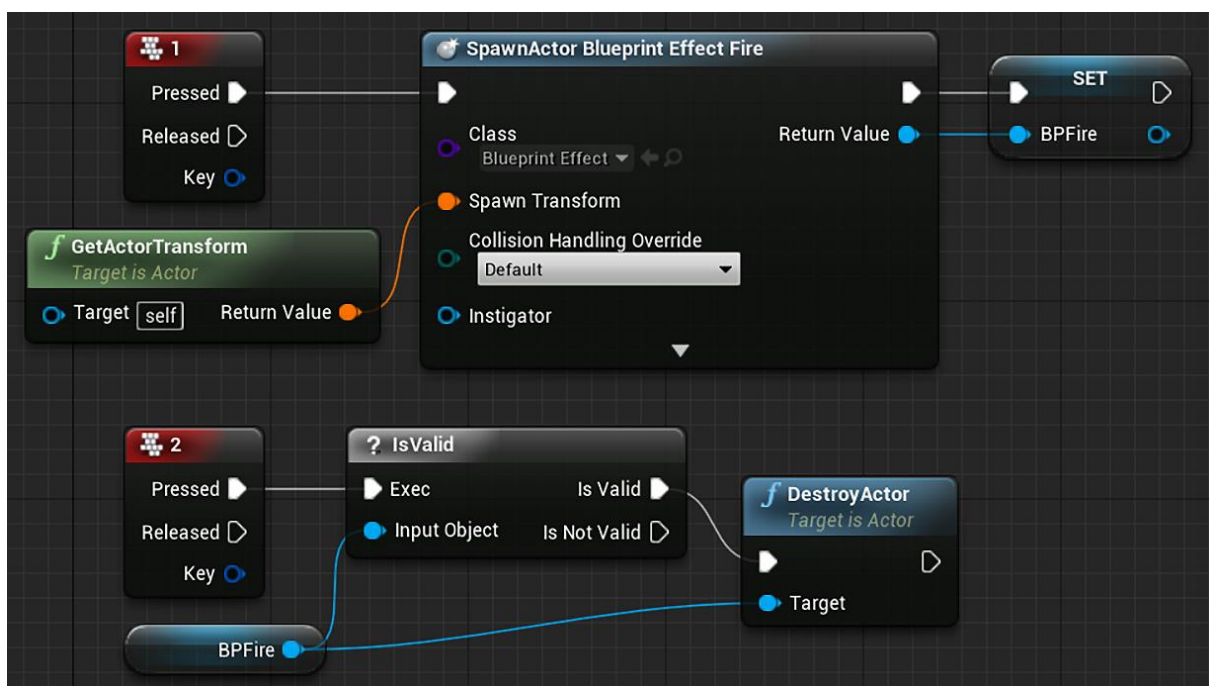
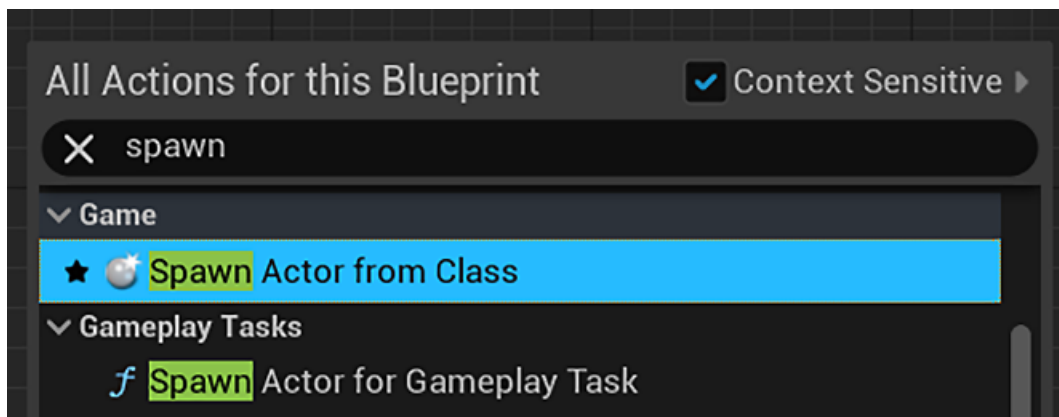


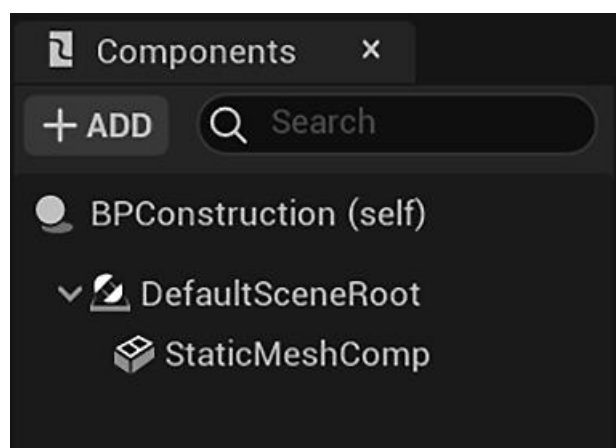
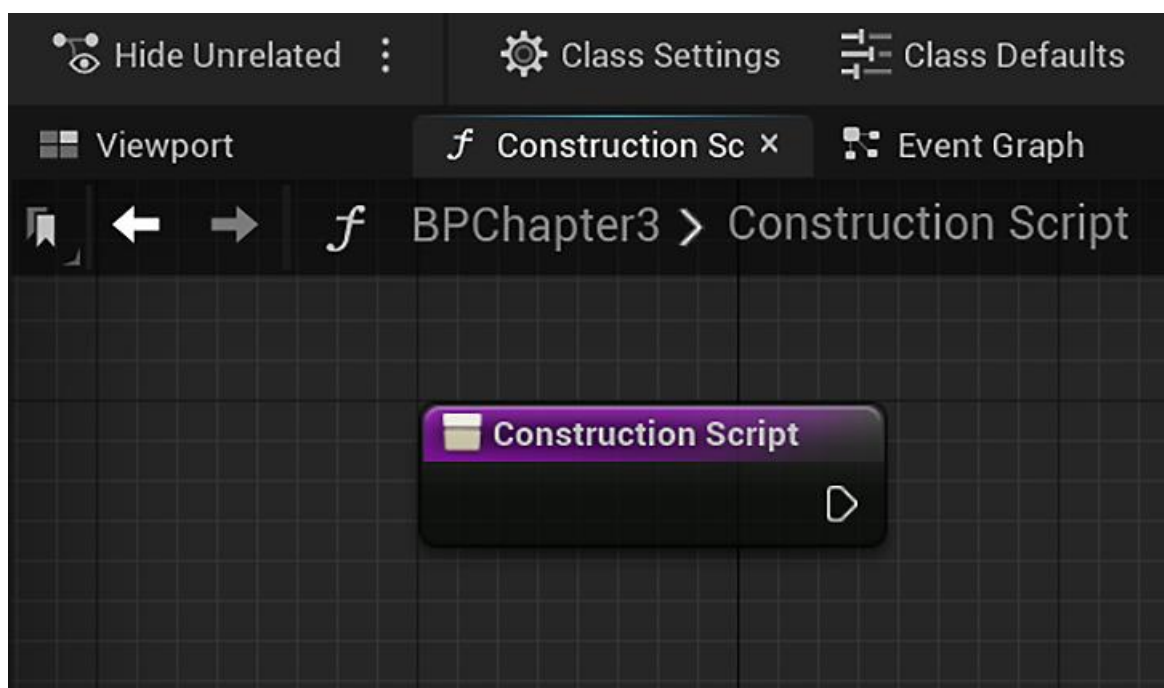












Details

Search Details

VARIABLE

Variable Name	SM_Mesh
Variable Type	Static Mesh
Instance Editable	<input checked="" type="checkbox"/>
Blueprint Read Only	<input type="checkbox"/>
Tooltip	
Expose on Spawn	<input type="checkbox"/>
Private	<input type="checkbox"/>

Construction Script

Static Mesh Comp

Actions taking a(n) Static Mesh Component Object Reference

☒ Context Sensitive

set static mesh

Class

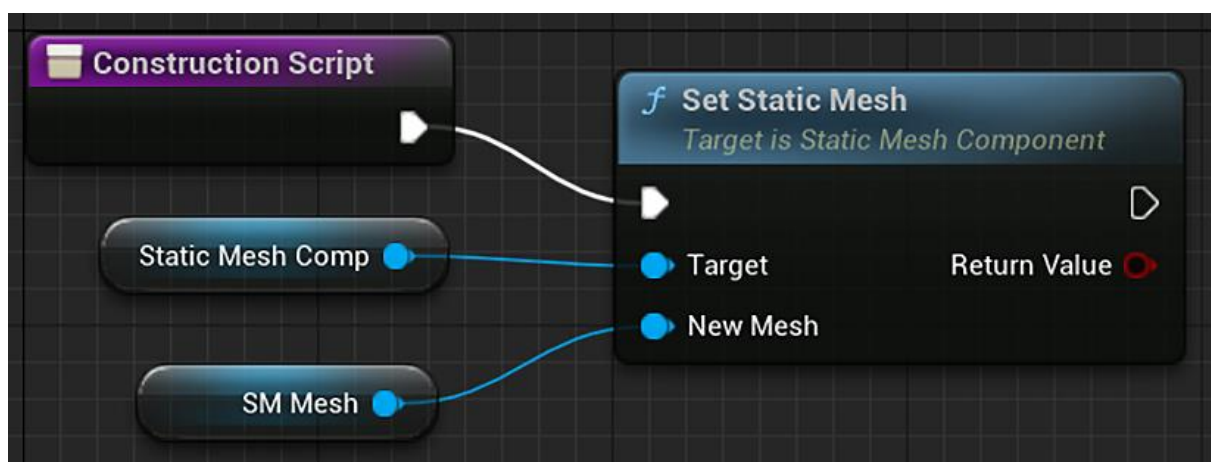
BPConstruction

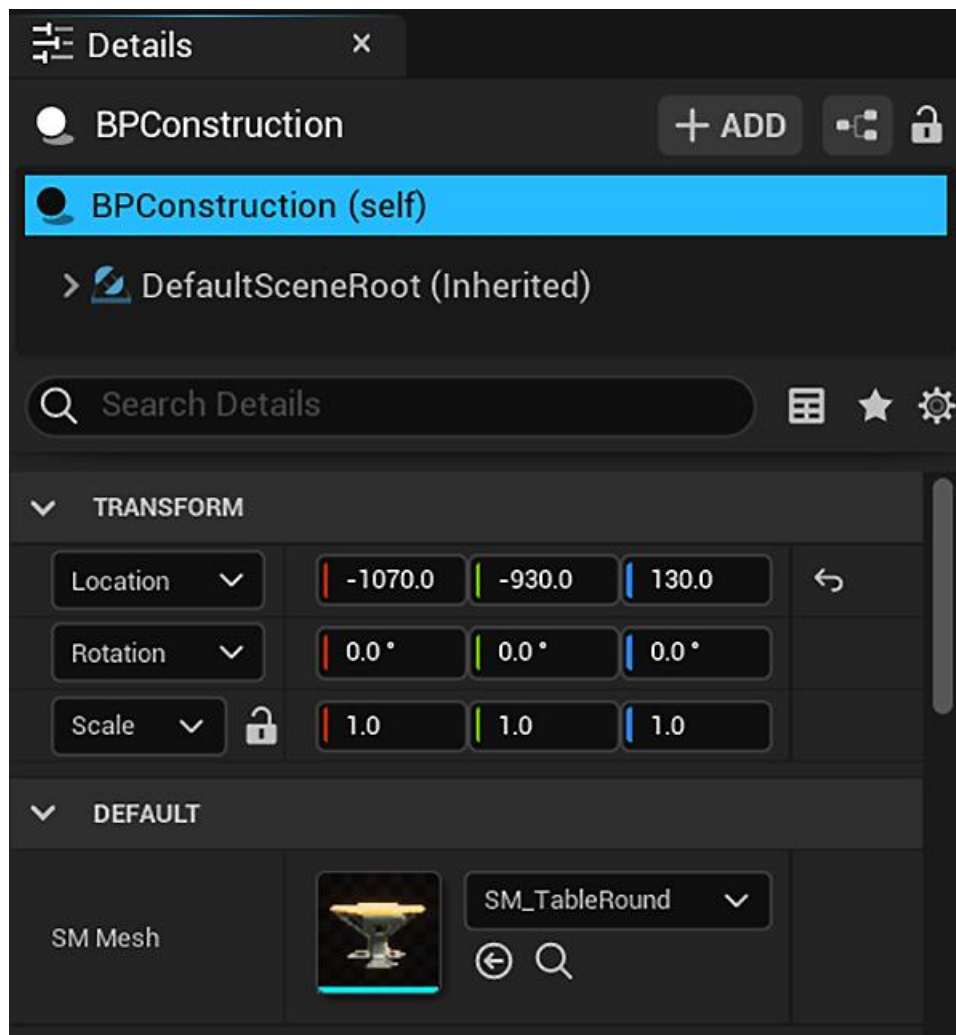
Set Static Mesh Comp

Components

Static Mesh

Set Static Mesh







## Pick Parent Class



### COMMON

Actor	An Actor is an object that can be placed or spawned in the world.	
Pawn	A Pawn is an actor that can be 'possessed' and receive input from a controller.	
Character	A character is a type of Pawn that includes the ability to walk around.	
Player Controller	A Player Controller is an actor responsible for controlling a Pawn used by the player.	
Game Mode Base	Game Mode Base defines the game being played, its rules, scoring, and other facets of the game type.	
Actor Component	An ActorComponent is a reusable component that can be added to any actor.	
Scene Component	A Scene Component is a component that has a scene transform and can be attached to other scene	

### ALL CLASSES

Search

Object

AbclImportSettings

Actor

ActorComponent

AISense

AISenseConfig

AnimationModifier

AnimationSharingSetup

AnimationSharingStateProcessor

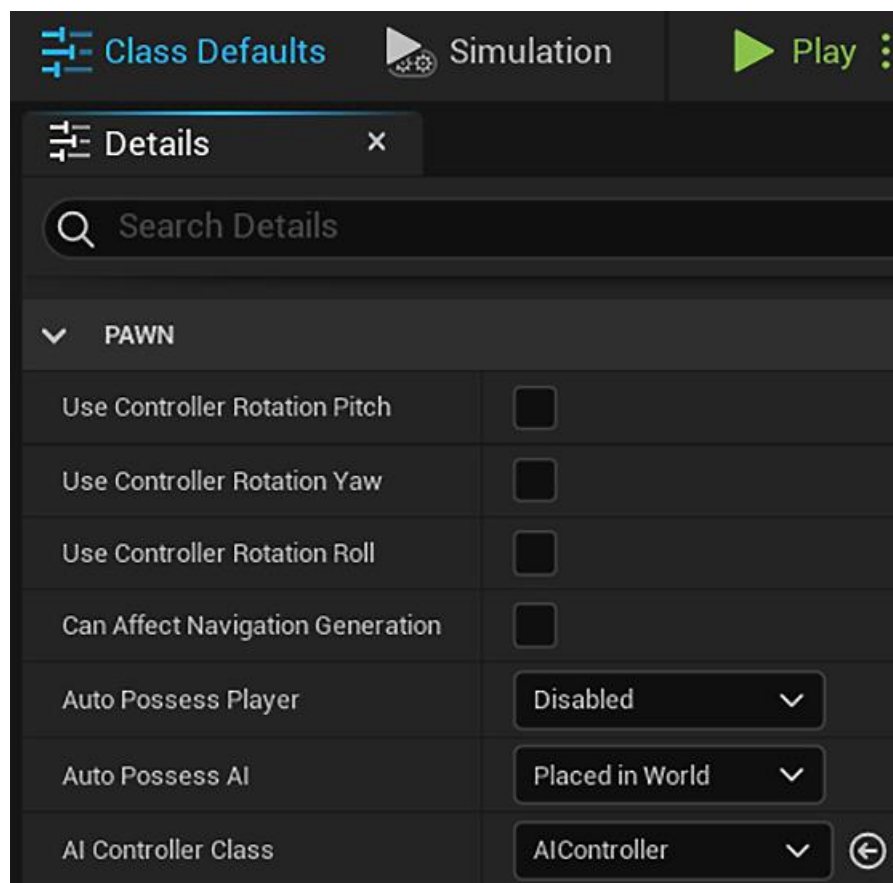
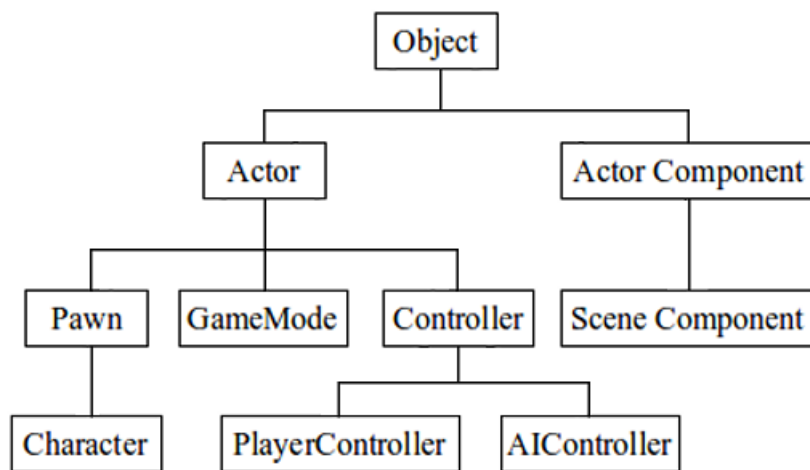
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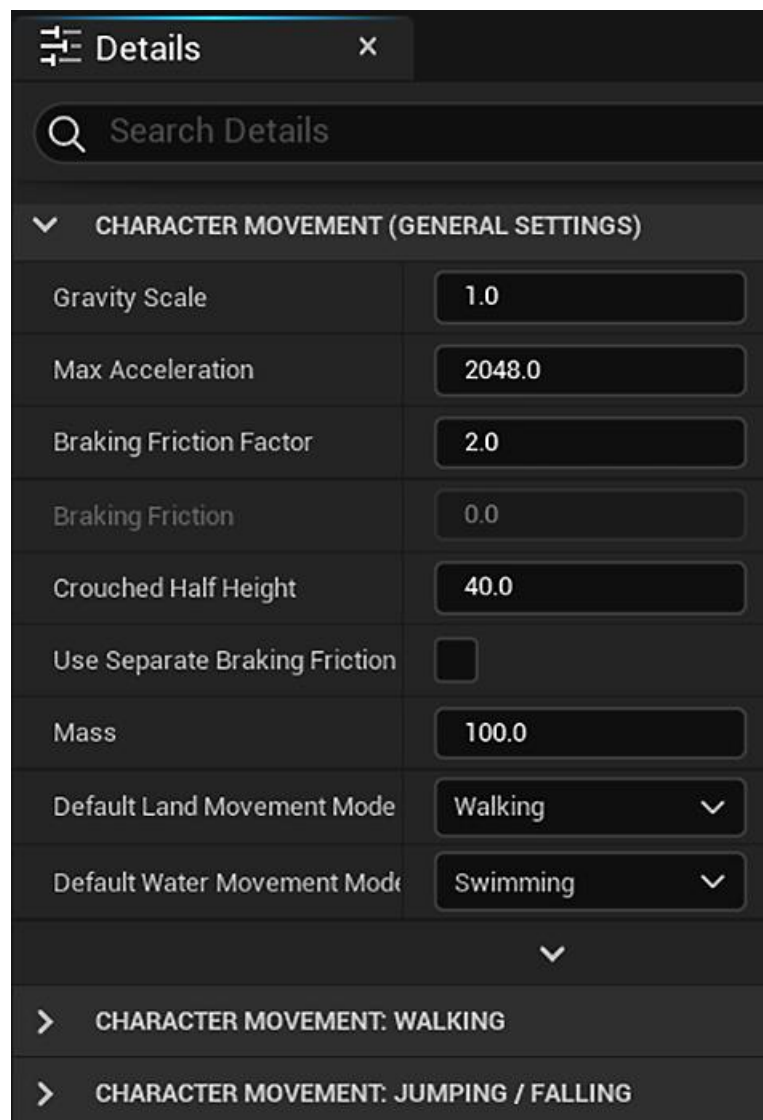
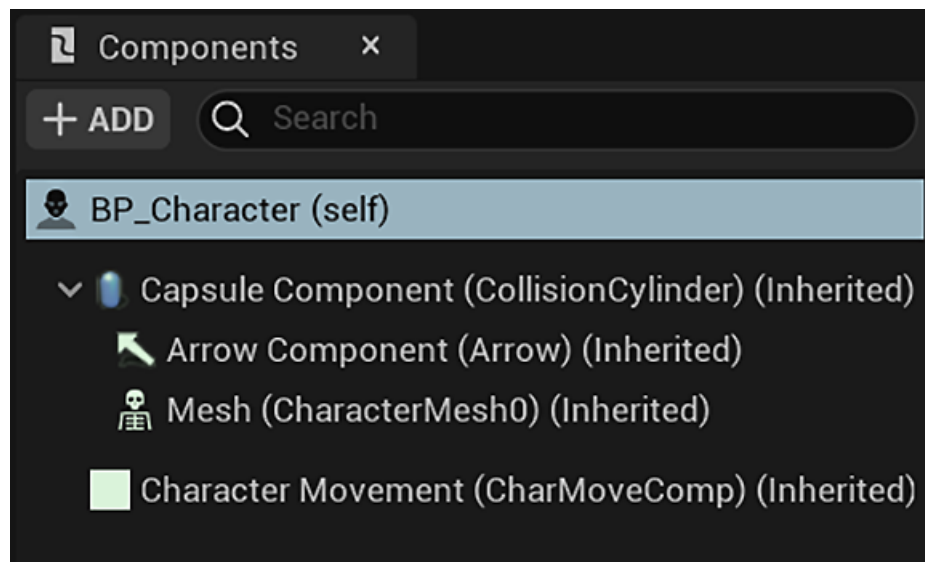
AnimNotify

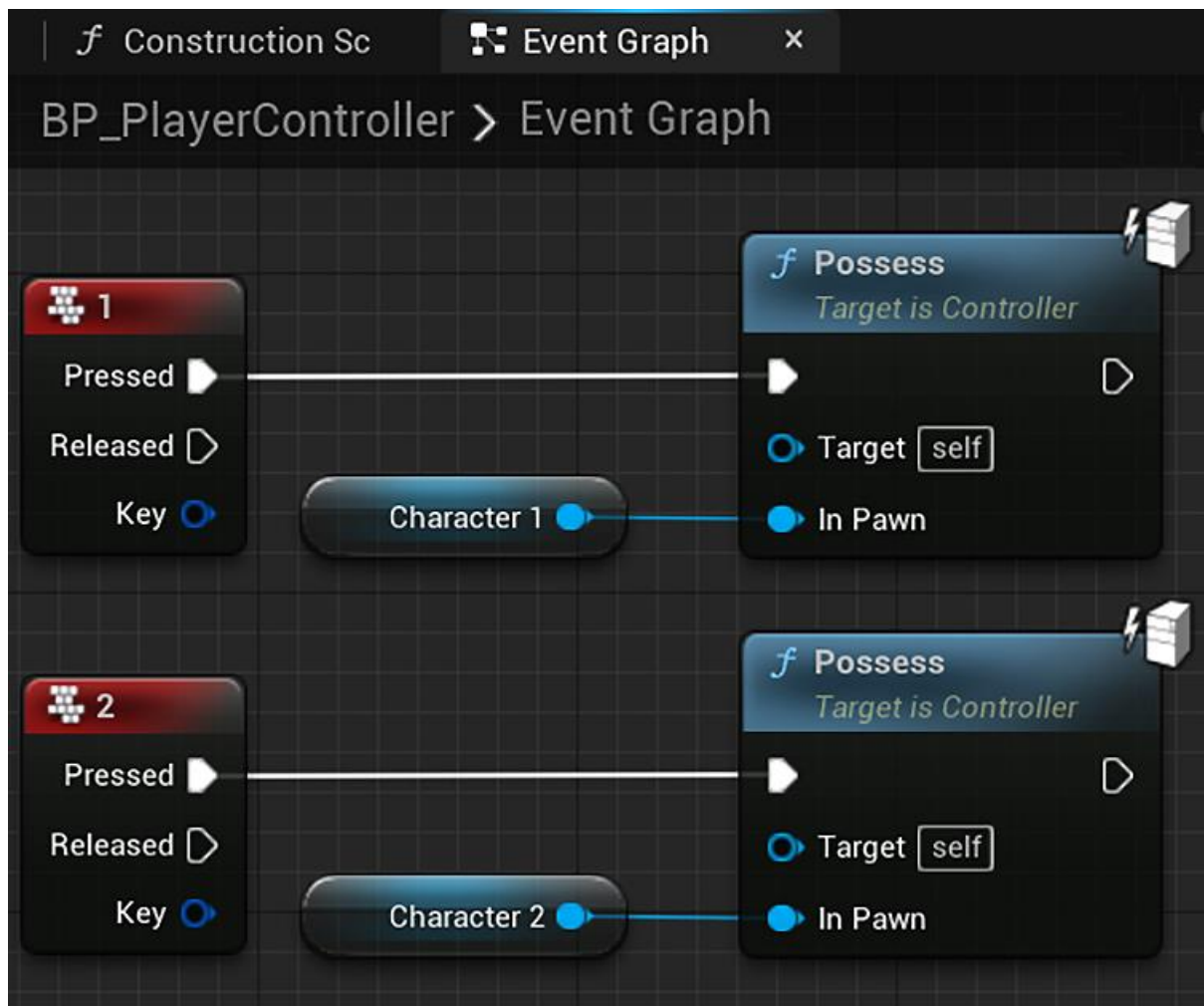
560 items (1 selected)

SELECT

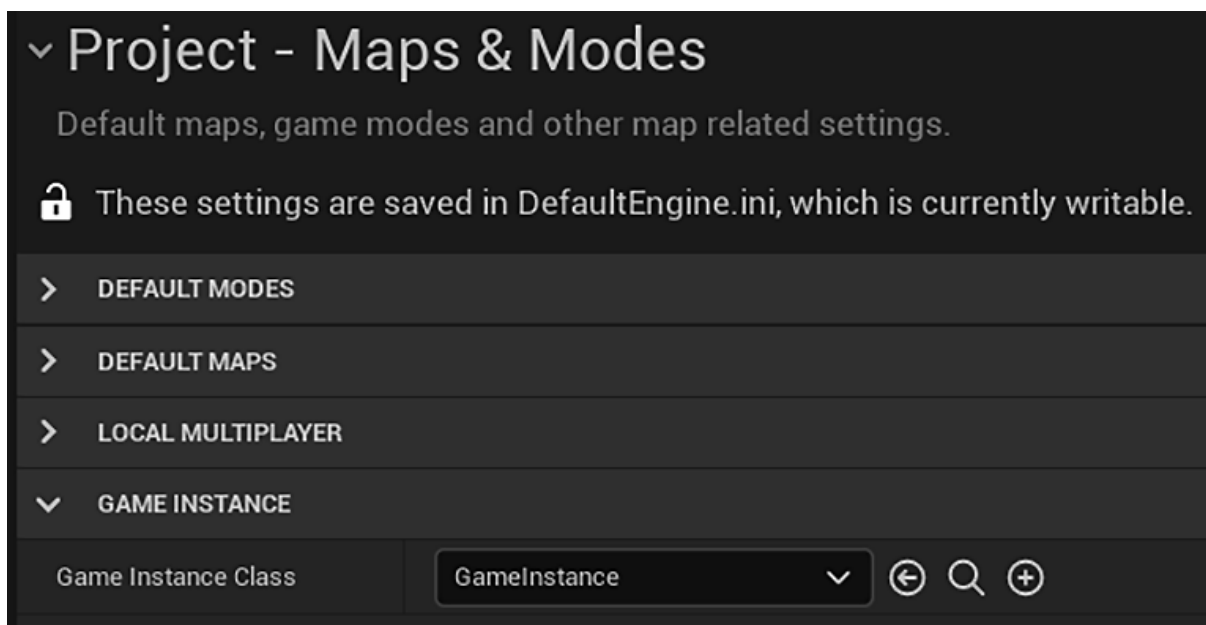
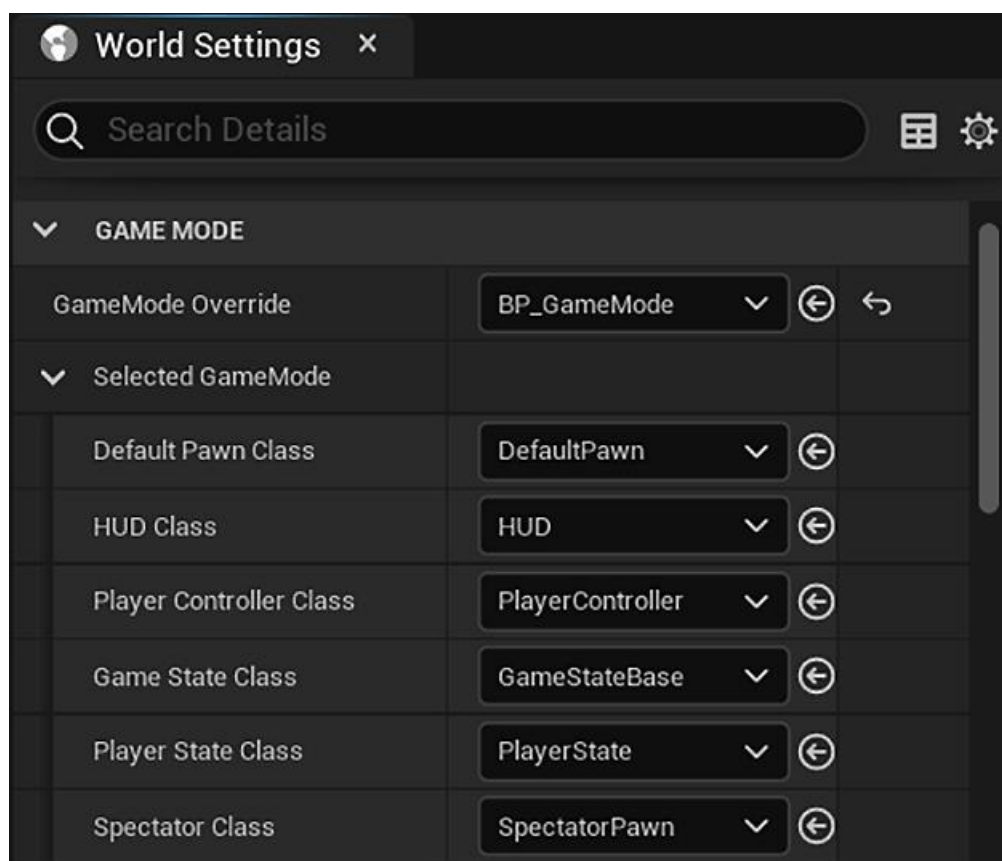
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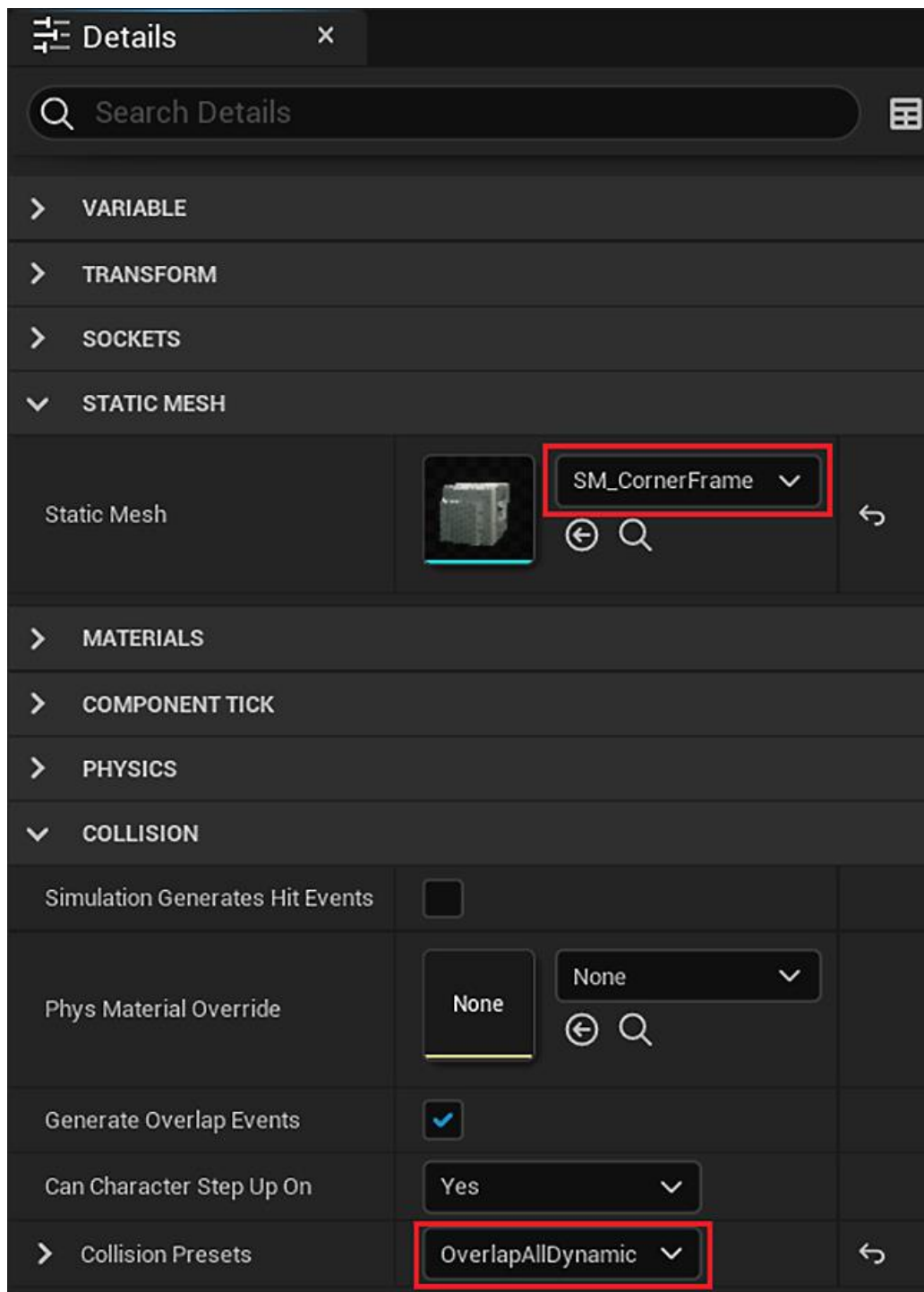


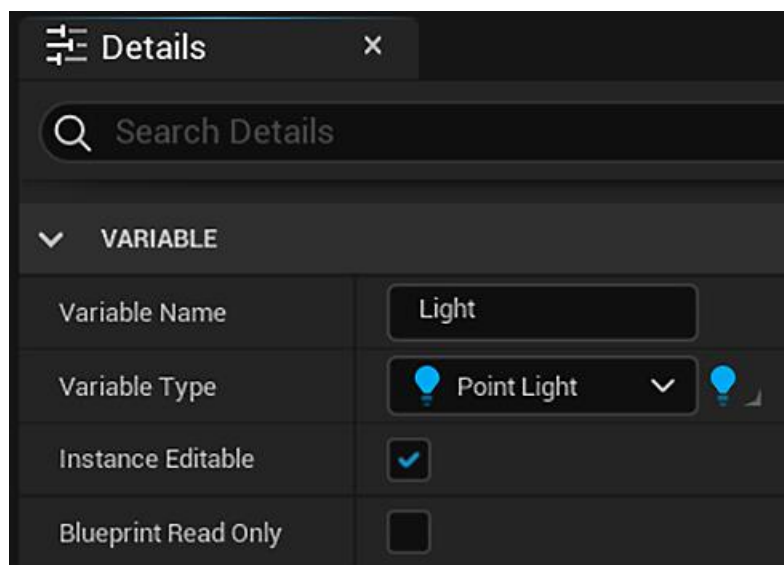
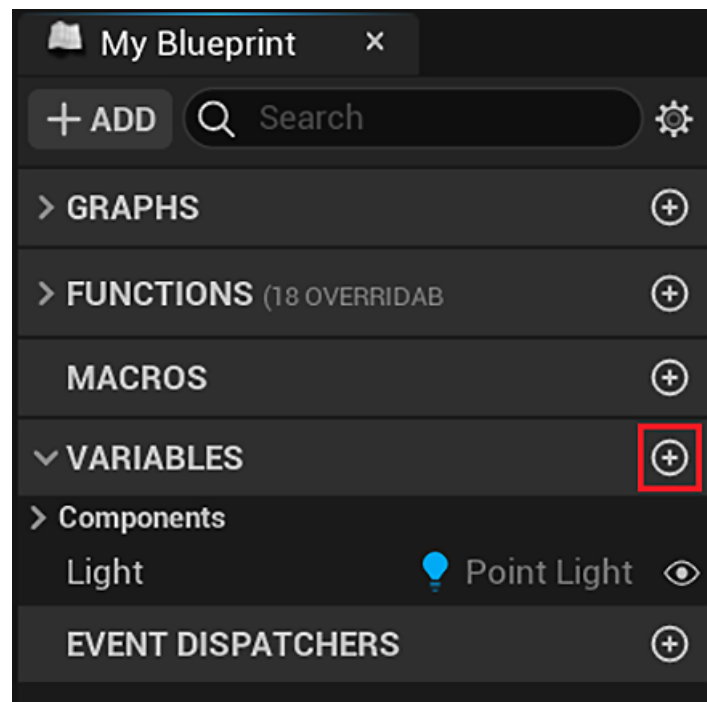


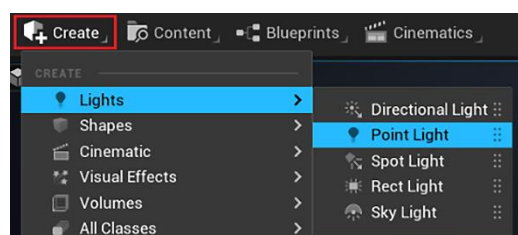
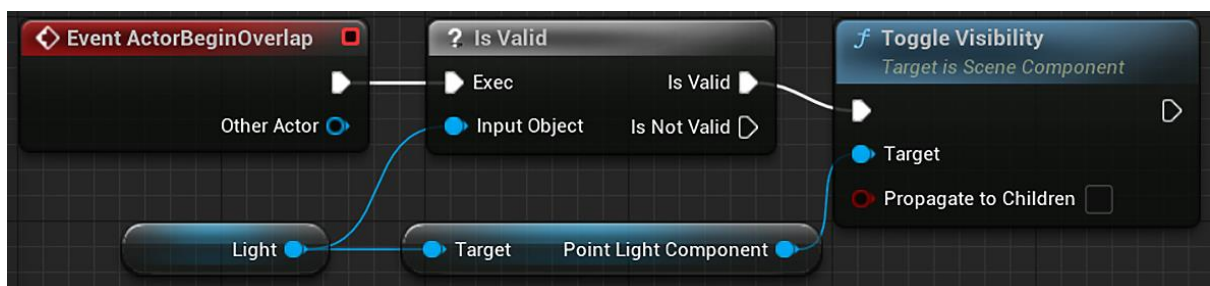
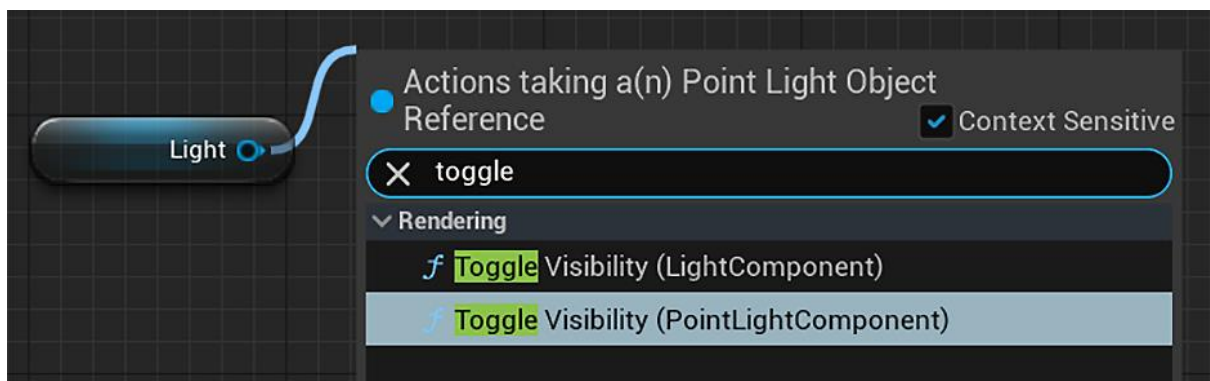
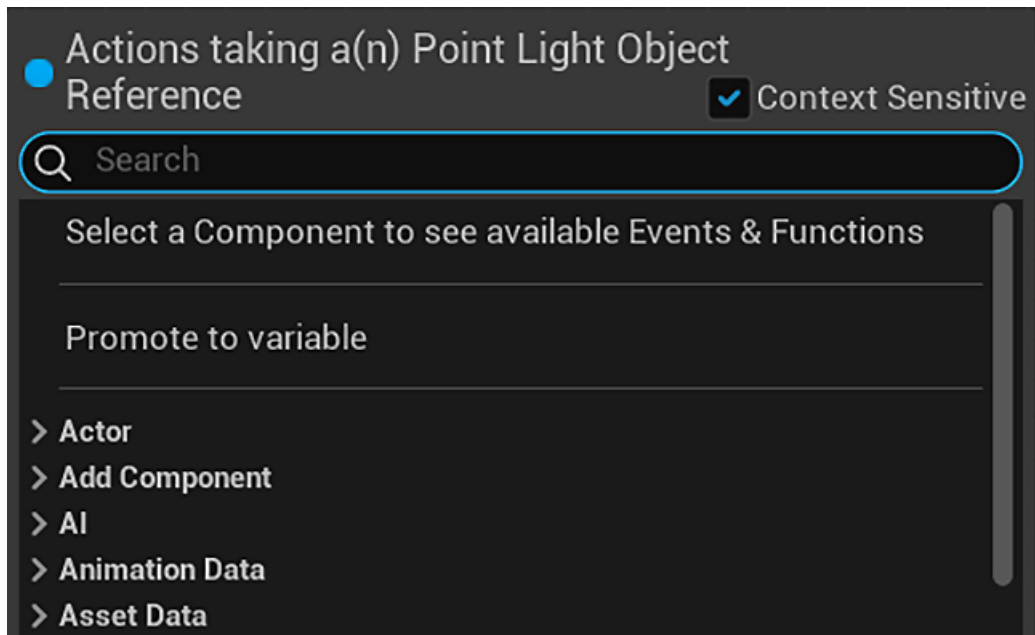


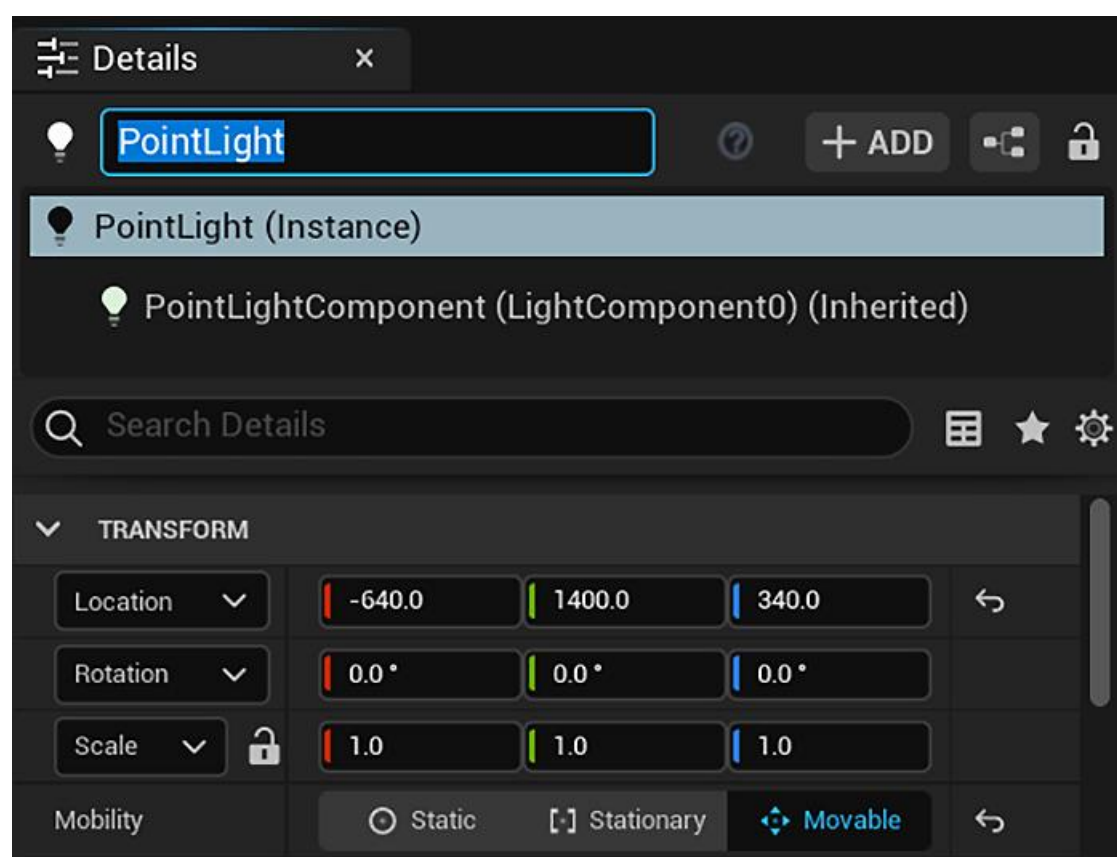


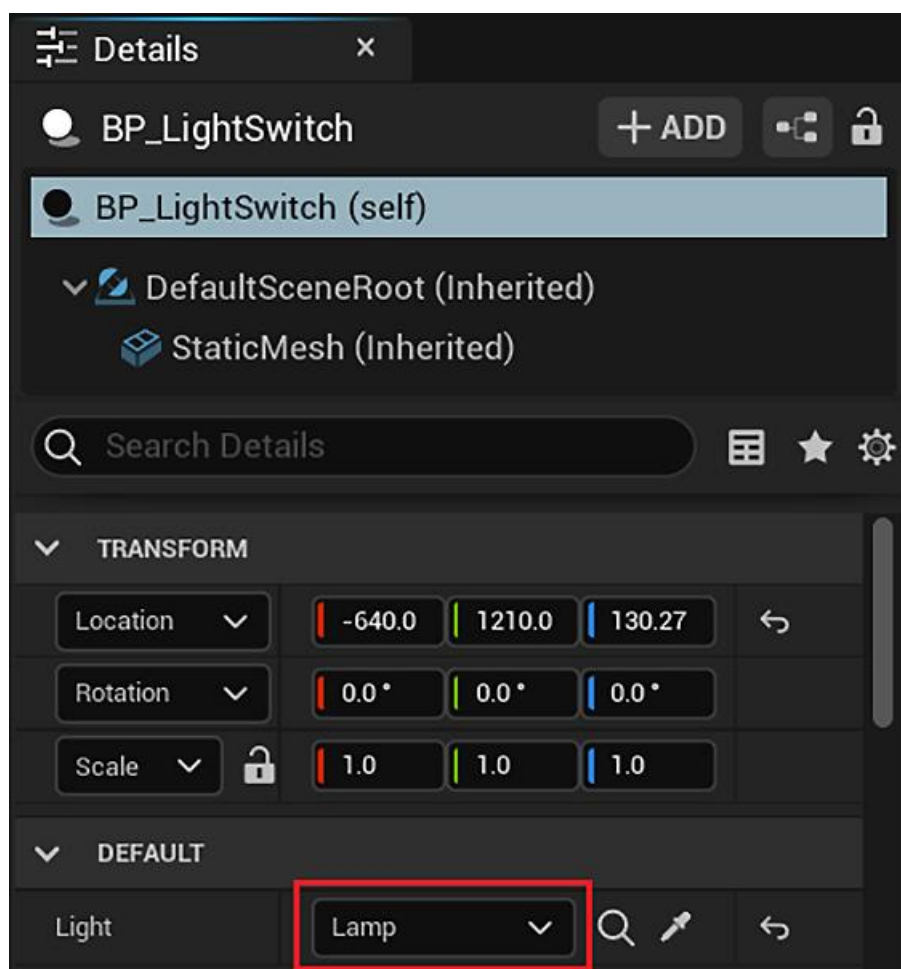
## Chapter 4: Understanding Blueprint Communication

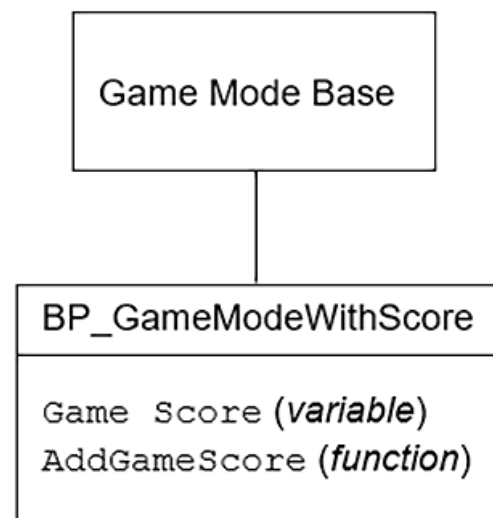
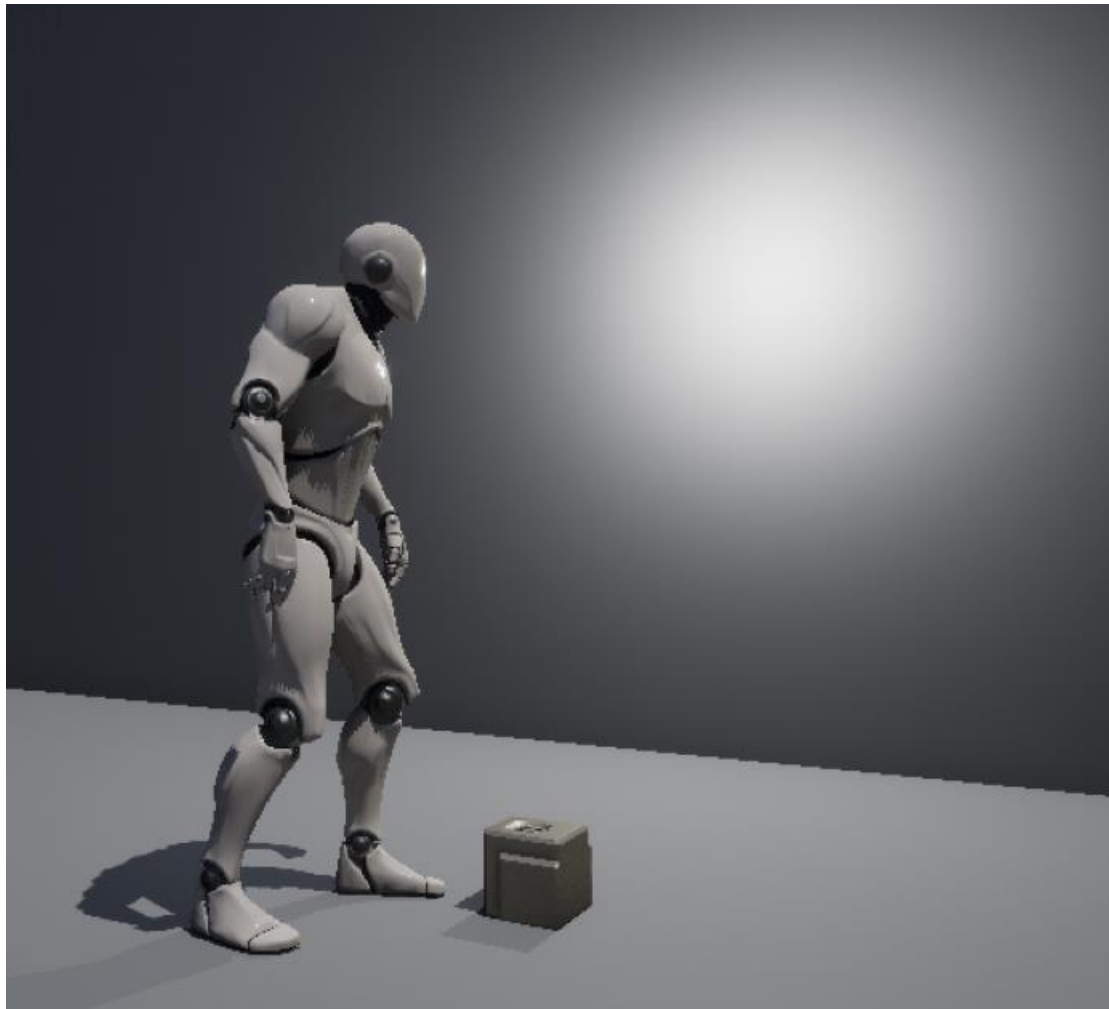


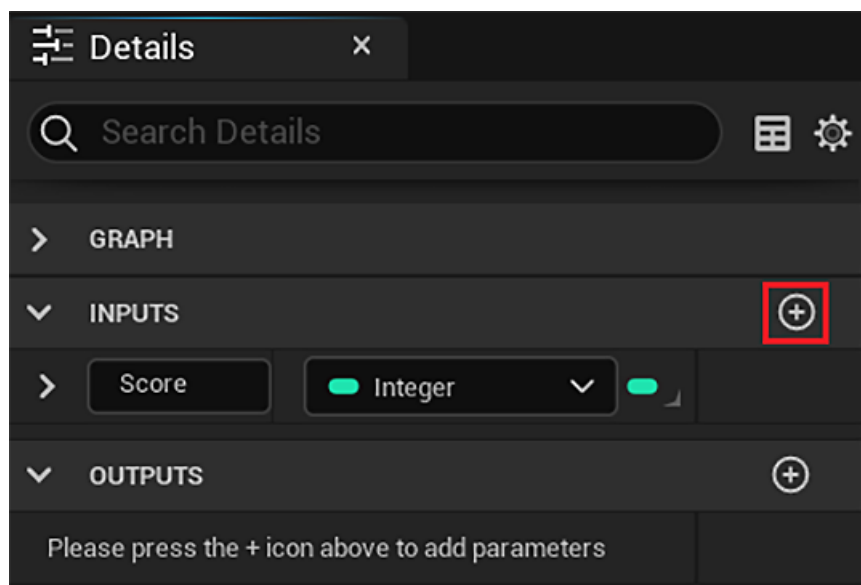
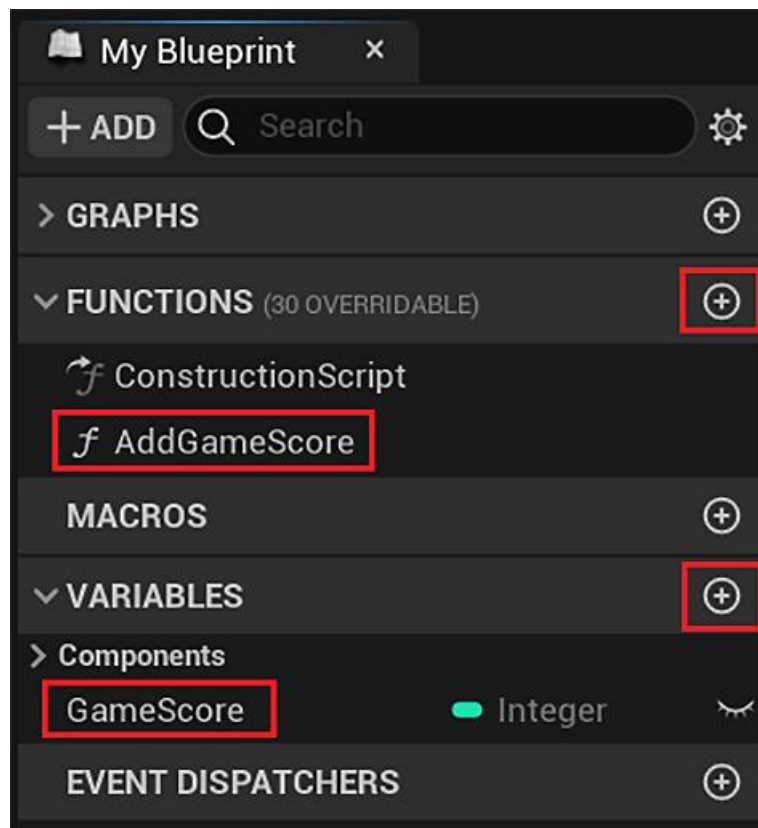


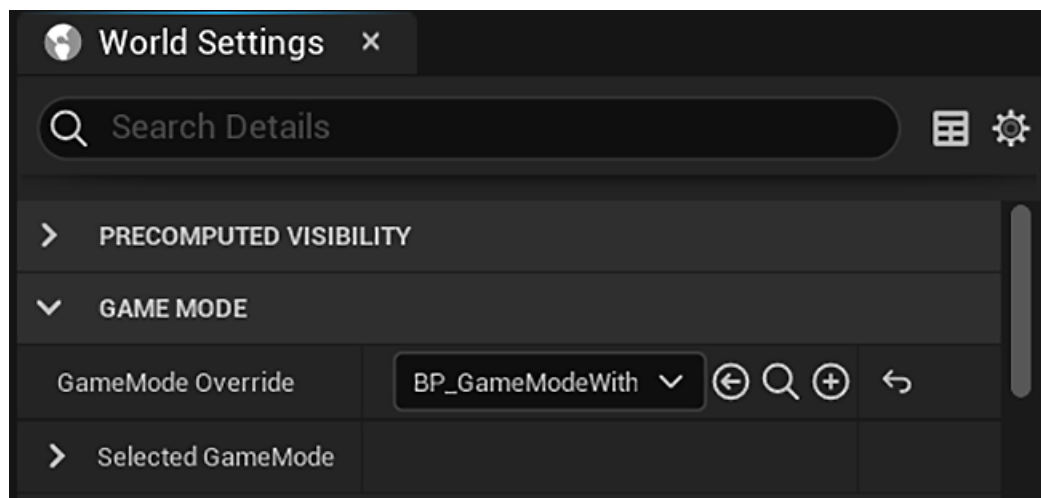
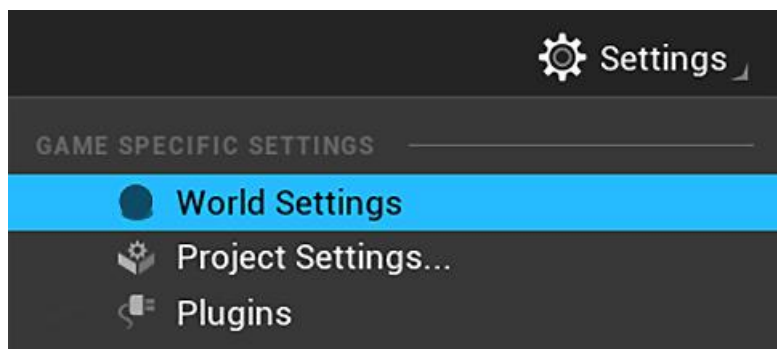
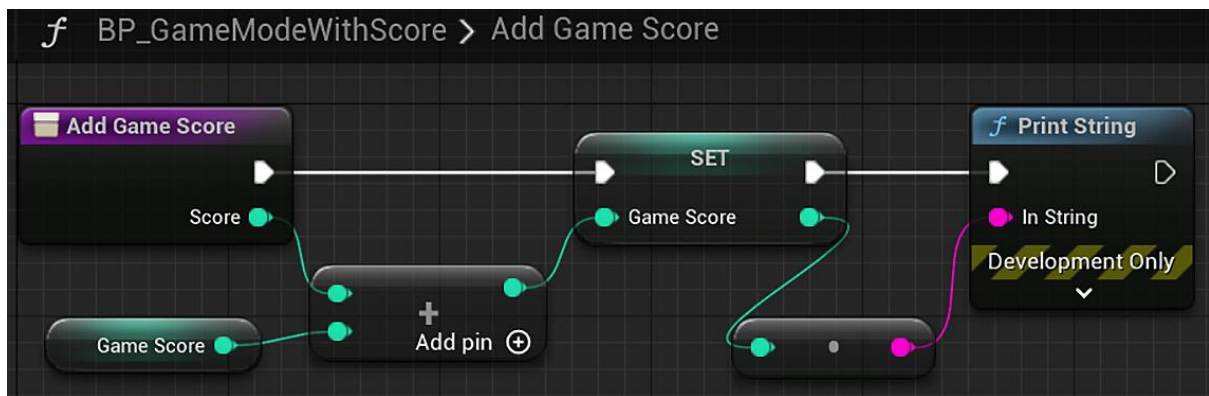


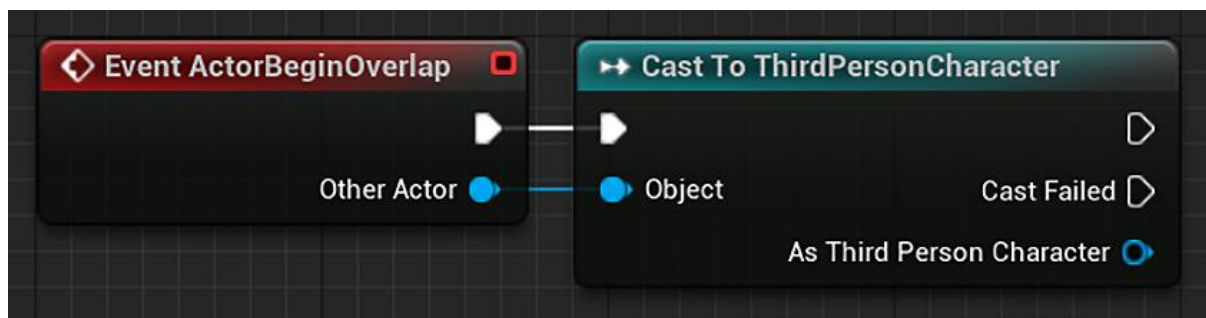
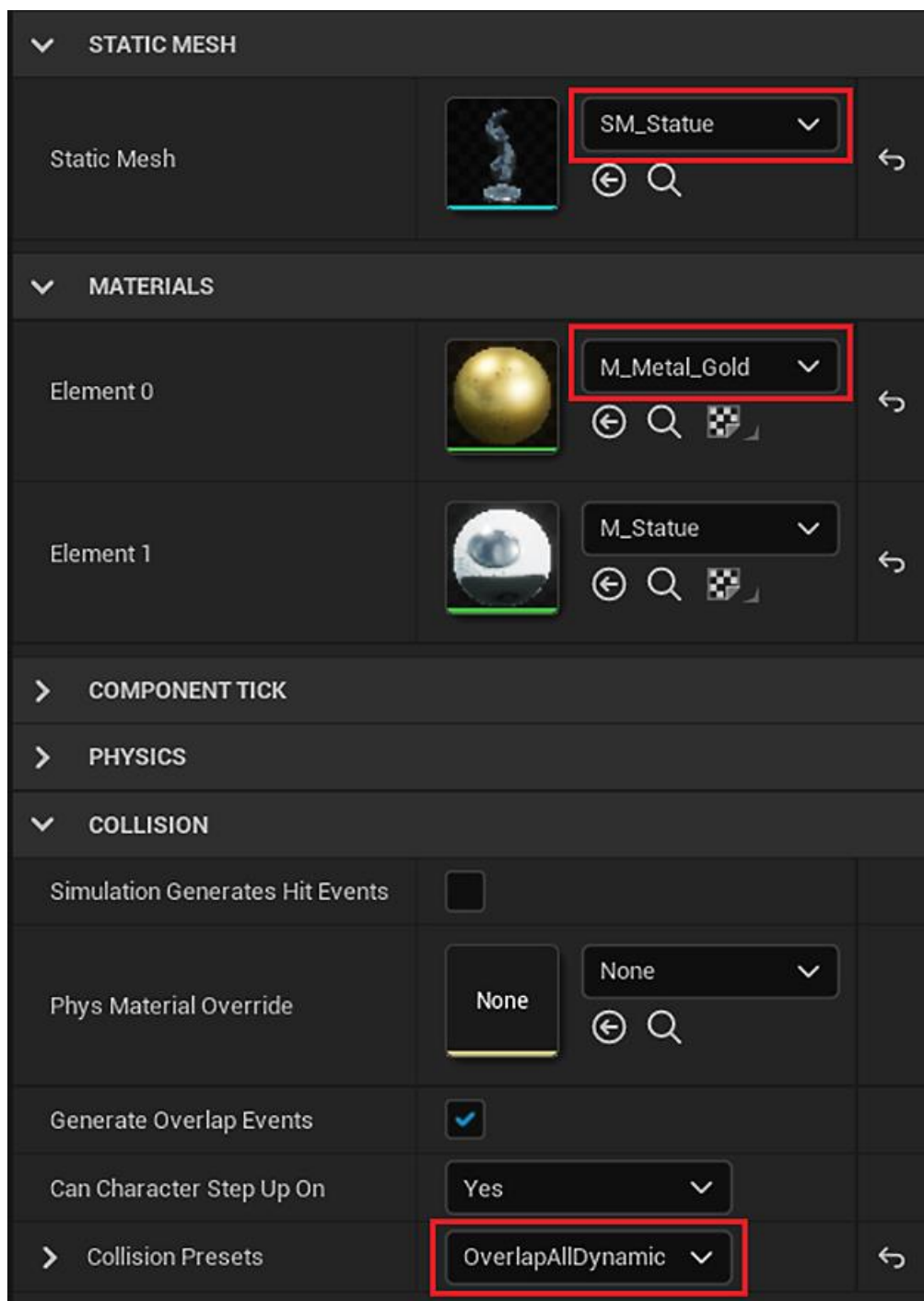


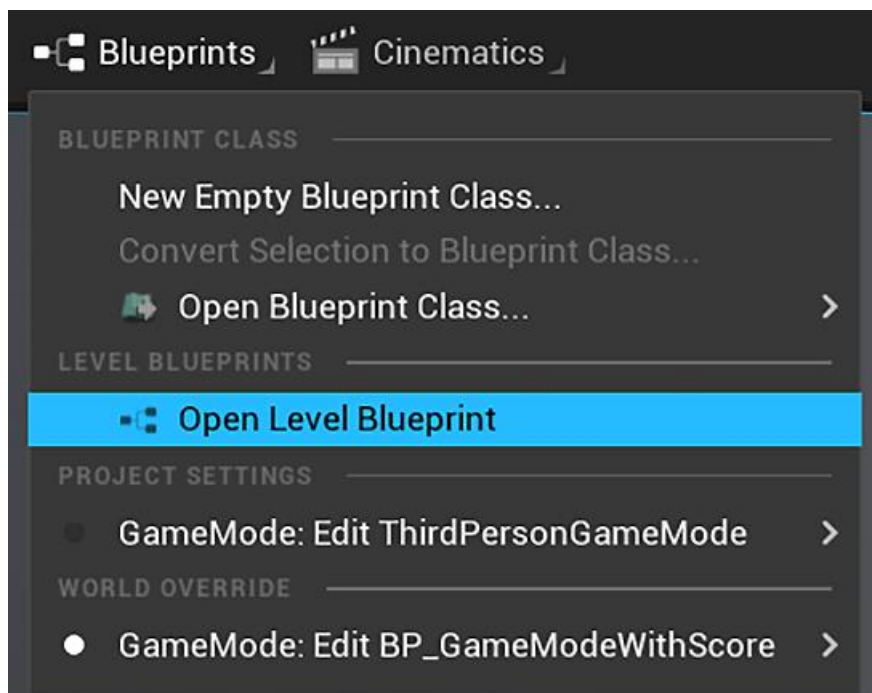
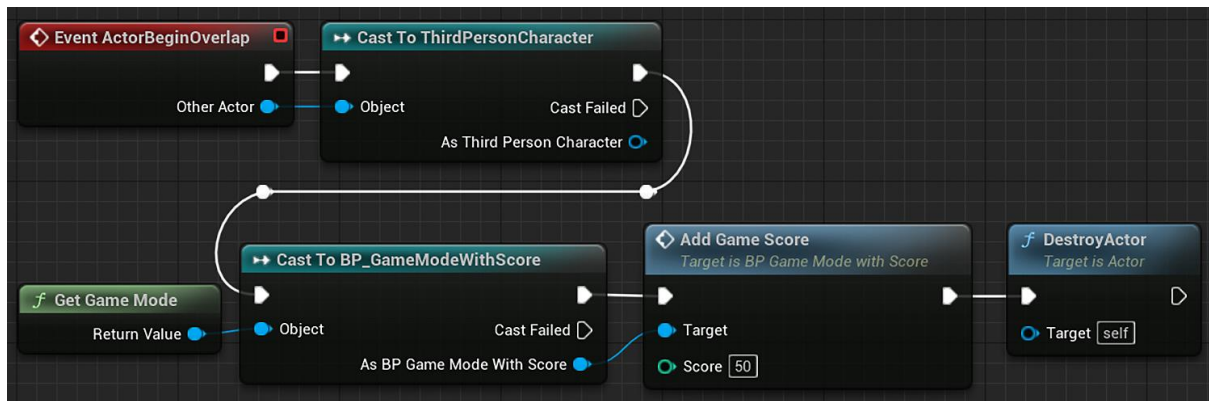


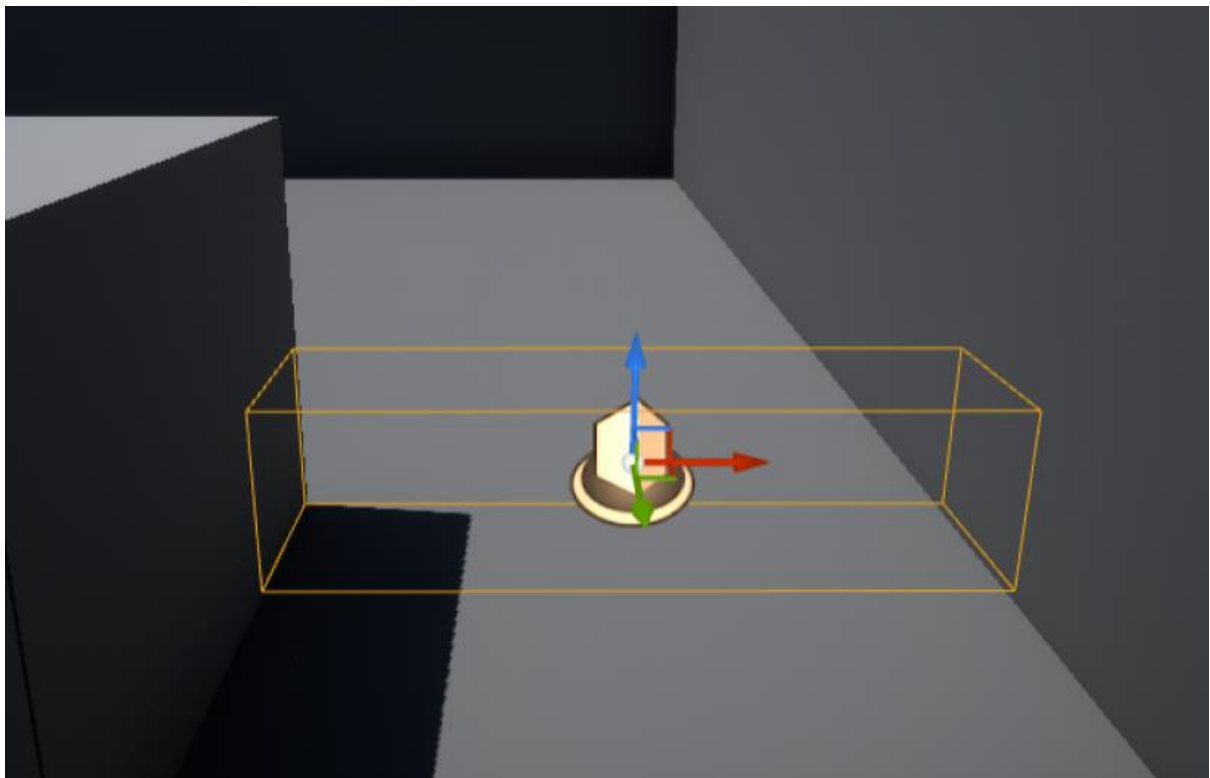
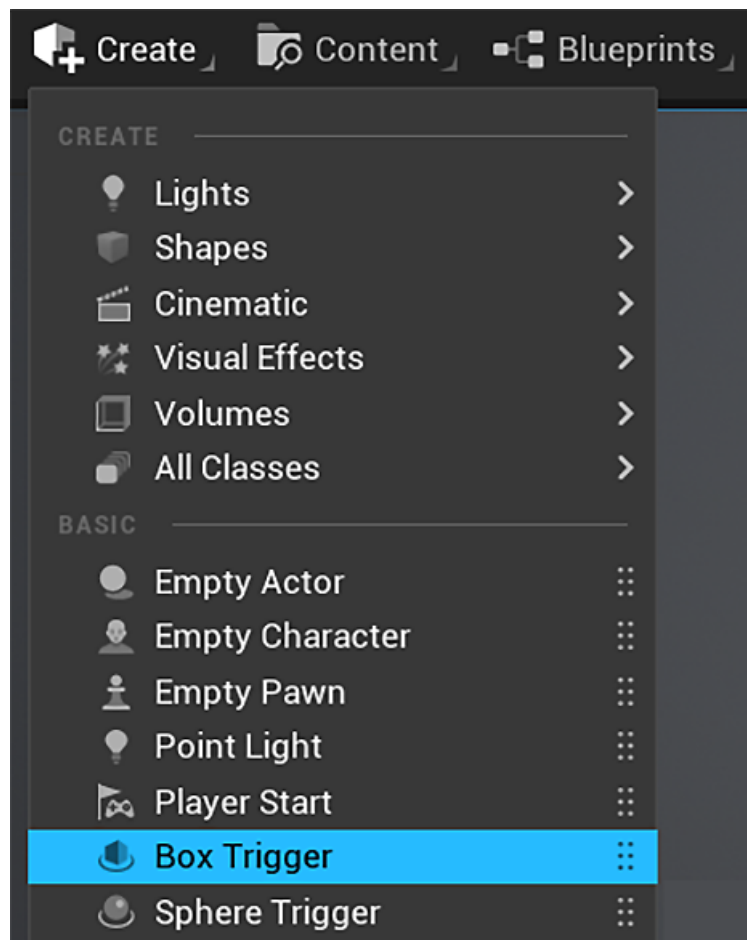


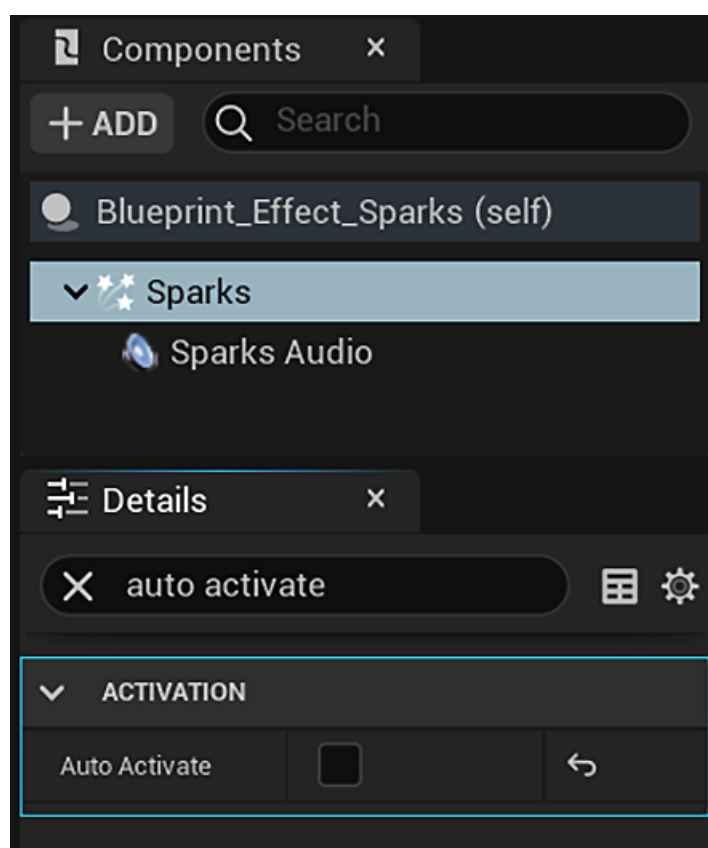
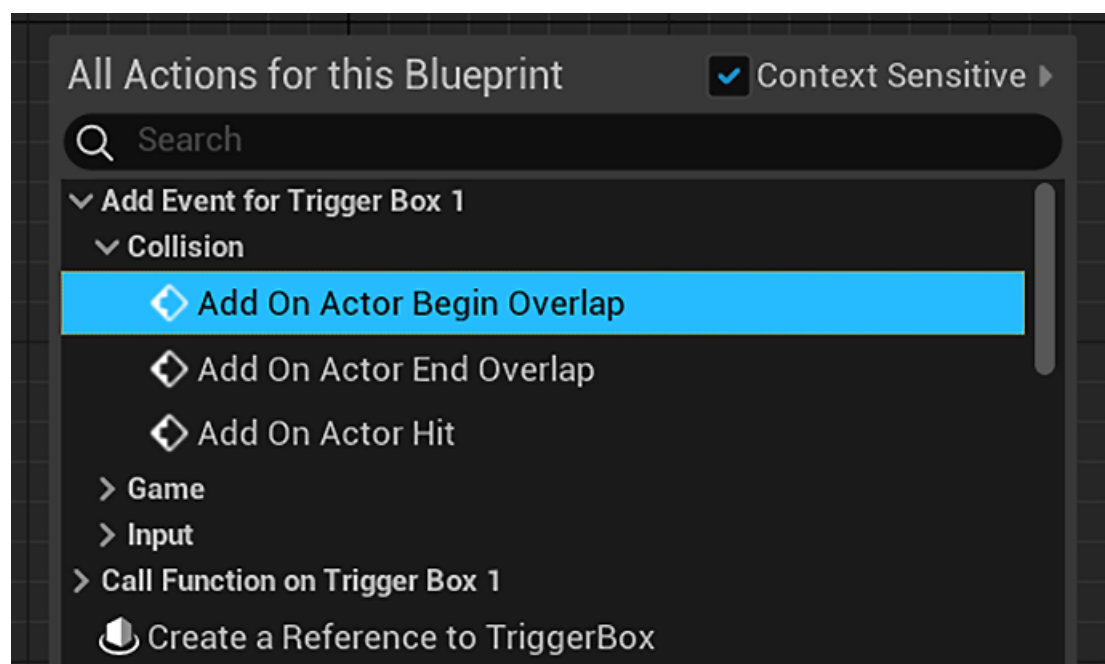


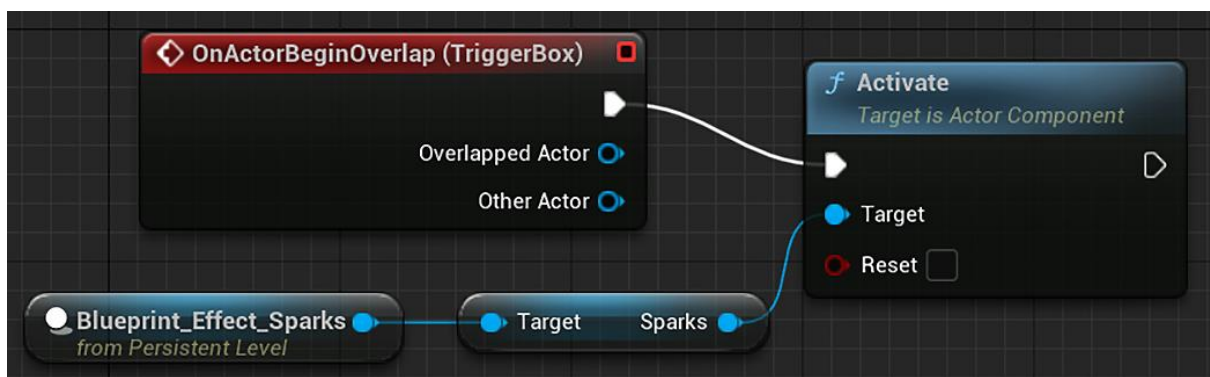
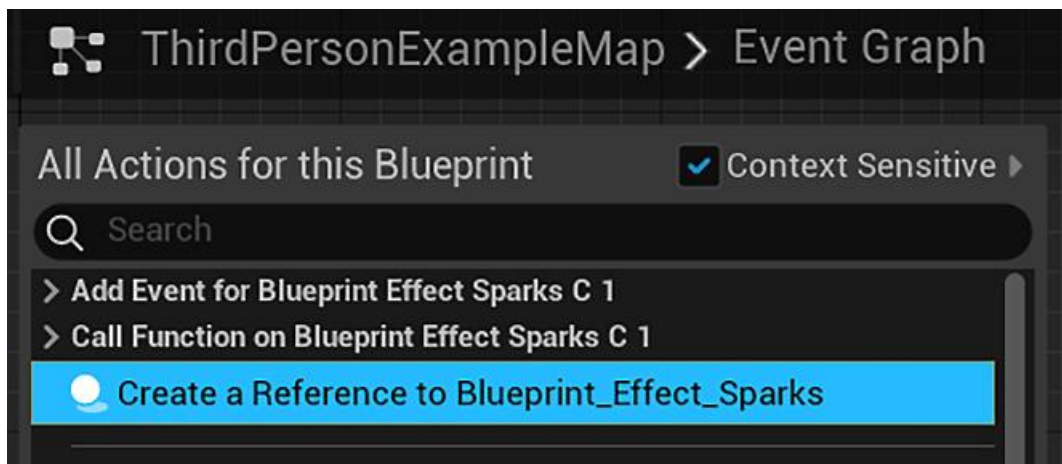












Details

Search Details

TRANSFORM

Location

0.00.00.0

Rotation

0.0°0.0°0.0°

Scale

1.01.00.1


Mobility

StaticStationaryMovable

SOCKETS

STATIC MESH

Static Mesh

Shape\_Cylinder

MATERIALS

COMPONENT TICK

PHYSICS

COLLISION

Simulation Generates Hit Events

☐

Phys Material Override

NoneNone

Generate Overlap Events

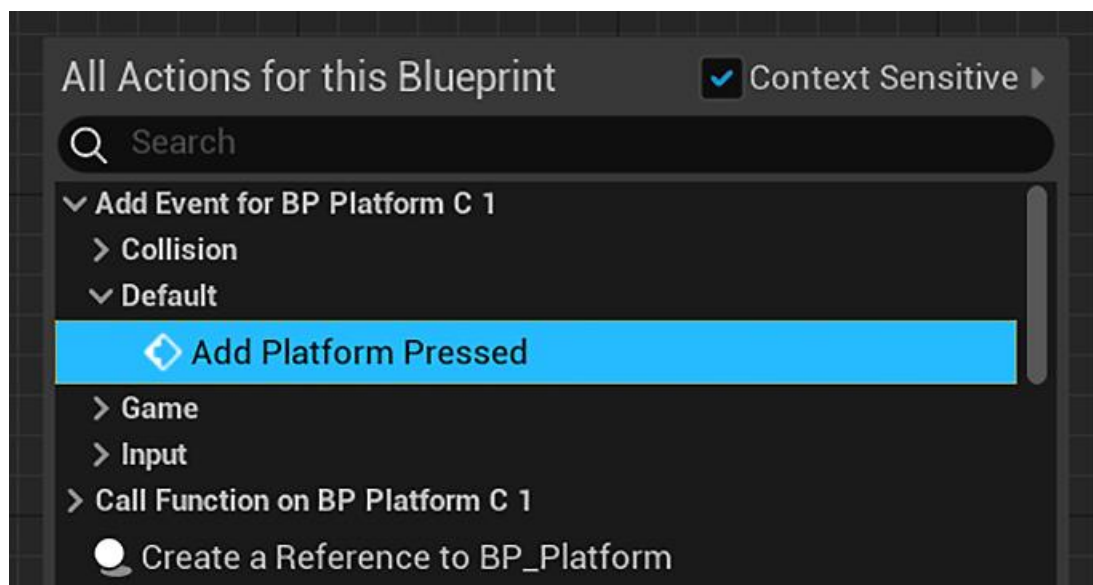
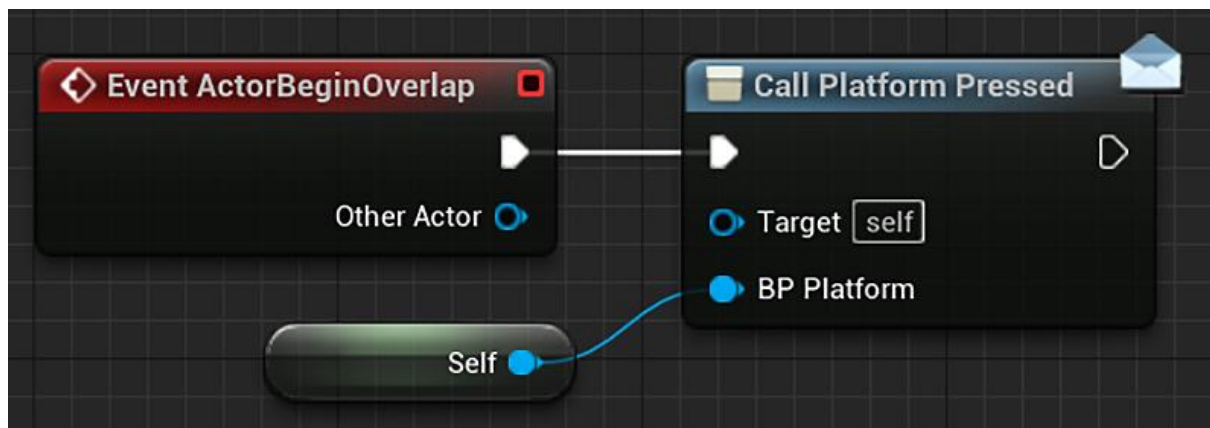
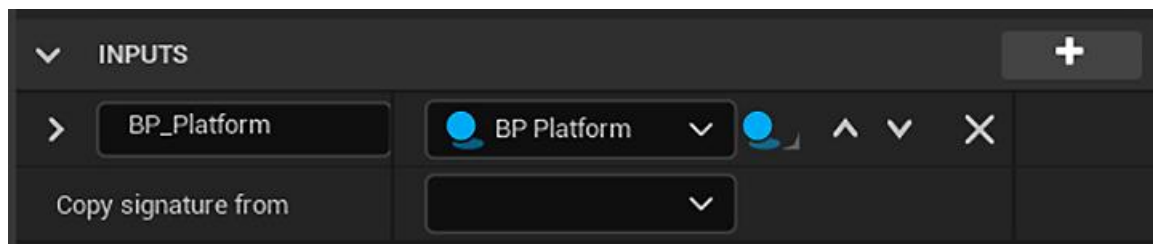
☒

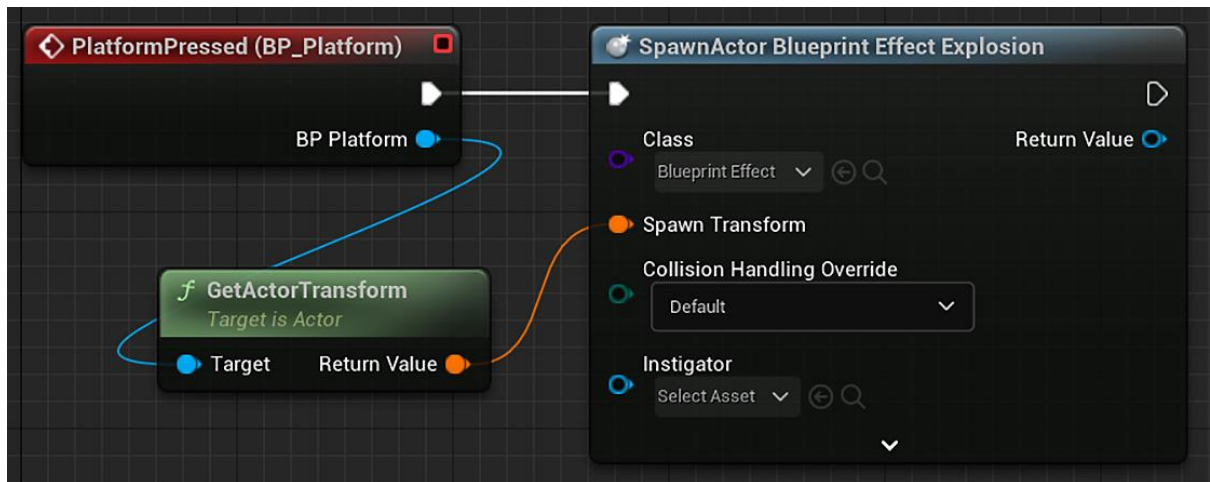
Can Character Step Up On

Yes

Collision Presets

OverlapAllDynamic





Details

×

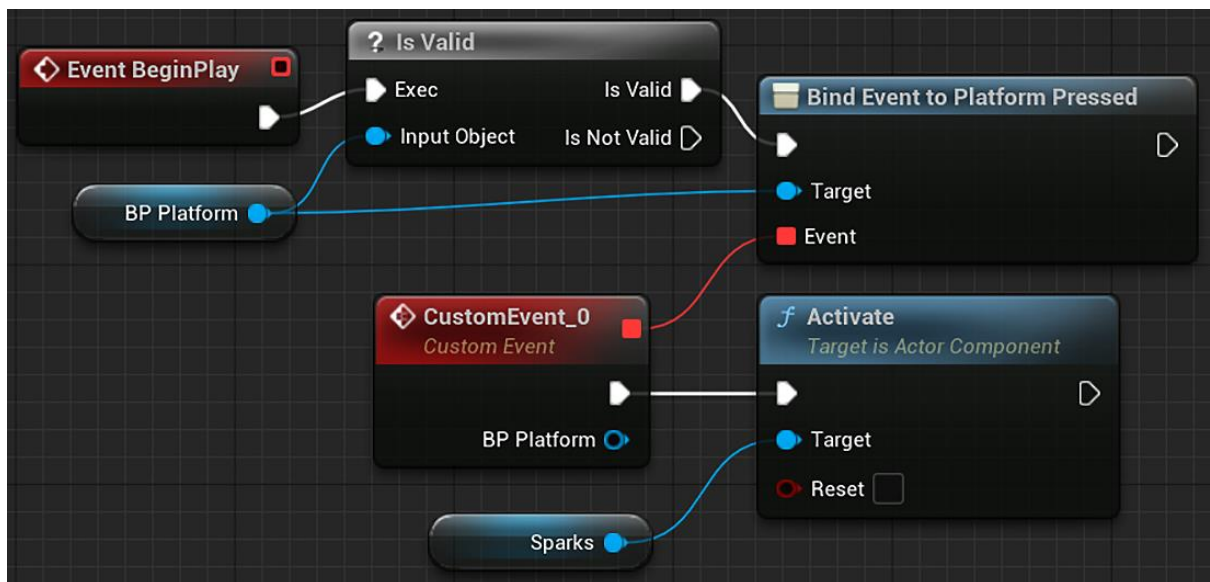
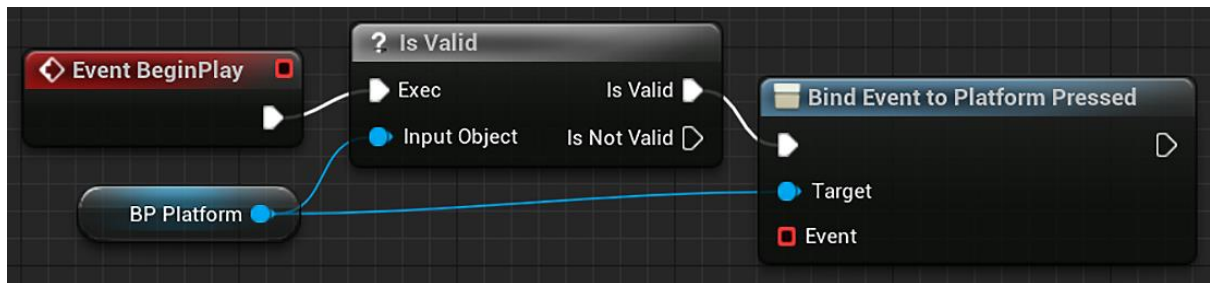
Q

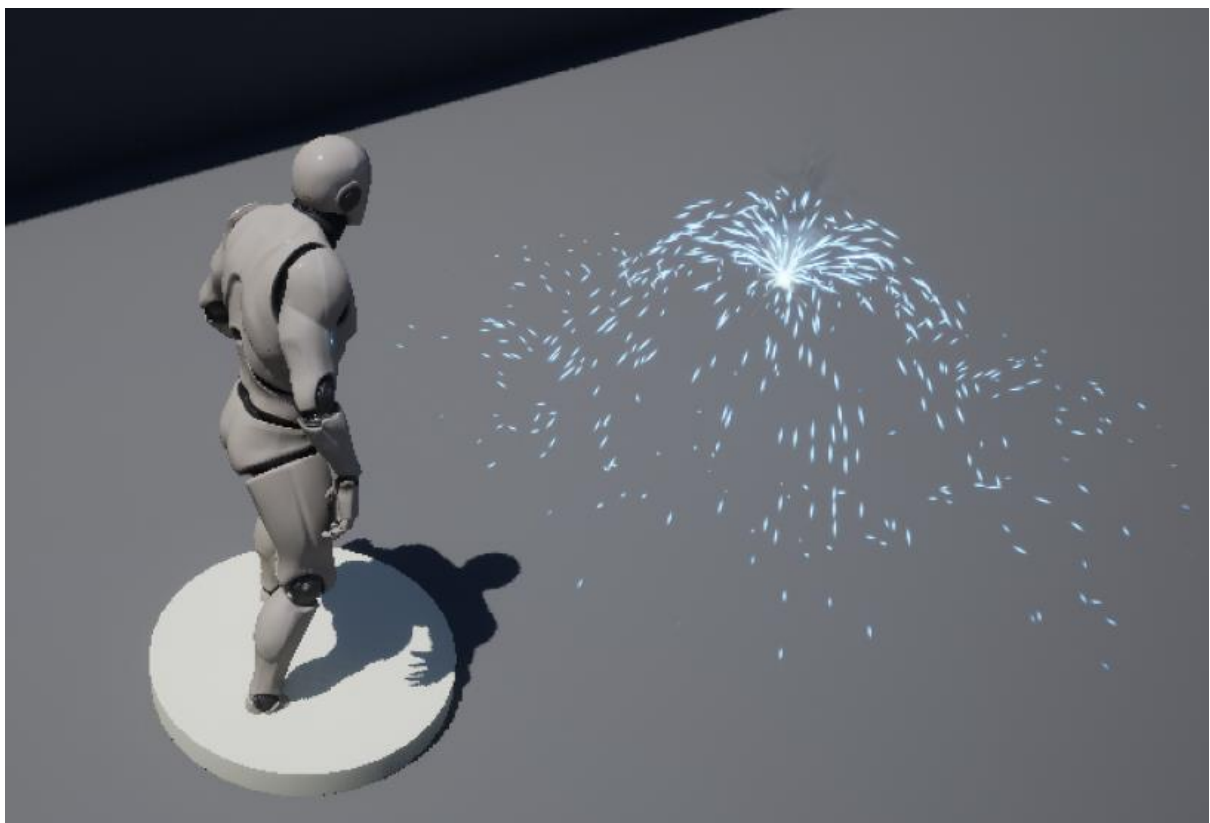
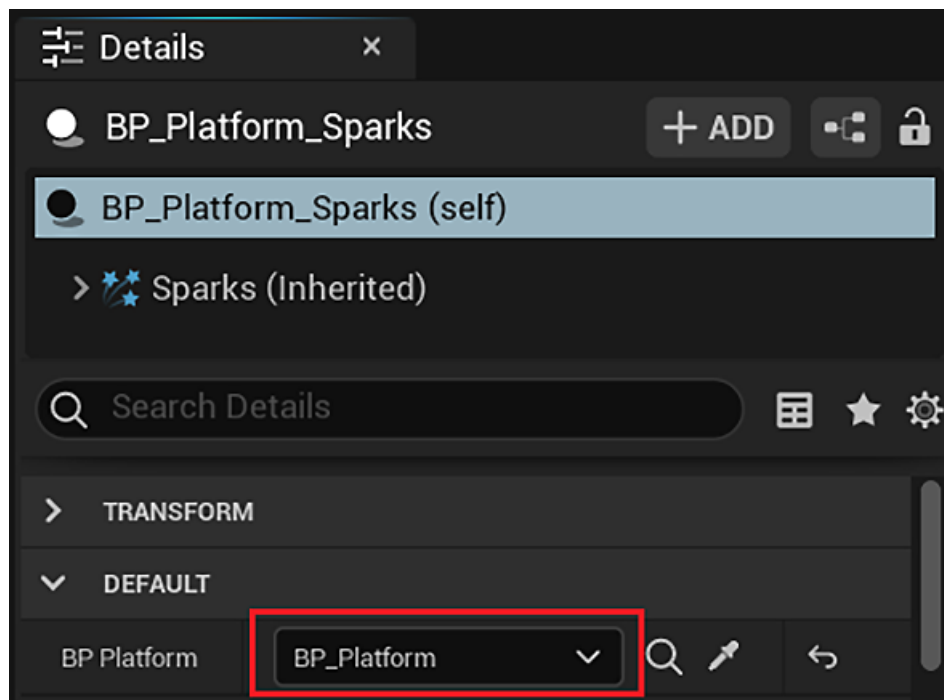
Search Details

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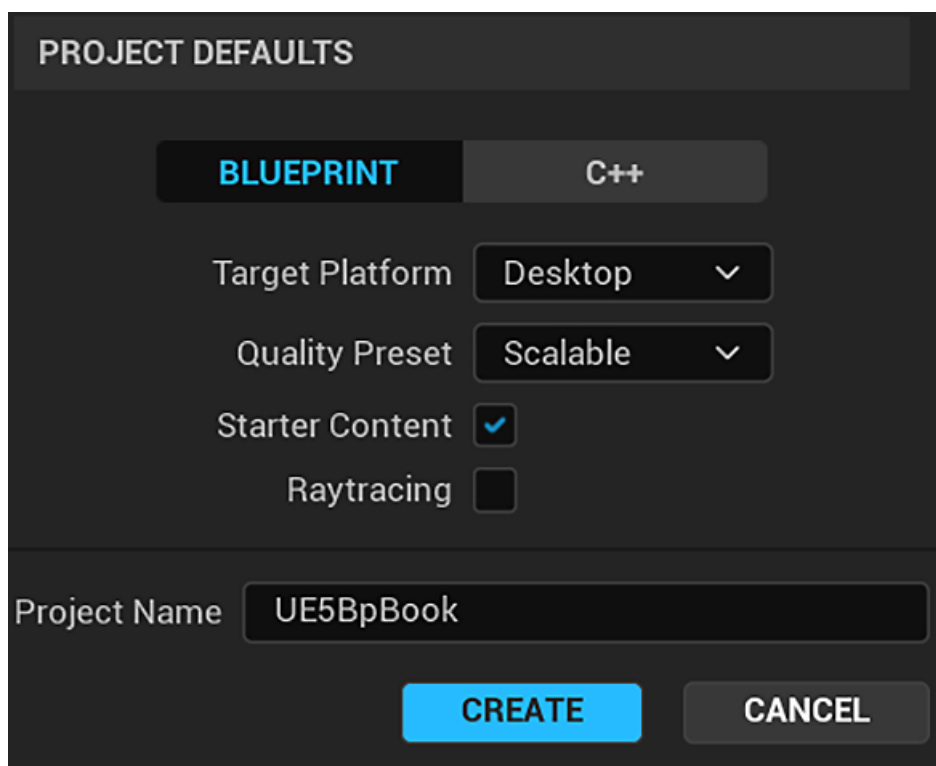
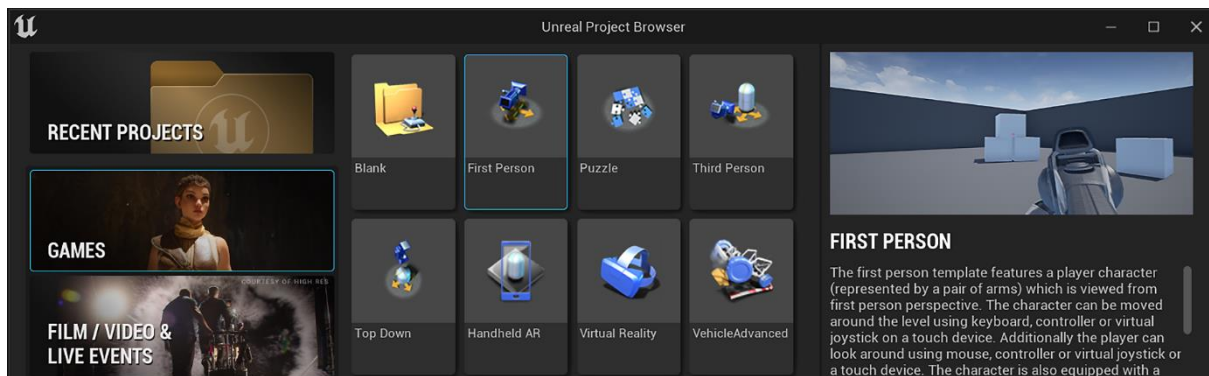
VARIABLE

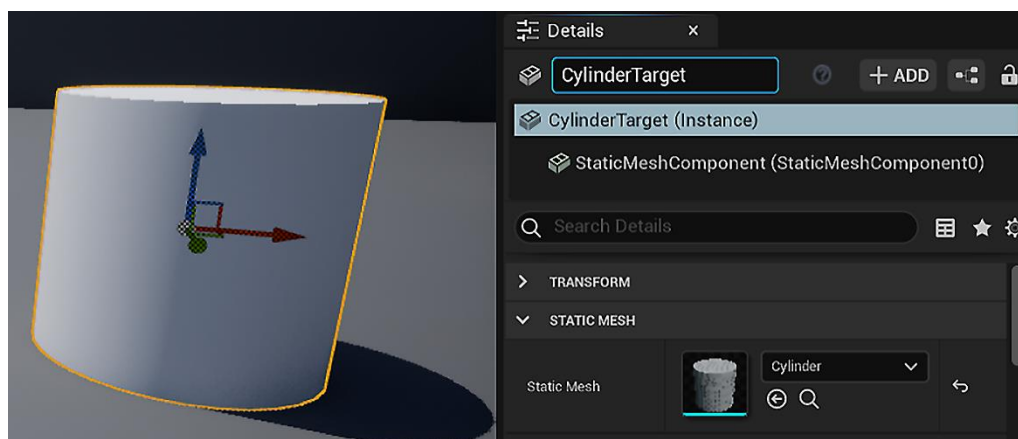
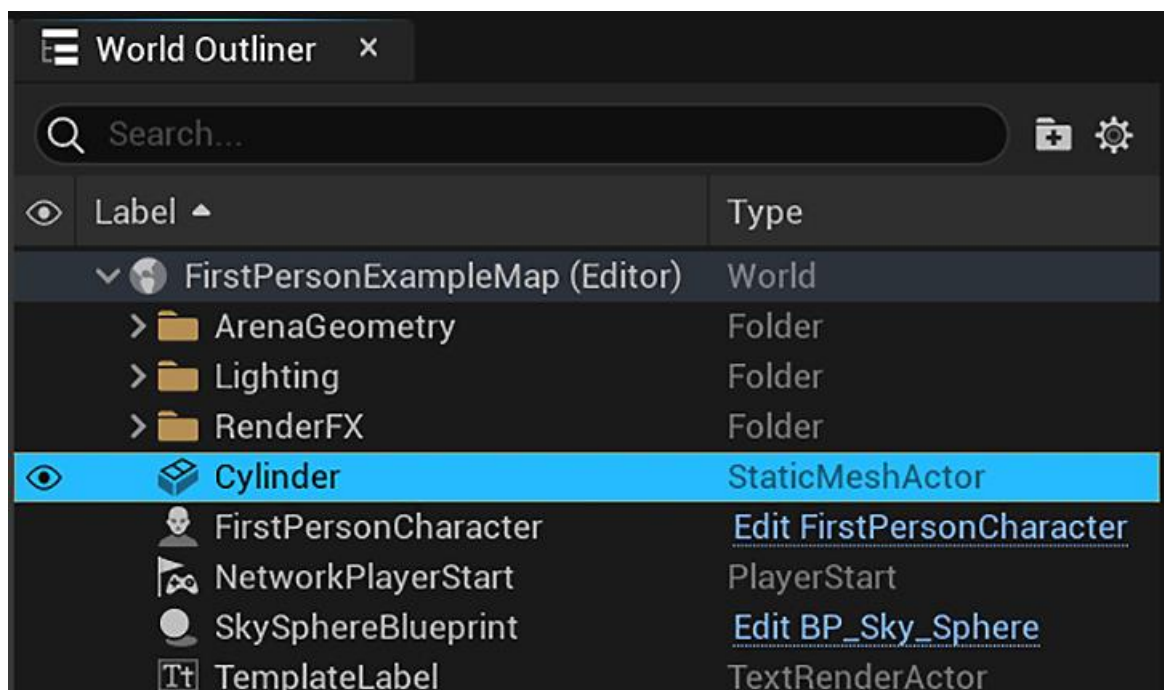
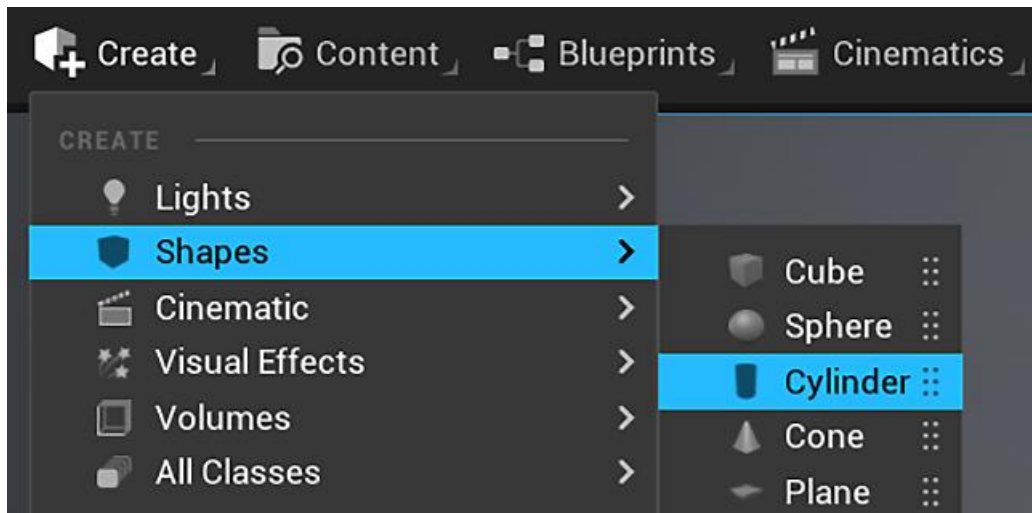
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Variable Type	<div><div>BP Platform</div><div>▼</div></div>
Instance Editable	<input checked="" type="checkbox"/>

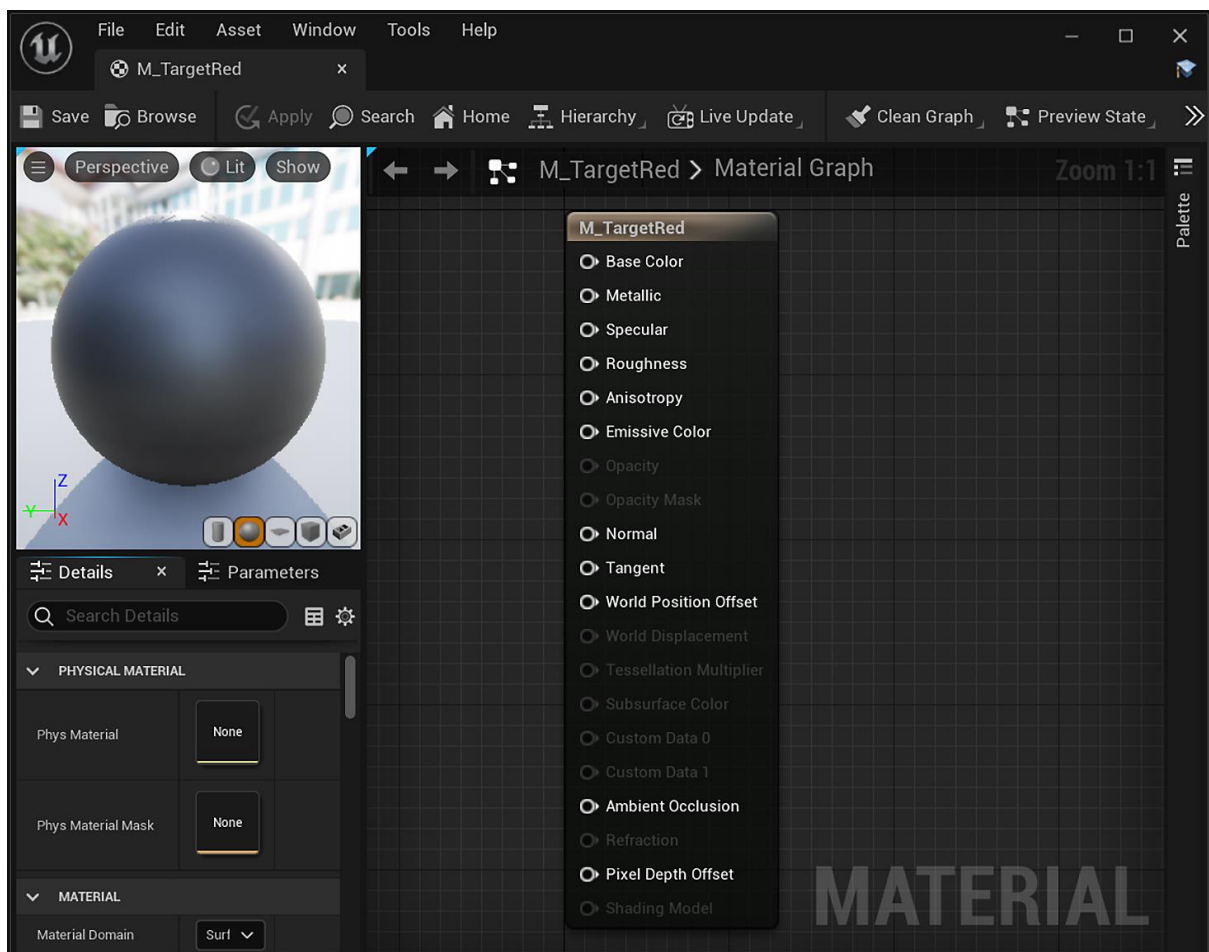
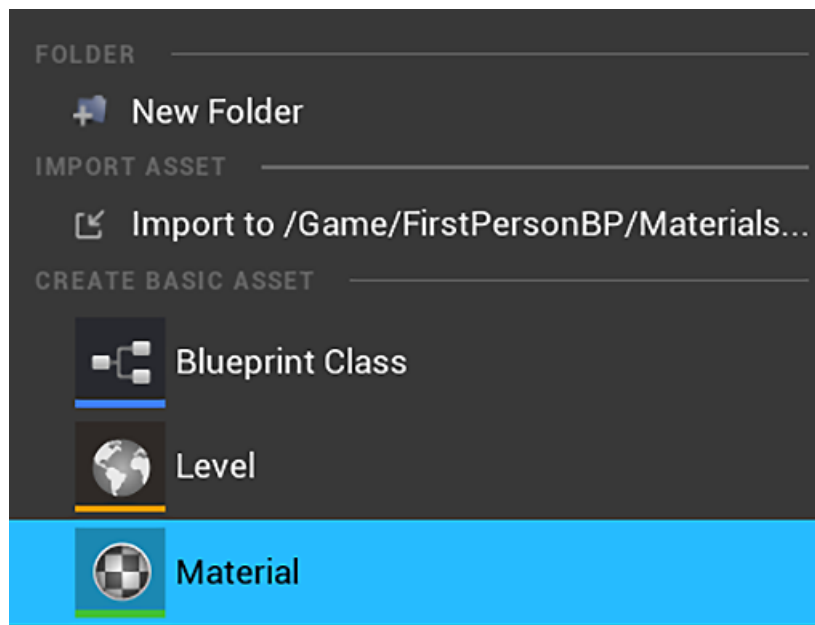


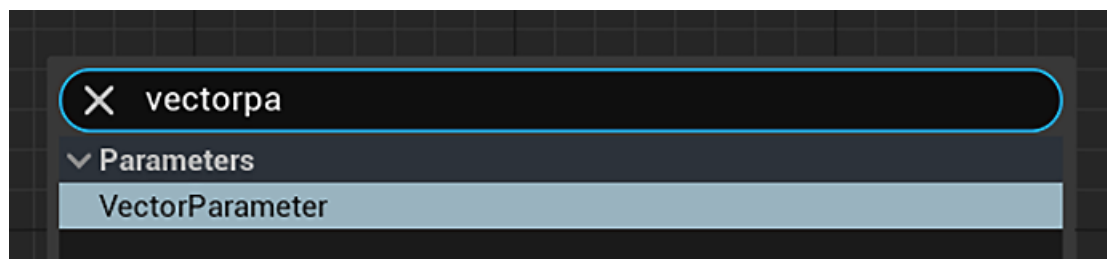
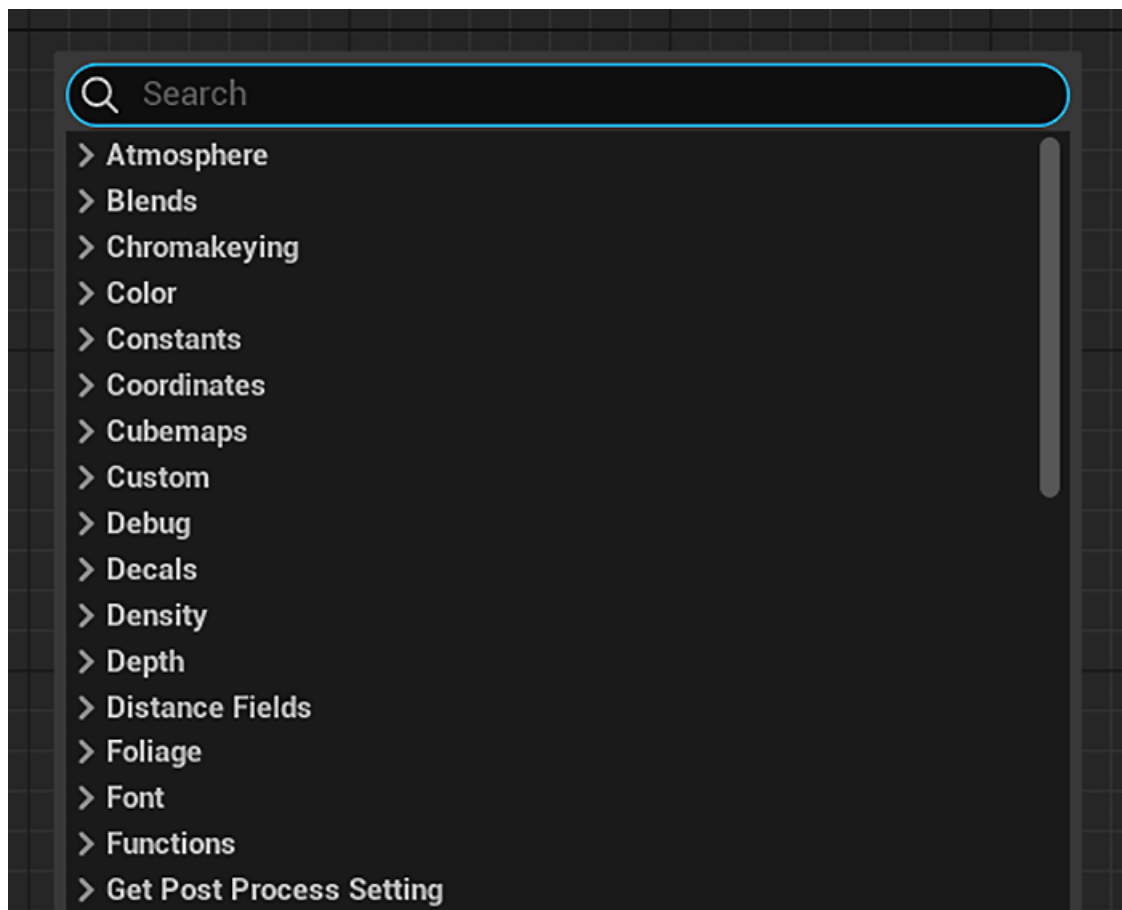


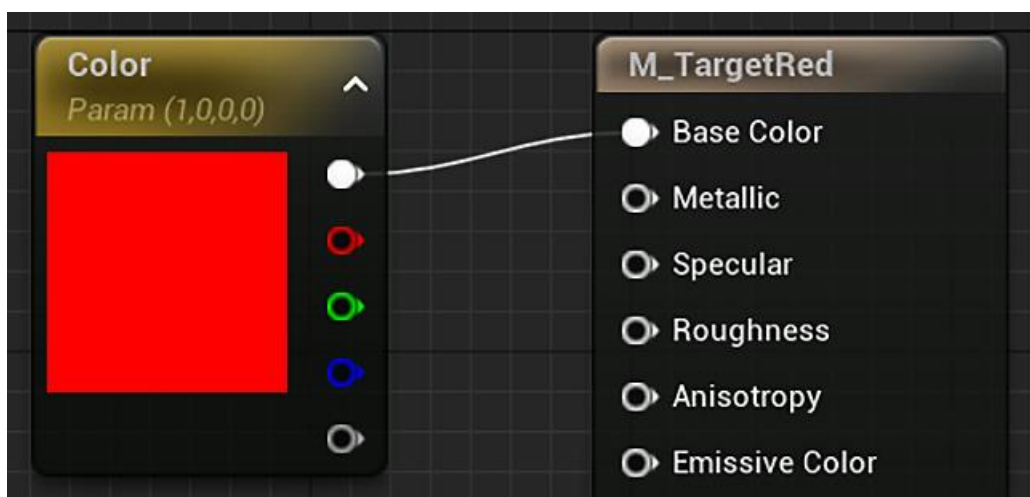
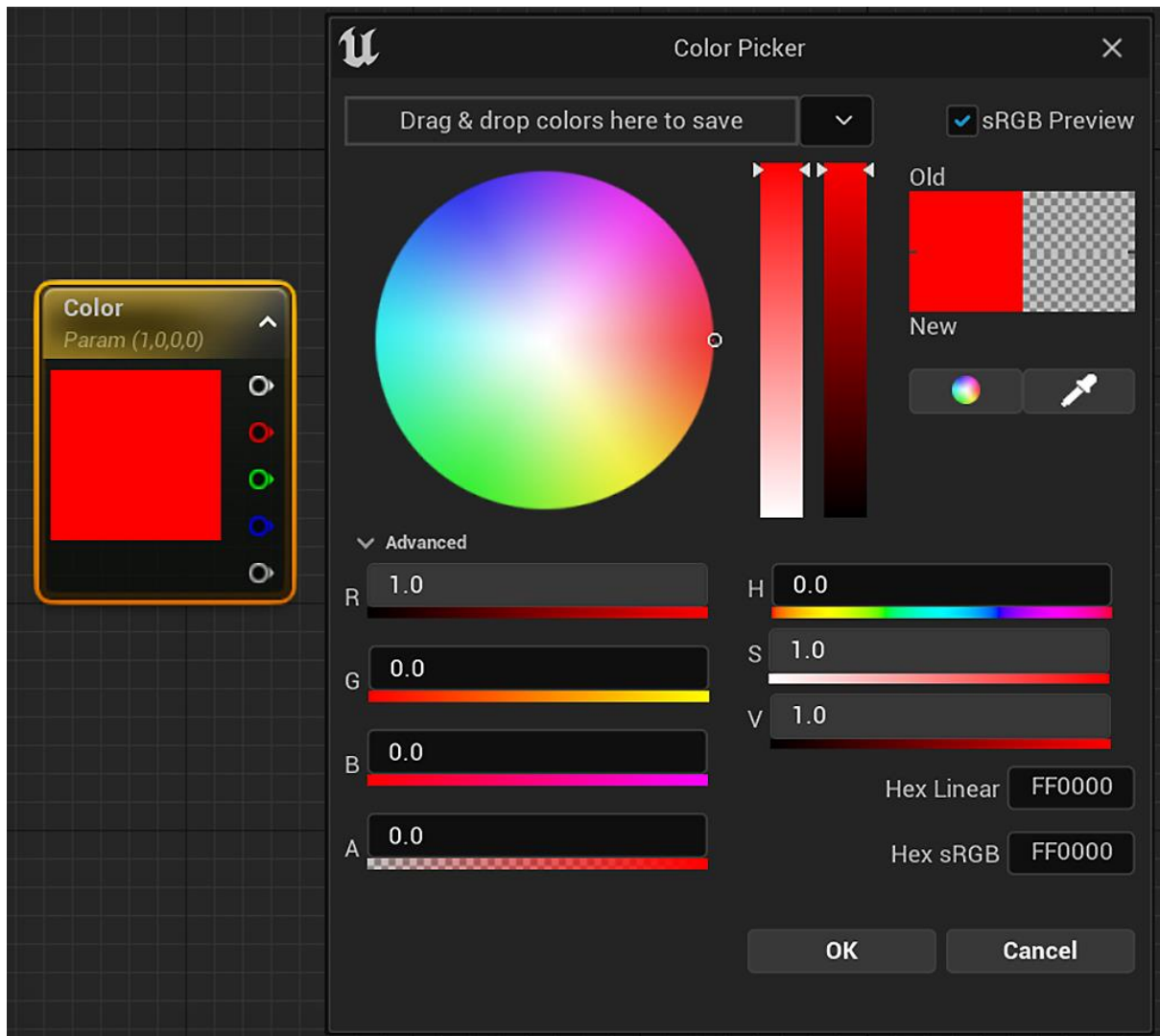
## Chapter 5: Object Interaction with Blueprints

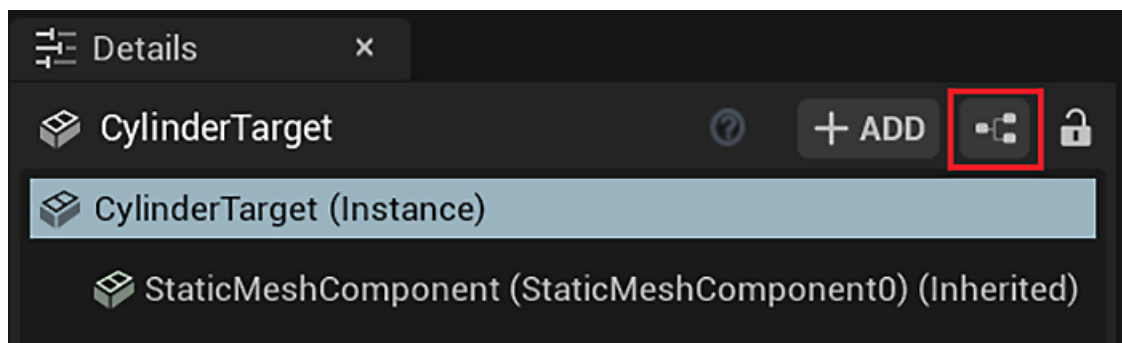
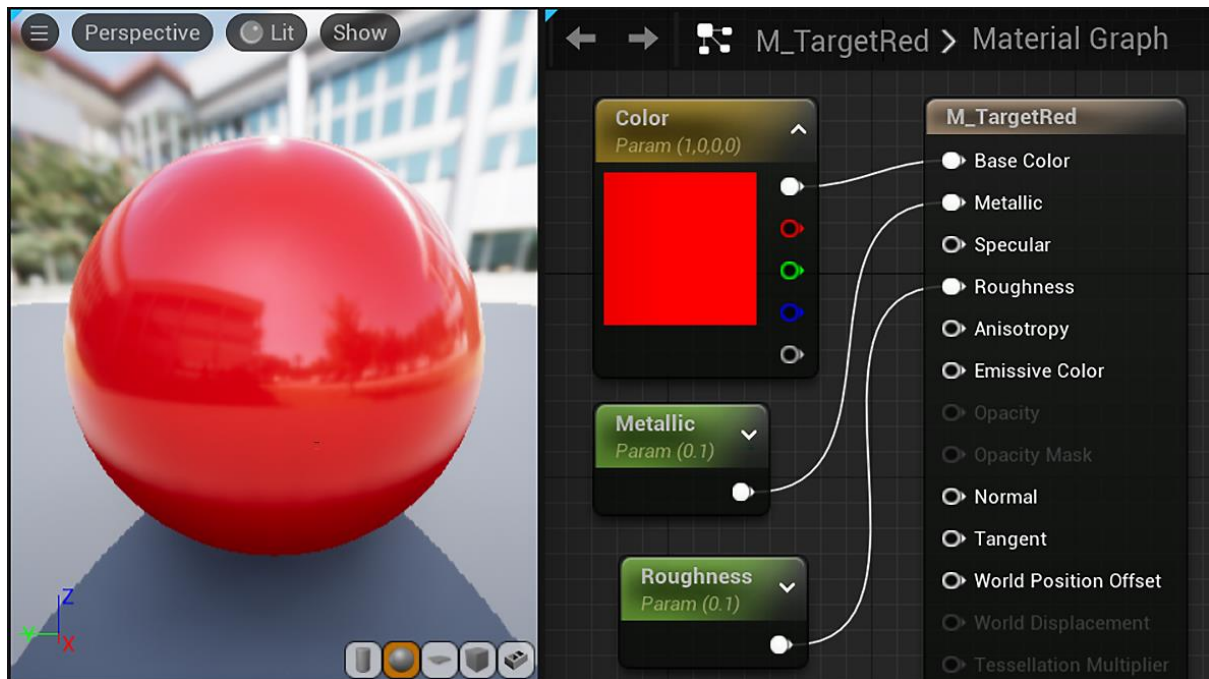
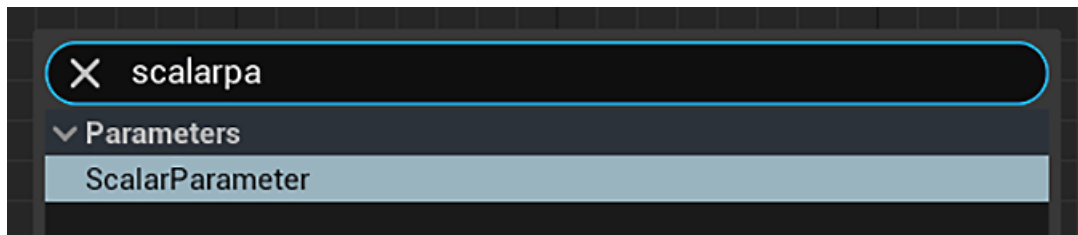


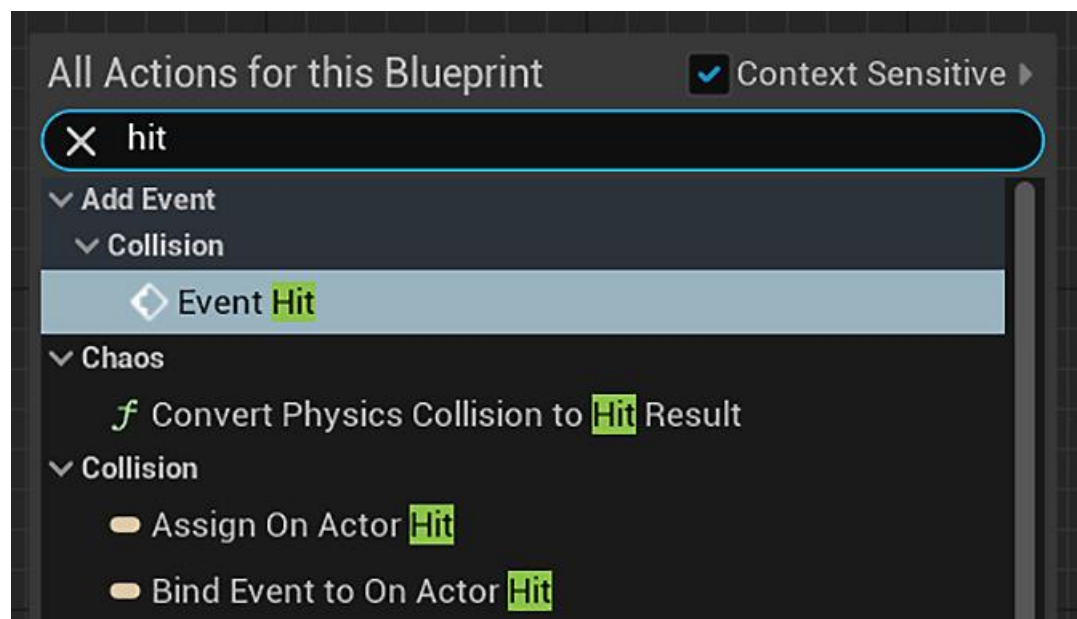
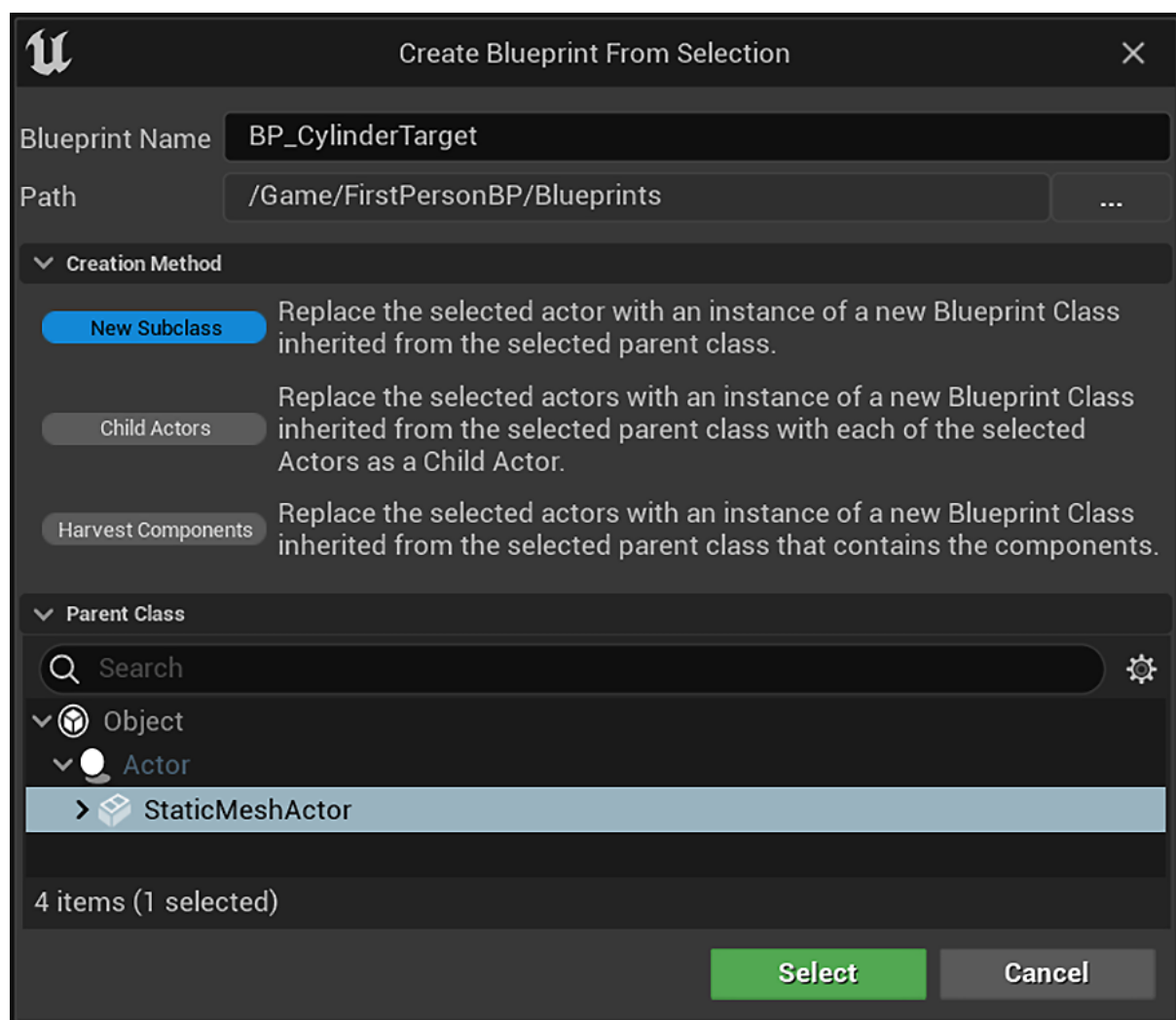


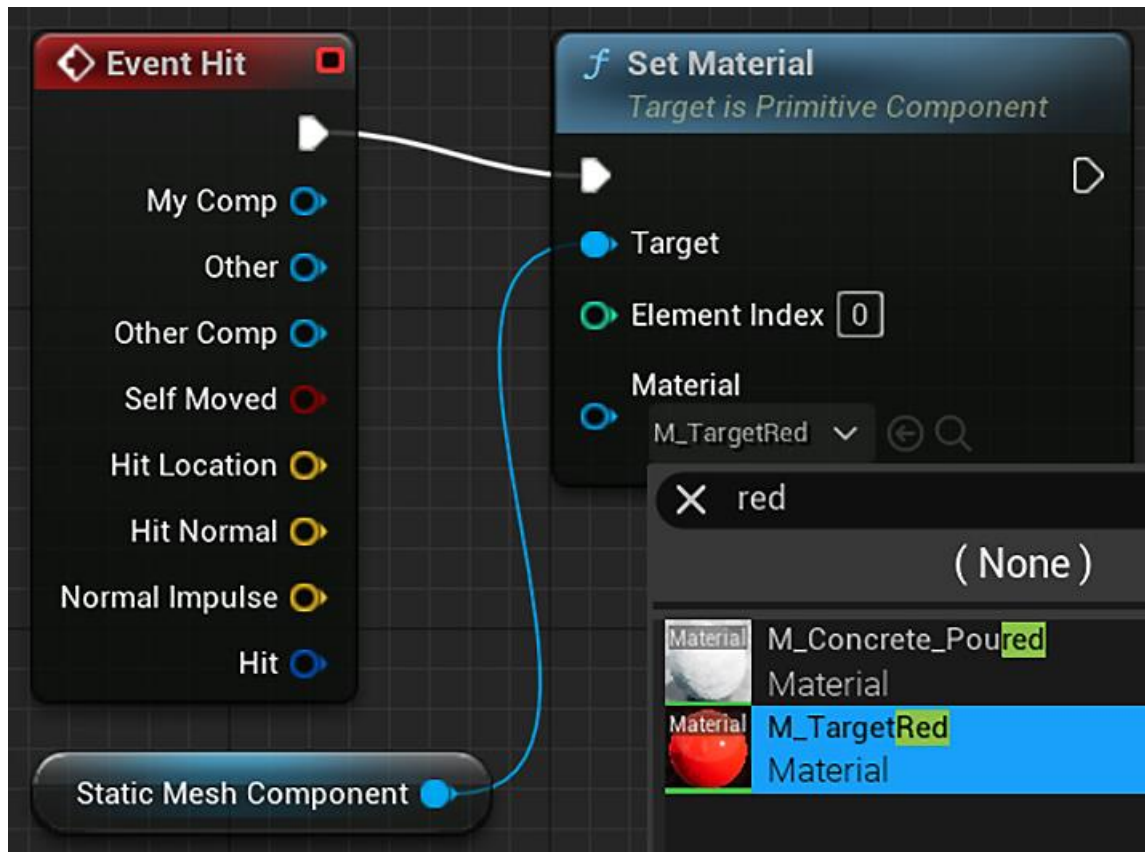
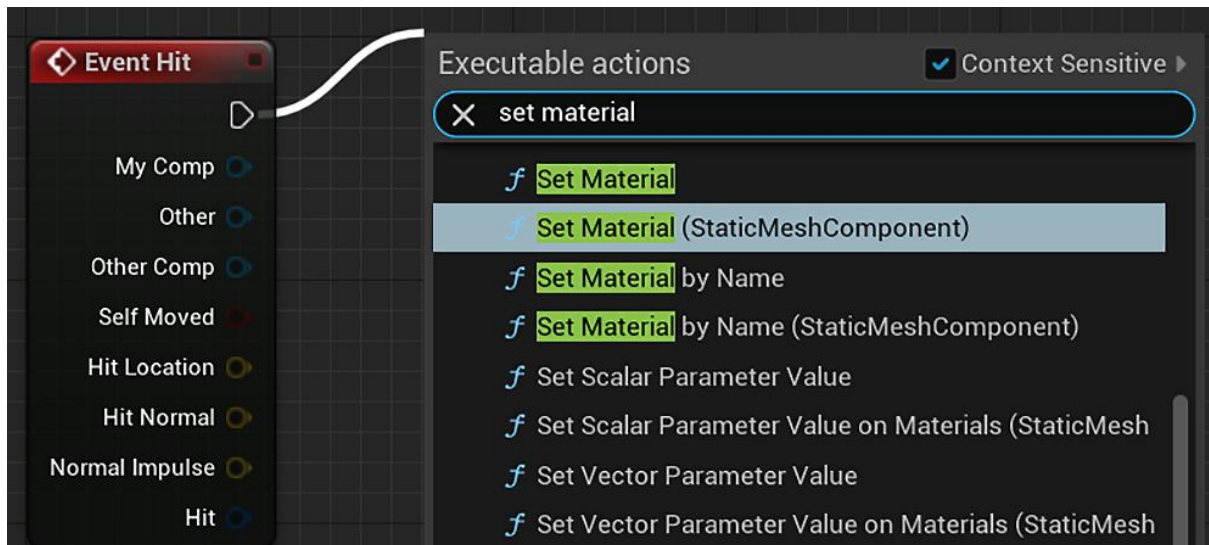


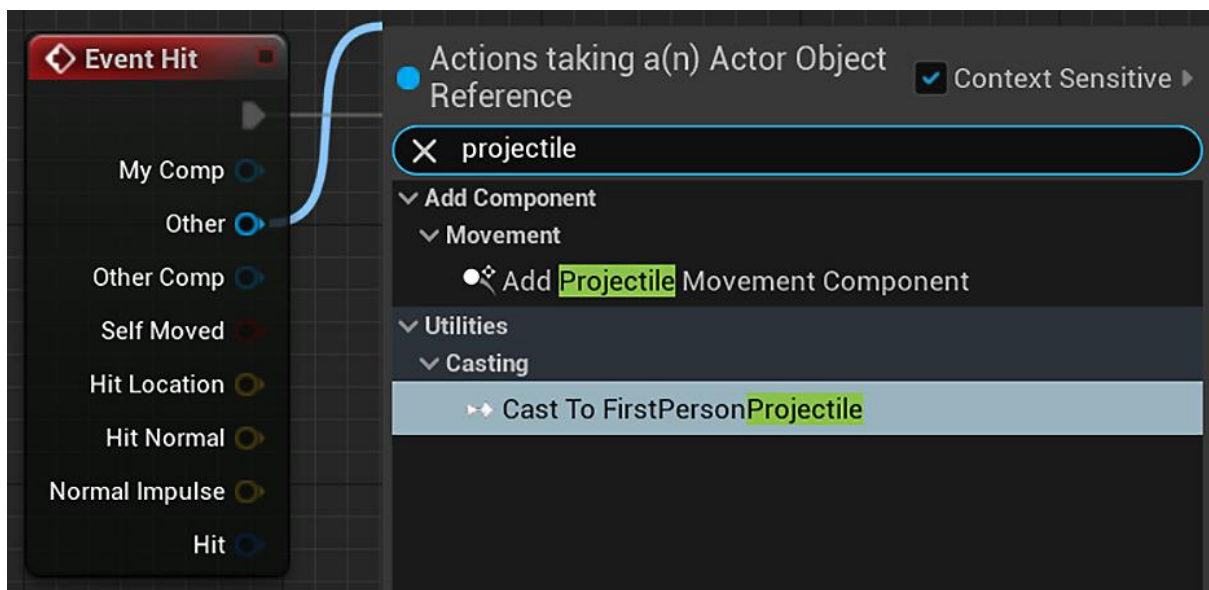


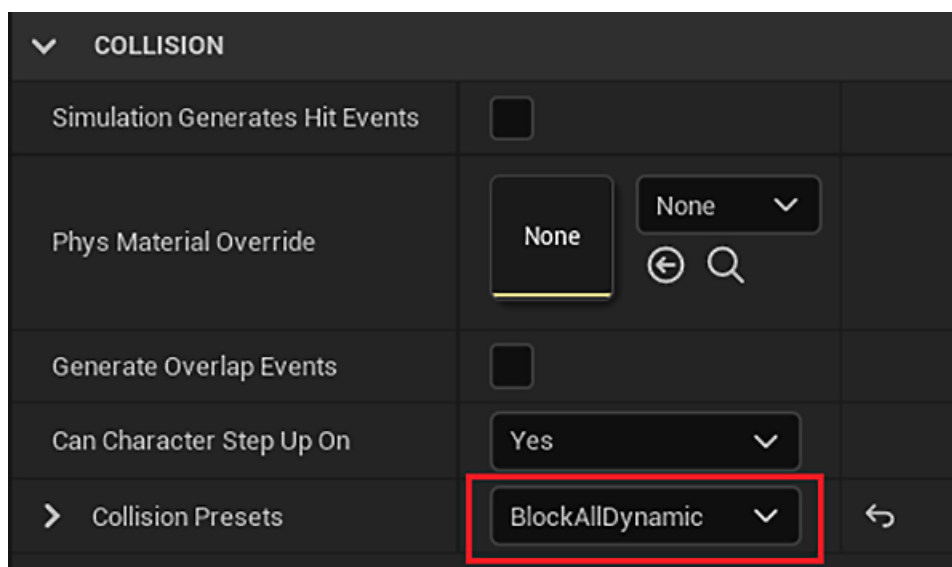
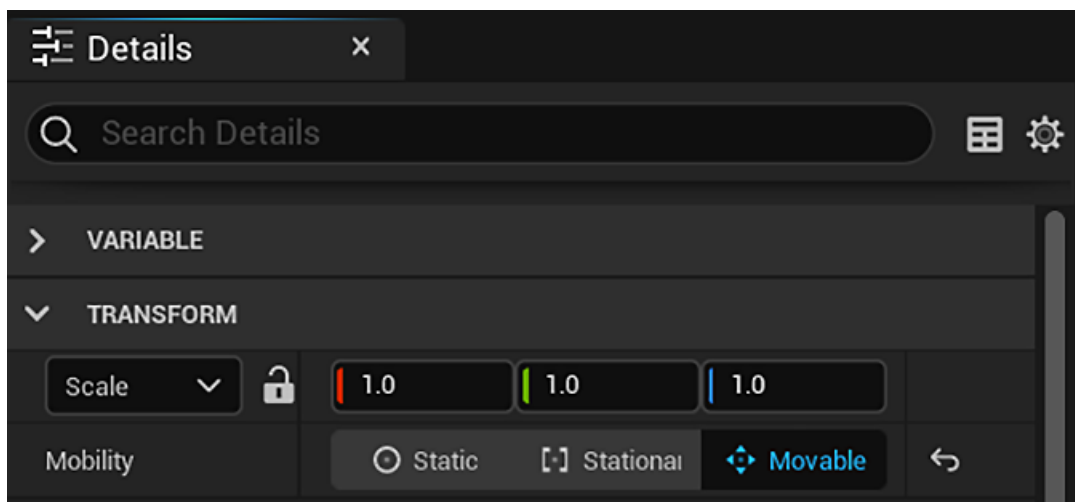
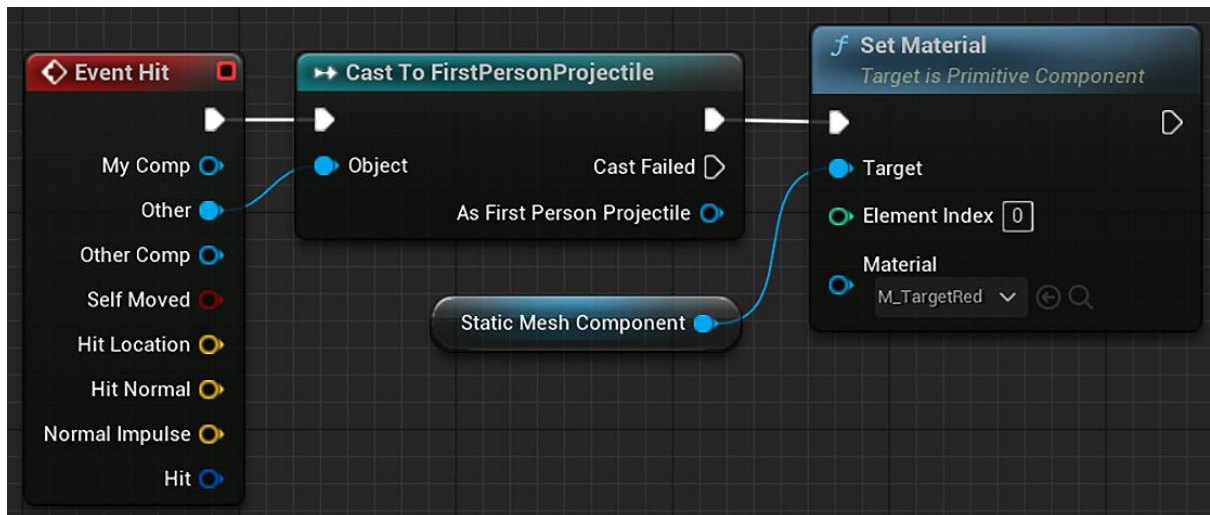












Details

x

Search Details

VARIABLE

Variable Name	Speed
Variable Type	<div><div></div>Float<div></div></div>
Instance Editable	<div><div></div></div>

Details

x

Search Details

VARIABLE

DEFAULT VALUE

Speed	200.0
-------	-------

Details

x

Search Details

VARIABLE

Variable Name	TimeToChange
Variable Type	<div><div></div>Float<div></div></div>
Instance Editable	<div><div></div></div>

Details

×

Q

Search Details

▼

VARIABLE

Variable Name	Direction
Variable Type	<div><div>Vector</div><div>▼</div><div></div></div>
Instance Editable	<input checked="" type="checkbox"/>

Details

×

Q

Search Details

>

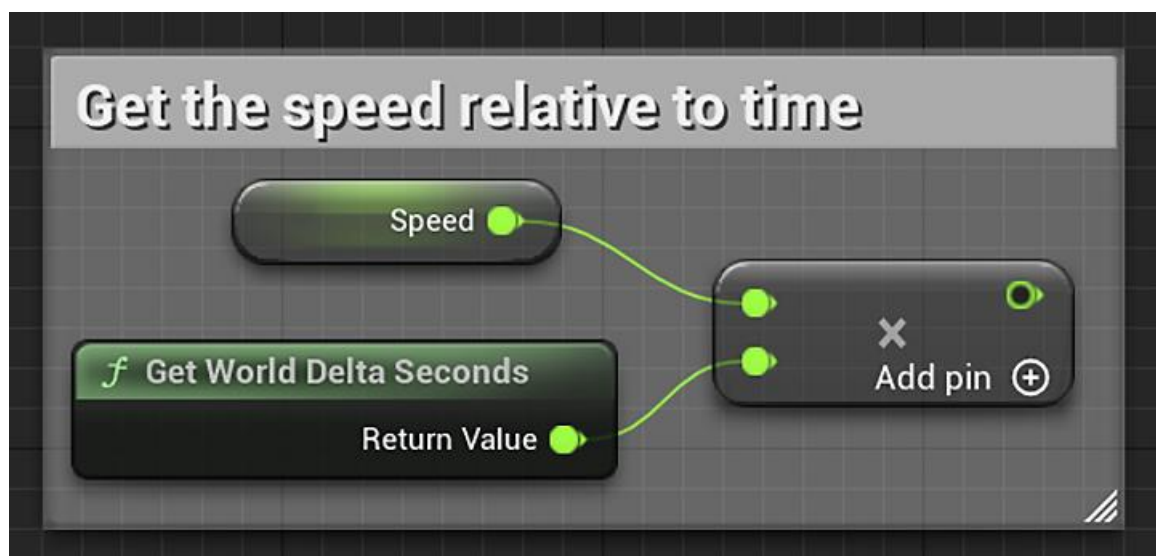
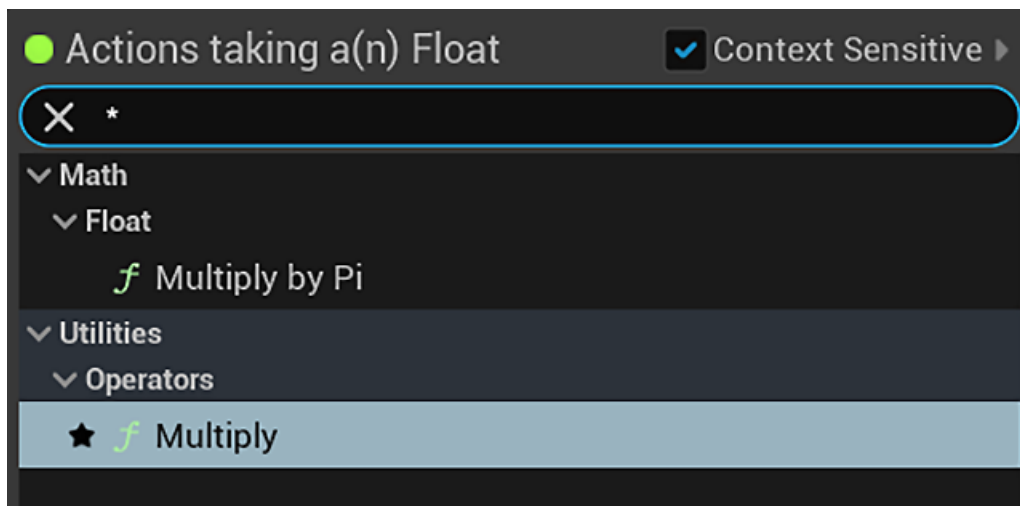
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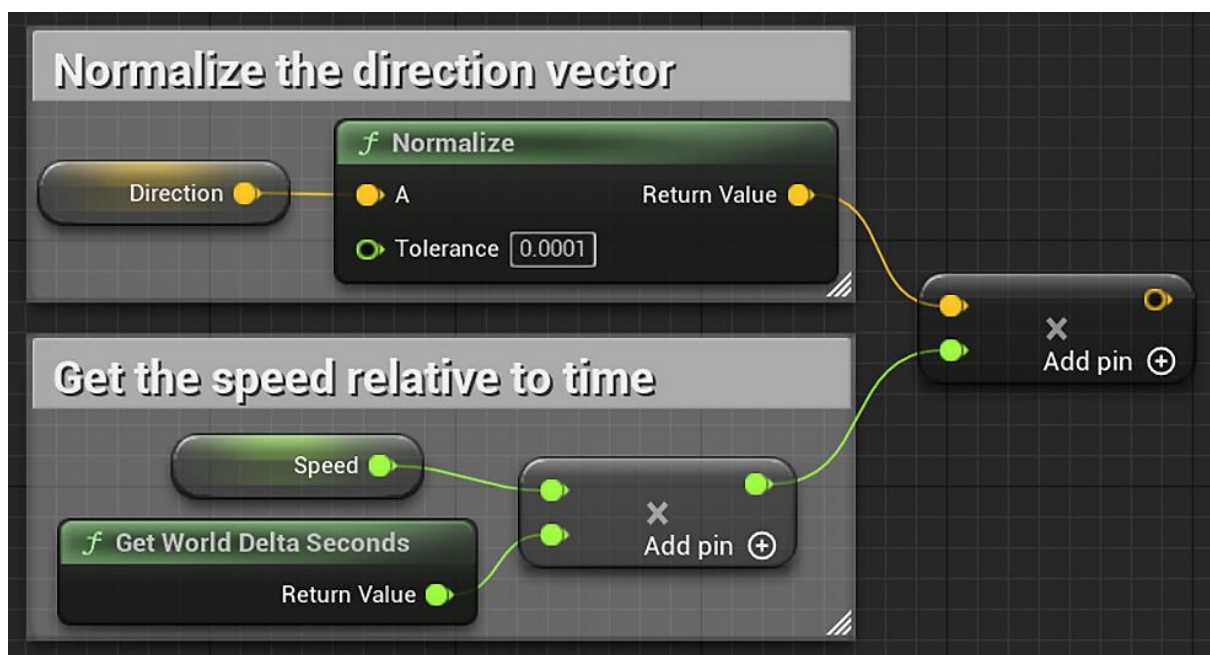
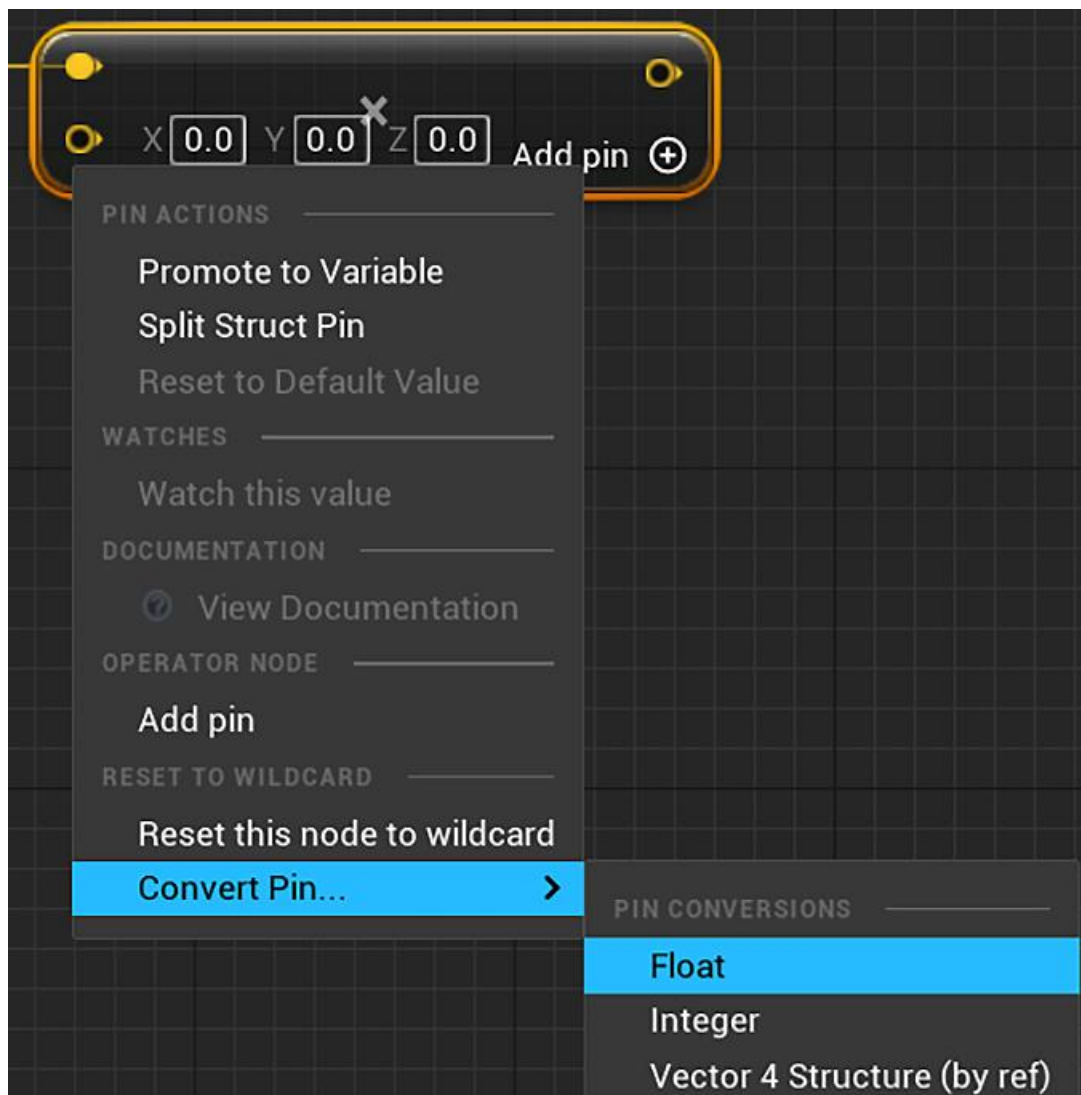
▼

DEFAULT VALUE

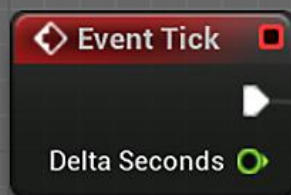
> Direction	0.0	1.0	0.0
-------------	-----	-----	-----







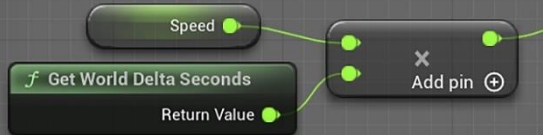
## Every frame, update location



## Normalize the direction vector



## Get the speed relative to time



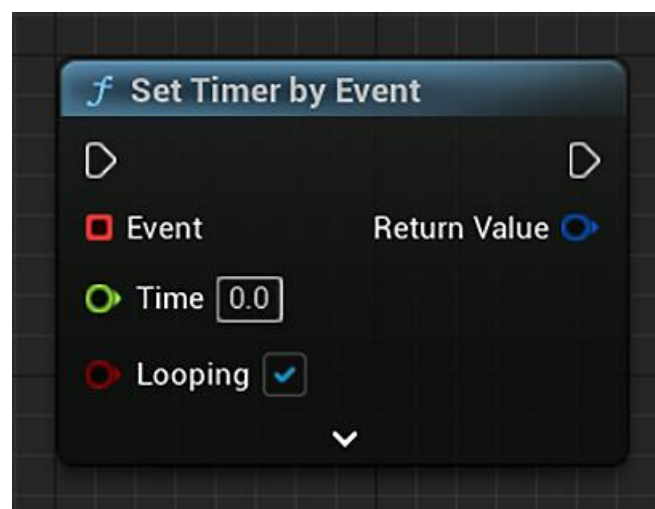
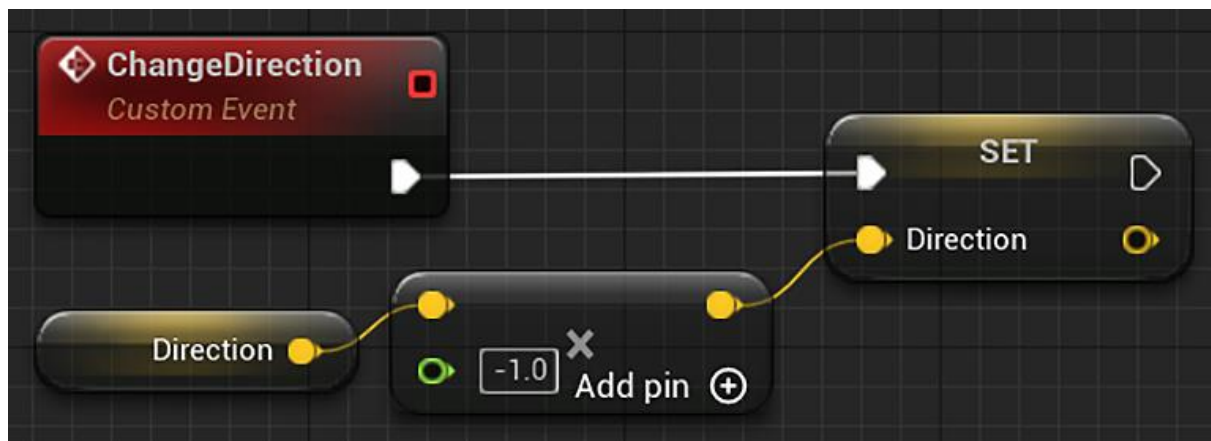
## Every frame, update location

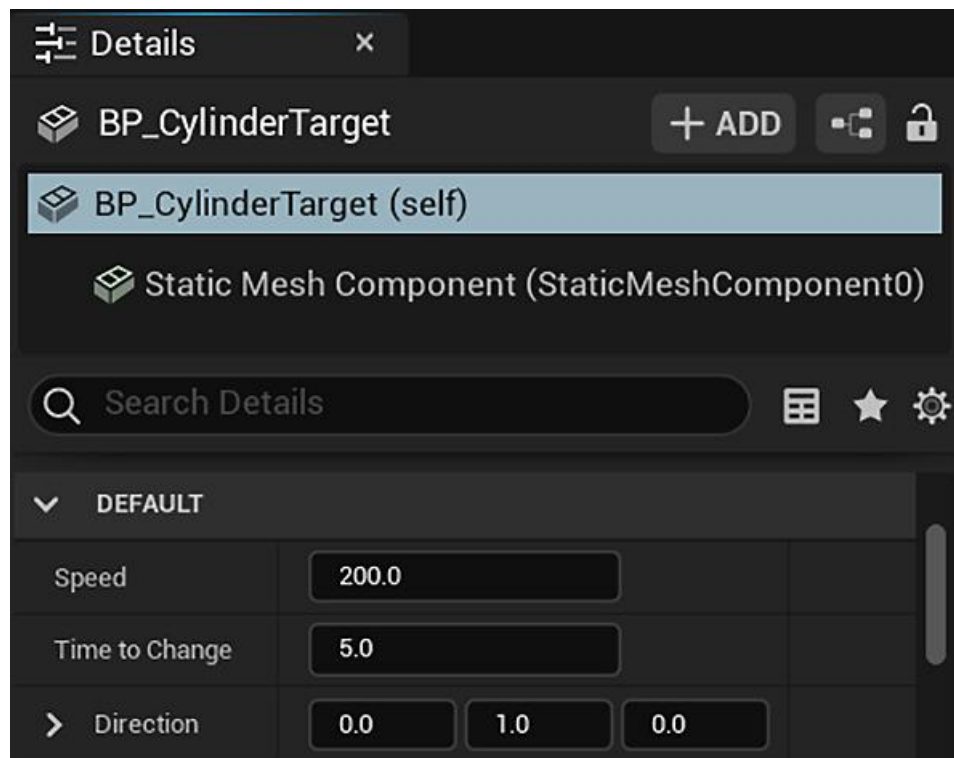


## ChangeDirection

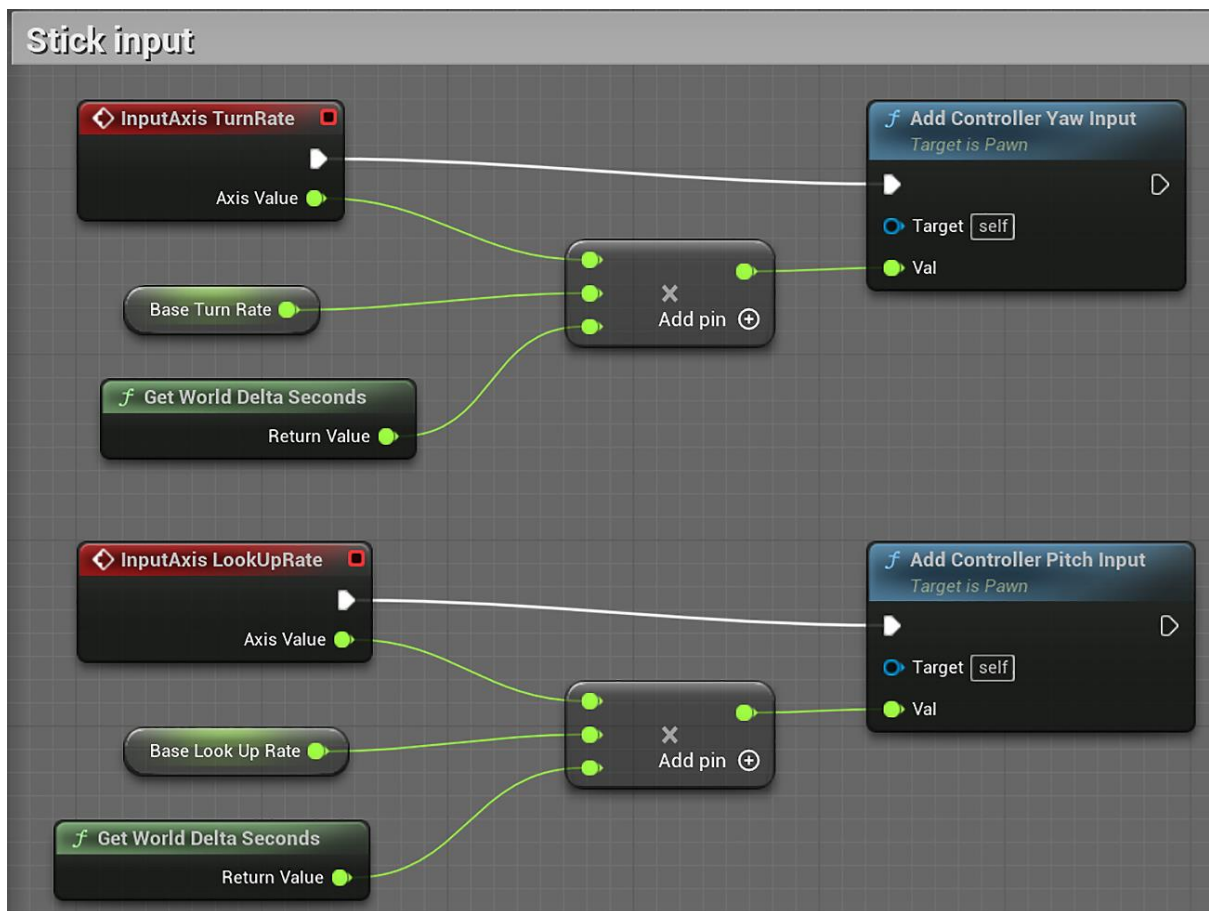
Custom Event



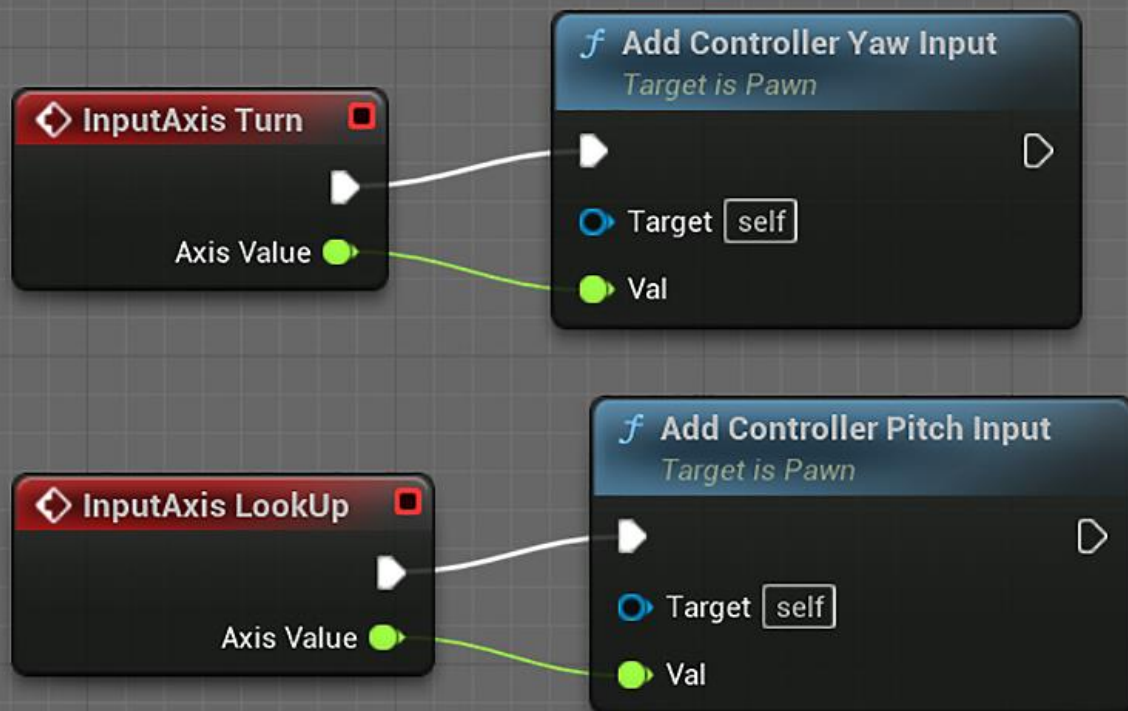




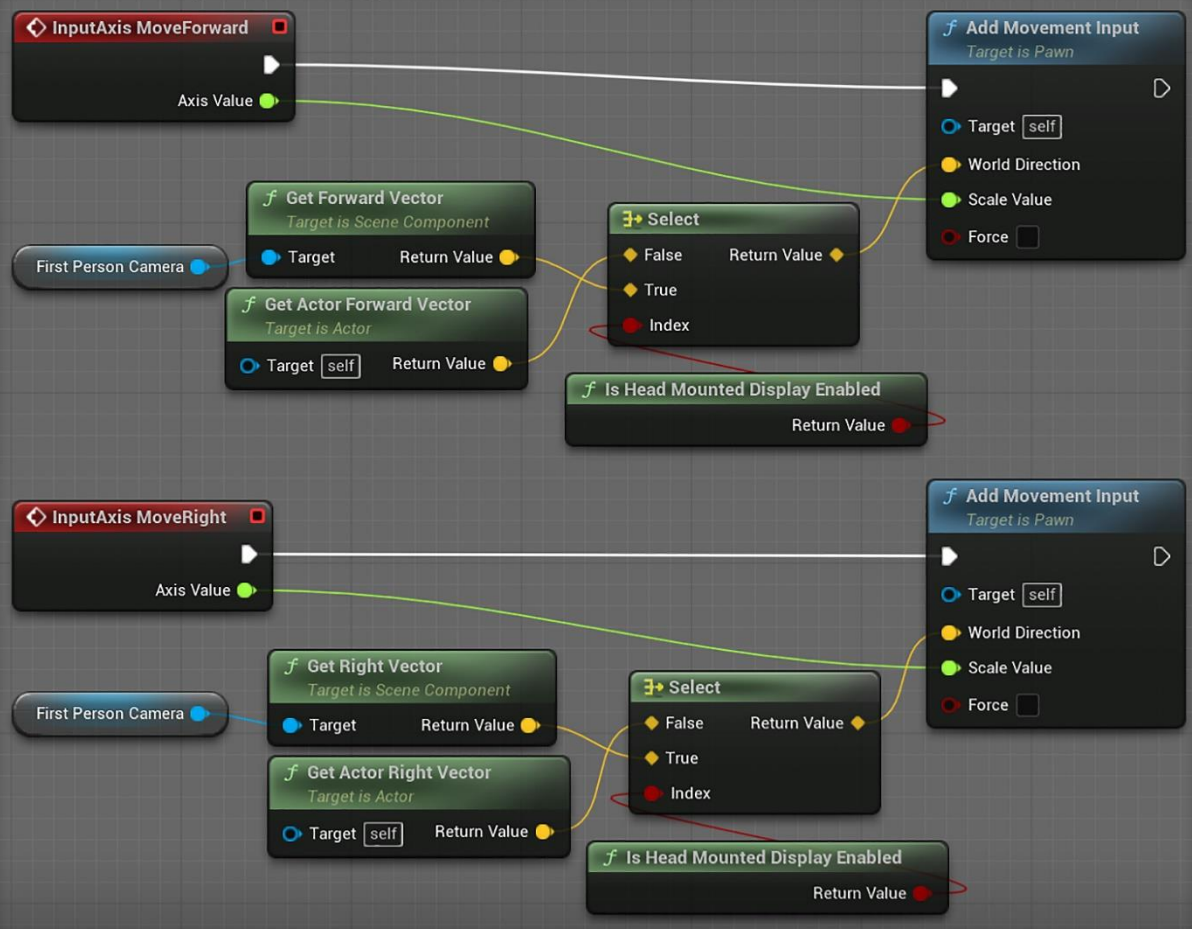
## Chapter 6: Enhancing Player Abilities

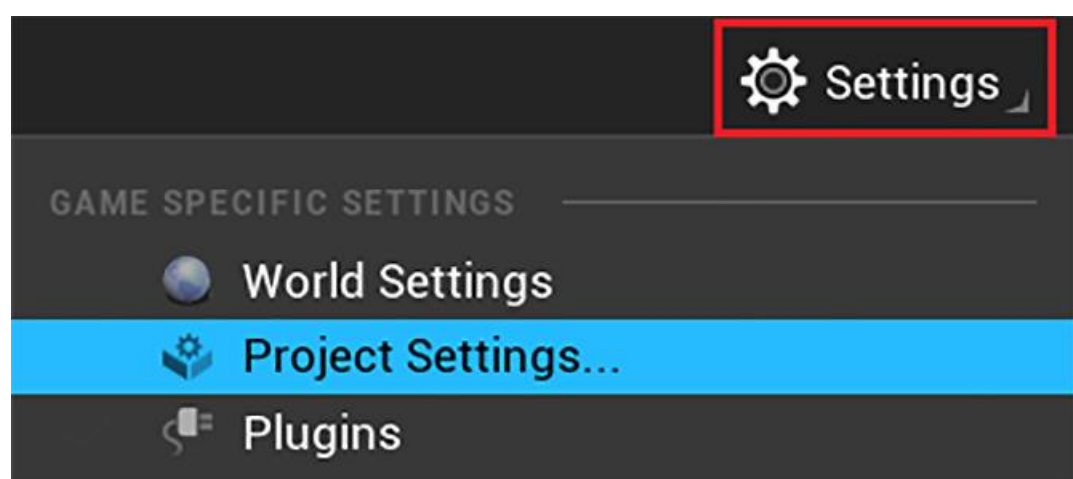
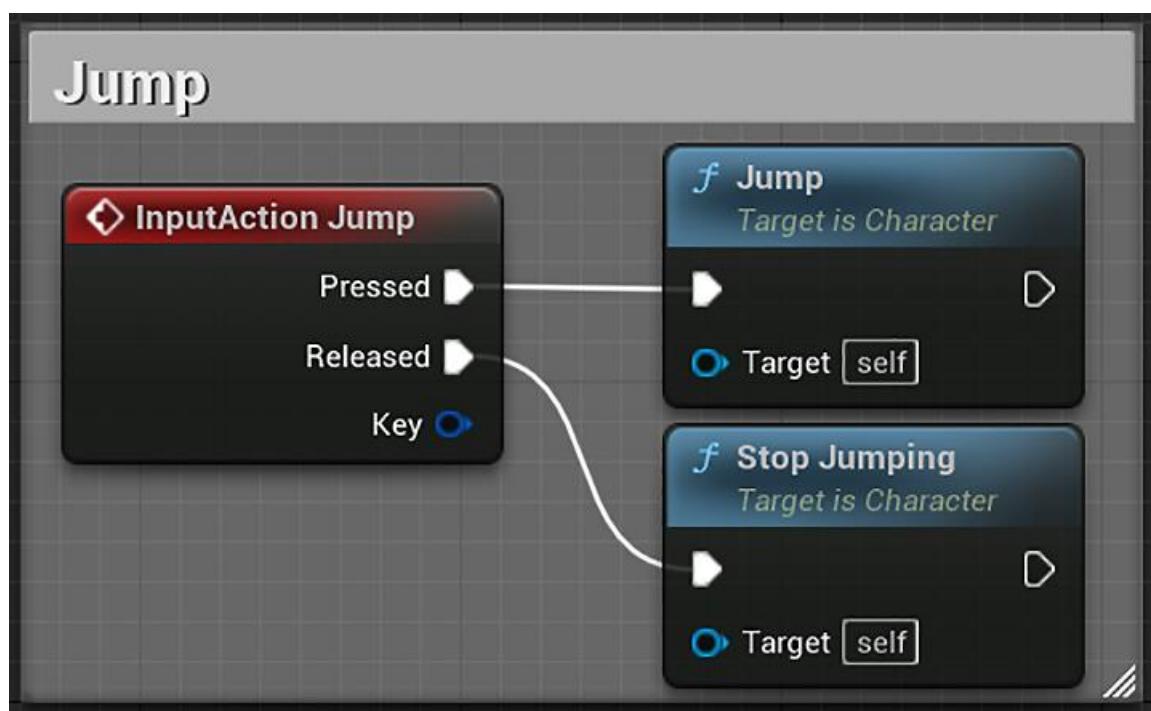


## Mouse input



## Movement Input - If using an HMD, movement is based off HMD location





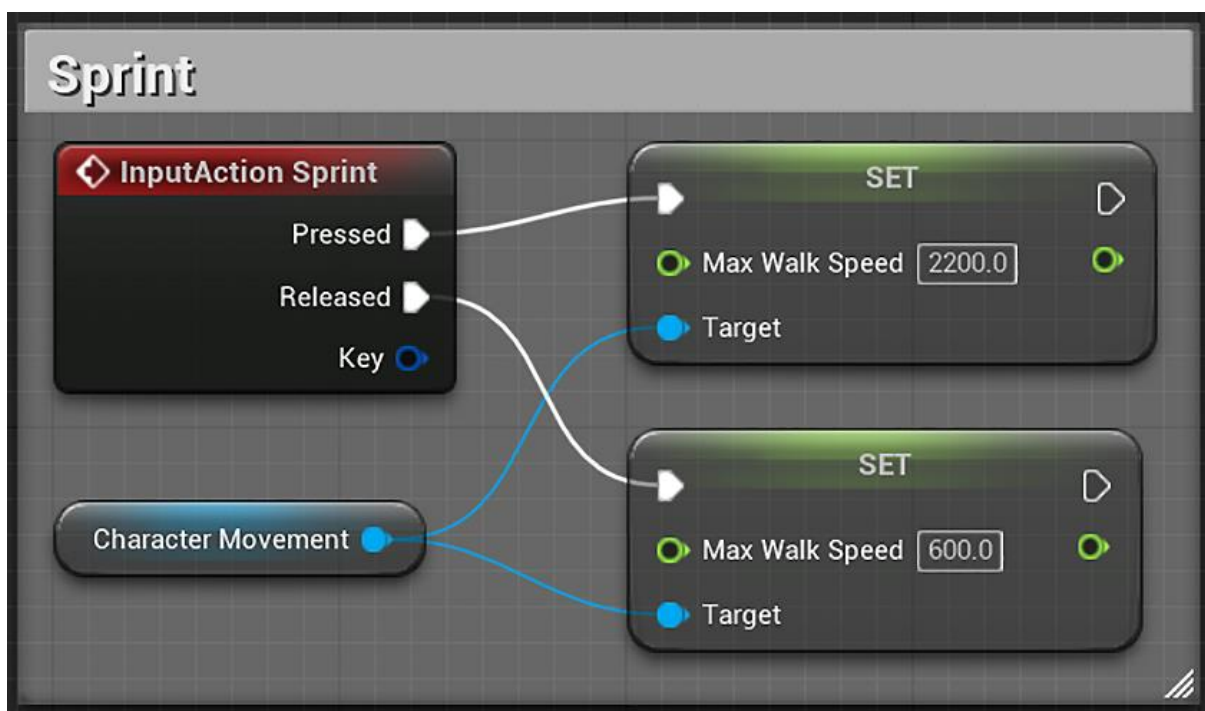
▼ **BINDINGS**

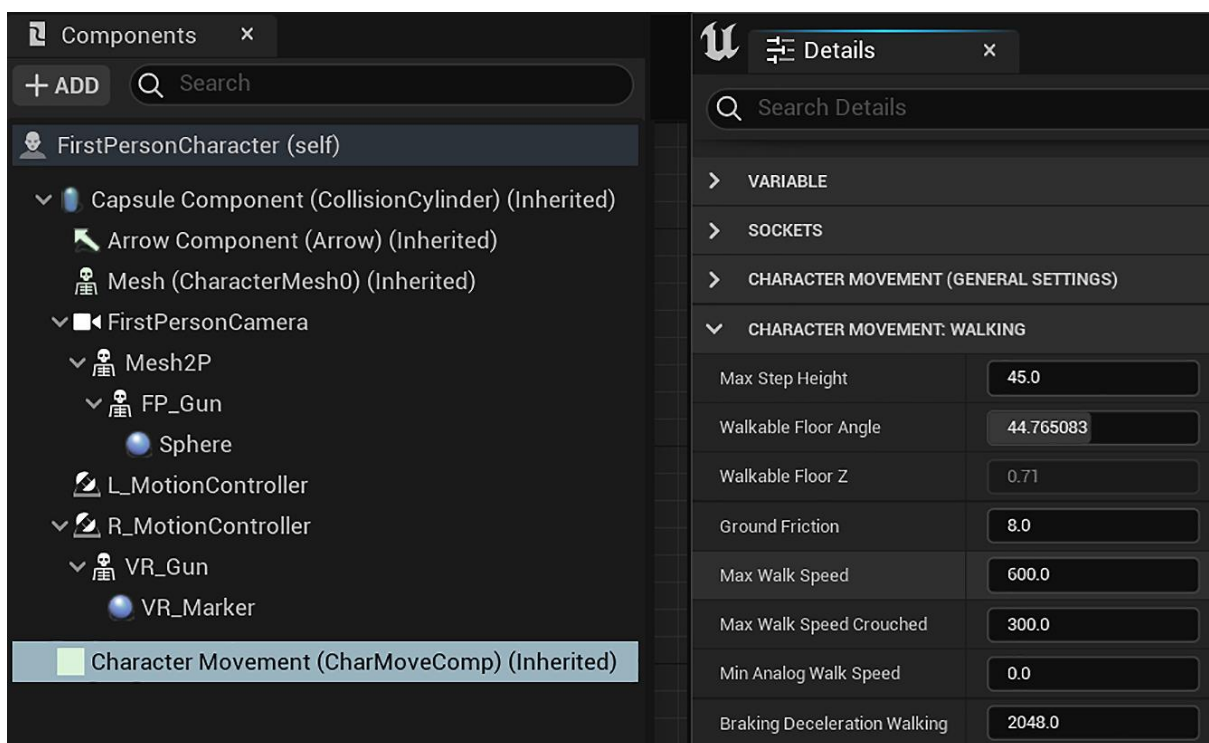
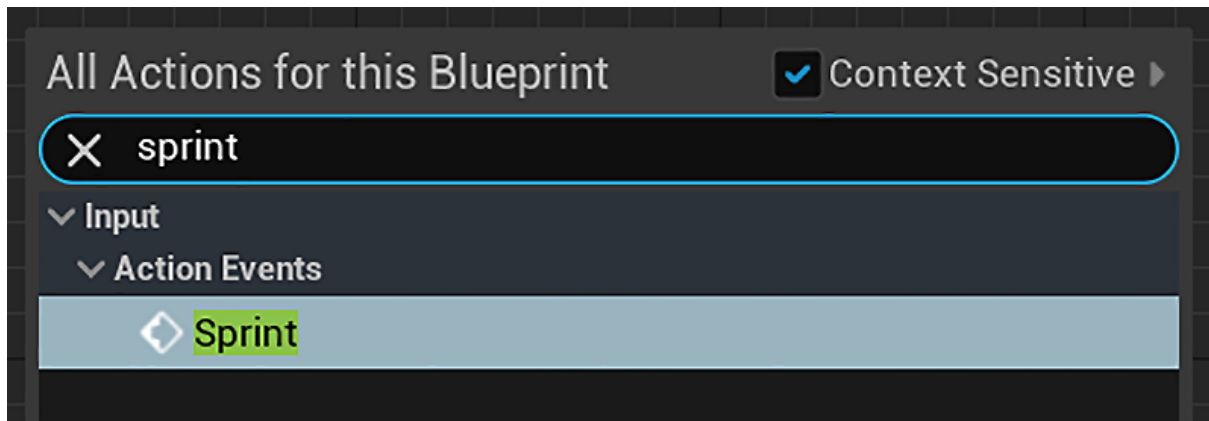
Action and Axis Mappings provide a mechanism to conveniently map keys and axes to input behaviors by inserting a layer of indirection between the input behavior and the keys that invoke it. Action Mappings are for key presses and releases, while Axis Mappings allow for inputs that have a continuous range. ?

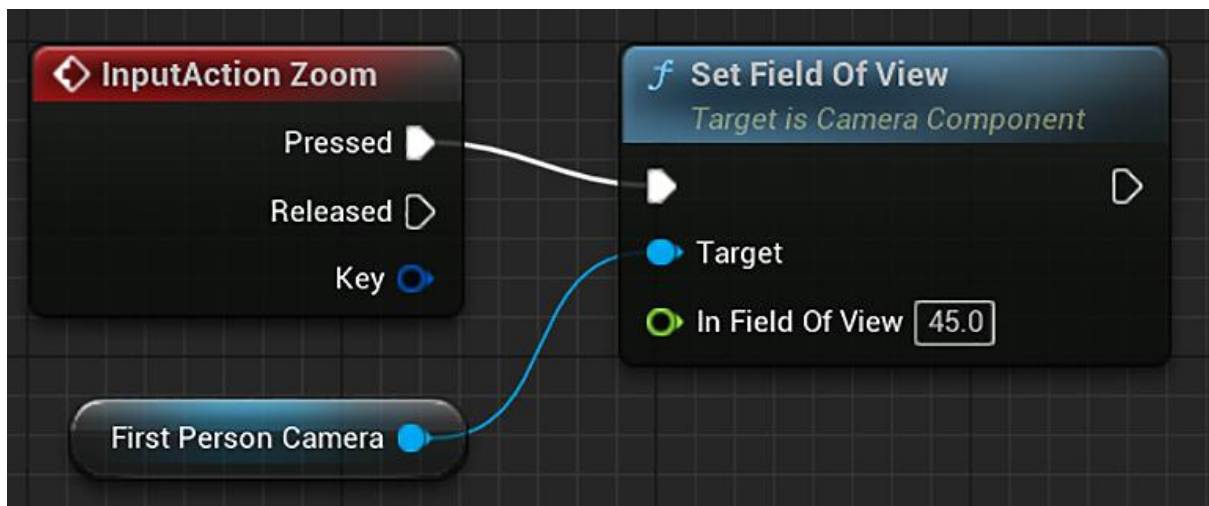
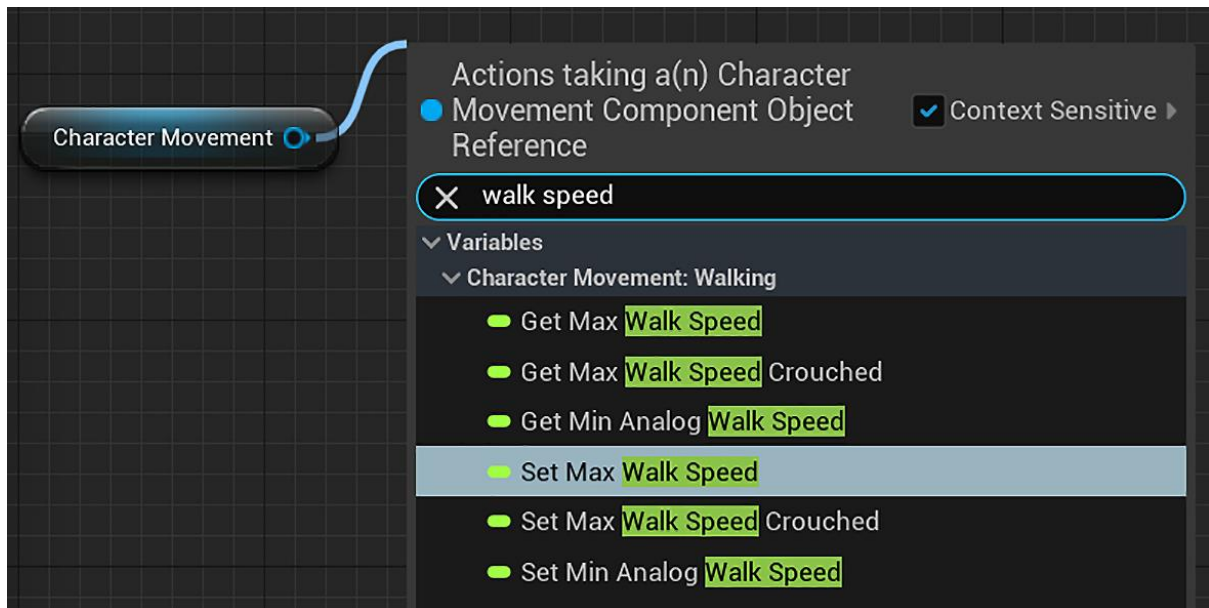
▼ Action Mappings (+) (trash)

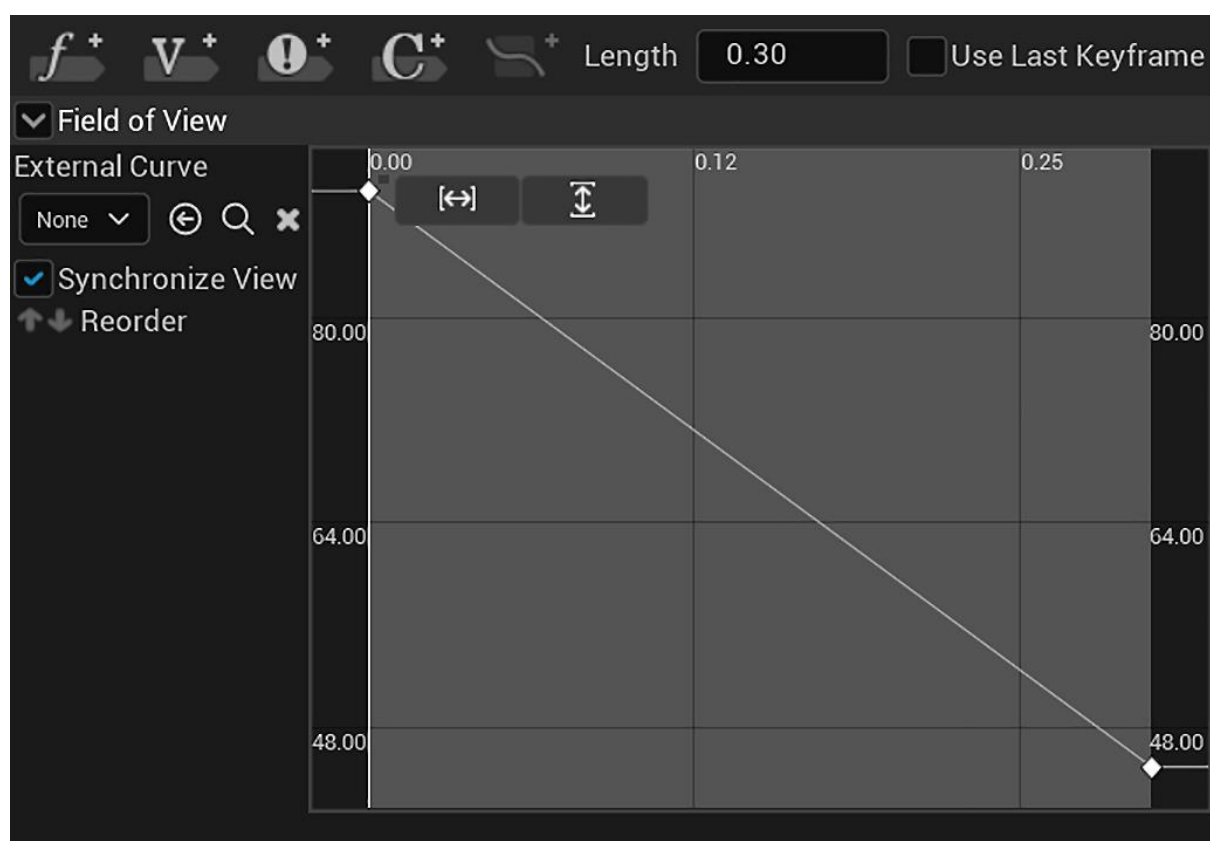
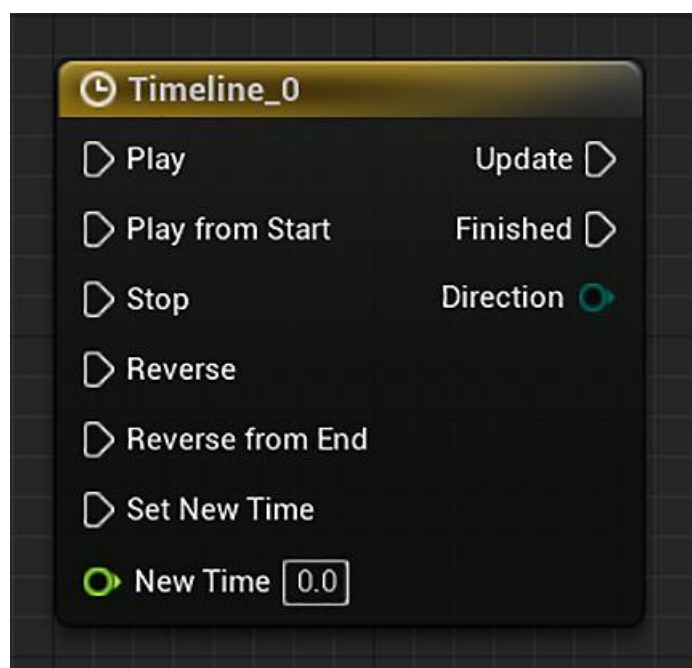
>	Jump	(+)	(trash)
>	Fire	(+)	(trash)
>	ResetVR	(+)	(trash)
▼	Sprint	(+)	(trash)
	Left Shift	▼	Shift <input type="checkbox"/> Ctrl <input type="checkbox"/> Alt <input type="checkbox"/> Cmd <input type="checkbox"/> (trash)
▼	Zoom	(+)	(trash)
	Right Mouse Button	▼	Shift <input type="checkbox"/> Ctrl <input type="checkbox"/> Alt <input type="checkbox"/> Cmd <input type="checkbox"/> (trash)

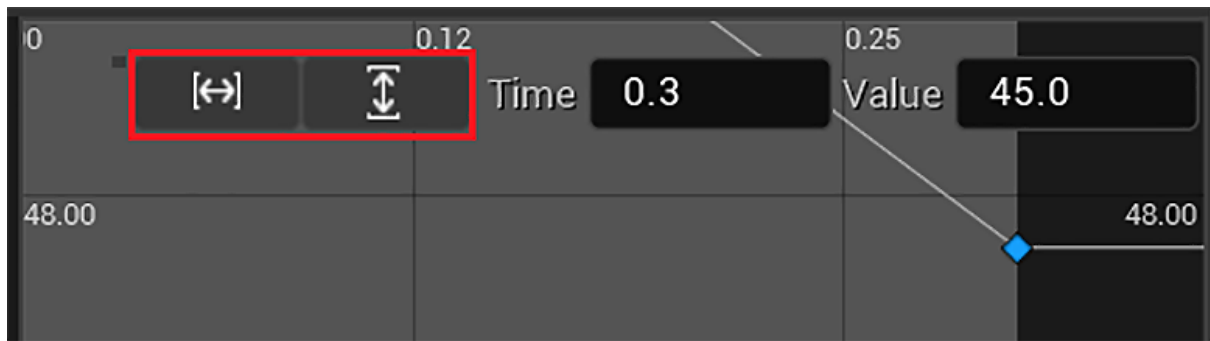
> Axis Mappings (+) (trash)



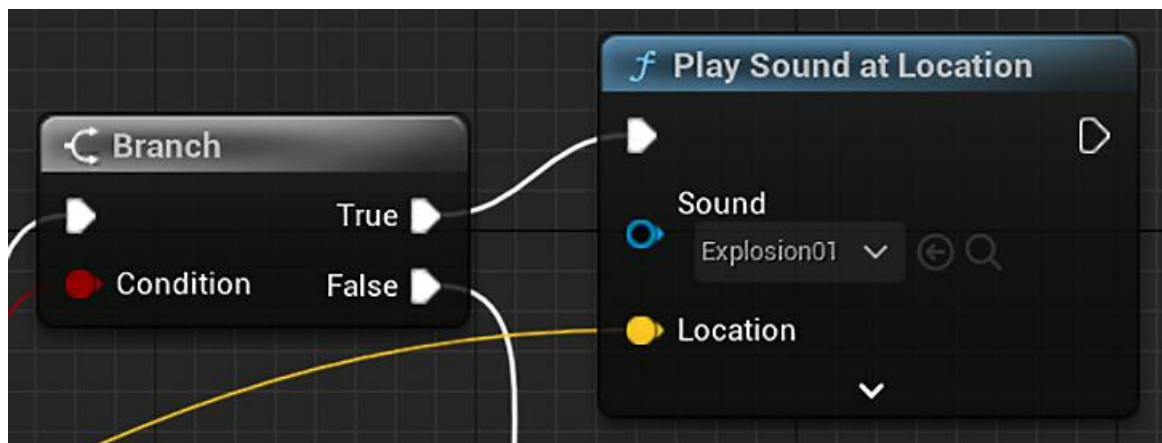
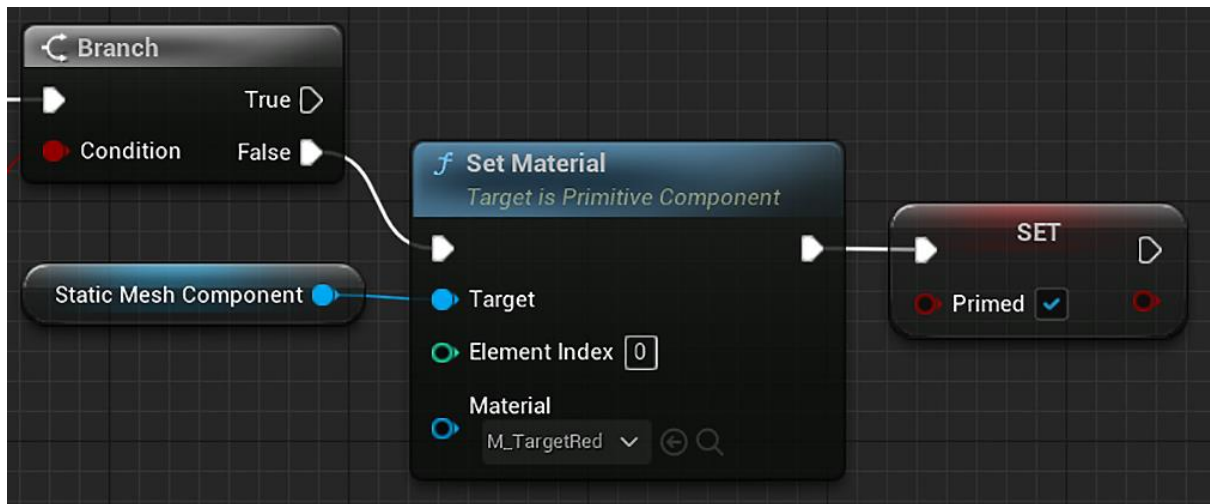
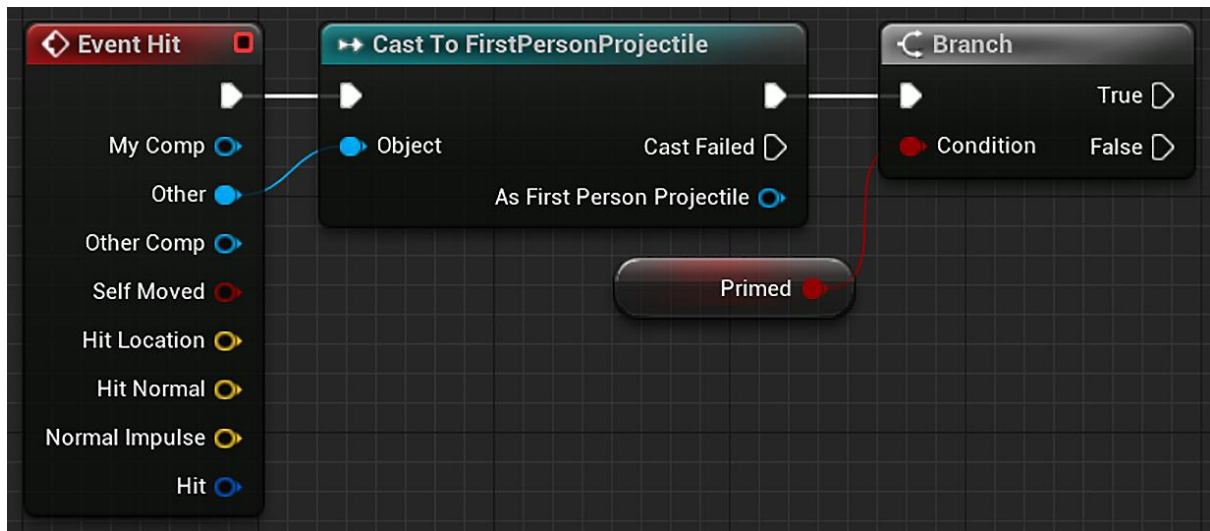


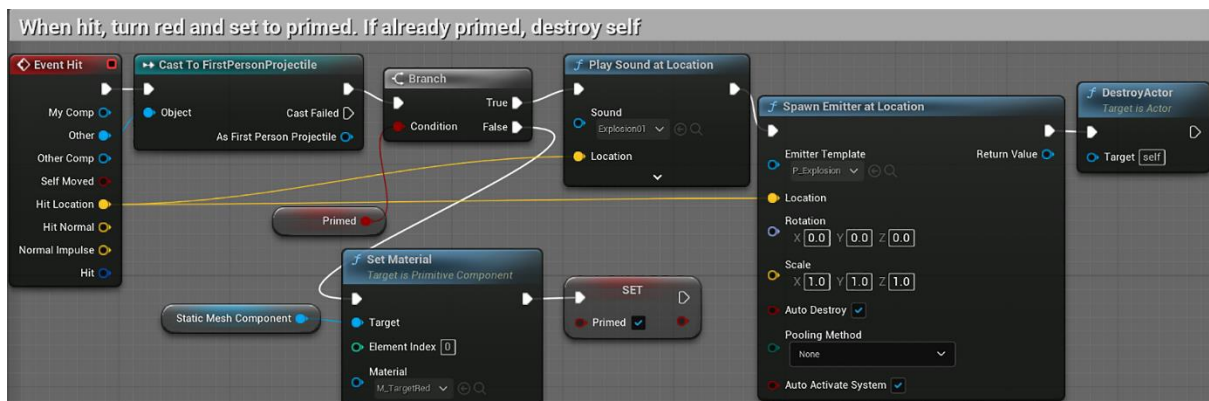
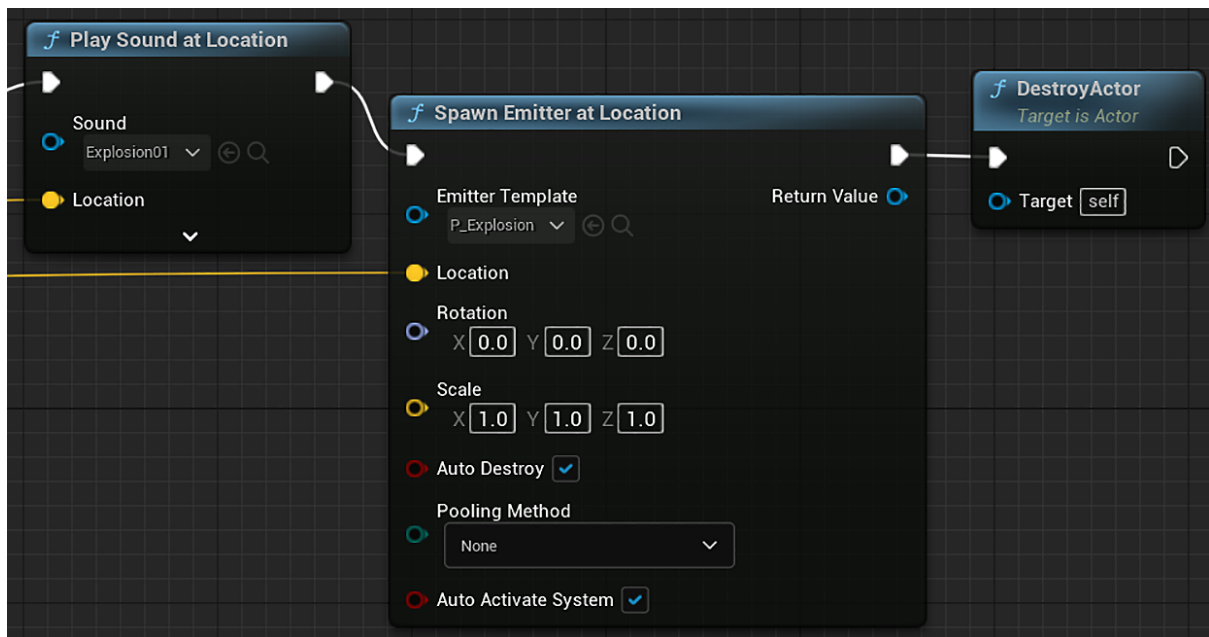
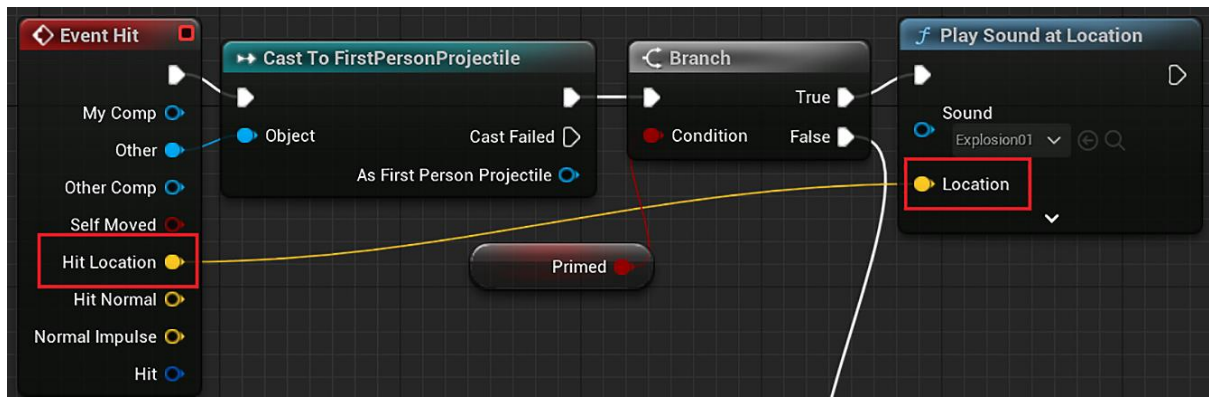








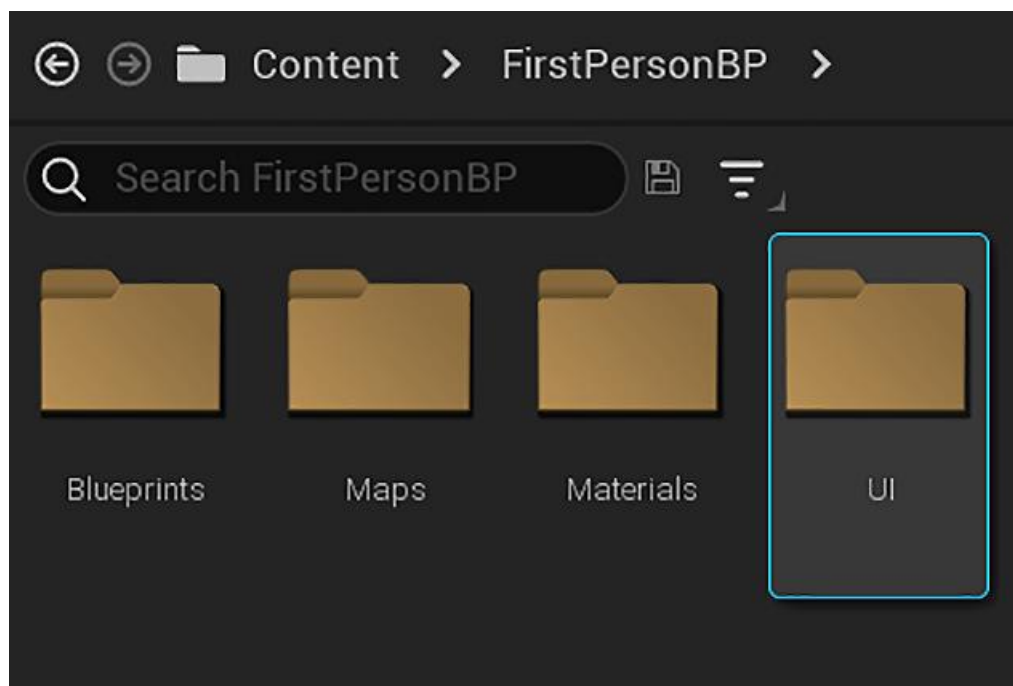
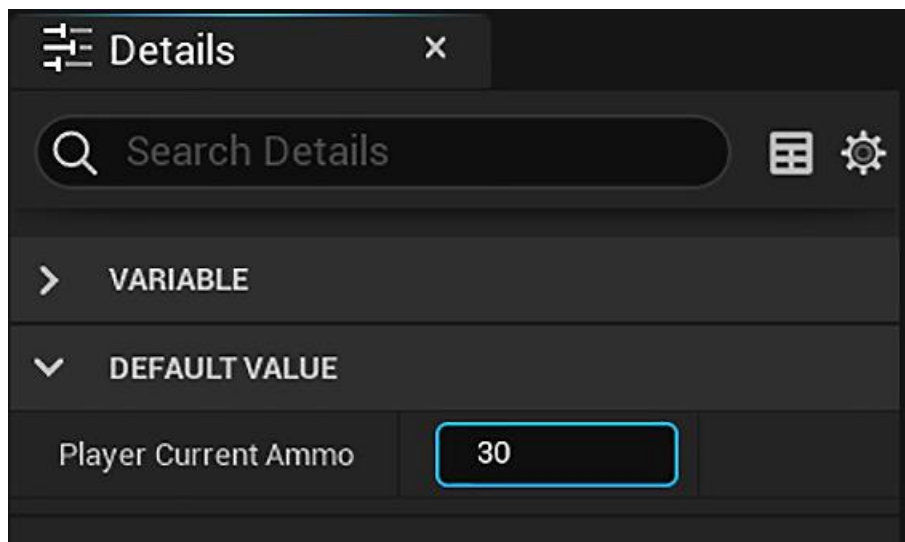


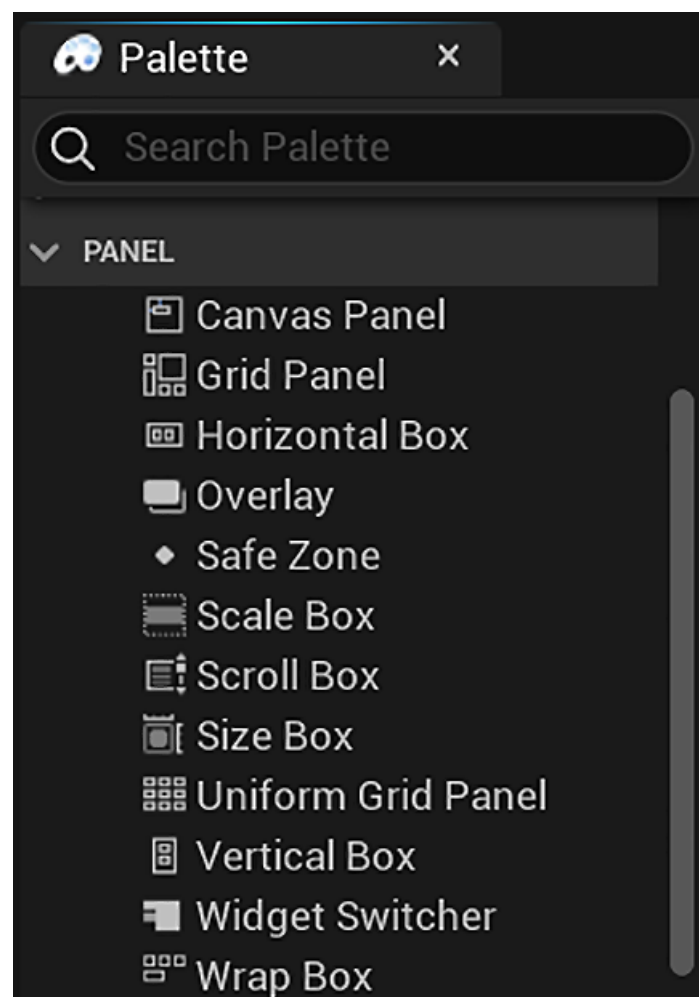
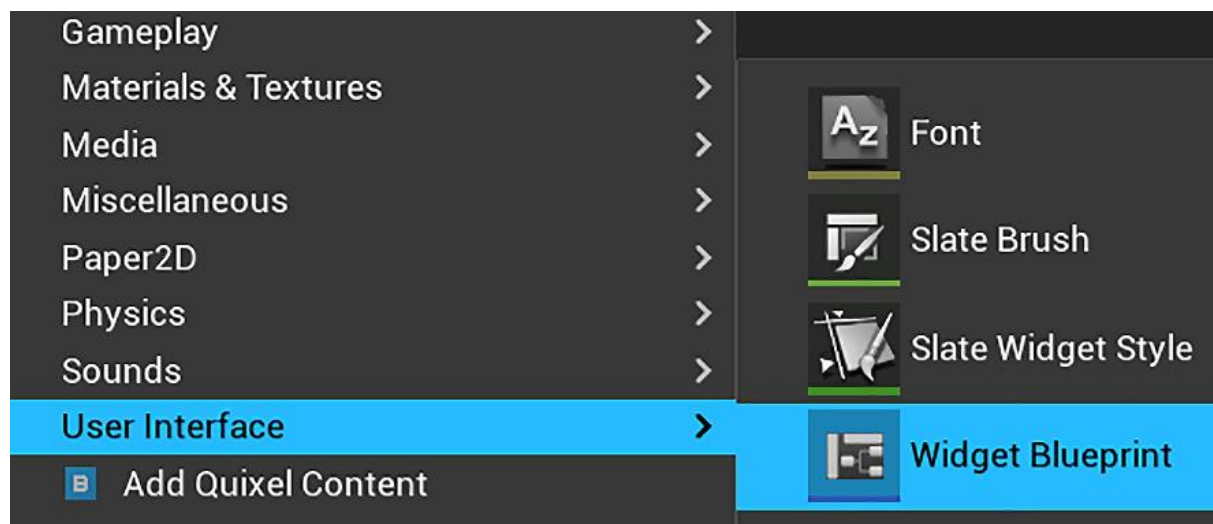


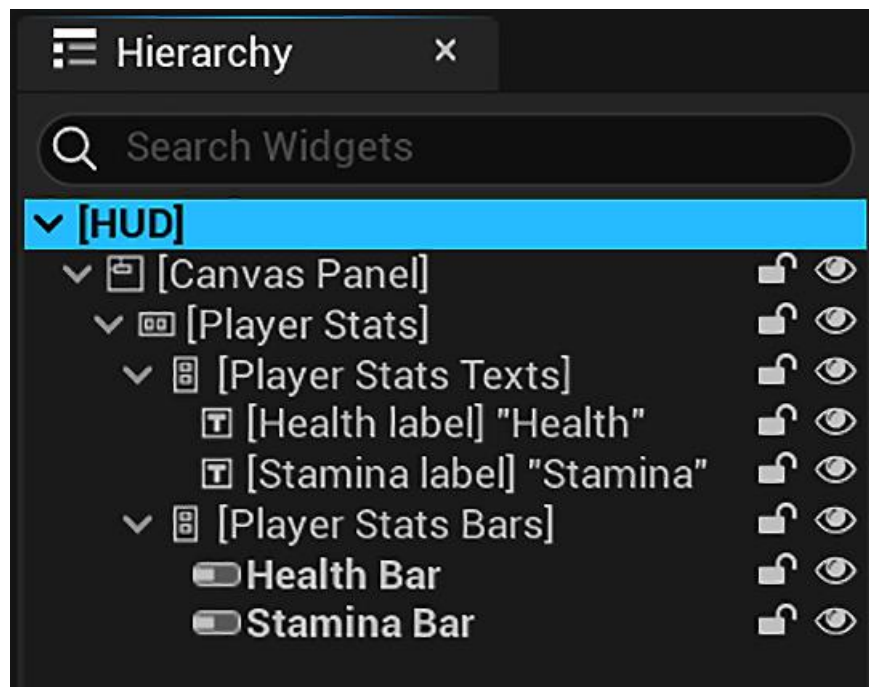
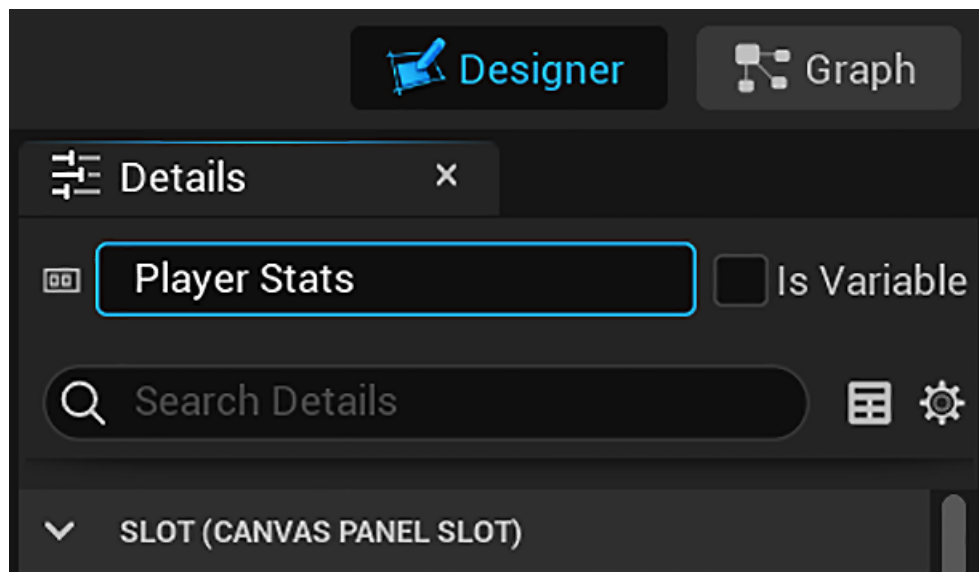
## Chapter 7: Creating Screen UI Elements

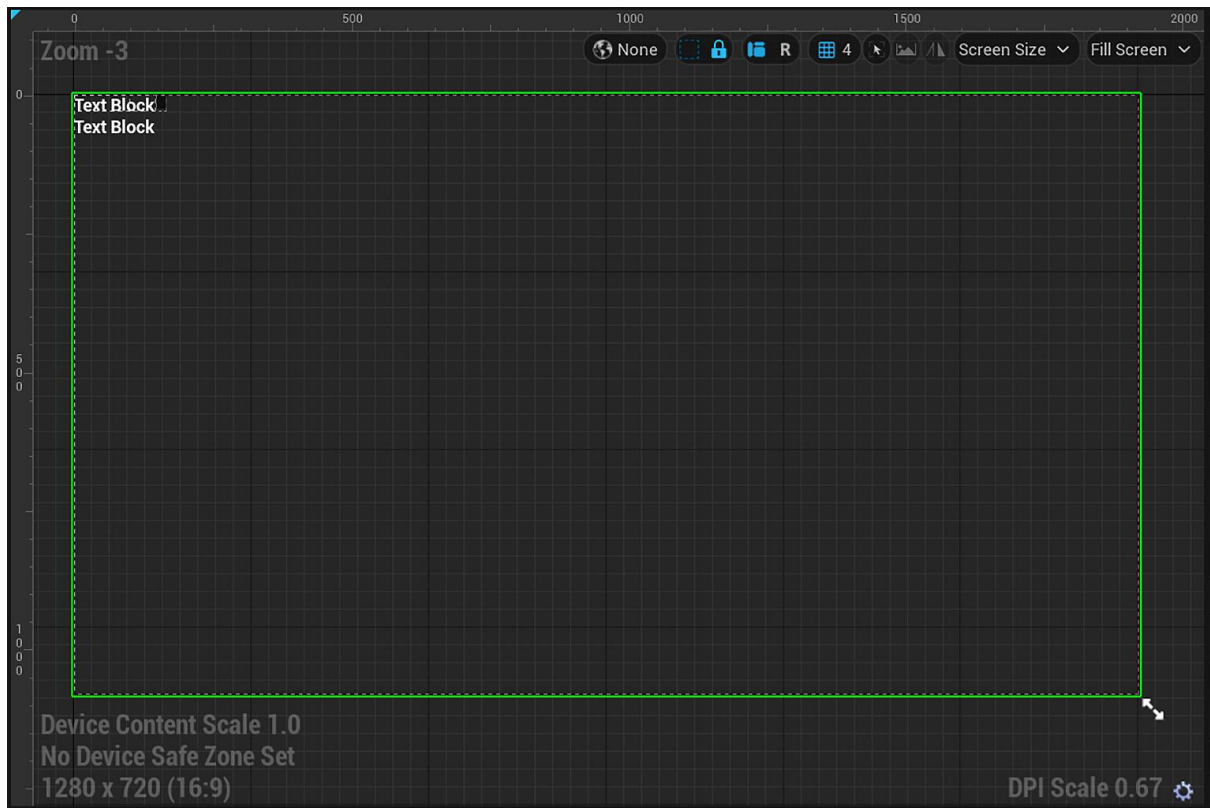



▼ VARIABLES			⊕
> My Character			
> Components			
GunOffset	Vector		⌵
BaseTurnRate	Float		⌵
BaseLookUpRate	Float		⌵
UsingMotionControllers?	Boolean		⌵
FingerIndex	ETouch Index		⌵
PlayerHealth	Float		⌵
PlayerStamina	Float		⌵
PlayerCurrentAmmo	Integer		⌵
TargetsEliminated	Integer		⌵














 Details ×








 Player Stats

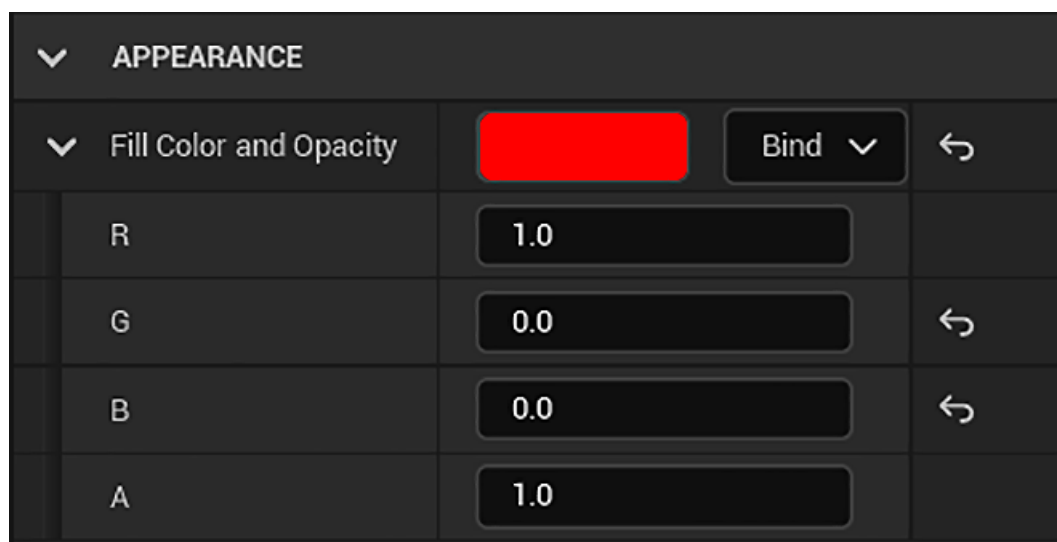
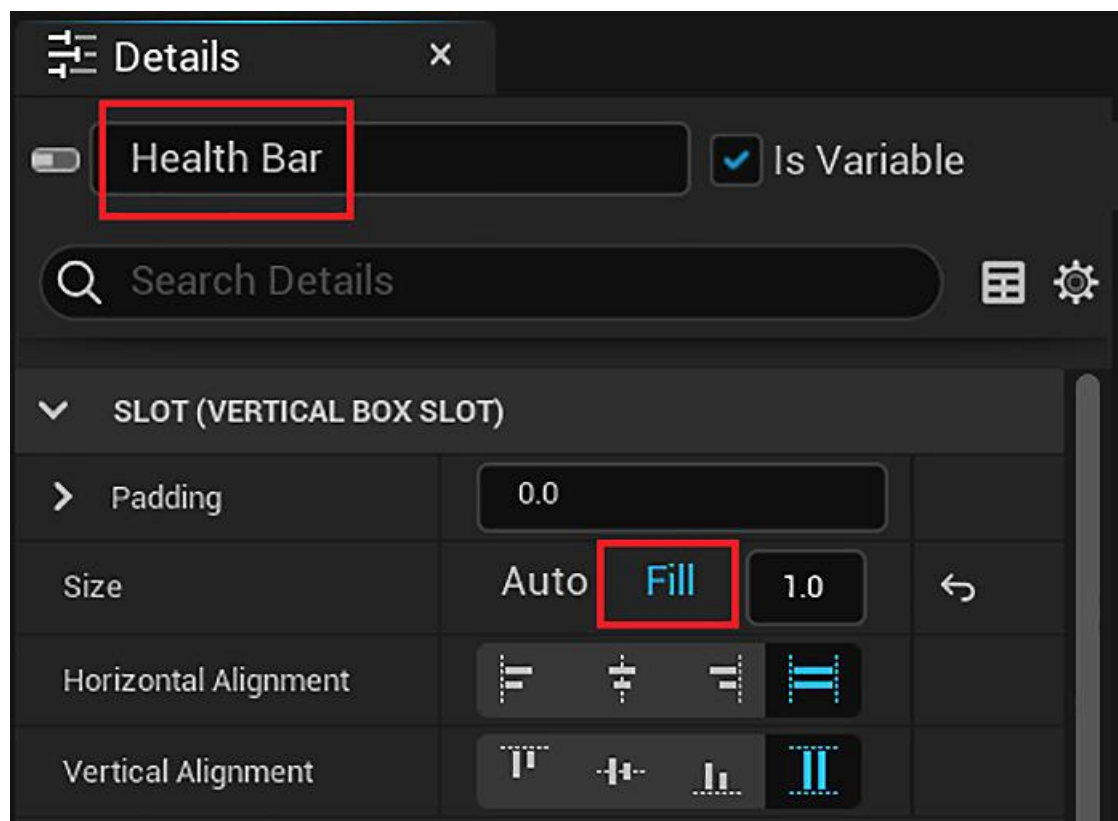
☐ Is Variable

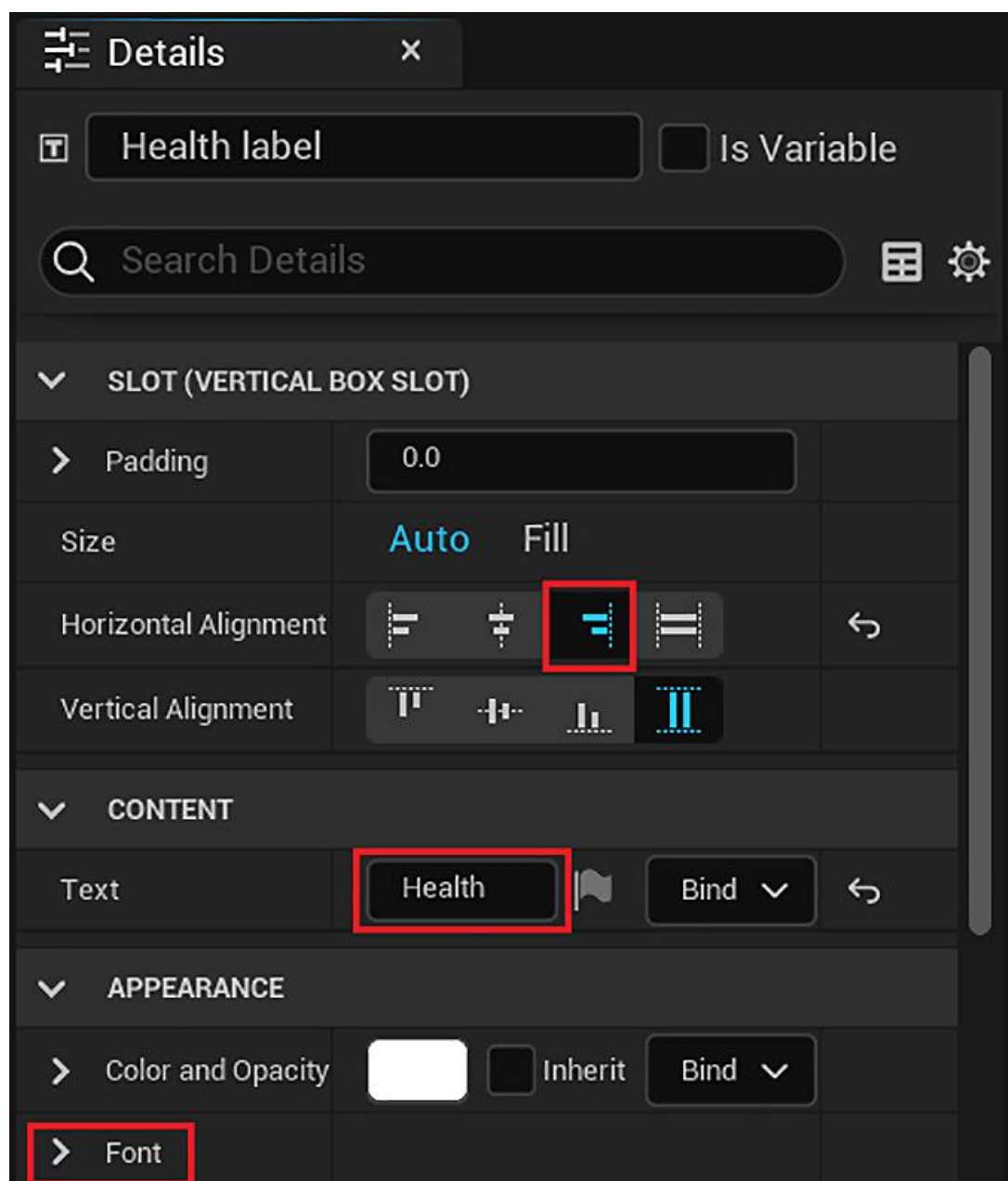
 Search Details

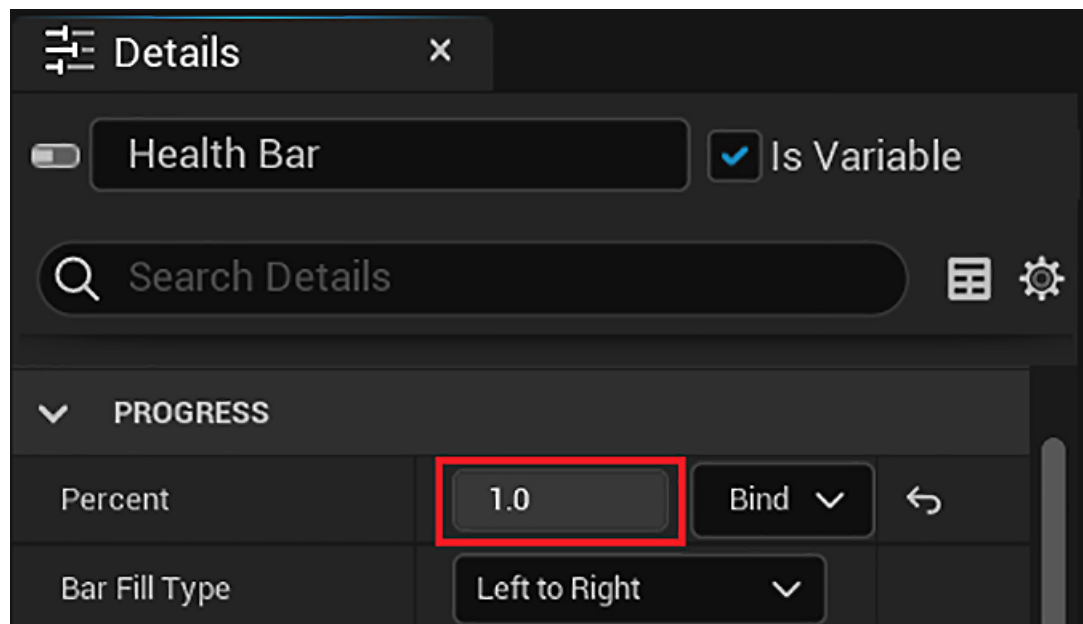
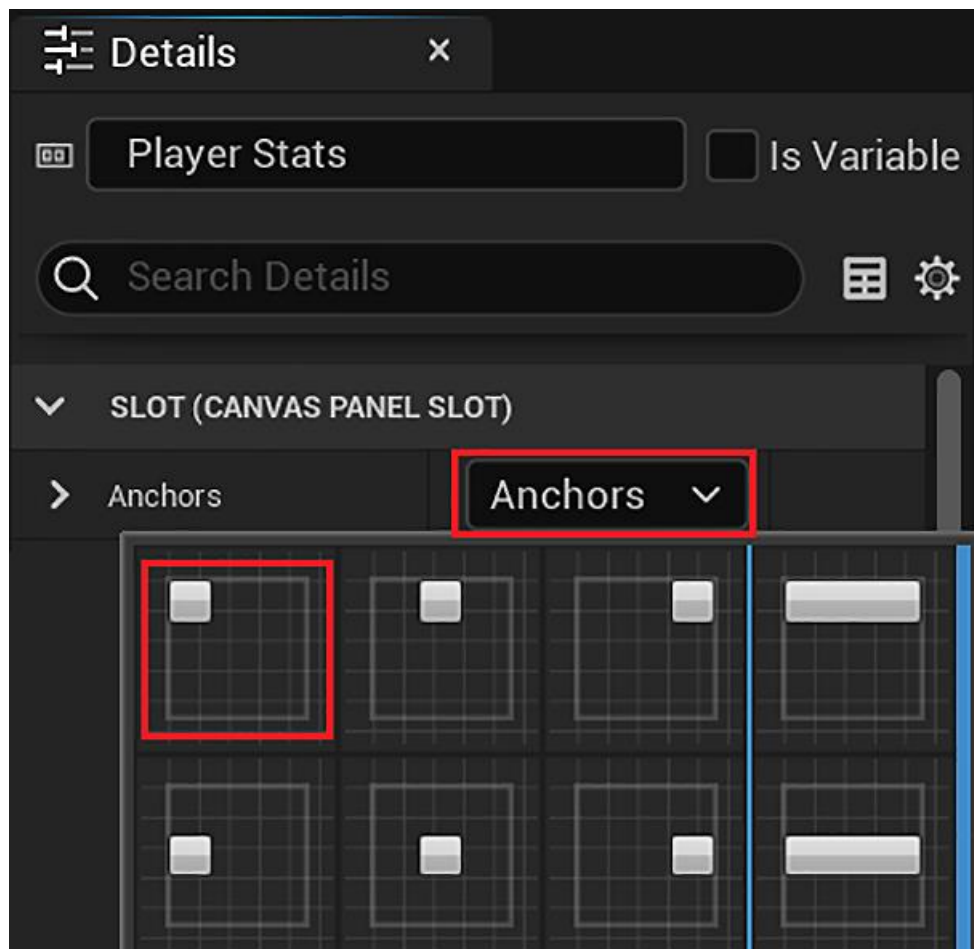
 

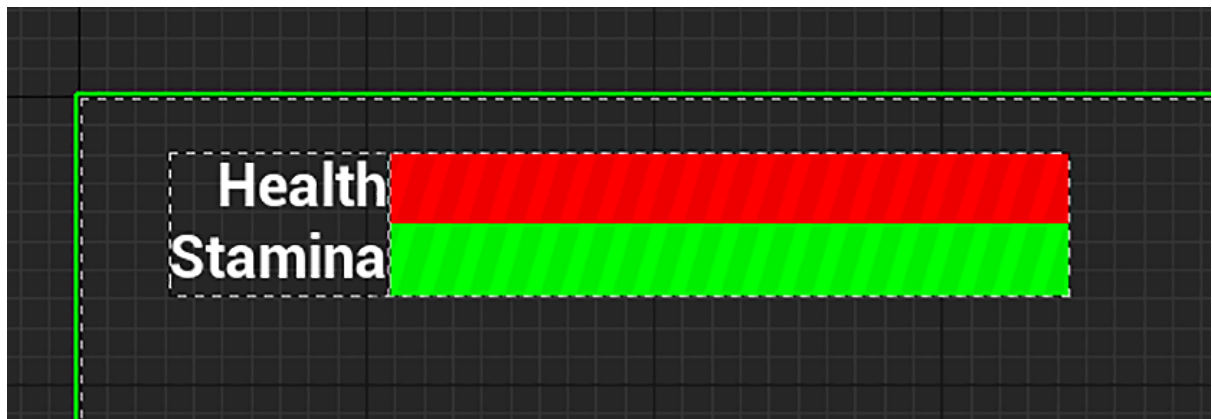
 SLOT (CANVAS PANEL SLOT)

 Anchors	<div>Anchors </div>	
Position X	<div>50.0</div>	
Position Y	<div>30.0</div>	
Size X	<div>500.0</div>	
Size Y	<div>80.0</div>	
 Alignment	<div>0.0</div>	<div>0.0</div>
Size To Content	<input type="checkbox"/>	
ZOrder	<div>0</div>	









Details

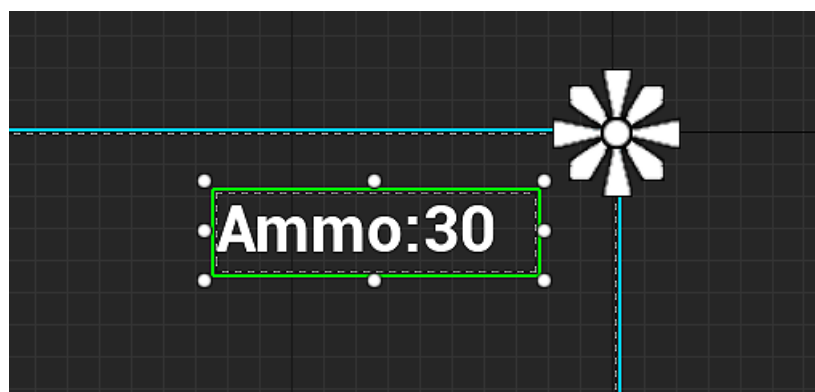
Weapon Stats

Is Variable

Search Details

SLOT (CANVAS PANEL SLOT)

➤ Anchors	Anchors	↶
Position X	-200.0	↶
Position Y	30.0	↶
Size X	160.0	↶
Size Y	40.0	↶
➤ Alignment	0.0	0.0
Size To Content	<input type="checkbox"/>	
ZOrder	0	



Details

×

Goal Tracker

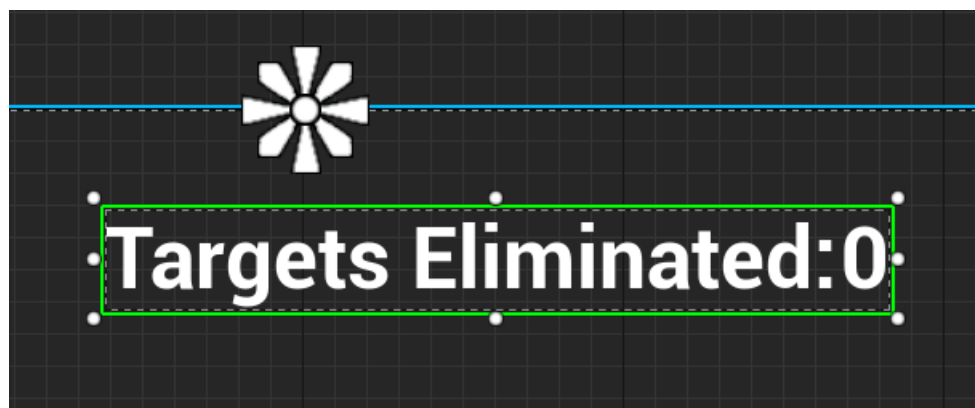
☐ Is Variable

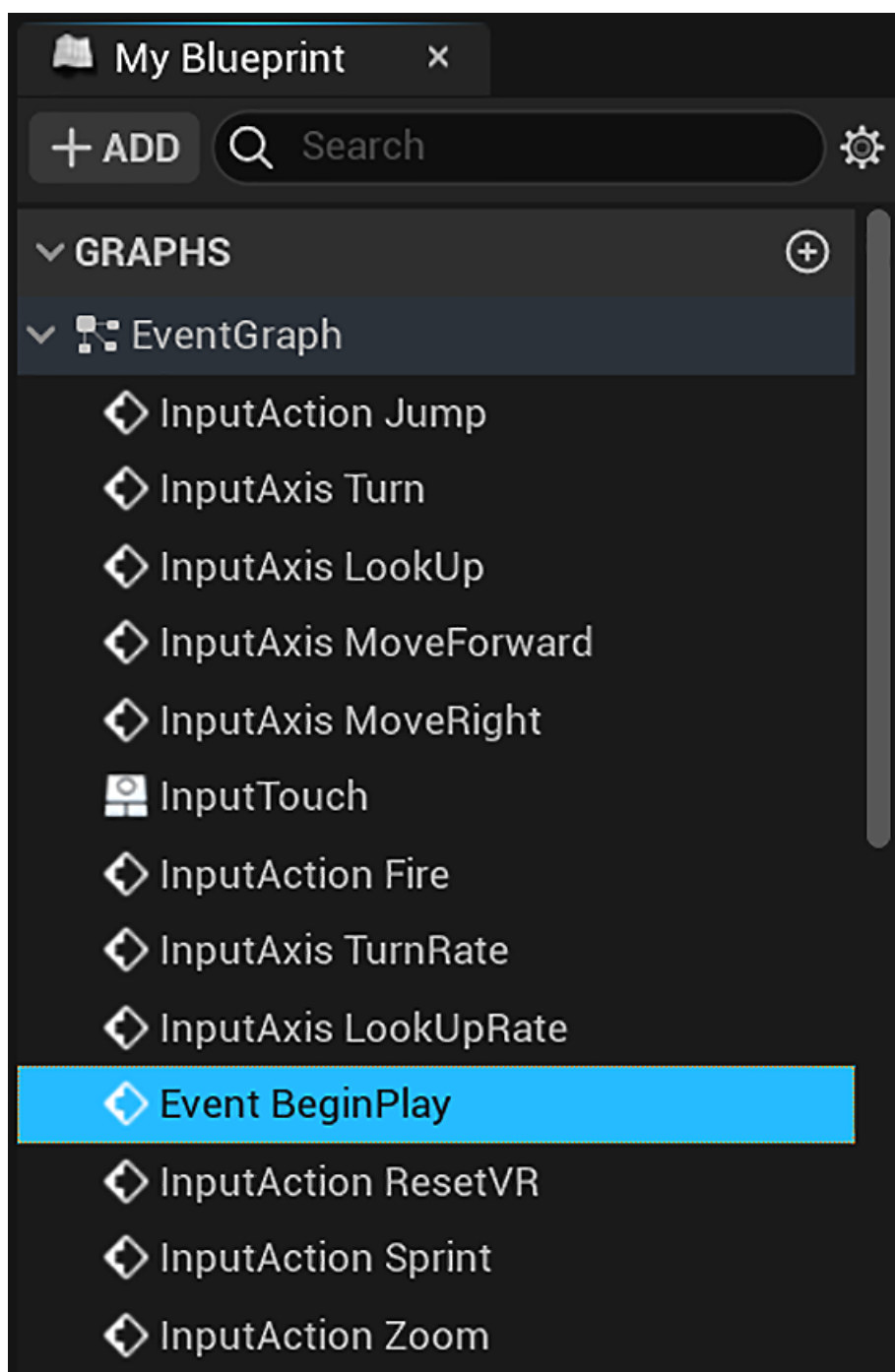
Search Details

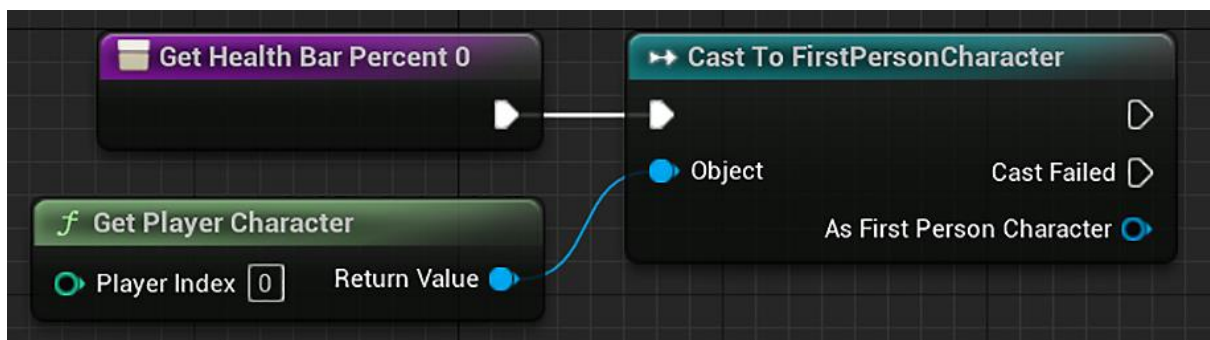
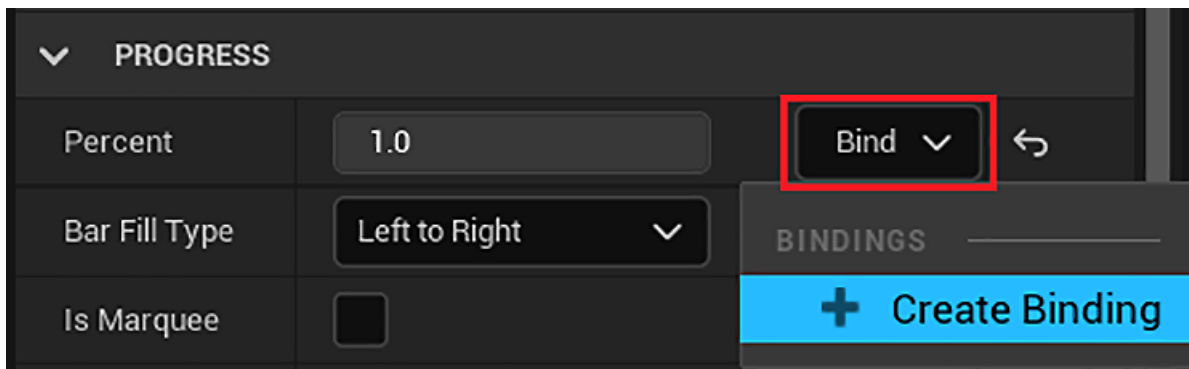
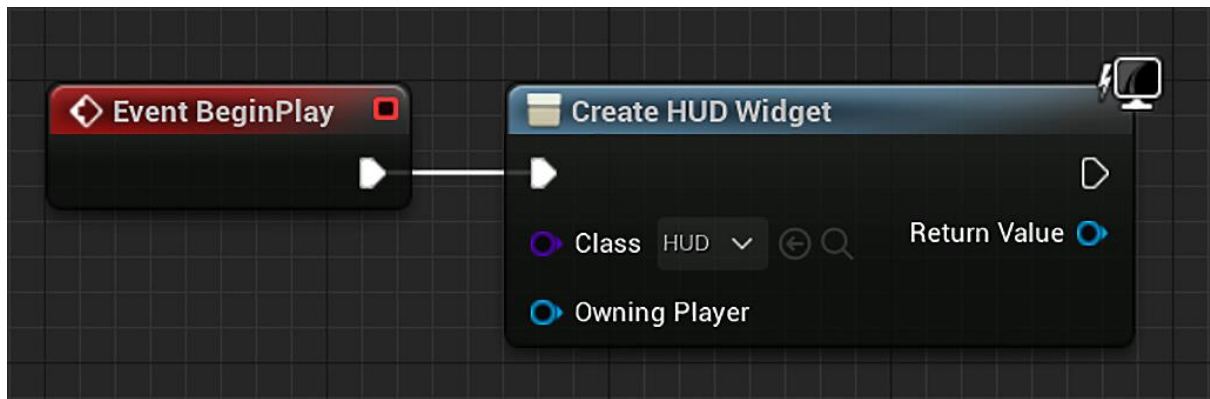
▼ SLOT (CANVAS PANEL SLOT)

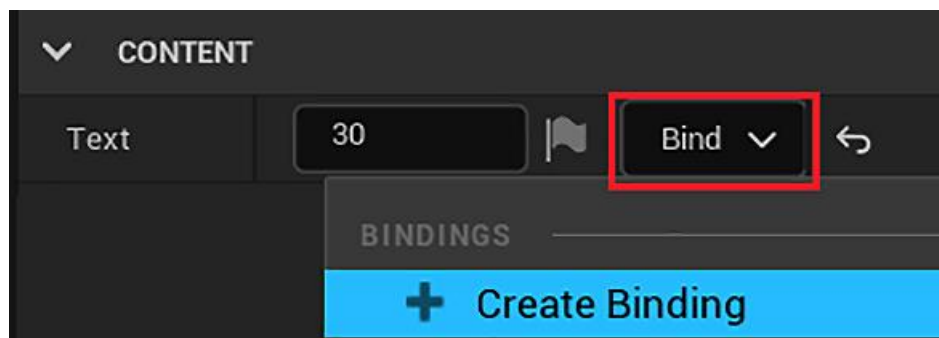
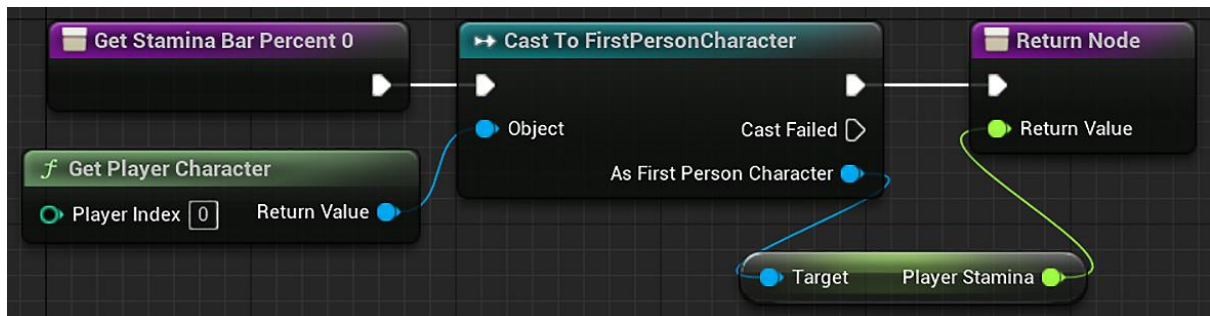
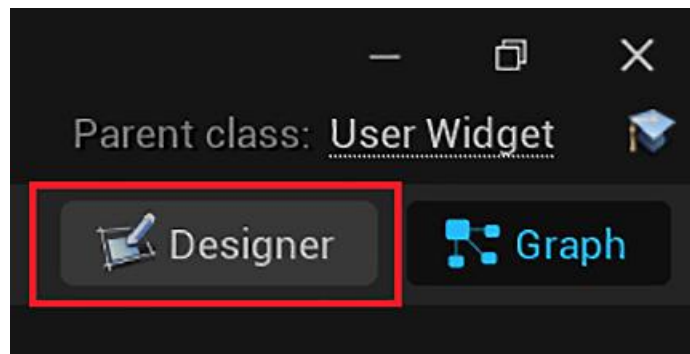
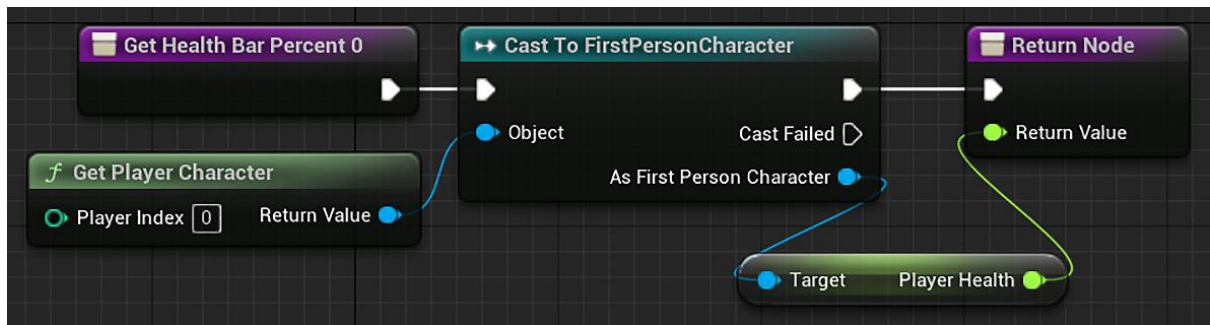
> Anchors	Anchors	↶
Position X	-100.0	↶
Position Y	50.0	↶
Size X	100.0	
Size Y	30.0	
> Alignment	0.0 0.0	
Size To Content	<input checked="" type="checkbox"/>	↶
ZOrder	0	

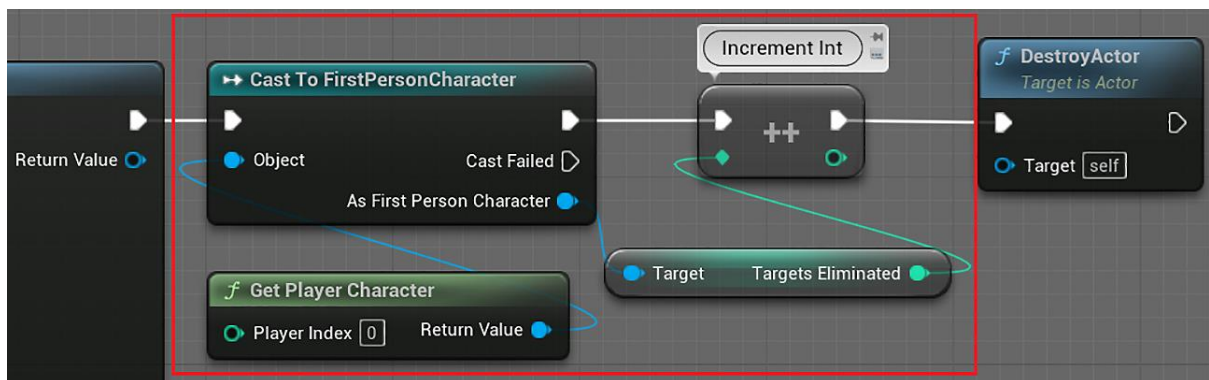
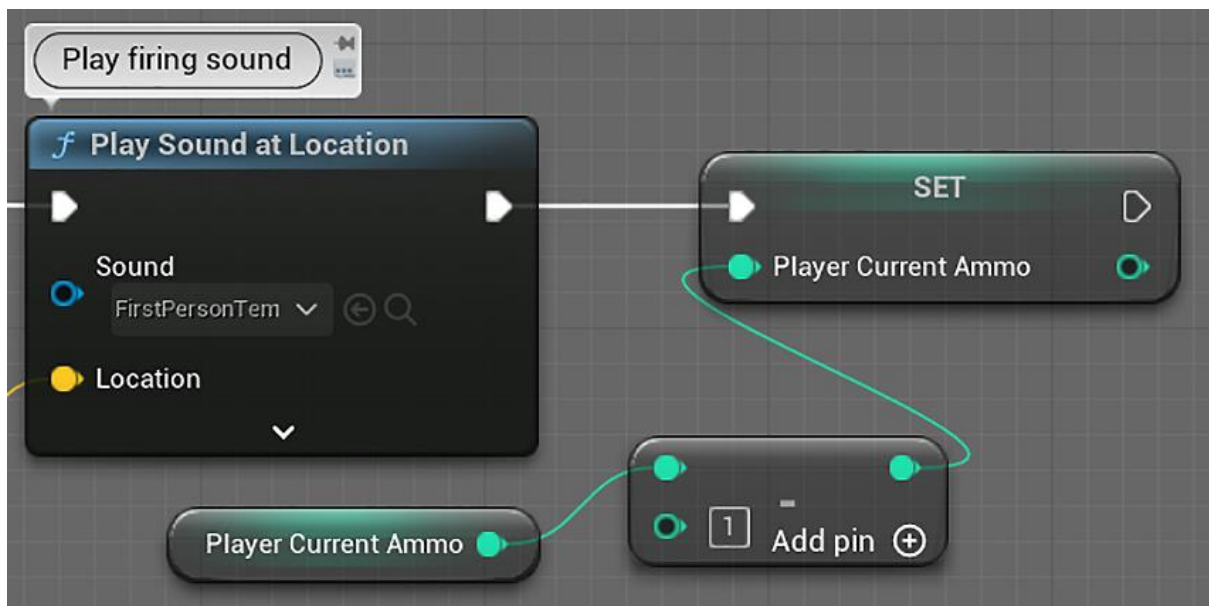
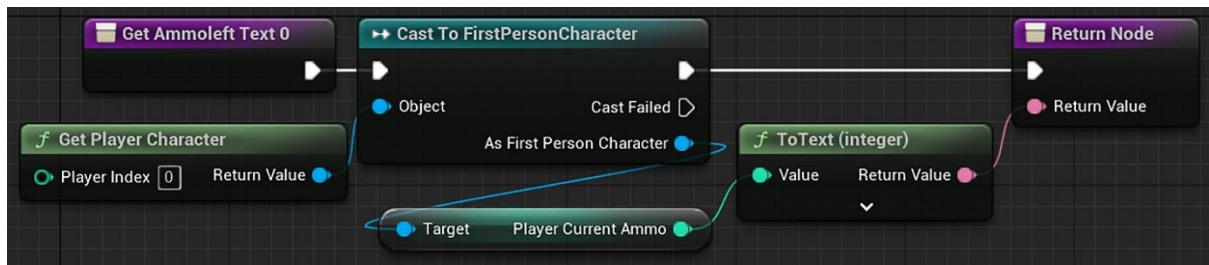
▼ APPEARANCE			
> Color and Opacity	<input type="text"/>	<input type="checkbox"/> Inherit	Bind ▼
▼ Font			↩
Font Family	Roboto ▼	⌕ ↩	
Typeface	Bold ▼		
Size	32		↩
Letter Spacing	0		













# Chapter 8: Creating Constraints and Gameplay Objectives

IsSprinting	Boolean	
StaminaManagerName	String	
SprintCost	Float	
StaminaRechargeRate	Float	
StaminaDrainAndRechargeTime	Float	
SprintSpeed	Float	
WalkSpeed	Float	

MACROS

M StartSprinting

M StopSprinting

M ManageStaminaDrain

M ManageStaminaRecharge

Details

Search Details

VARIABLE

Variable Name	IsSprinting
Variable Type	Boolean
Instance Editable	

Details

Search Details

VARIABLE

Variable Name	StaminaManagerName
Variable Type	String
Instance Editable	
Blueprint Read Only	

DEFAULT VALUE

Stamina Manager Name	ManageStamina
----------------------	---------------

Details

Search Details

VARIABLE

Variable Name	SprintCost	
Variable Type	Float	
Instance Editable	<input type="checkbox"/>	
Blueprint Read Only	<input type="checkbox"/>	

DEFAULT VALUE

Sprint Cost	0.05	
-------------	------	--

My Blueprint

+ ADD

Search

> GRAPHS

+

> FUNCTIONS (33 OVERRIDABLE)

+

> MACROS

+

M StopSprinting

> VARIABLES

+

Details

Search Details

> GRAPH

> INPUTS

+

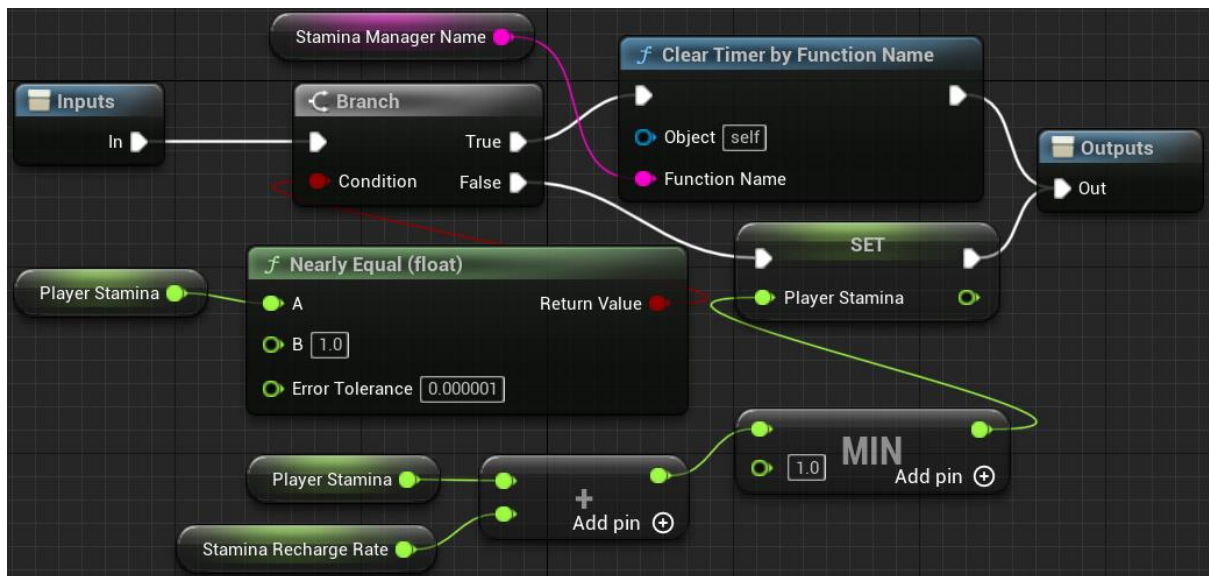
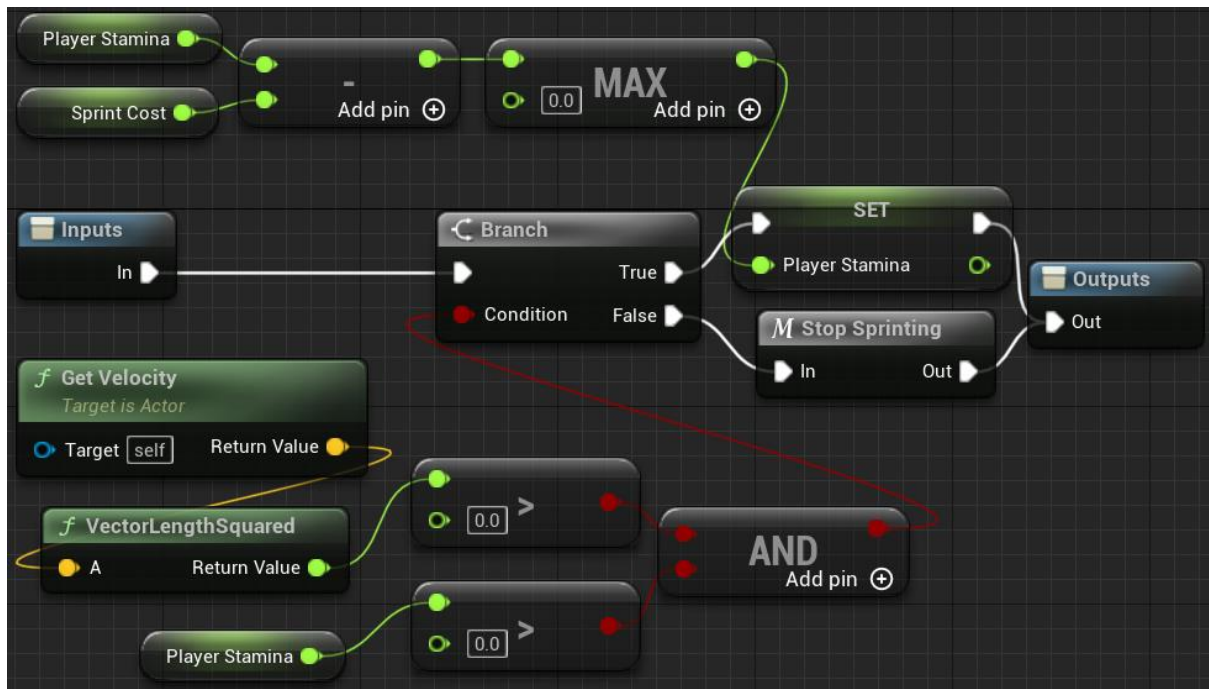
In	Exec		
----	------	--	--

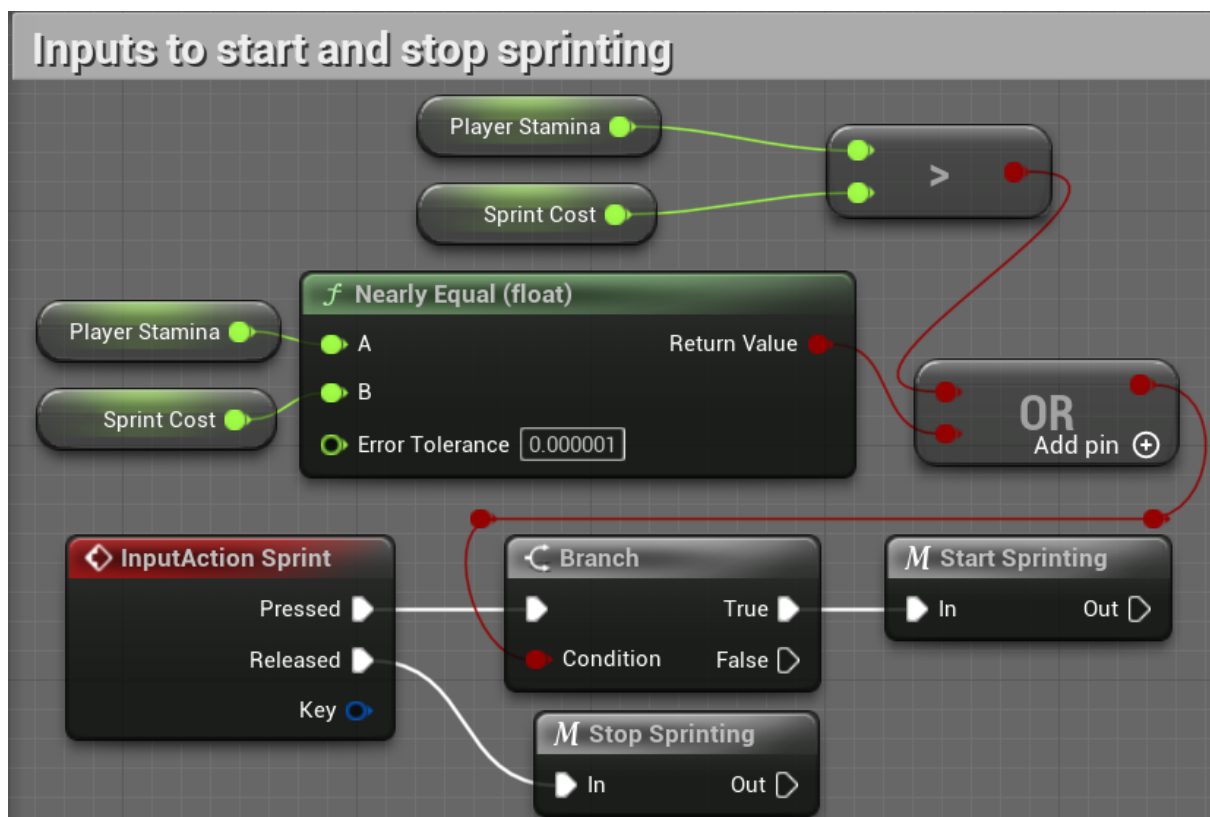
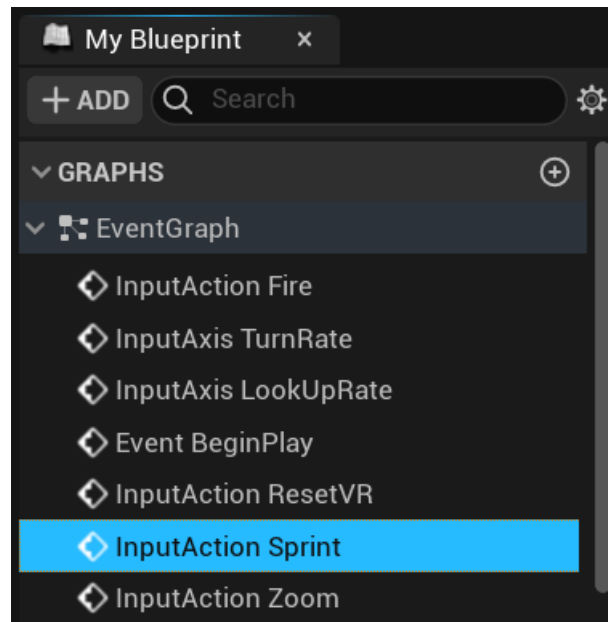
> OUTPUTS

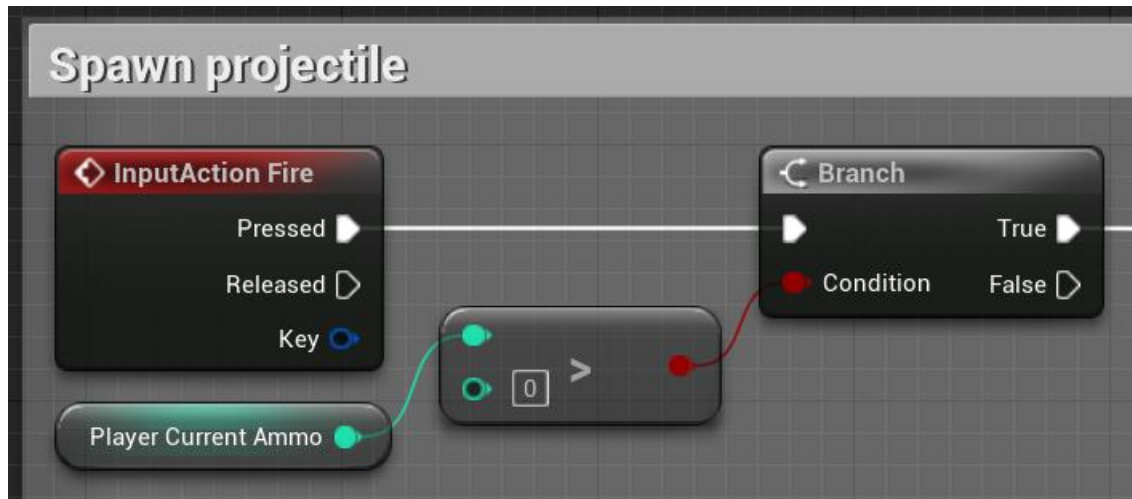
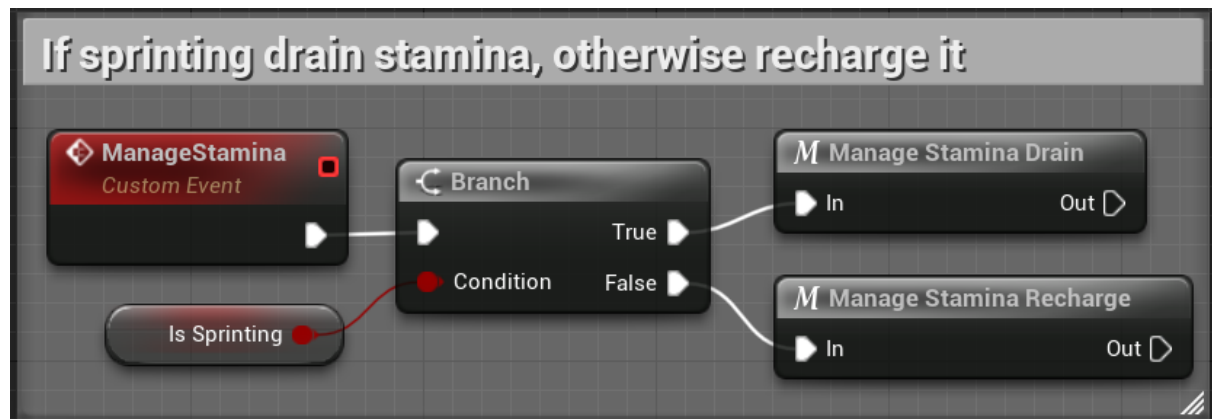
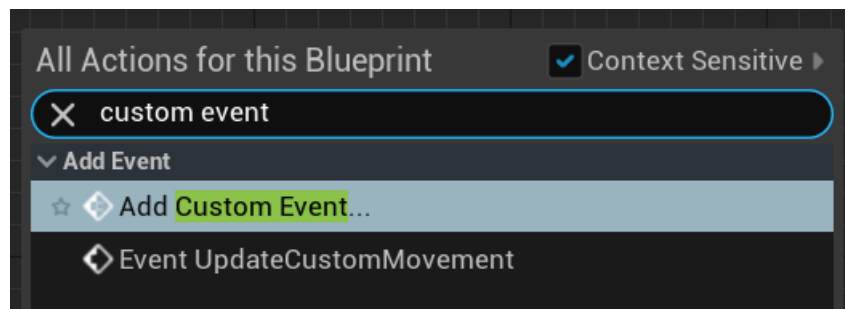
+

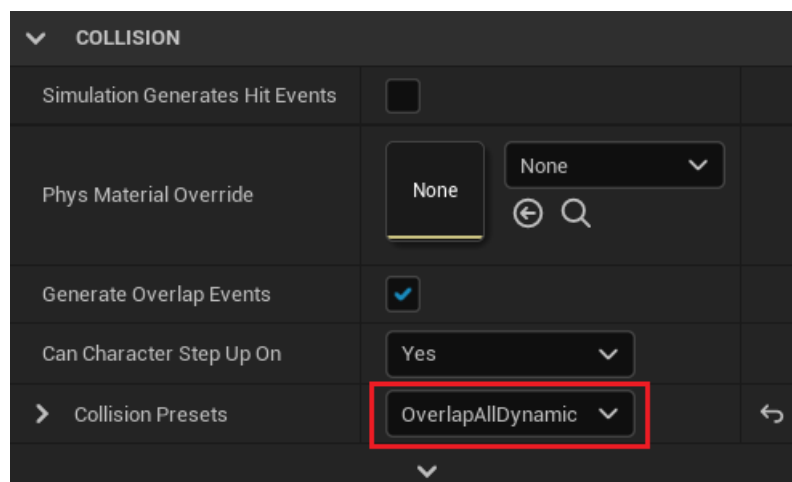
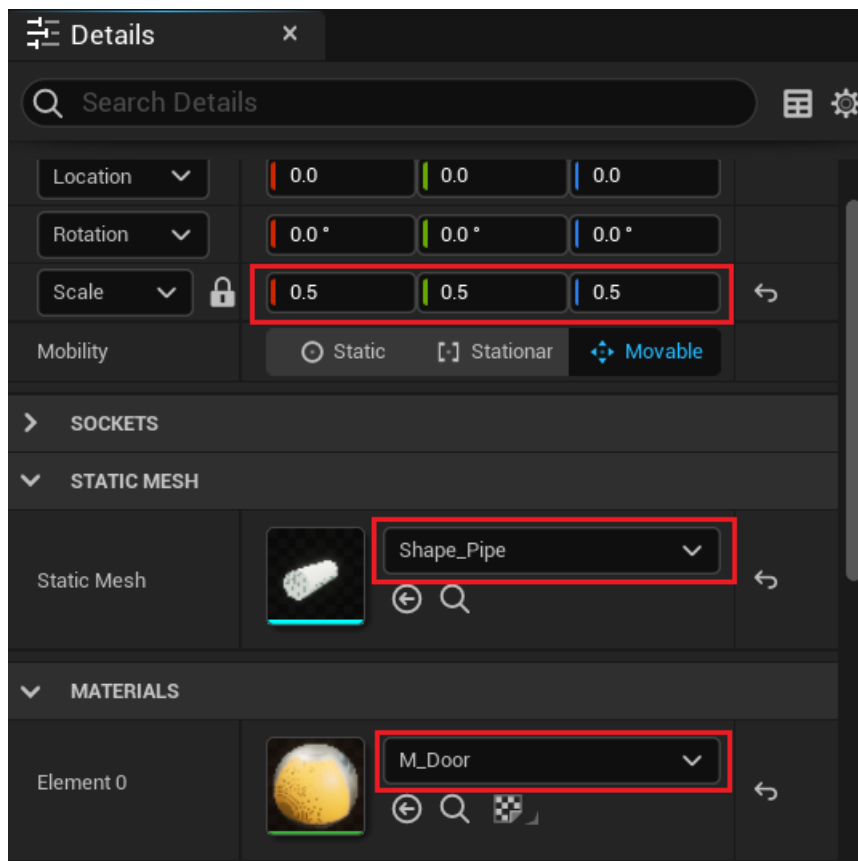
Out	Exec		
-----	------	--	--









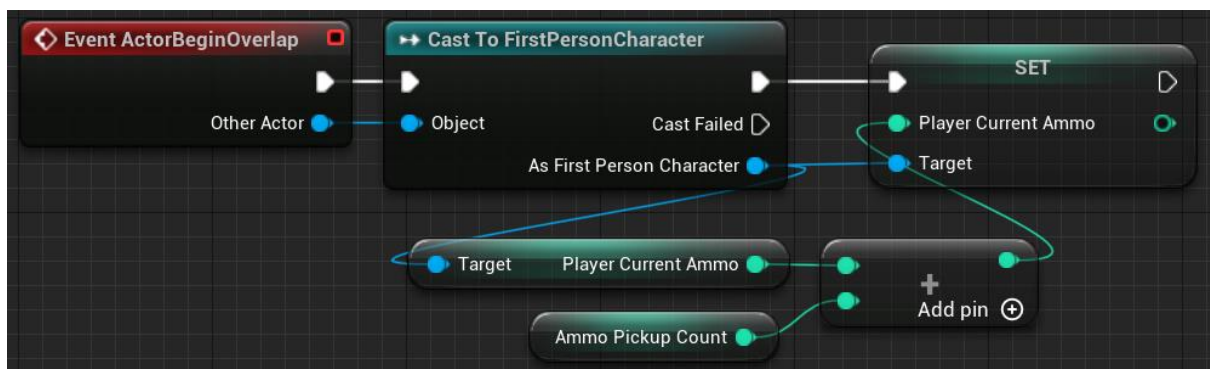


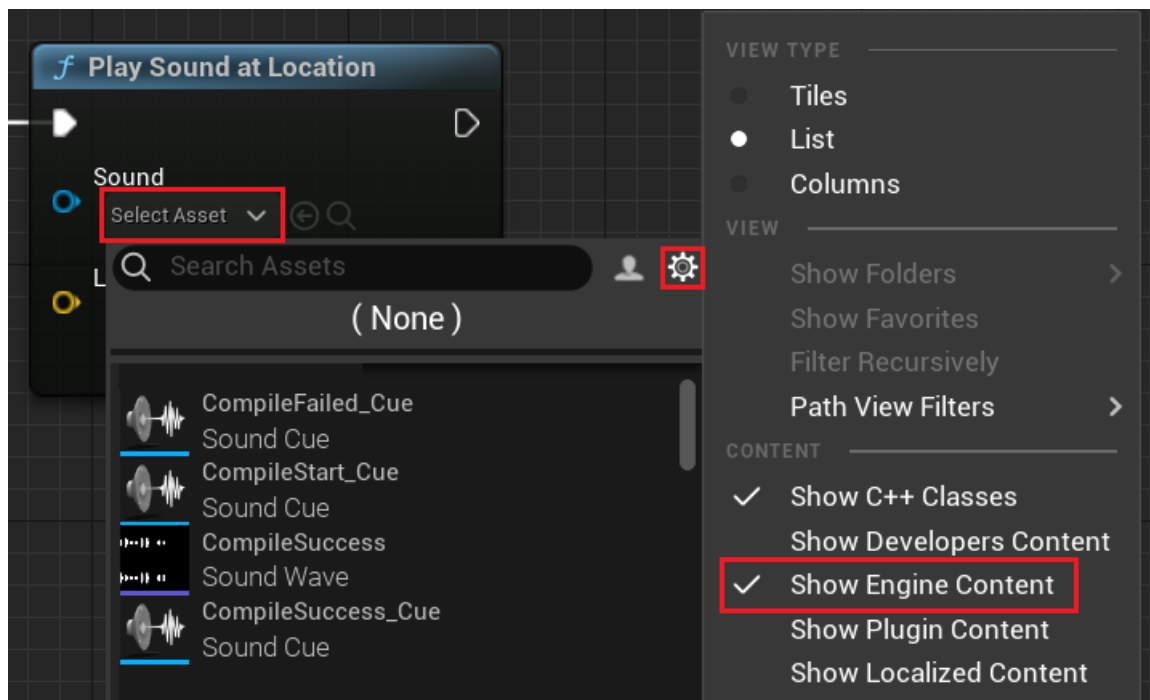
Details

Search Details

VARIABLE

Variable Name	AmmoPickupCount	
Variable Type	Integer	
Instance Editable	<input checked="" type="checkbox"/>	
Blueprint Read Only	<input type="checkbox"/>	





**Details** x

Search Details

**VARIABLE**

Variable Name	TargetGoal
Variable Type	Integer
Instance Editable	<input type="checkbox"/>
Blueprint Read Only	<input type="checkbox"/>

**DEFAULT VALUE**

Target Goal	2
-------------	---

**Hierarchy** x

Search Widgets

- [HUD]
  - [Canvas Panel]
    - [Player Stats]
    - [Weapon Stats]
    - [Goal Tracker]**
      - [Targets label] "Targets Eliminated"
      - [Target count] "0"
      - [Slash] " / "
      - [Target goal] "0"

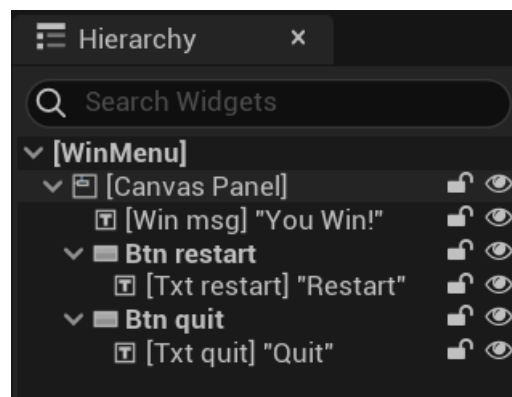
Targets Eliminated:0 / 0

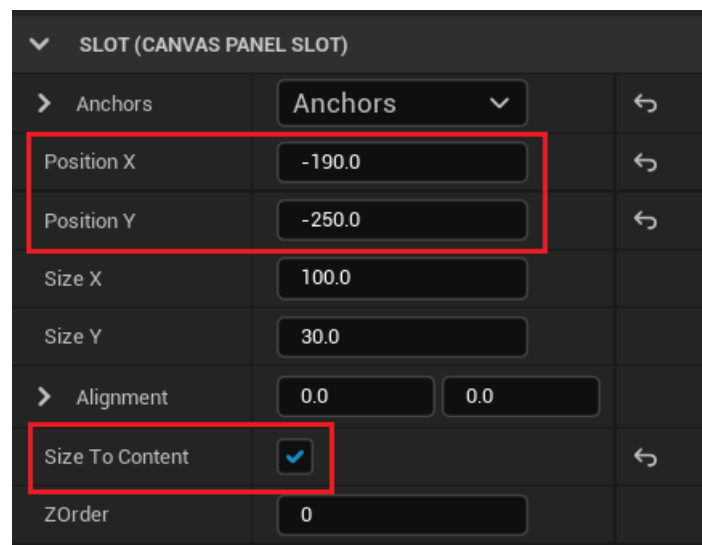
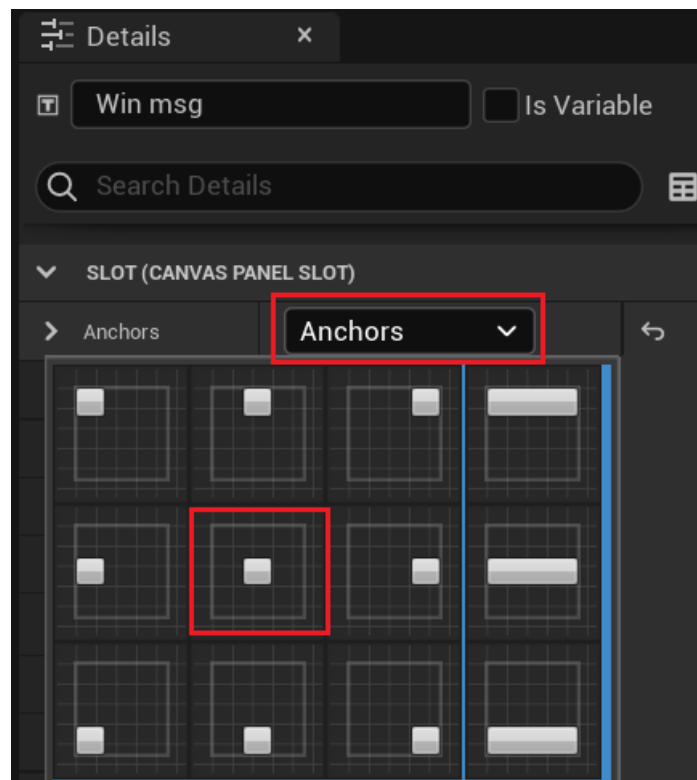
**CONTENT**

Text	0	Bind
------	---	------

**BINDINGS**

+ Create Binding





▼

CONTENT

Text	<div>You Win!</div>	<div>Bind ▼</div>	<div>↶</div>
------	---------------------	-------------------	--------------

▼

APPEARANCE

> Color and Opacity	<div></div>	<div>Inherit</div>	<div>Bind ▼</div>	<div>↶</div>
▼ Font				<div>↶</div>
Font Family	<div>Roboto ▼</div>	<div>↶</div>	<div>🔍</div>	
Typeface	<div>Bold ▼</div>			
Size	<div>72</div>			<div>↶</div>

Details

×

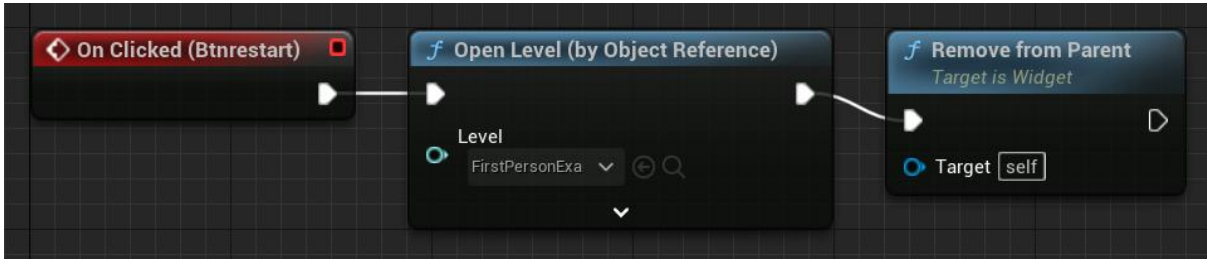
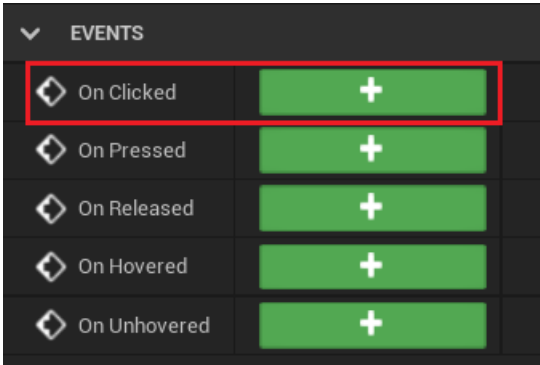
Btn restart

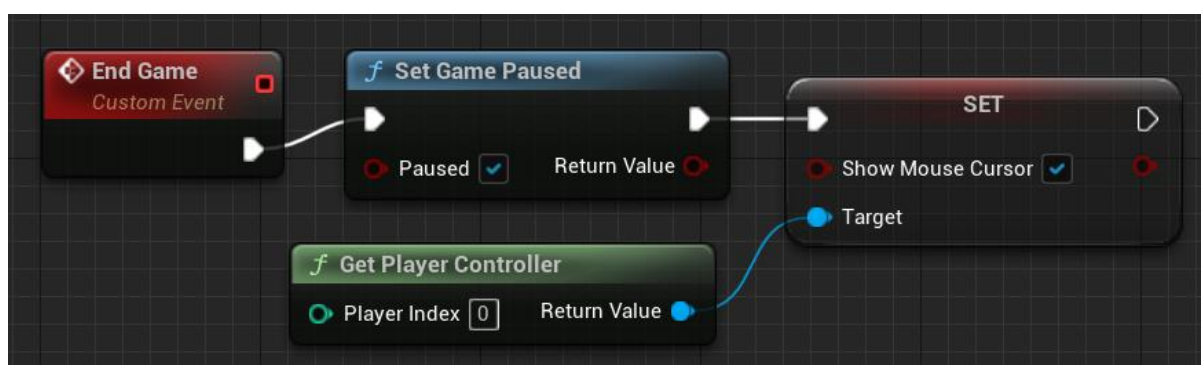
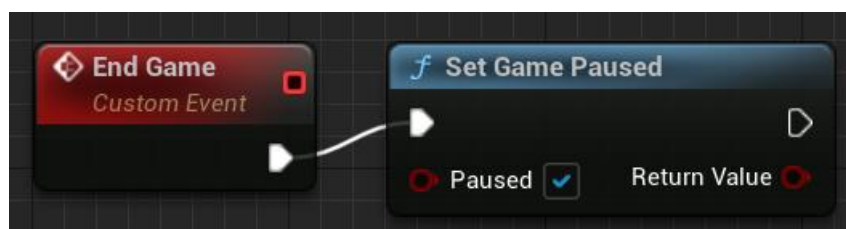
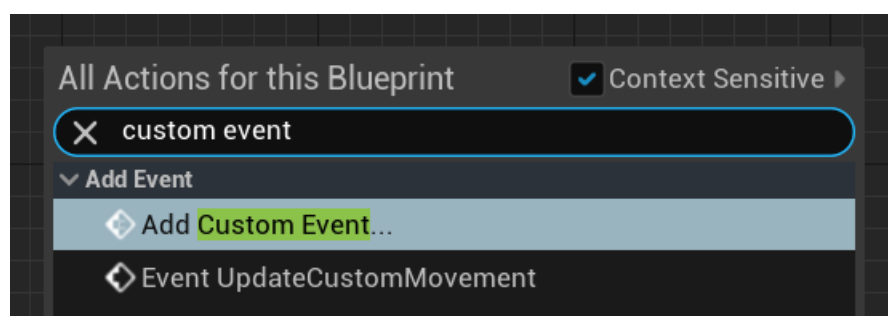
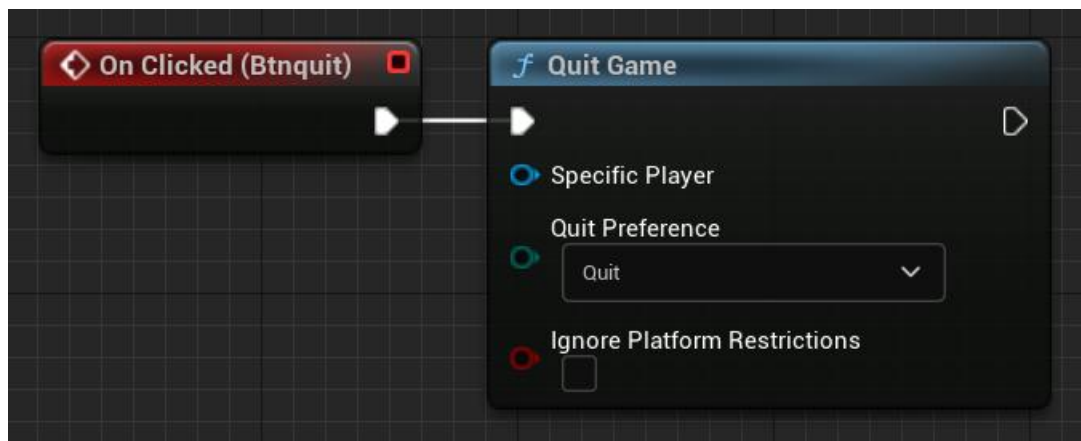
☒ Is Variable

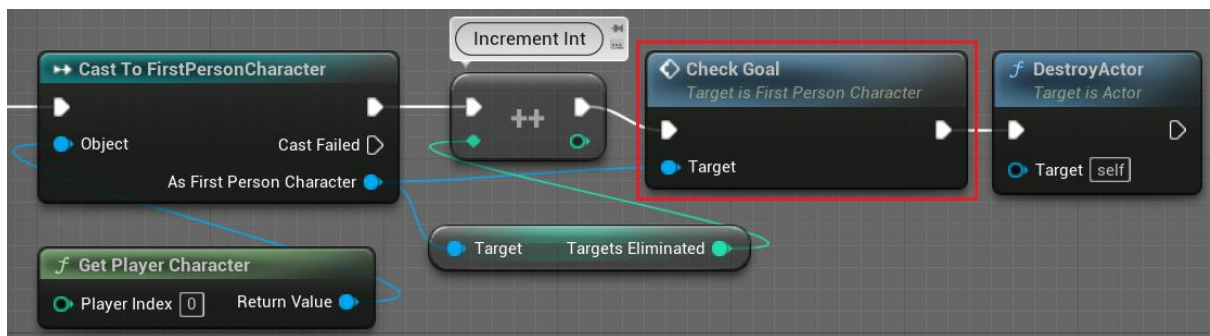
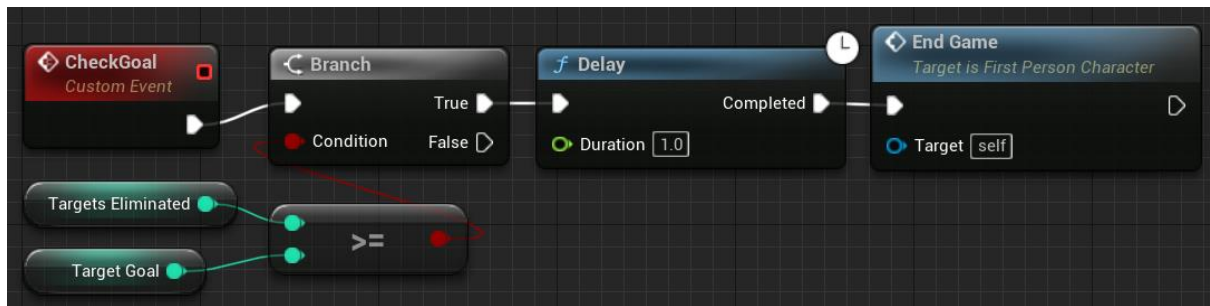
🔍 Search Details

📋

> Anchors	<div>Anchors ▼</div>	<div>↶</div>
Position X	<div>-180.0</div>	<div>↶</div>
Position Y	<div>-50.0</div>	<div>↶</div>
Size X	<div>360.0</div>	<div>↶</div>
Size Y	<div>100.0</div>	<div>↶</div>
> Alignment	<div>0.0</div> <div>0.0</div>	
Size To Content	<div><input type="checkbox"/></div>	







Health   
Stamina 

Targets Eliminated: 2 / 2

Ammo: 25

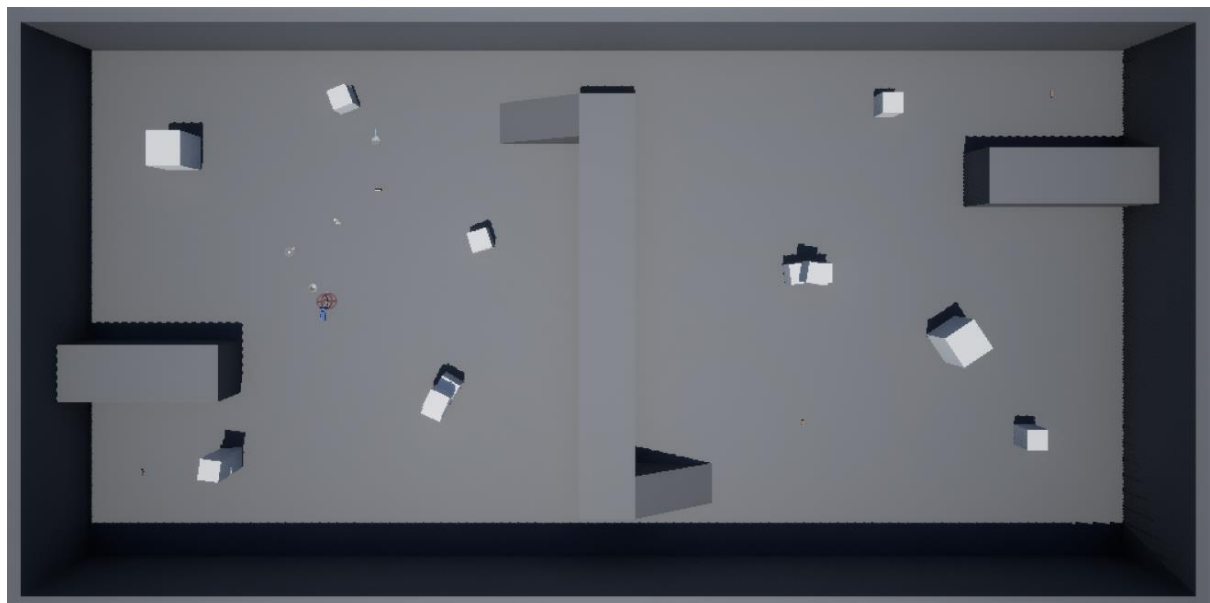
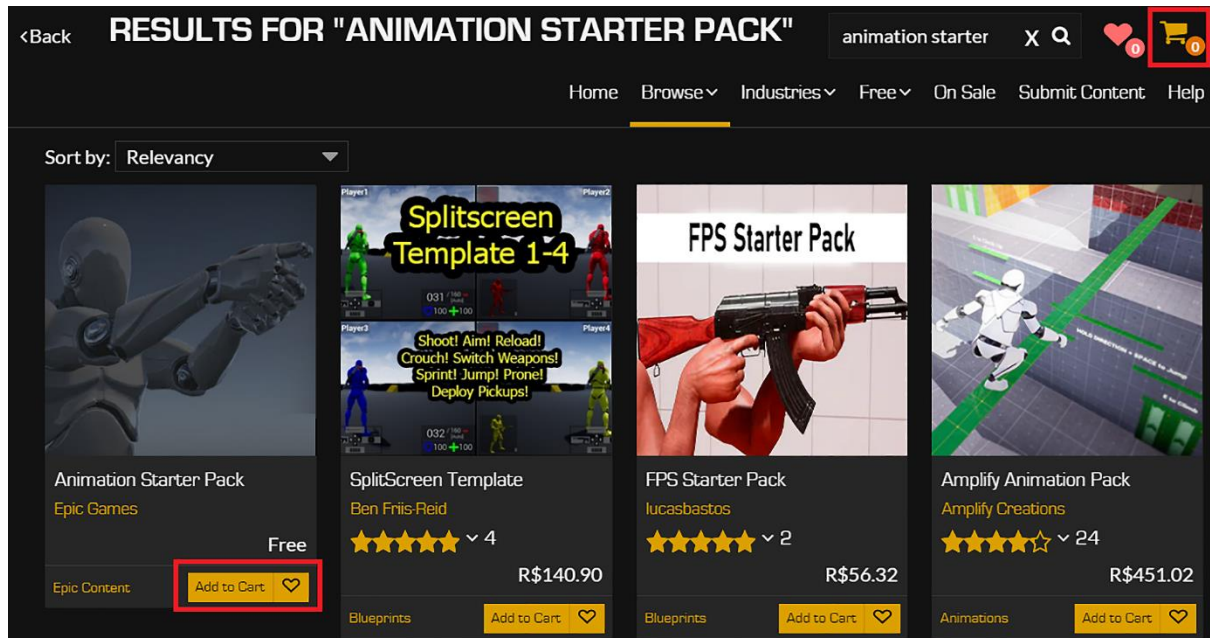
**You Win!**

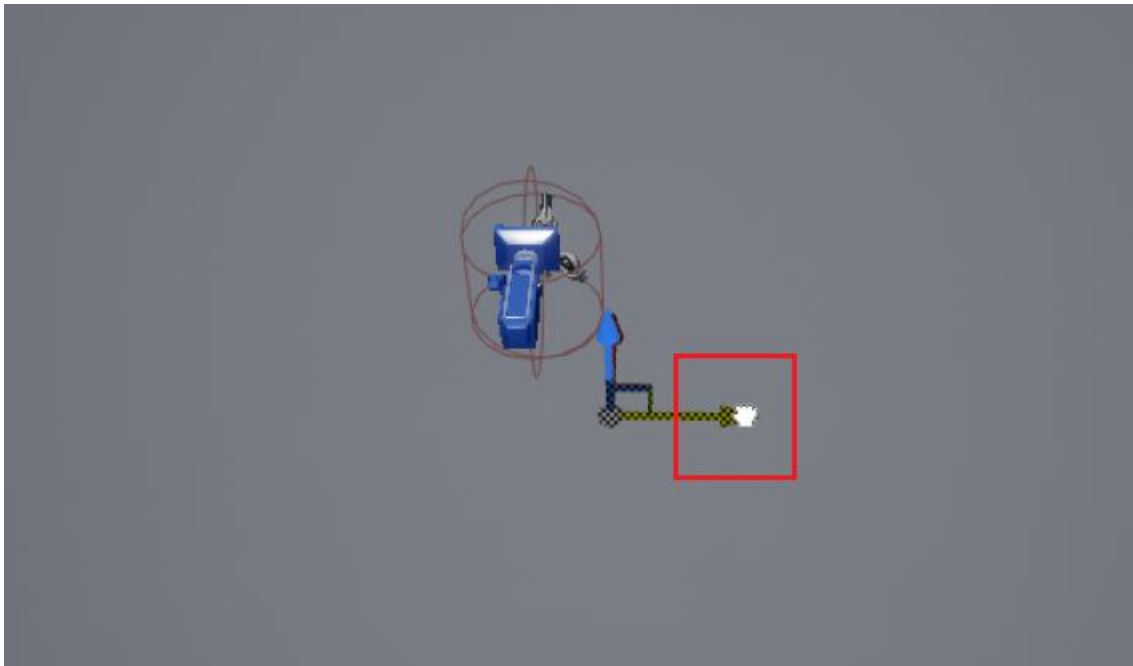
**Restart**

**Quit**

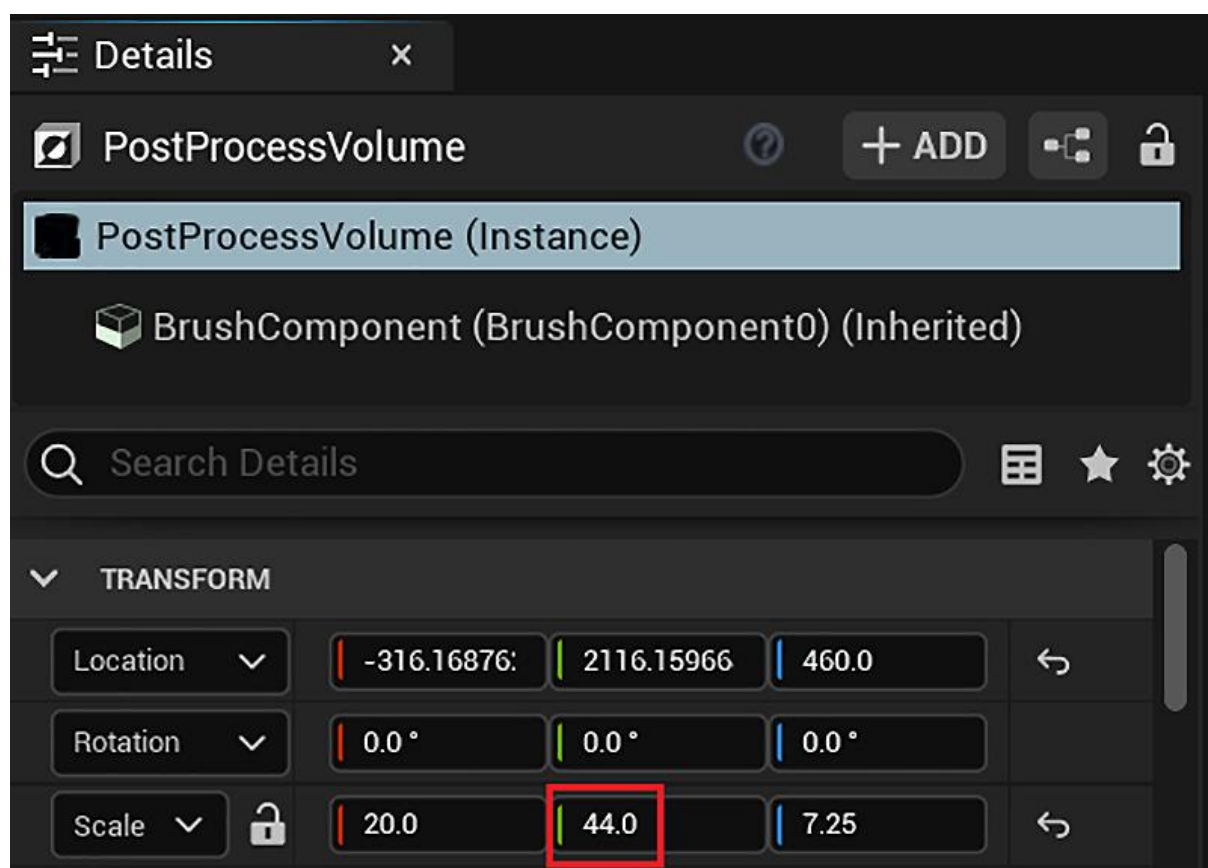
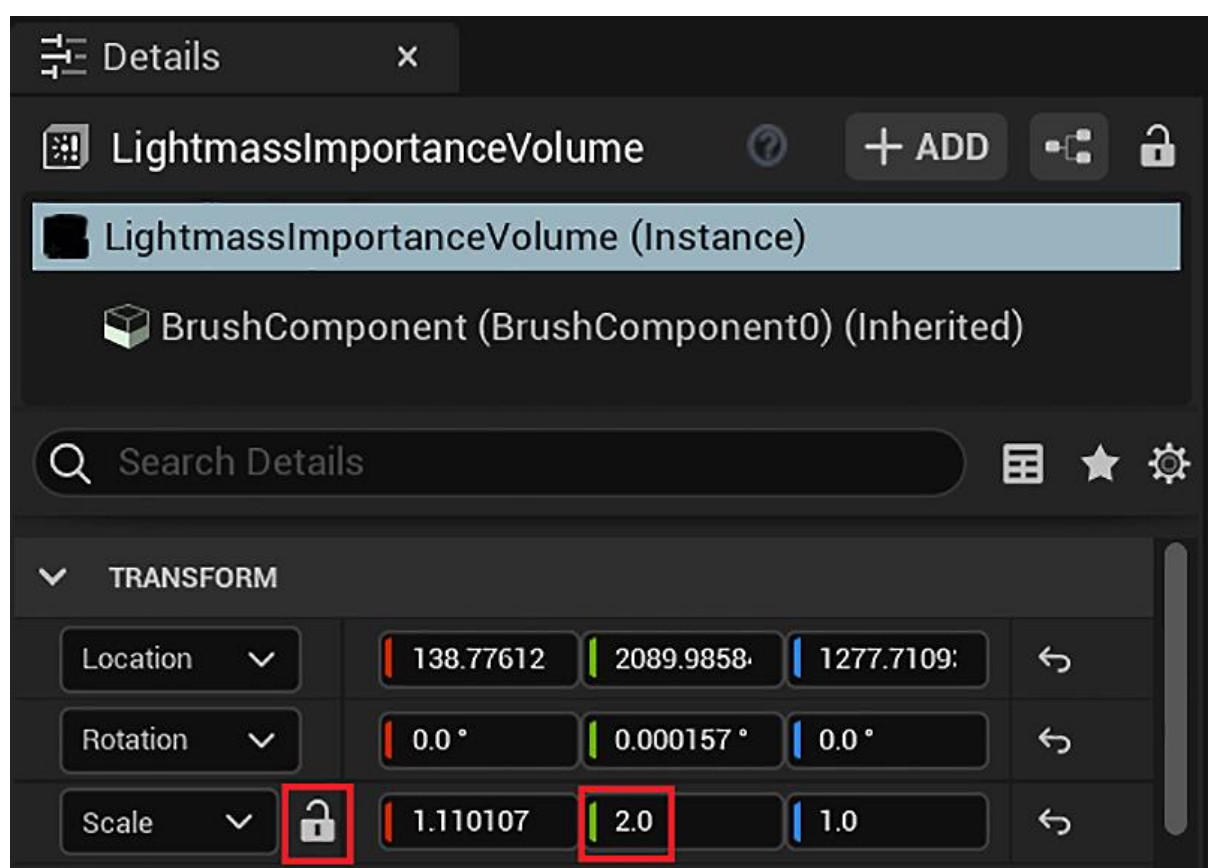


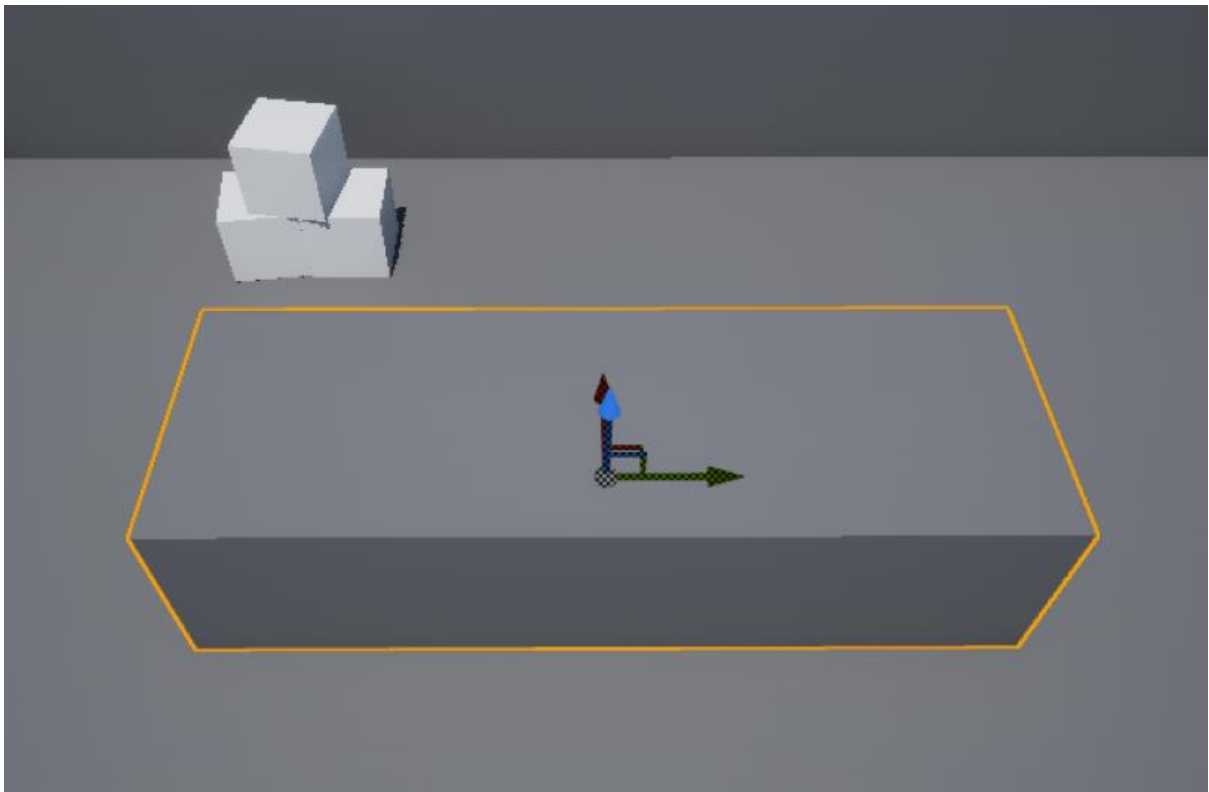
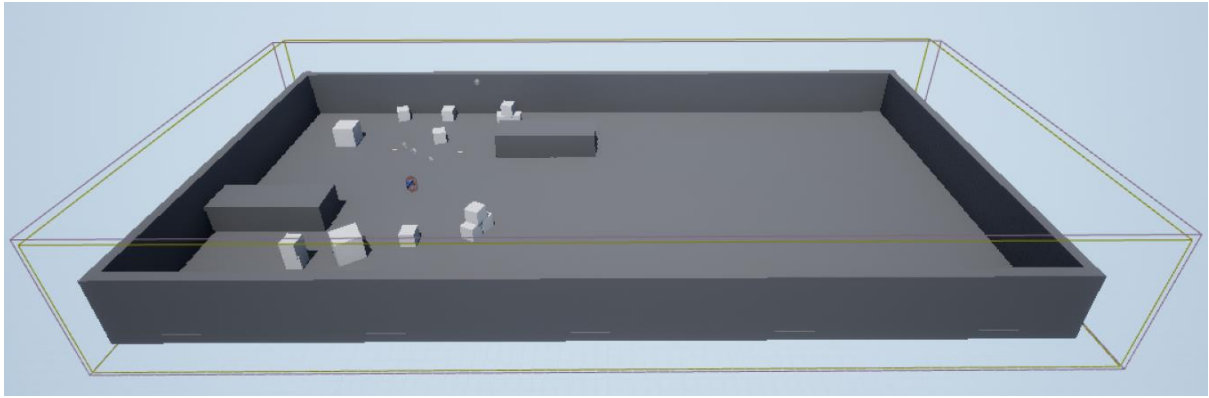
## Chapter 9: Building Smart Enemies with Artificial Intelligence

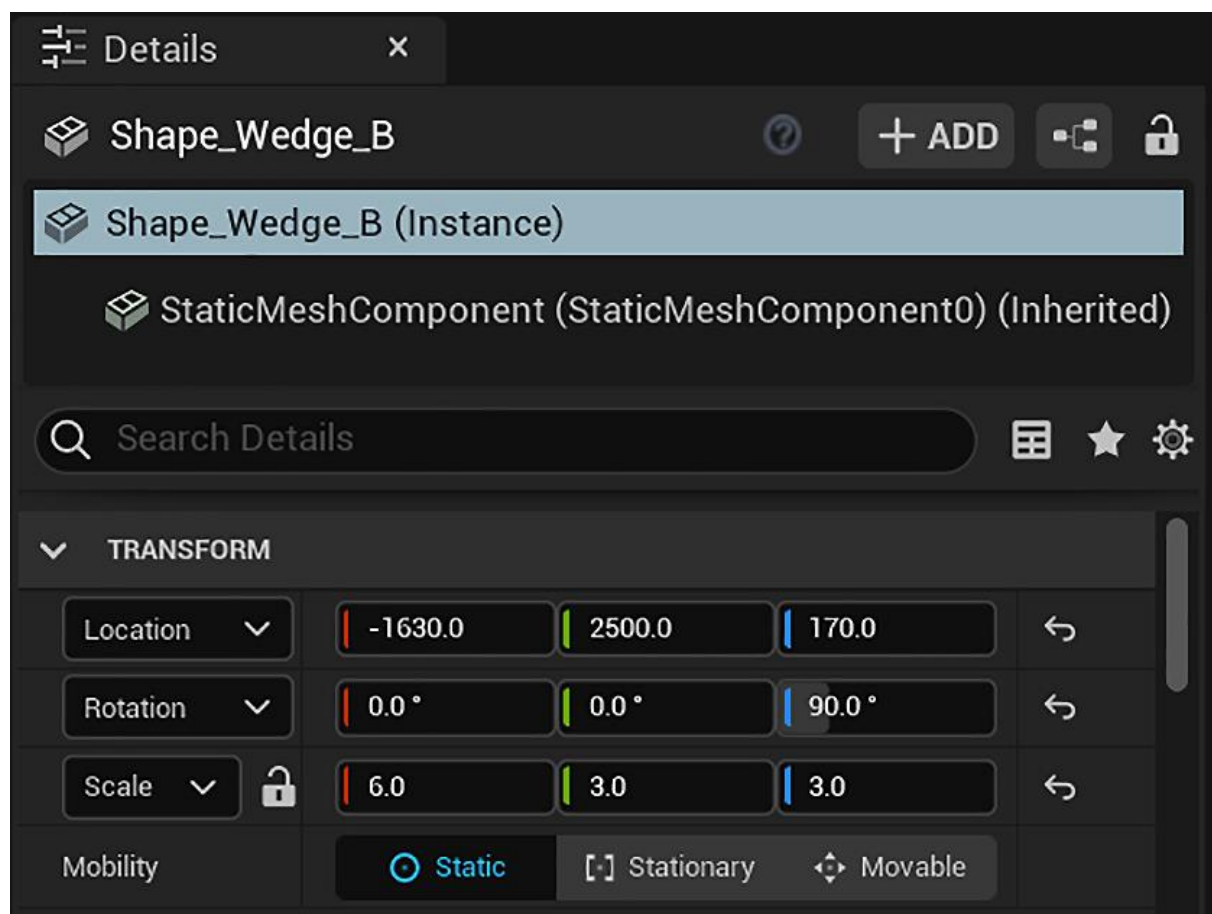
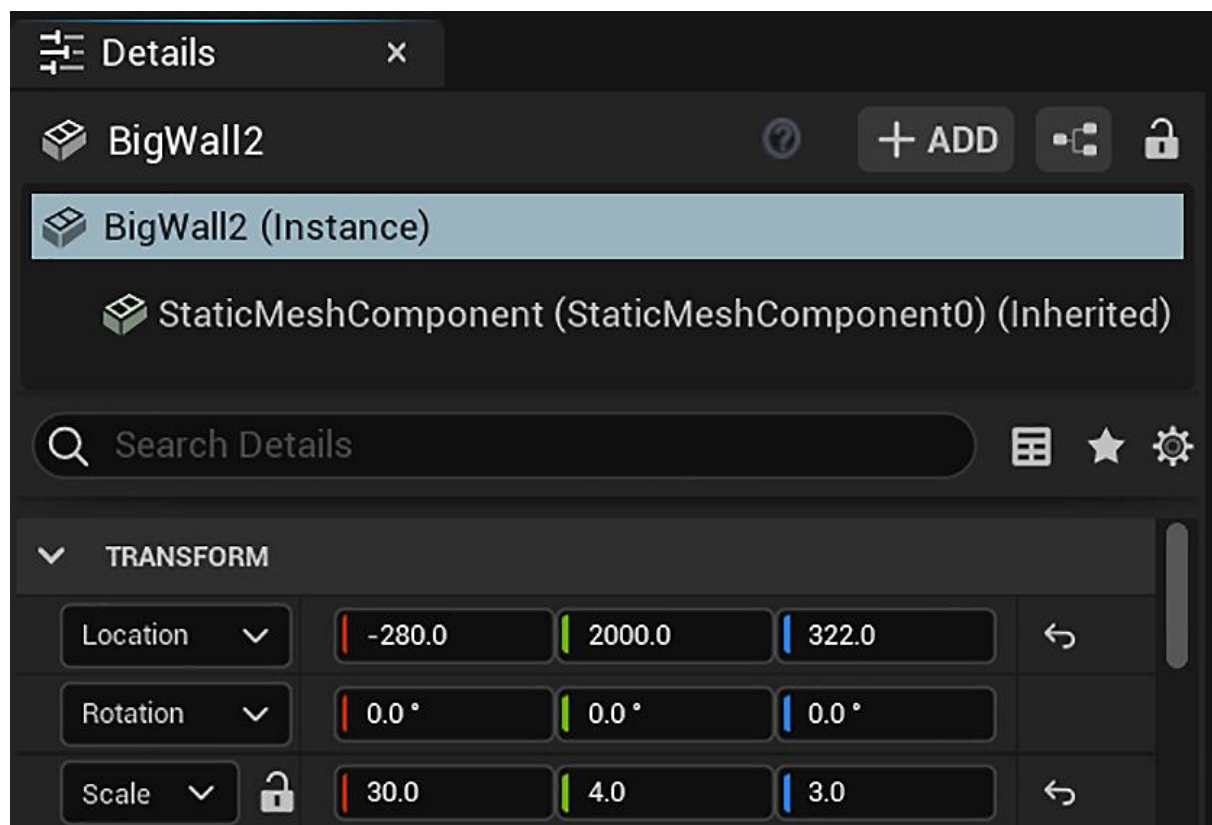


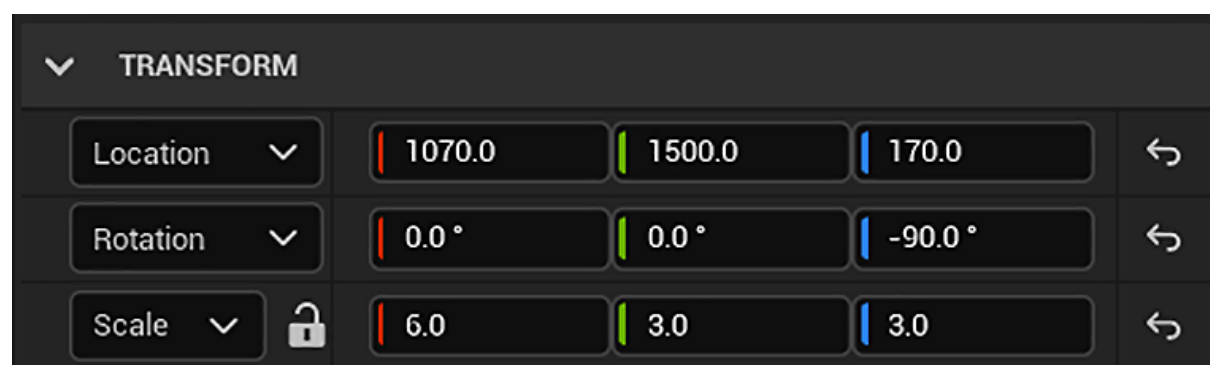
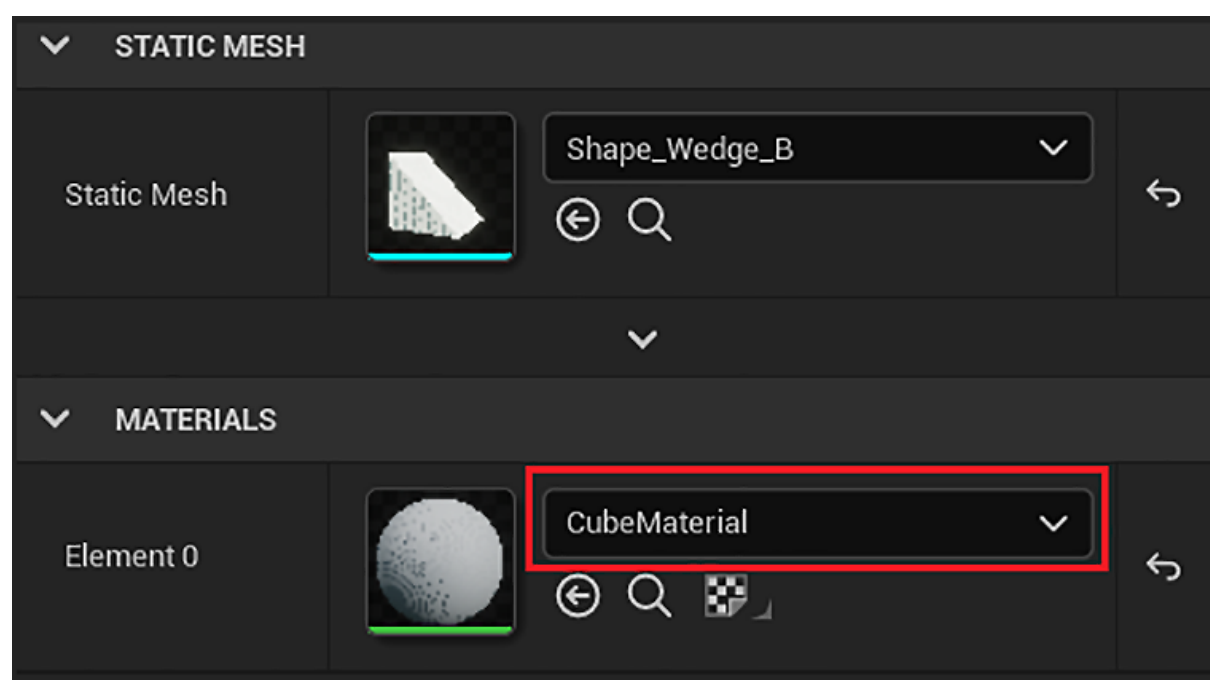


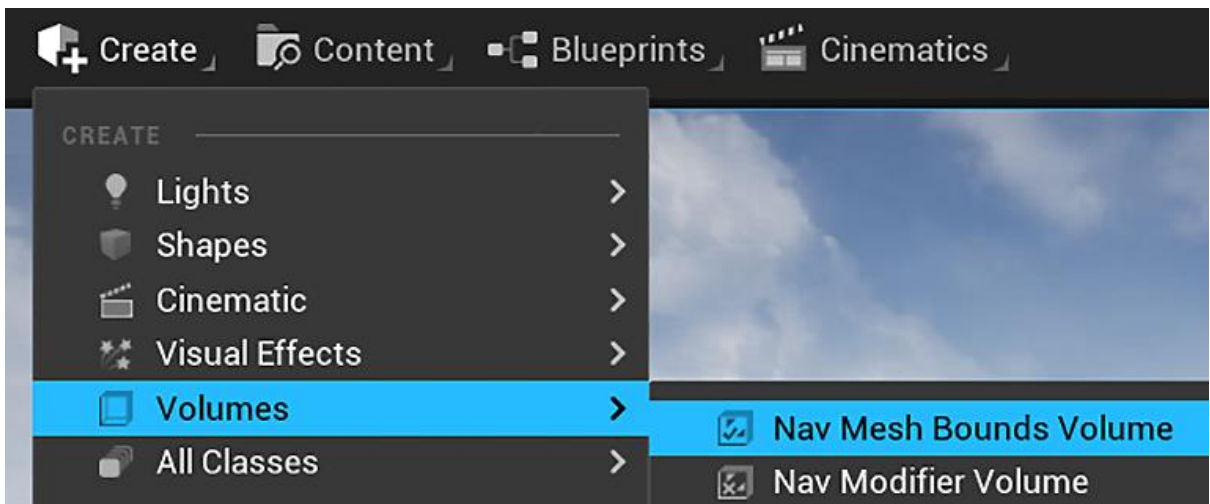
World Outliner	
Search...	
Label	Type
FirstPersonExampleMap (Editor)	World
> ArenaGeometry	Folder
> Lighting	Folder
Light Source	DirectionalLight
LightmassImportanceVolume	LightmassImportanceVolume
PostProcessVolume	PostProcessVolume
SkyLight	SkyLight

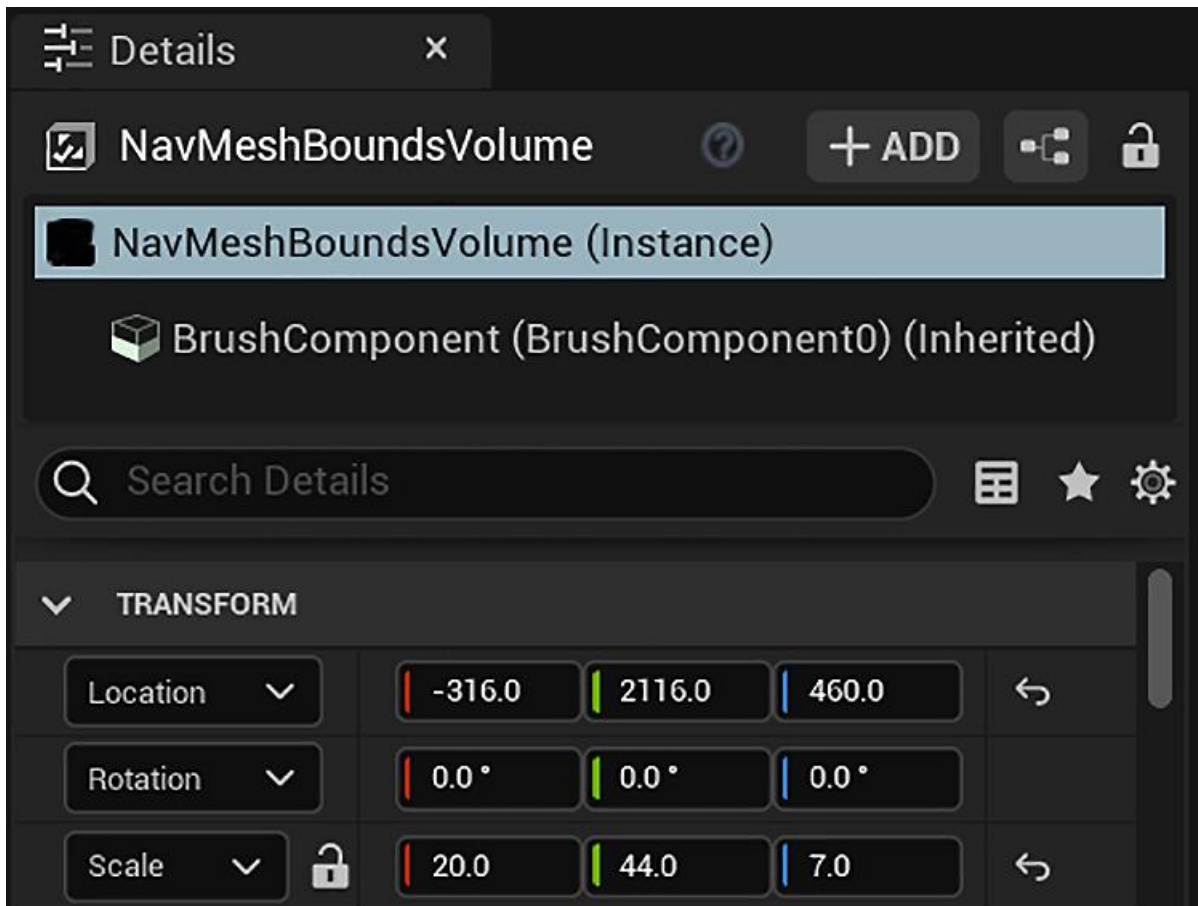


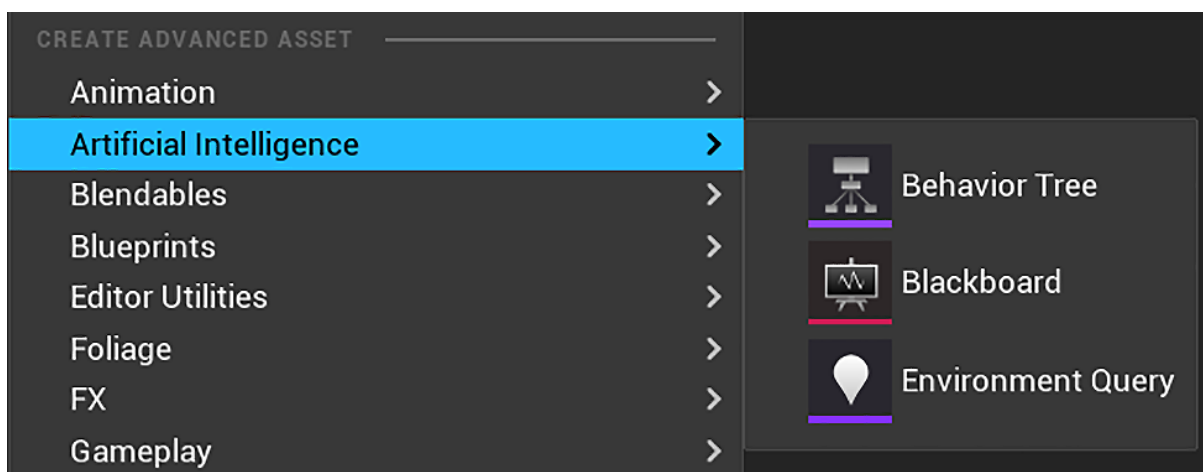
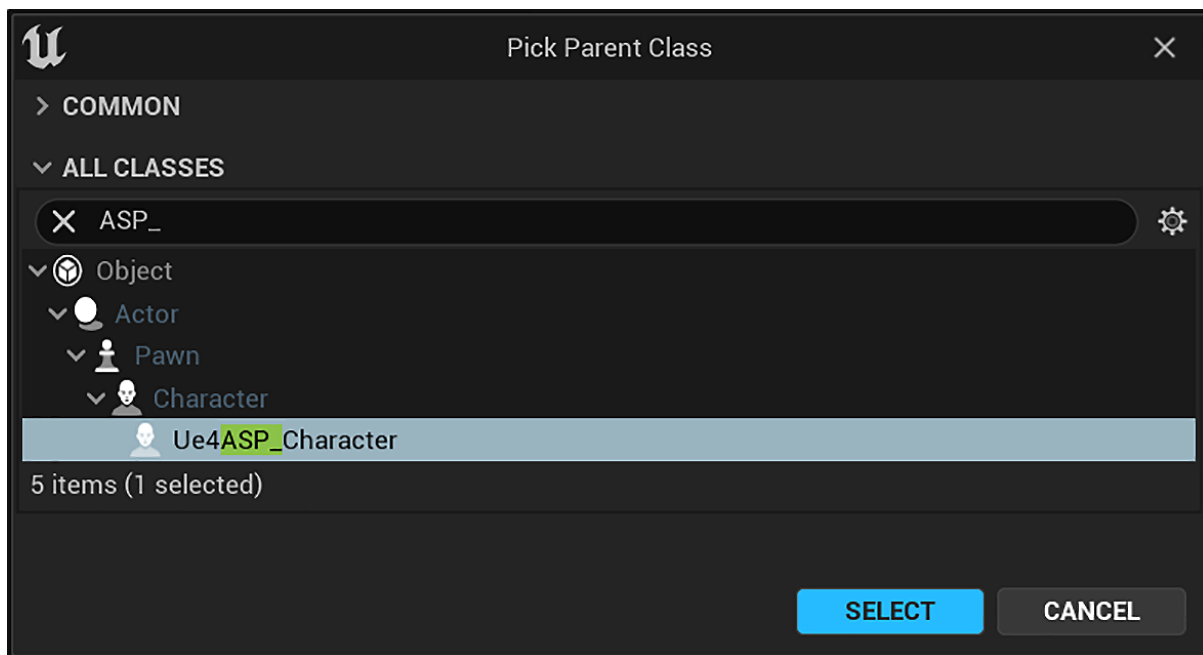


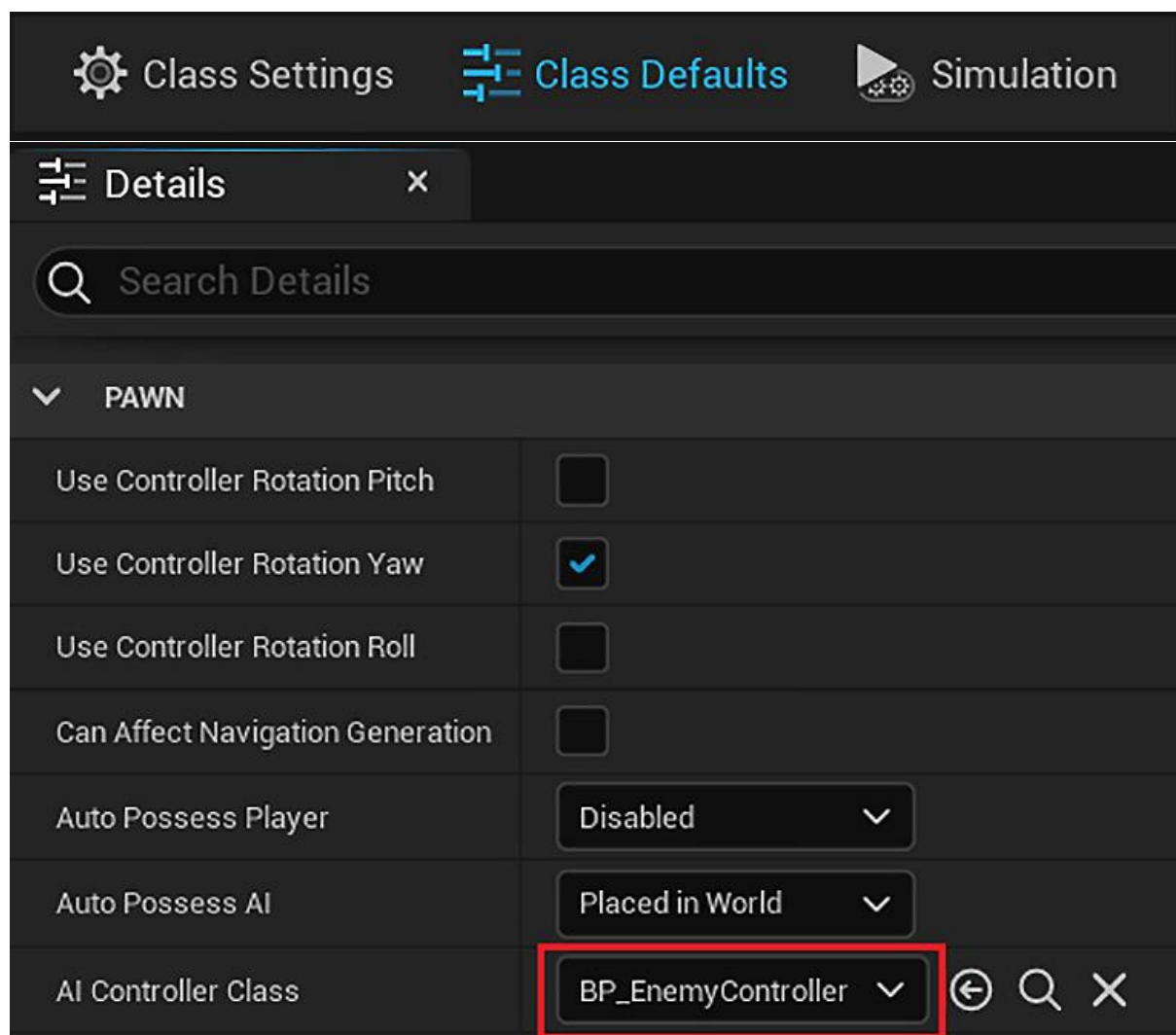
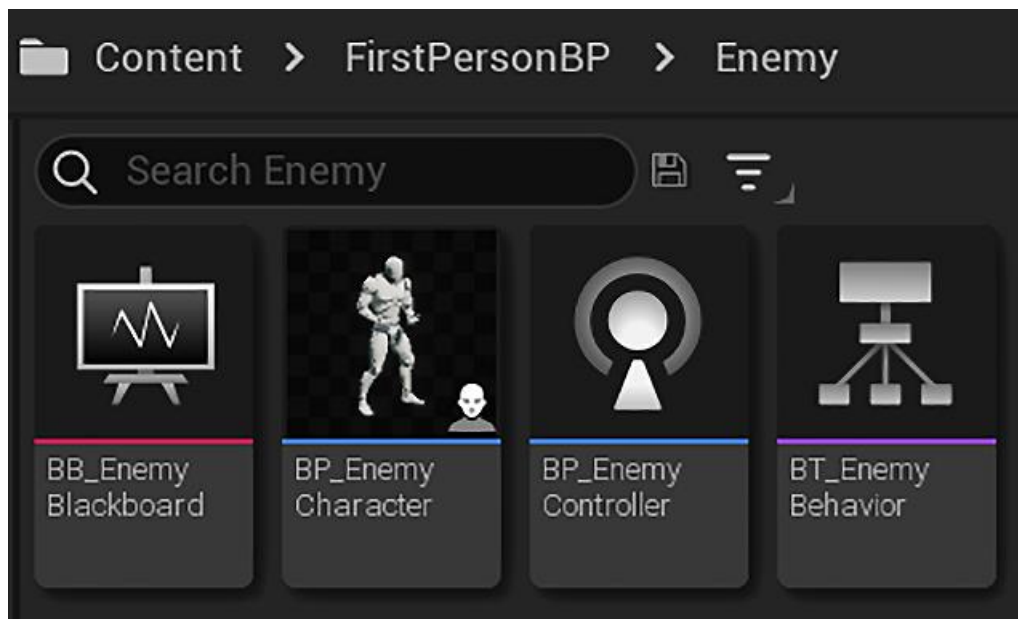


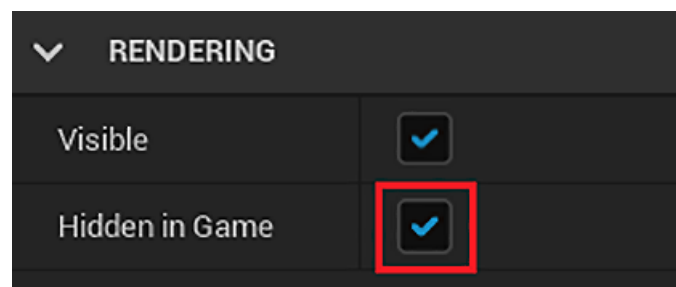
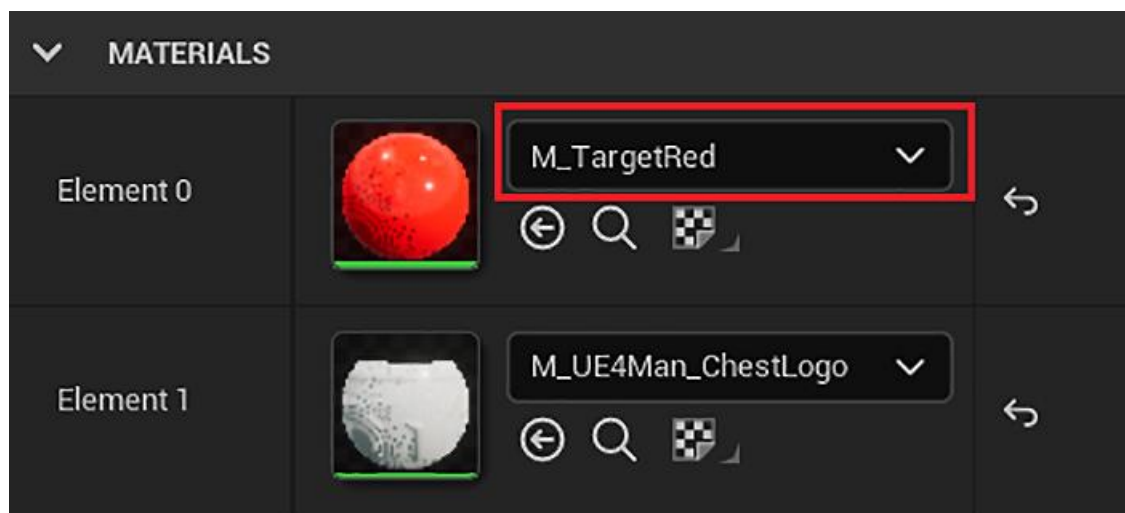


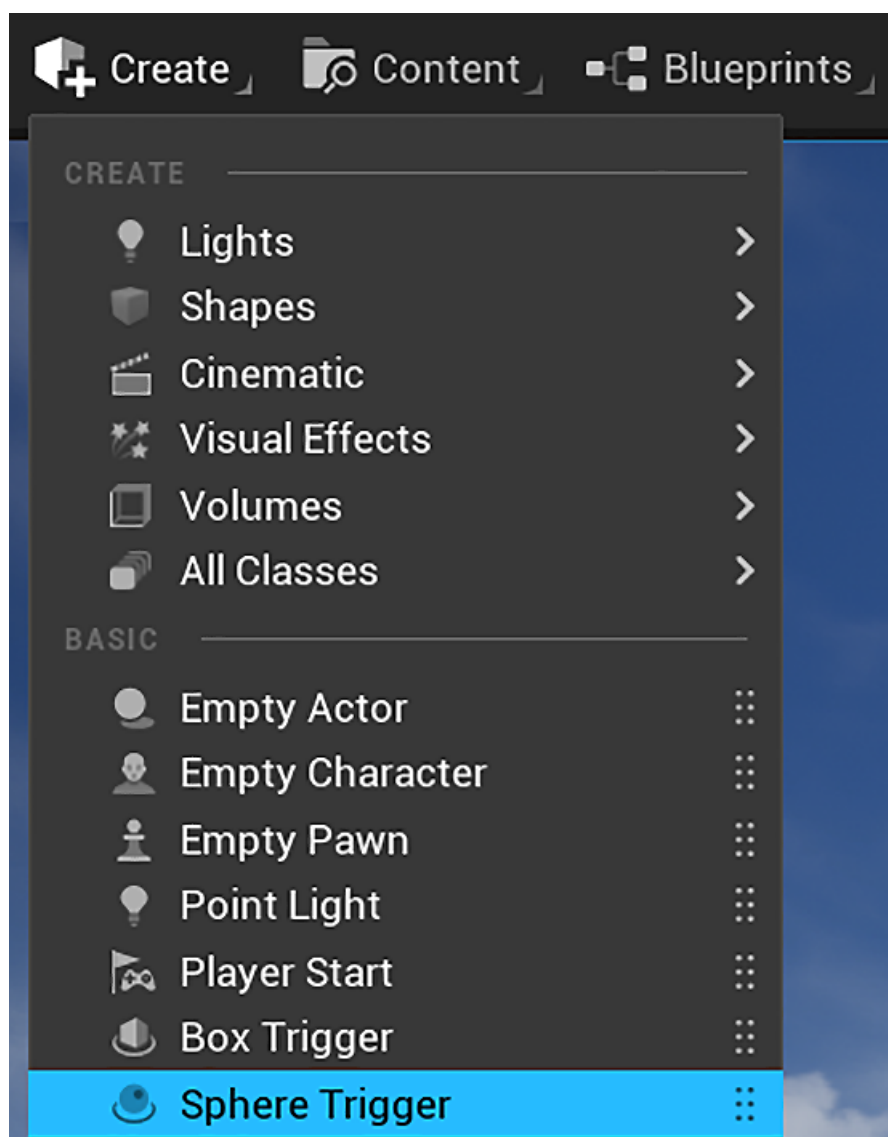


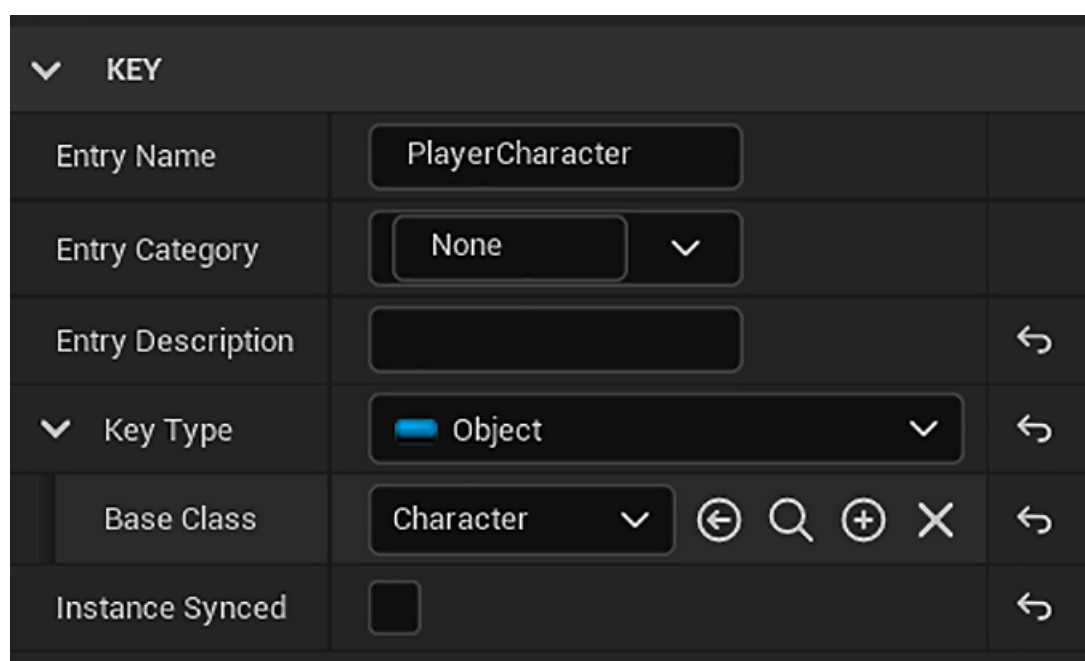
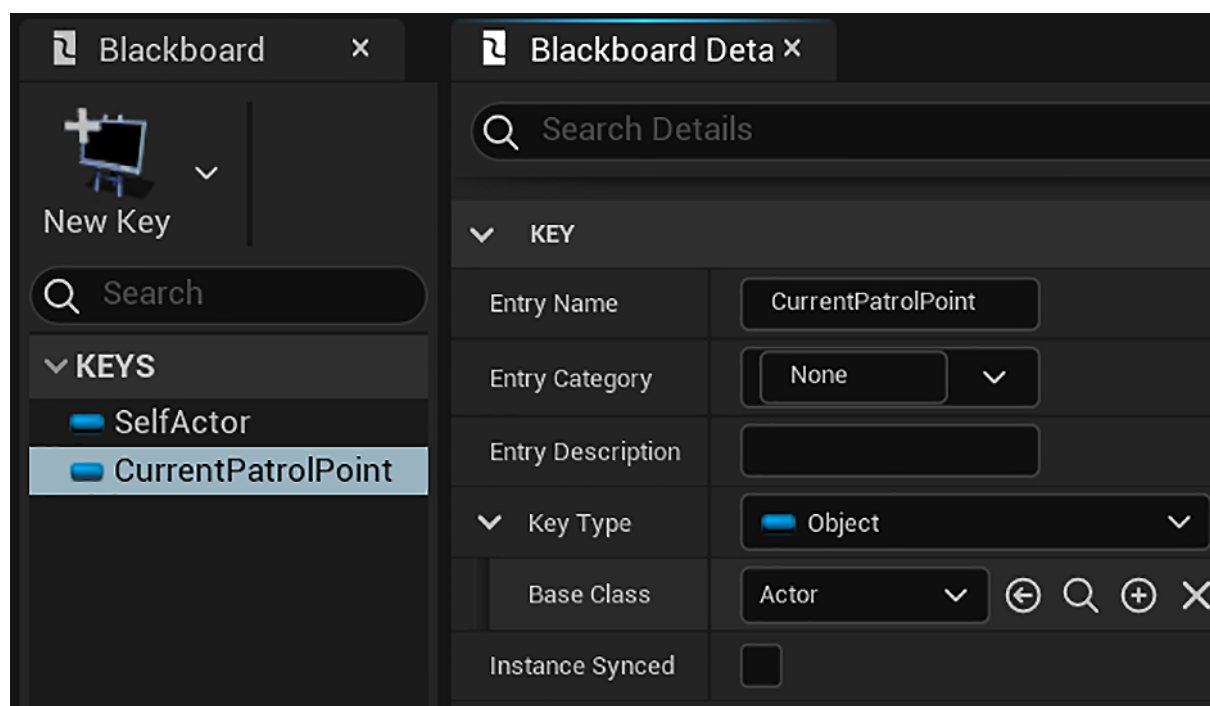












Details

Search Details

VARIABLE

Variable Name	<div>PatrolPoint1</div>	
Variable Type	<div><div></div>Actor<div></div></div>	<div><div></div></div>
Instance Editable	<div><div></div></div>	

VARIABLES			<div></div>
PatrolPoint1	<div></div> Actor		<div></div>
PatrolPoint2	<div></div> Actor		<div></div>
CurrentPatrolPoint	<div></div> Actor		<div></div>

Details

Search Details

▼

VARIABLE

Variable Name	PatrolPointKeyName	
Variable Type	<div>Name</div>	
Instance Editable	<input type="checkbox"/>	

▼

▼

DEFAULT VALUE

Patrol Point Key Name	CurrentPatrolPoint	
-----------------------	--------------------	--

My Blueprint

+ ADD

Search

> GRAPHS

+

> FUNCTIONS (31 OVERRIDABLE)

+

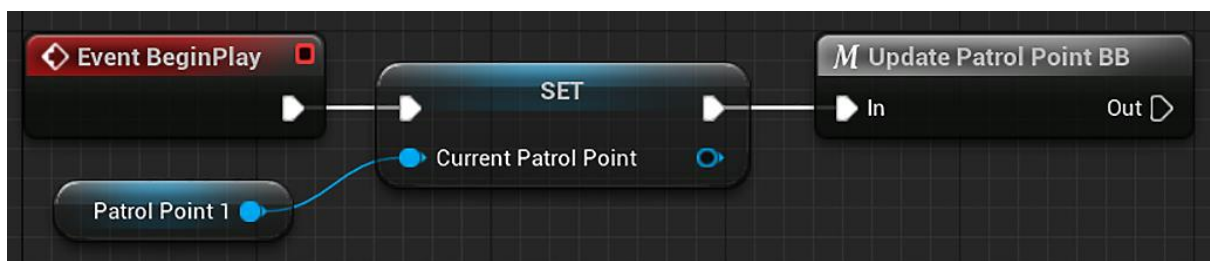
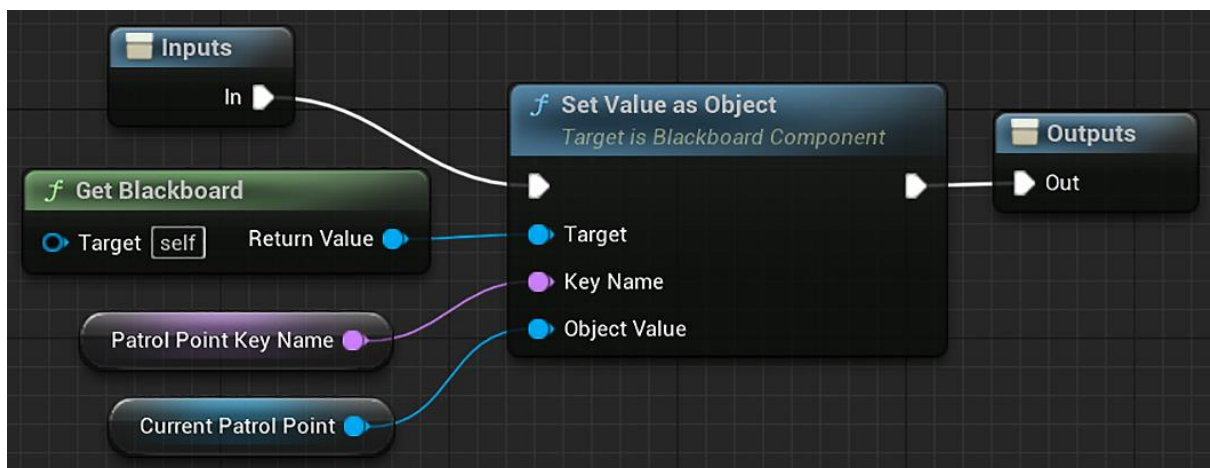
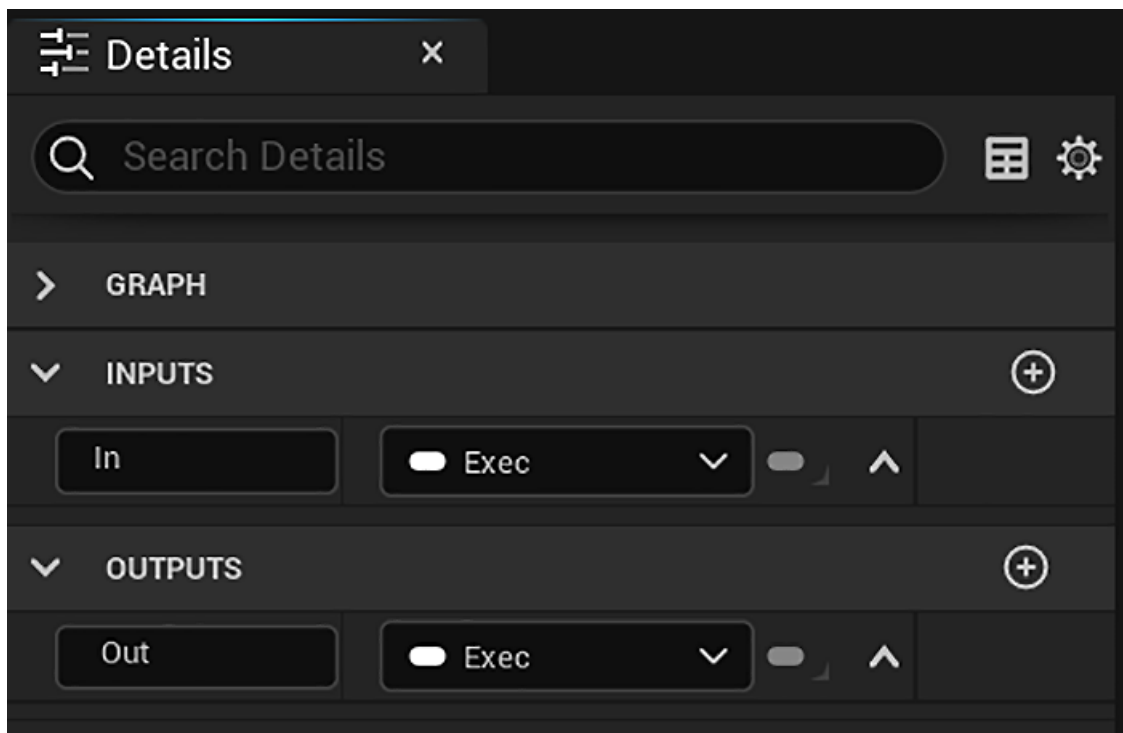
▼ MACROS

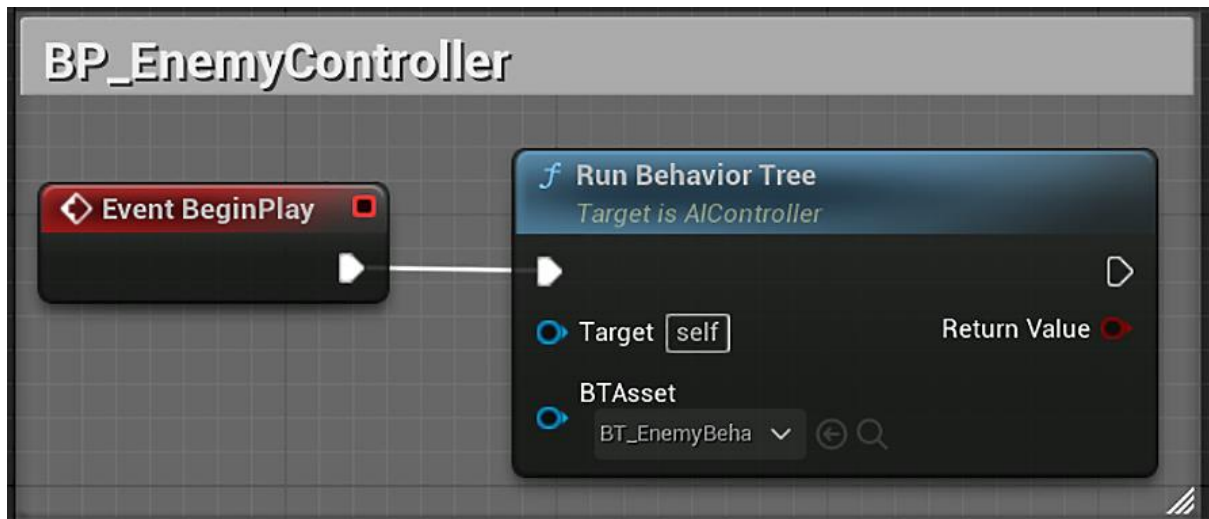
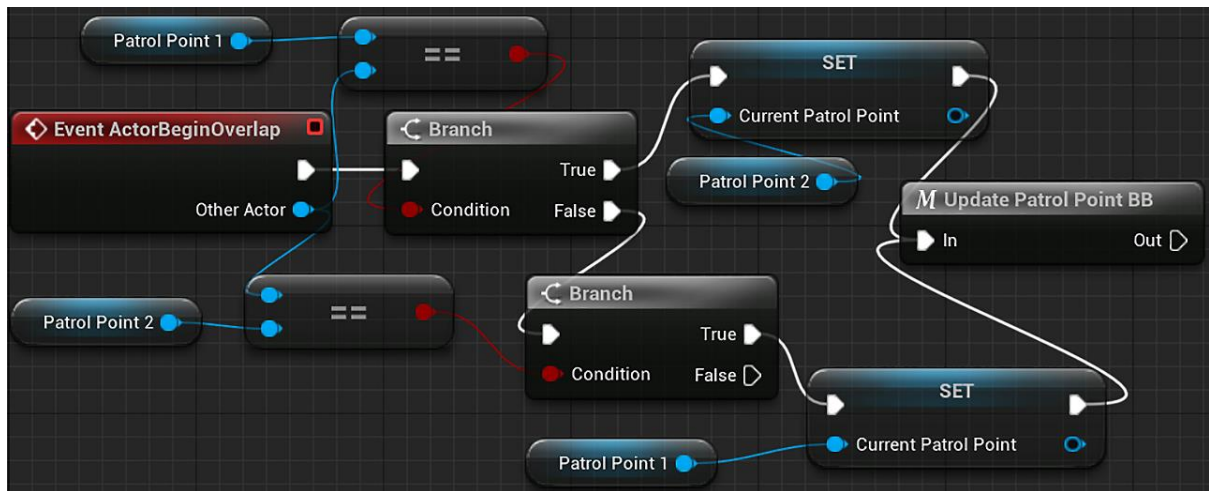
+

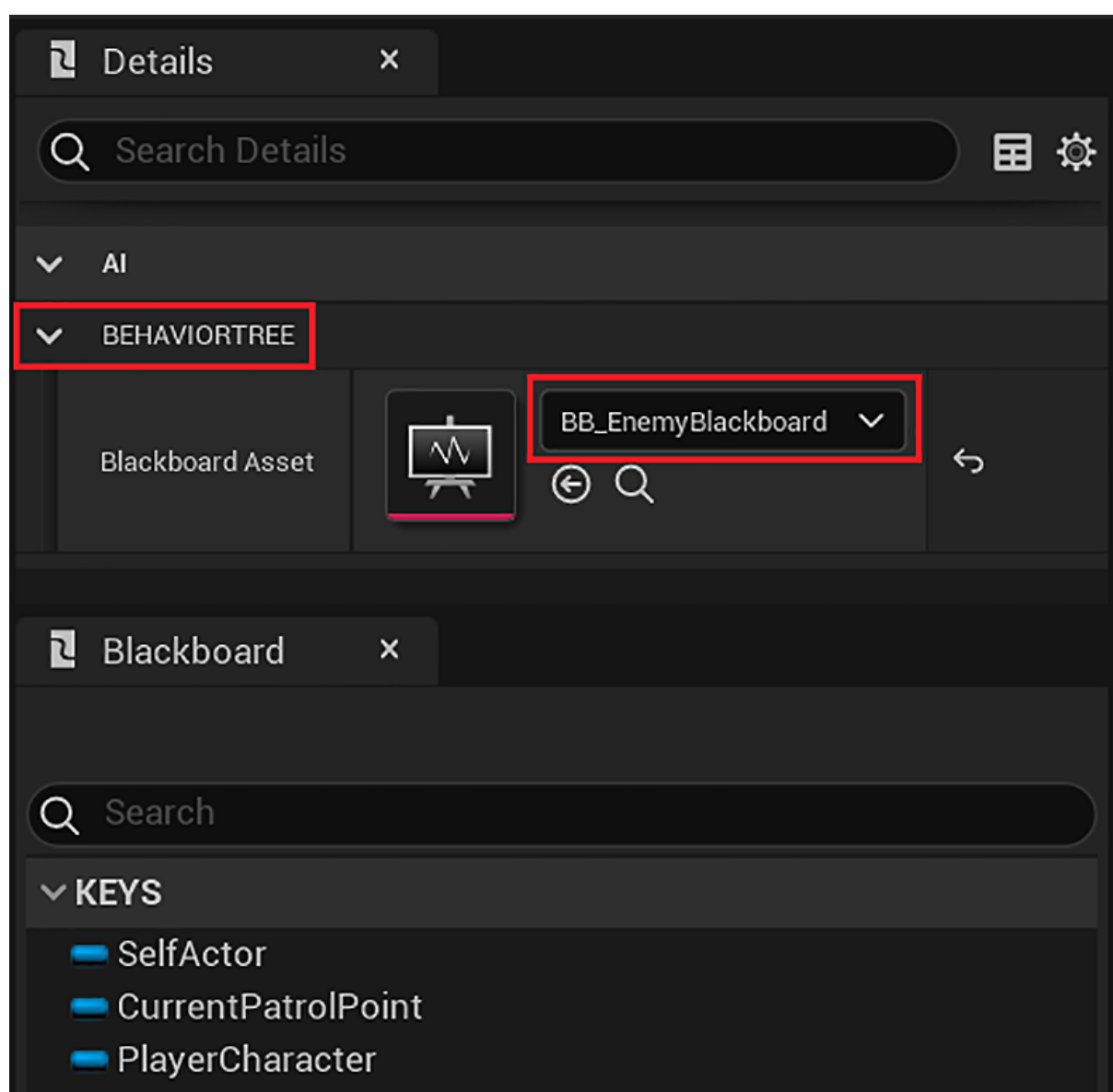
M UpdatePatrolPointBB

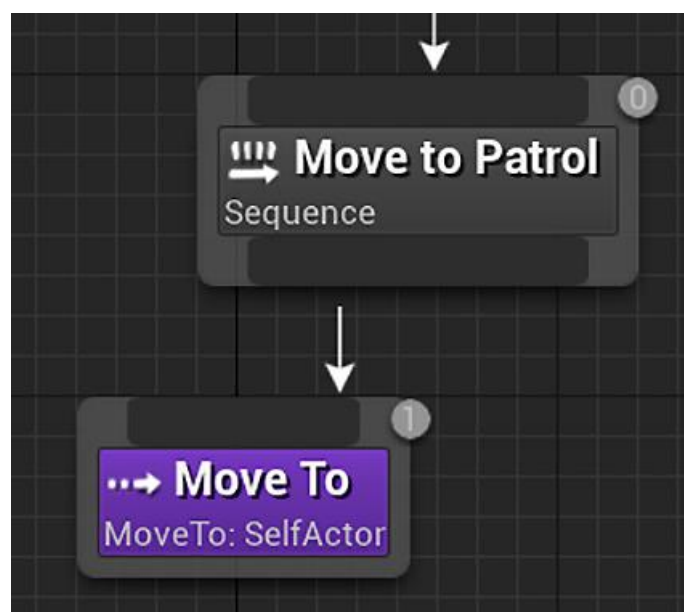
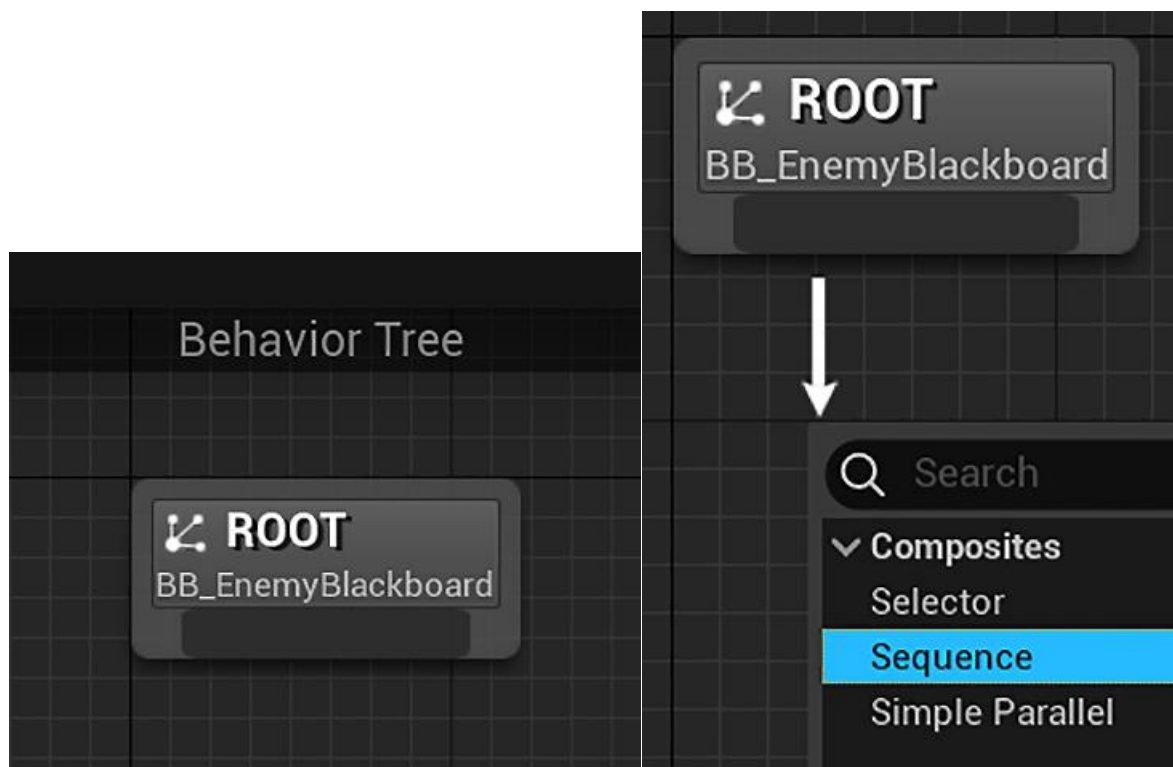
▼ VARIABLES

+



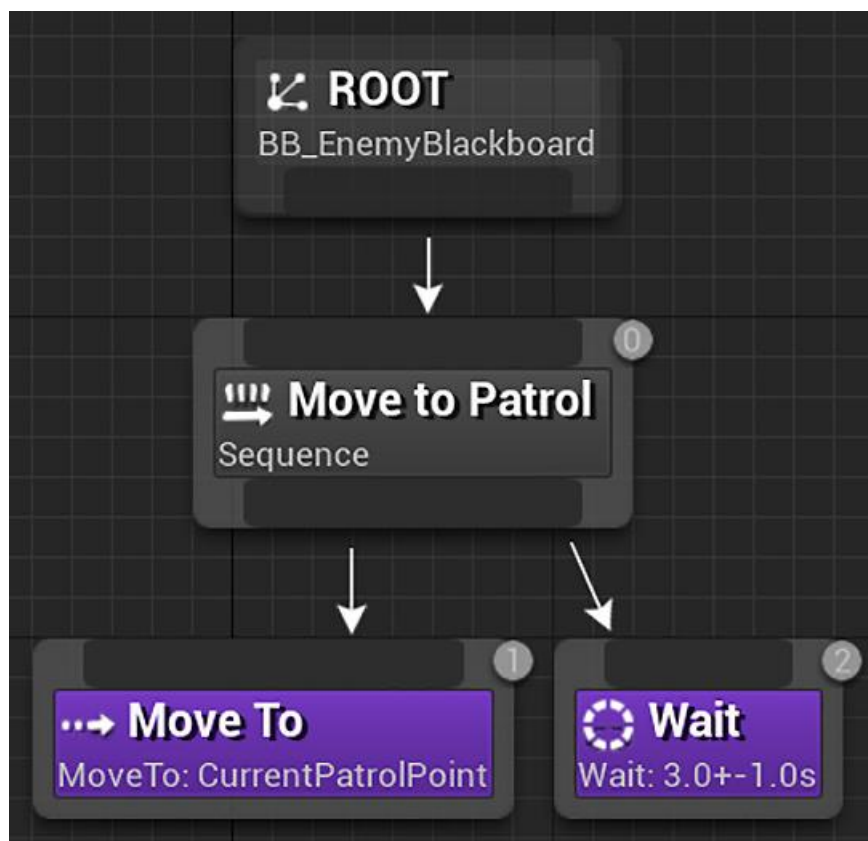


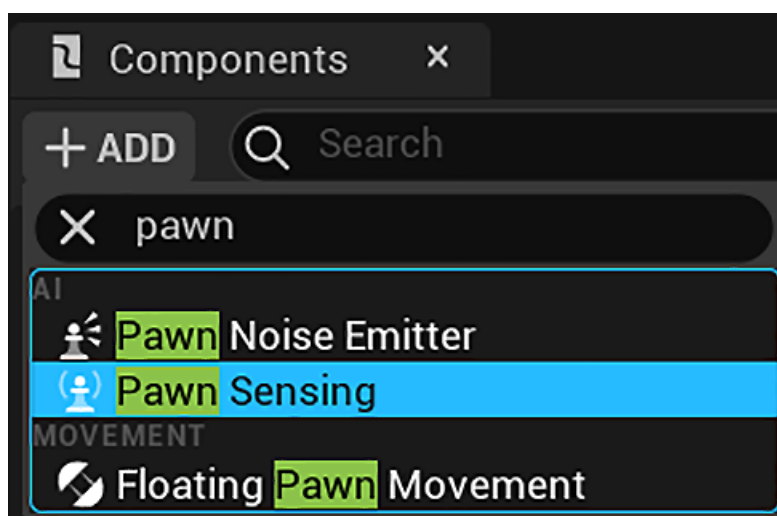
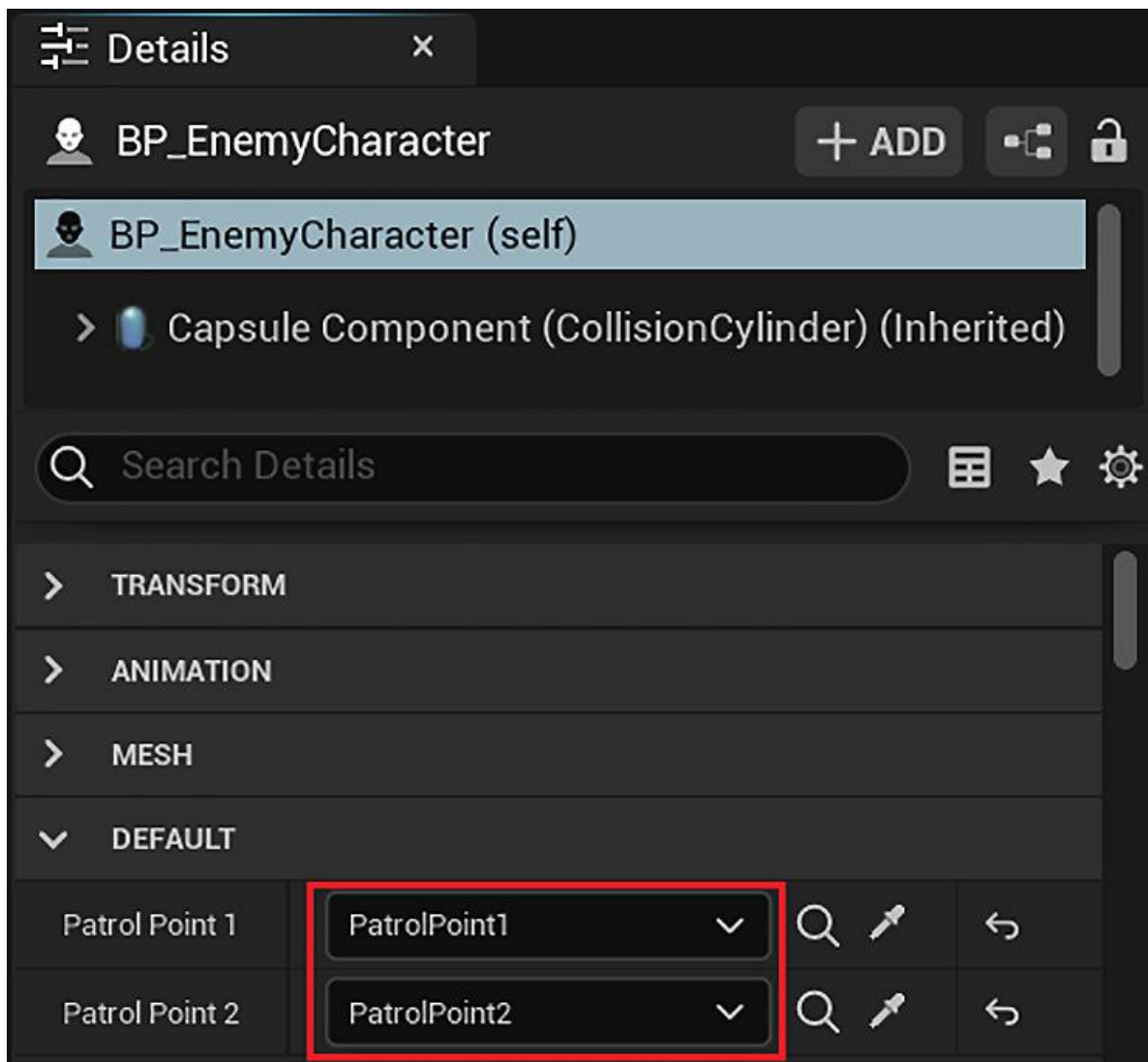


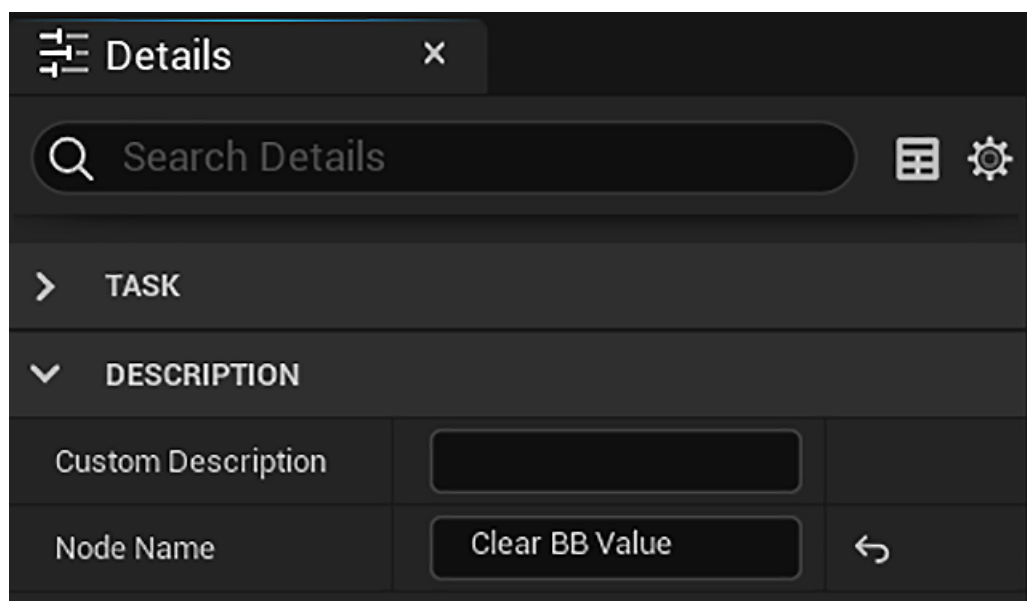
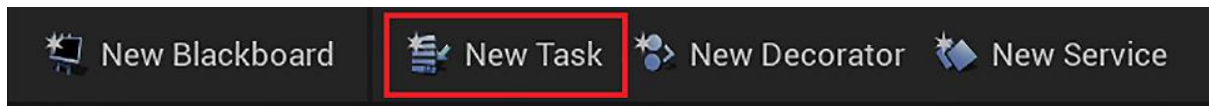
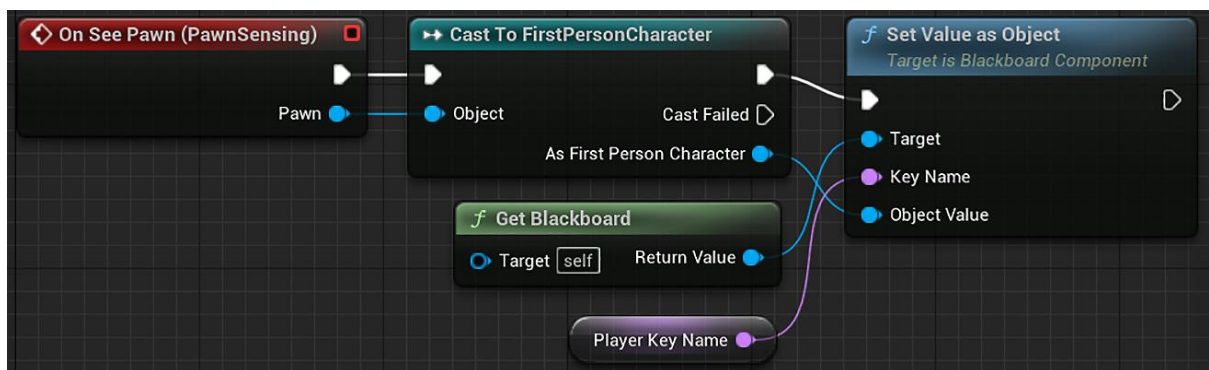
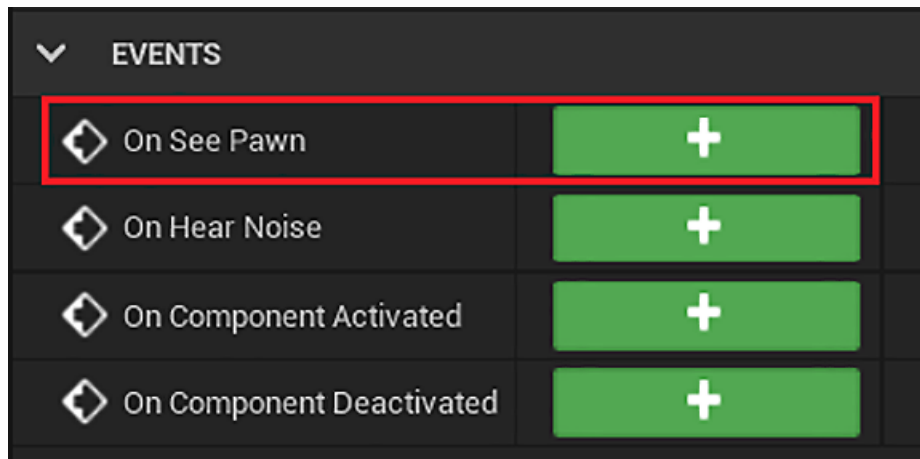


BLACKBOARD	
Observe Blackboard Value	<input type="checkbox"/>
Observed Blackboard Value Tolerance	4.75
Blackboard Key	CurrentPatrolPoint ▾

WAIT		
Wait Time	3.0	↶
Random Deviation	1.0	↶







VARIABLE

Variable Name	Key
Variable Type	<div> <div></div> <div>Blackboard Key</div> <div></div> </div>
Instance Editable	<div> <div></div> <div></div> </div>

GRAPHS

EventGraph

FUNCTIONS (6 OVERRIDABLE)

Override

MACROS

VARIABLES

Key

EVENT DISPATCHERS

Receive Abort

BTTask Blueprint Base

Receive Abort AI

BTTask Blueprint Base

Receive Execute

BTTask Blueprint Base

Receive Execute AI

BTTask Blueprint Base

Receive Tick

BTTask Blueprint Base

Receive Tick AI

BTTask Blueprint Base

Event Receive Execute

Owner Actor

Clear Blackboard Value

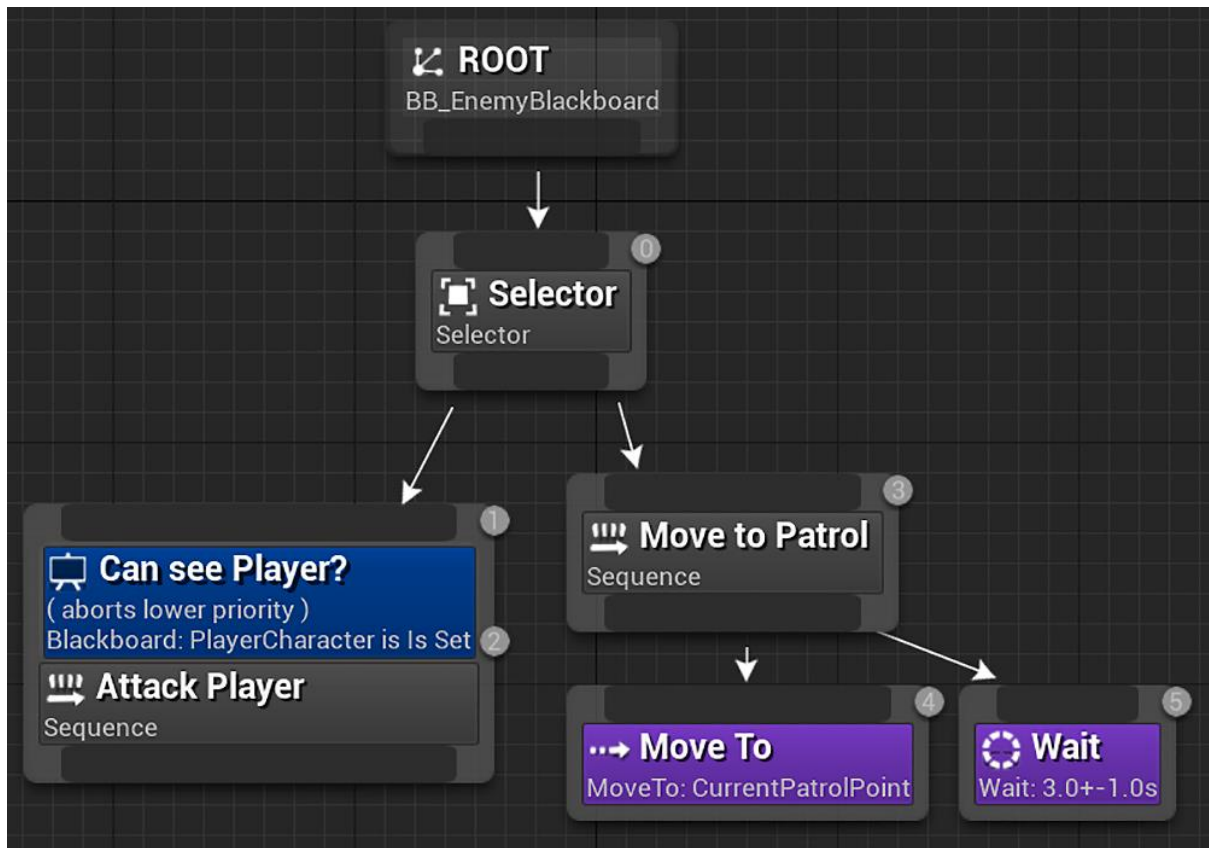
Key

Finish Execute

Target is BTTask Blueprint Base

Target self

Success



Details x

Search Details

FLOW CONTROL

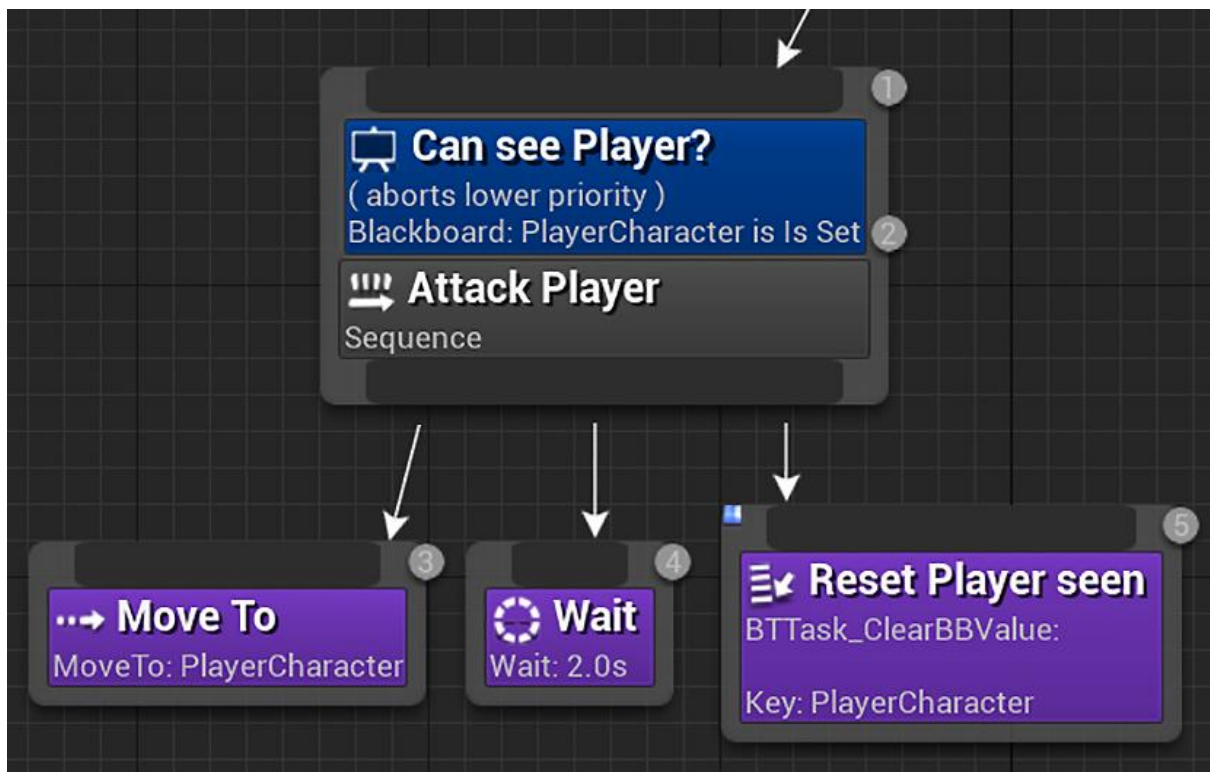
Notify Observer	On Result Change	▼	
Observer aborts	Lower Priority	▼	↶

BLACKBOARD

Key Query	Is Set	▼	
Blackboard Key	PlayerCharacter	▼	↶

DESCRIPTION

Node Name	Can see Player?		↶
-----------	-----------------	--	---



Details x

Search Details

▼ DEFAULT

Key PlayerCharacter ▼ ↩

➤ TASK

▼ DESCRIPTION

Show Property Details ☒

Node Name Reset Player seen ↩

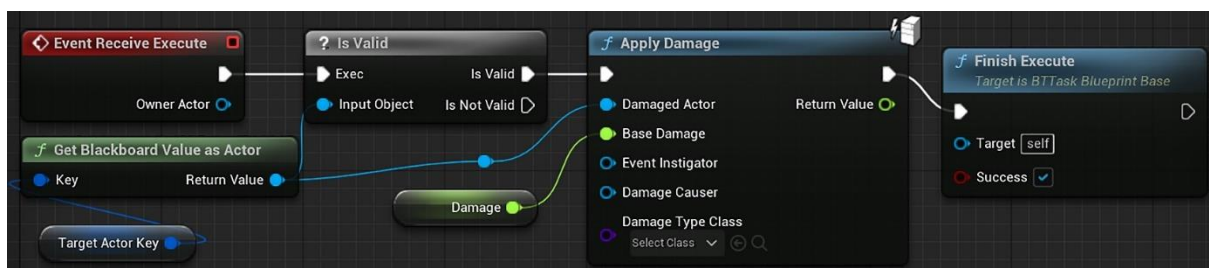
## Chapter 10: Upgrading the AI Enemies

VARIABLE	
Variable Name	TargetActorKey
Variable Type	Blackboard Key
Instance Editable	<input checked="" type="checkbox"/>

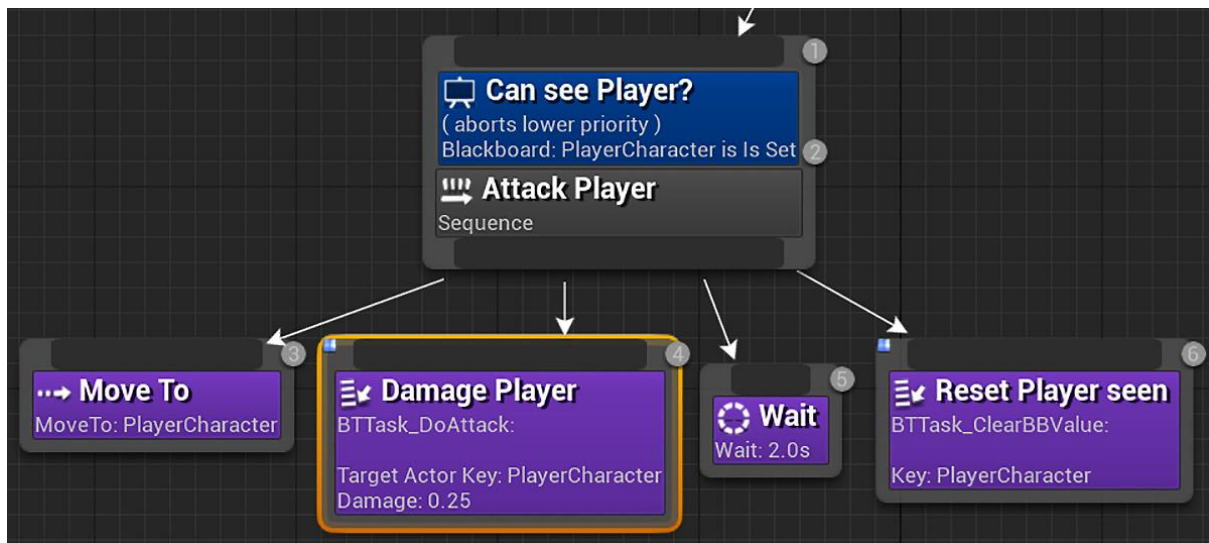
VARIABLE	
Variable Name	Damage
Variable Type	Float
Instance Editable	<input checked="" type="checkbox"/>

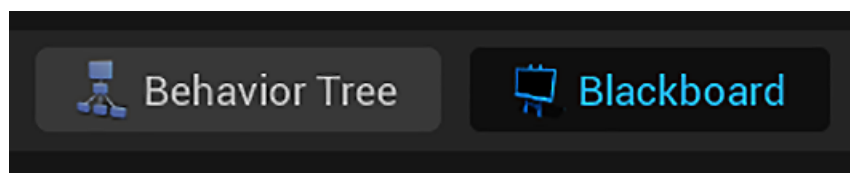
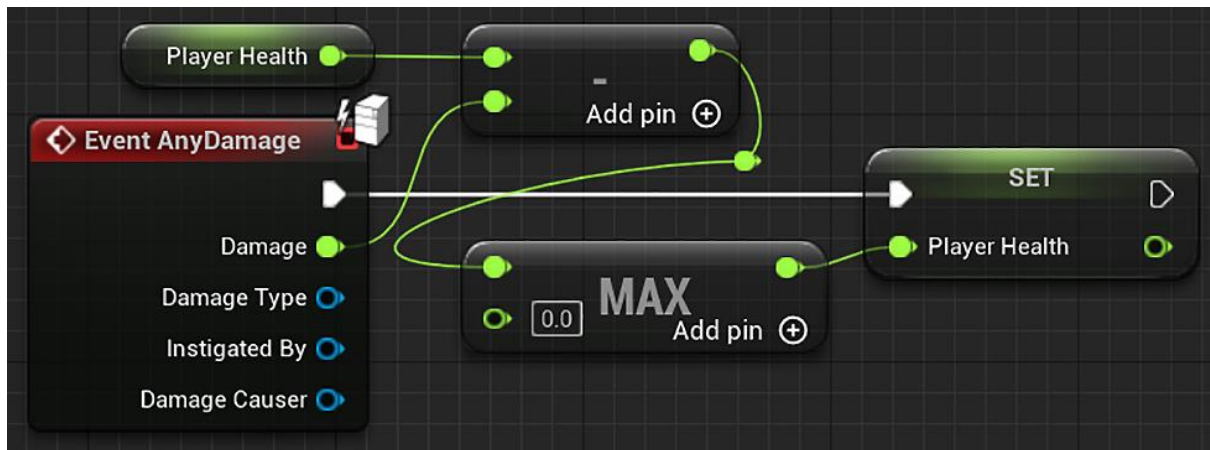
▼

DEFAULT VALUE	
Damage	0.25



▼ DEFAULT		
Target Actor Key	PlayerCharacter ▼	↩
Damage	0.25	
➤ TASK		
▼ DESCRIPTION		
Show Property Details	<input checked="" type="checkbox"/>	
Node Name	Damage Player	↩

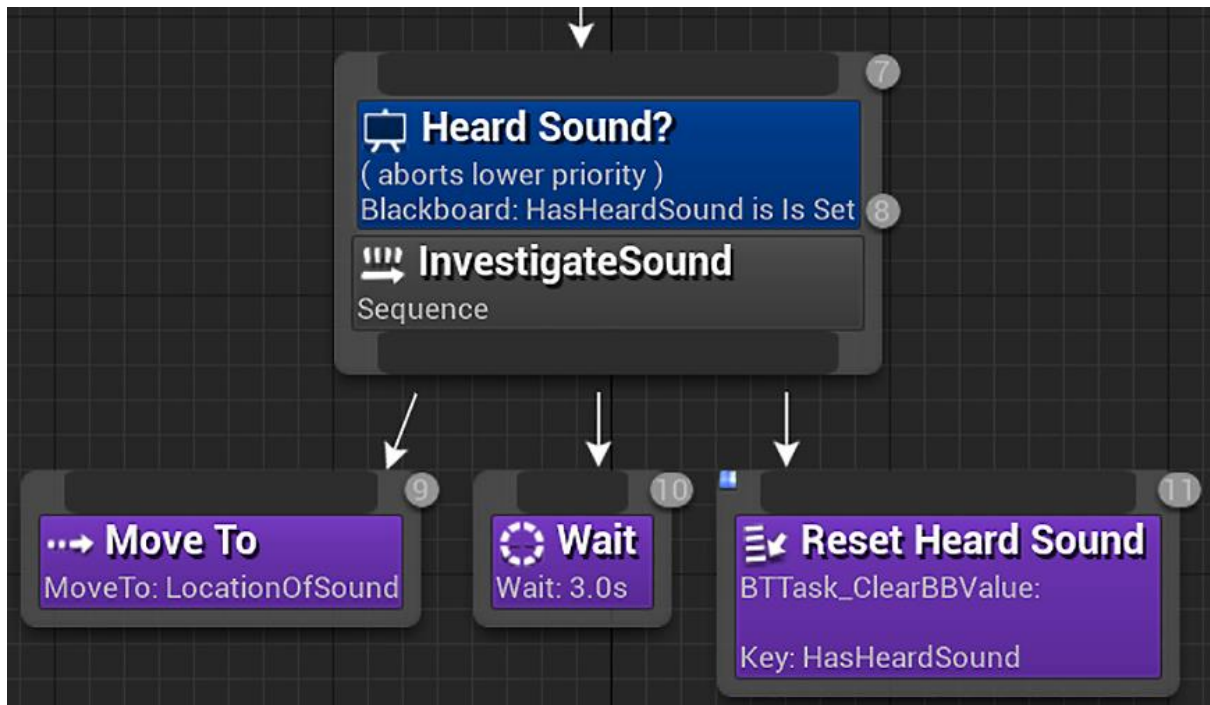
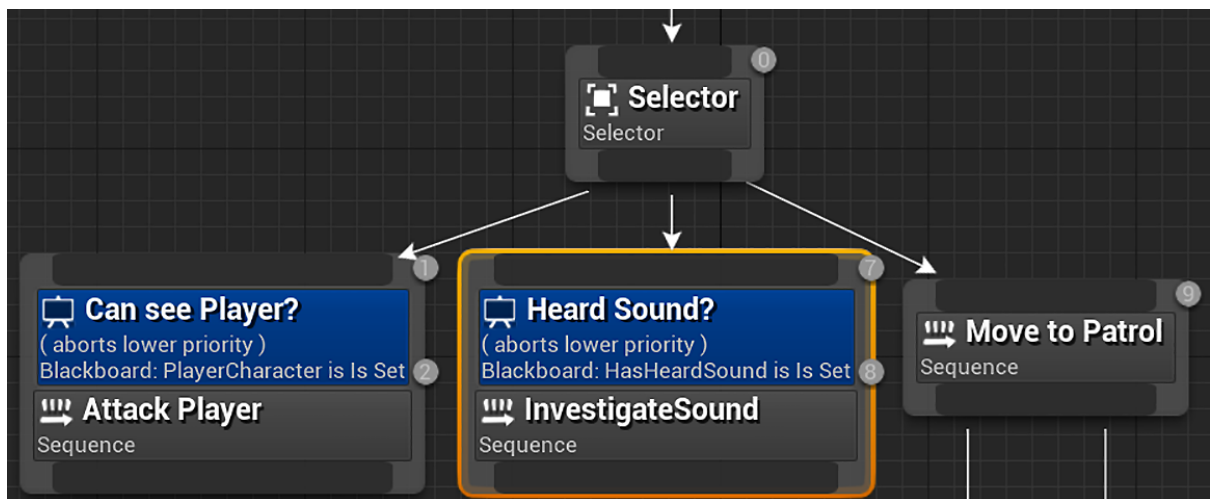




KEY	
Entry Name	HasHeardSound
Entry Category	None ▼
Entry Description	
Key Type	Bool

KEY	
Entry Name	LocationOfSound
Entry Category	None
Entry Description	
Key Type	Vector

FLOW CONTROL	
Notify Observer	On Result Change
Observer aborts	Lower Priority
BLACKBOARD	
Key Query	Is Set
Blackboard Key	HasHeardSound
DESCRIPTION	
Node Name	Heard Sound?



▼

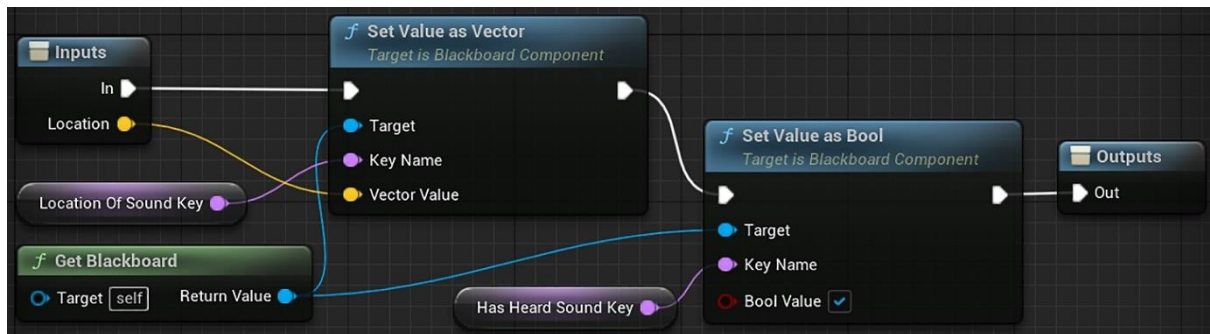
INPUTS

In	<div><div>Exec</div><div>▼</div><div></div></div>
> Location	<div><div>Vector</div><div>▼</div><div></div></div>

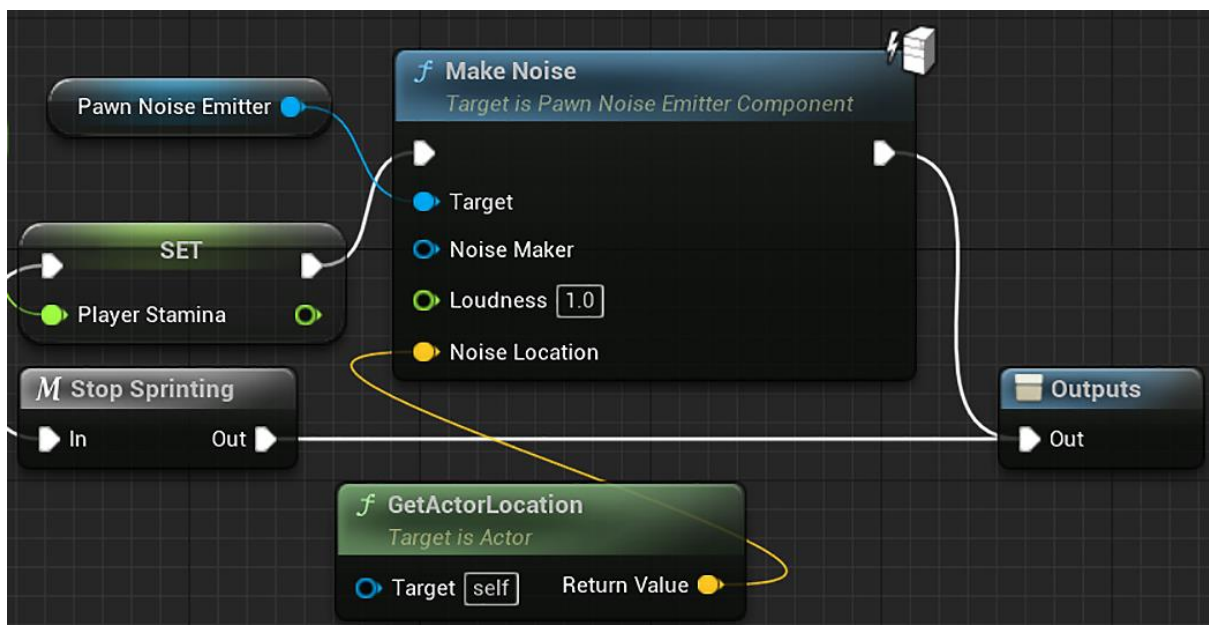
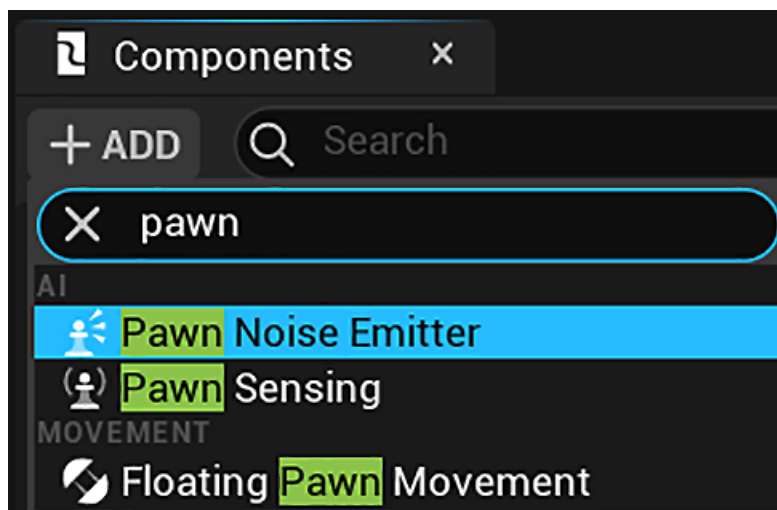
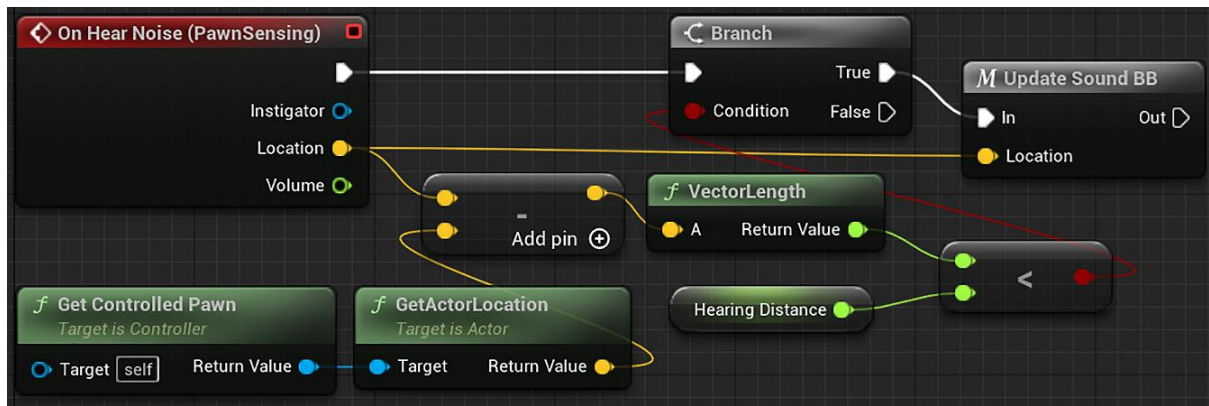
▼

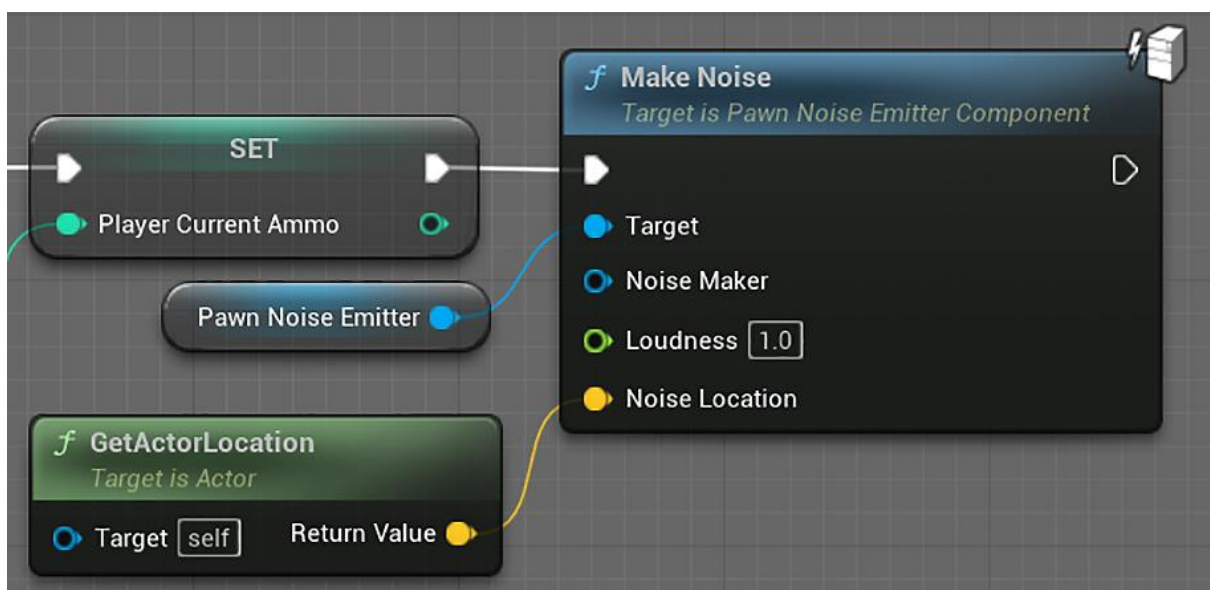
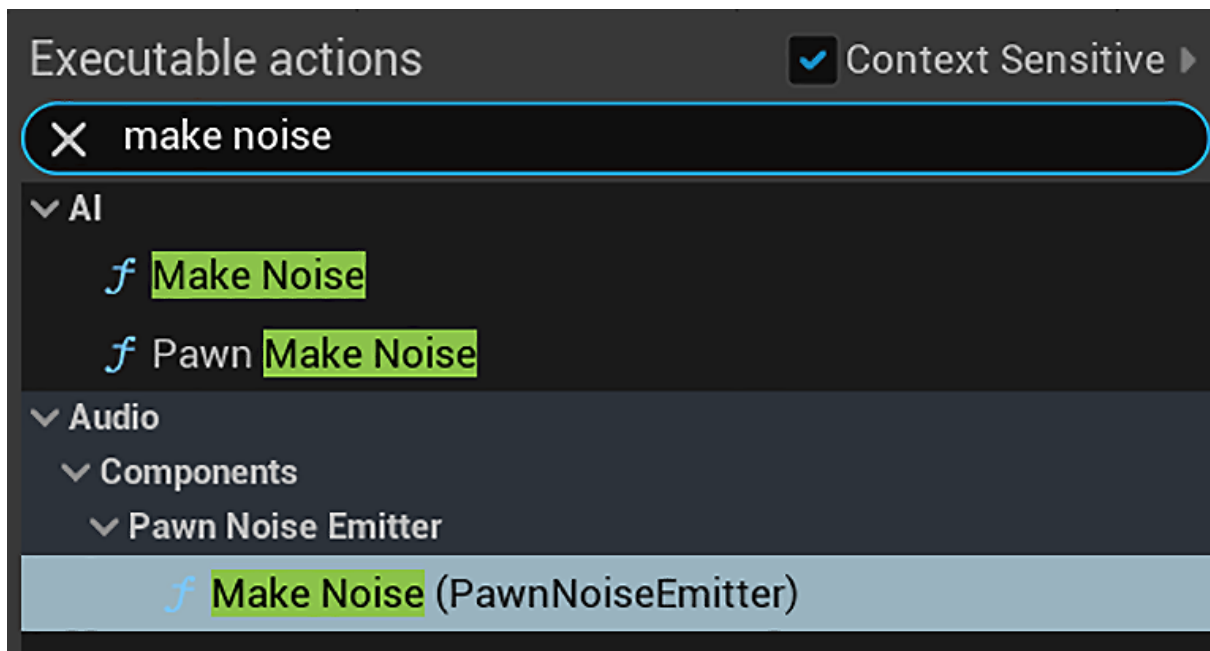
OUTPUTS

Out	<div><div>Exec</div><div>▼</div><div></div></div>
-----	---------------------------------------------------



EVENTS	
On See Pawn	View
On Hear Noise	+
On Component Activated	+
On Component Deactivated	+

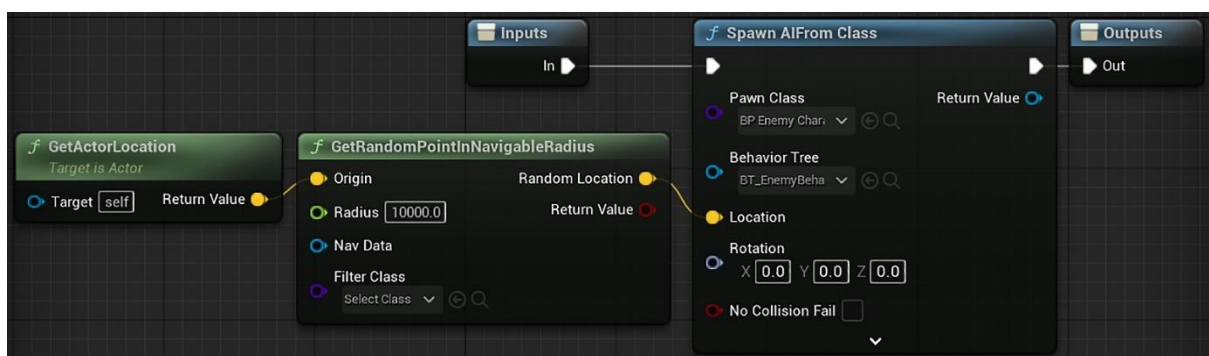


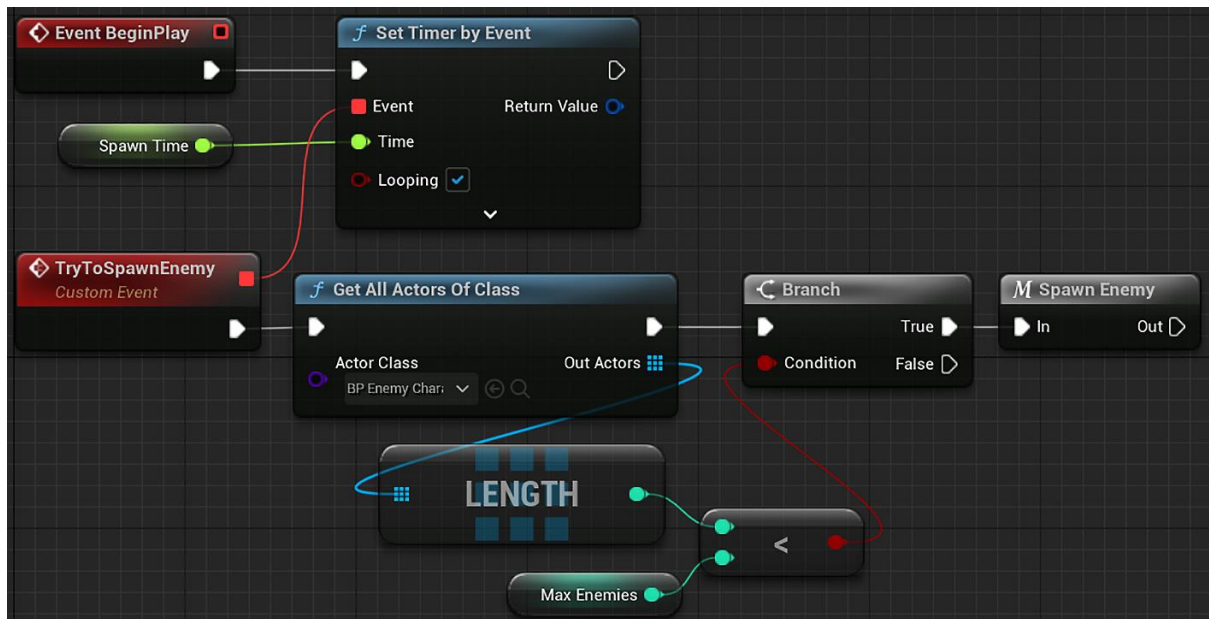




▼ VARIABLE		
Variable Name	<input type="text" value="SpawnTime"/>	
Variable Type	<span>Float</span> ▼ <span></span>	
Instance Editable	<input checked="" type="checkbox"/>	
▼		
▼ DEFAULT VALUE		
Spawn Time	<input type="text" value="10.0"/>	

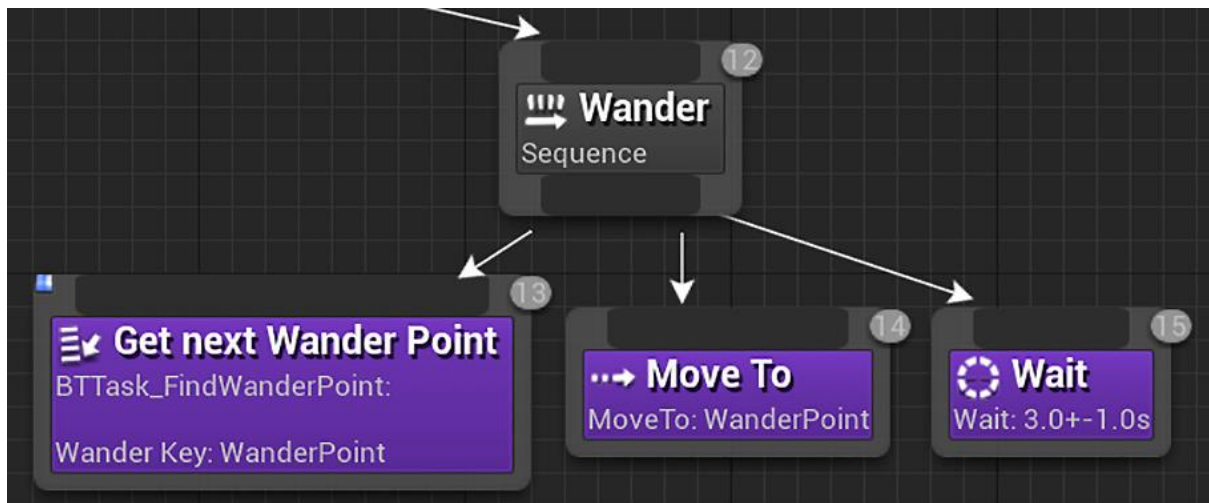
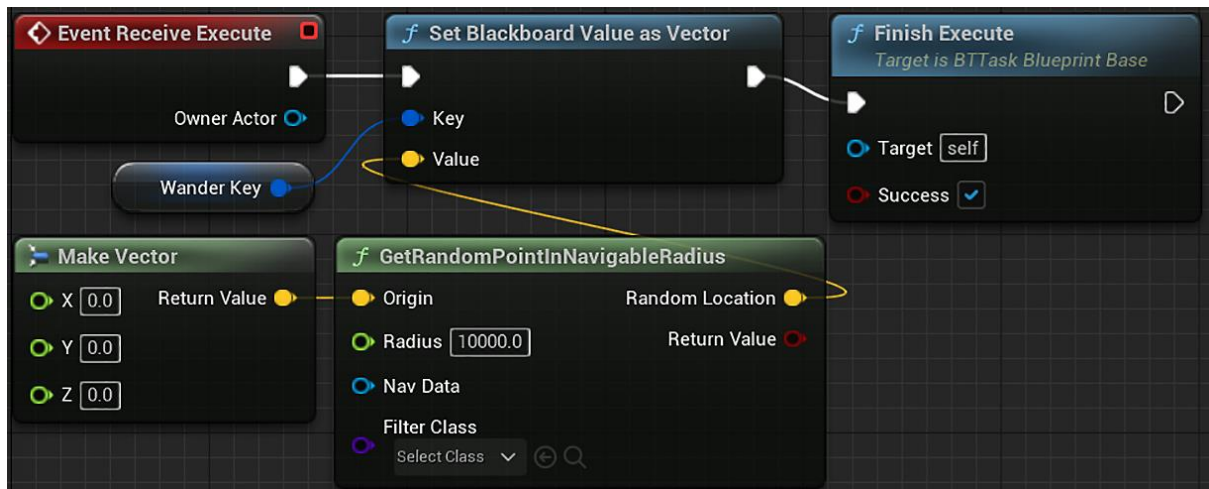
▼ VARIABLE		
Variable Name	<input type="text" value="MaxEnemies"/>	
Variable Type	<span>Integer</span> ▼ <span></span>	
Instance Editable	<input checked="" type="checkbox"/>	
▼		
▼ DEFAULT VALUE		
Max Enemies	<input type="text" value="5"/>	



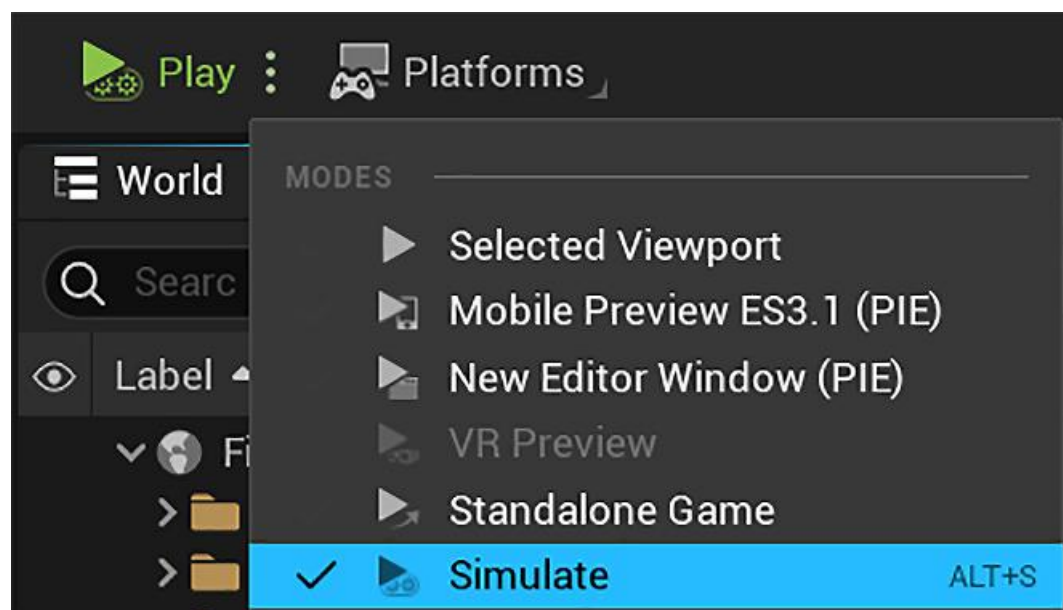


KEY	
Entry Name	WanderPoint
Entry Category	None
Entry Description	
Key Type	Vector

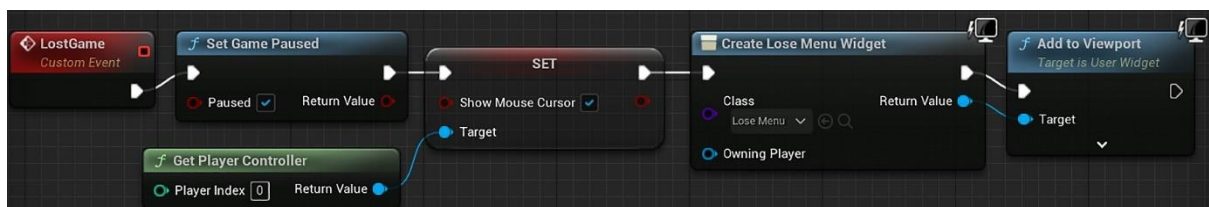
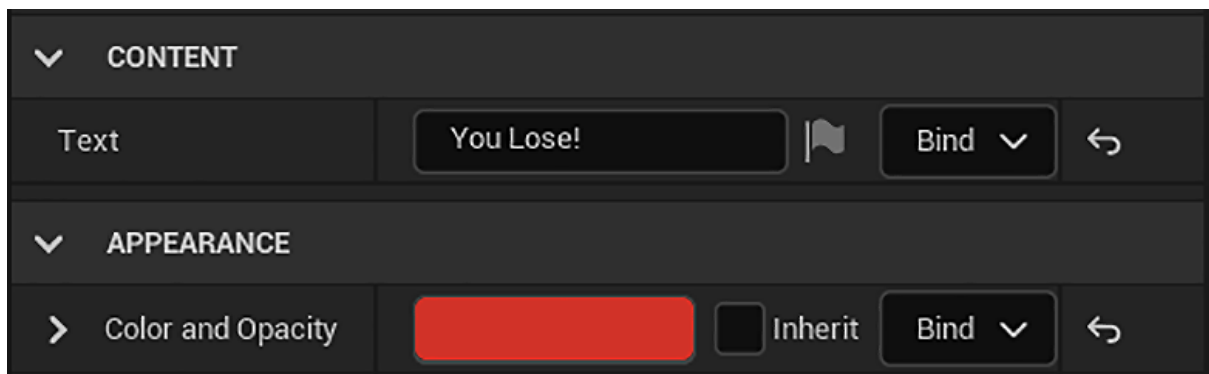
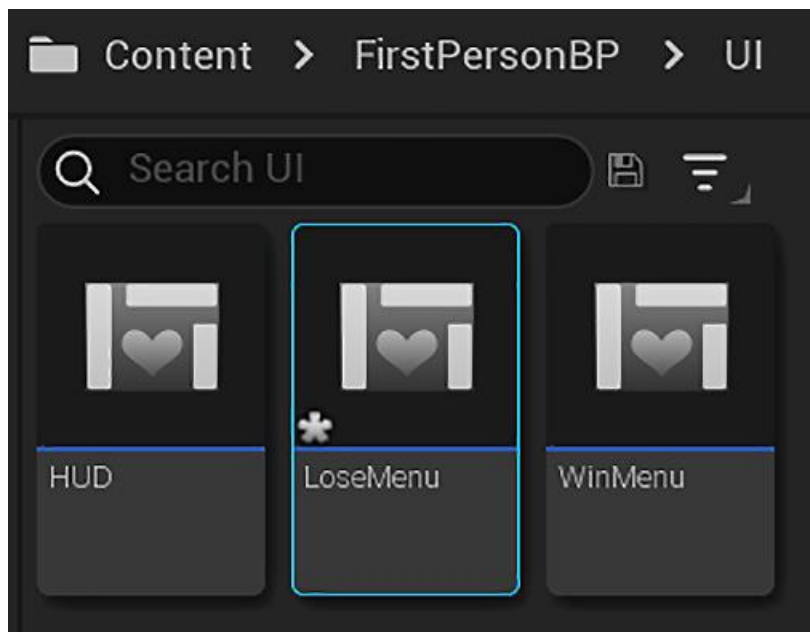
VARIABLE	
Variable Name	WanderKey
Variable Type	Blackboard Key
Instance Editable	<input checked="" type="checkbox"/>

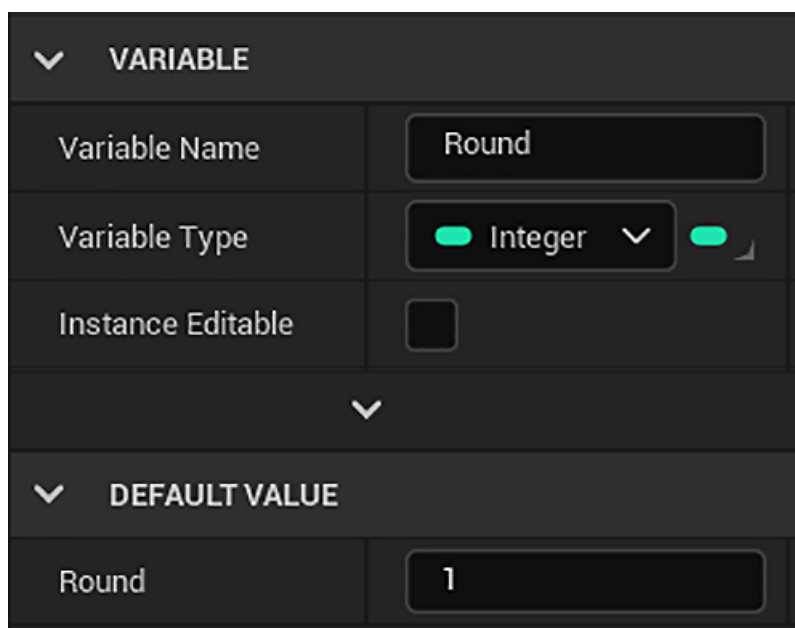
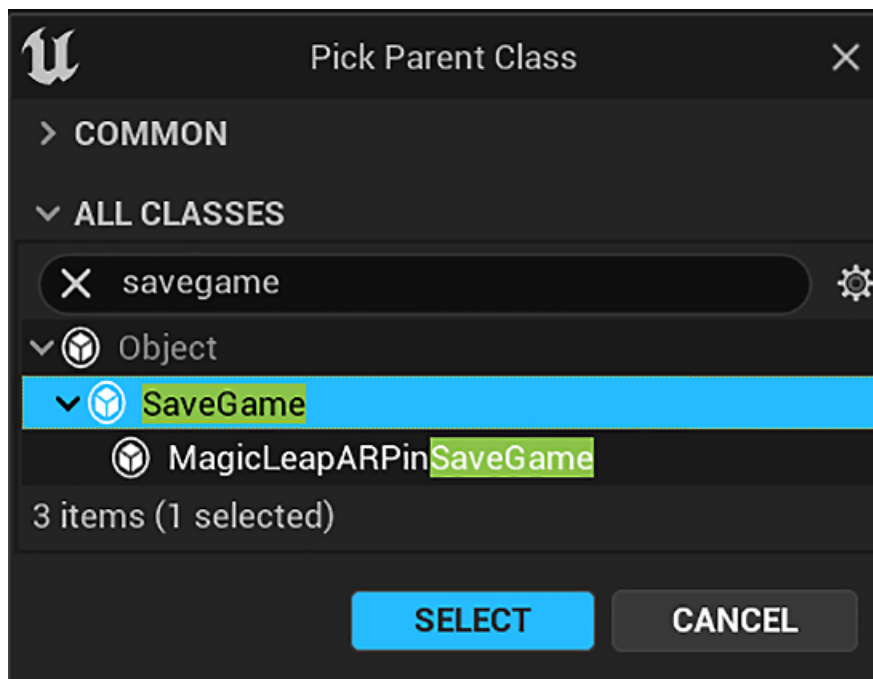
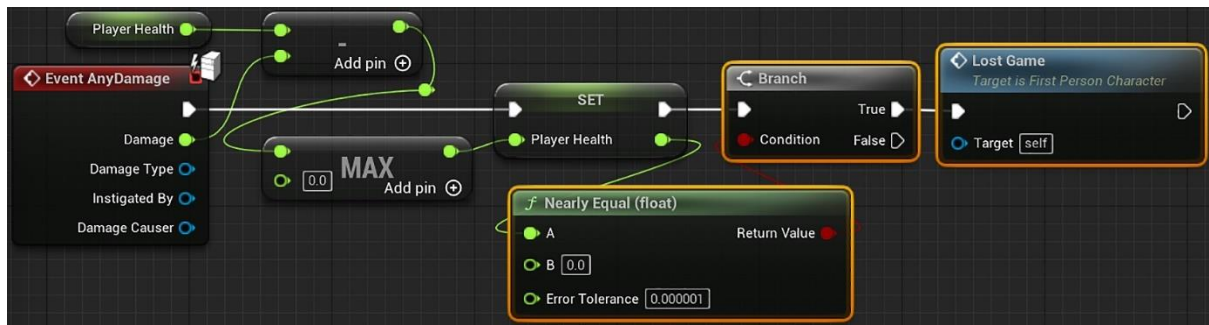


VARIABLE	
Variable Name	TargetGoal
Variable Type	Integer
Instance Editable	<input type="checkbox"/>
▼	
DEFAULT VALUE	
Target Goal	20



## Chapter 11: Game States and Applying Finishing Touches





VARIABLE

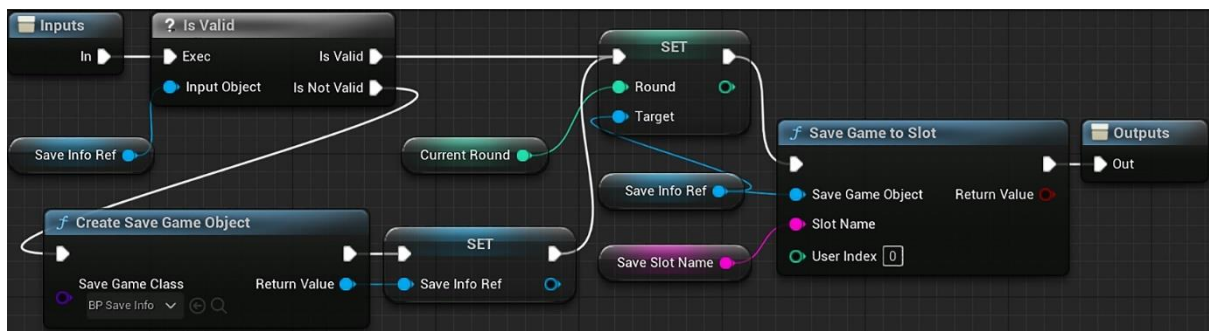
Variable Name	SaveInfoRef
Variable Type	<div> <div></div> <div>BP Save Info</div> <div></div> </div>
Instance Editable	<input type="checkbox"/>

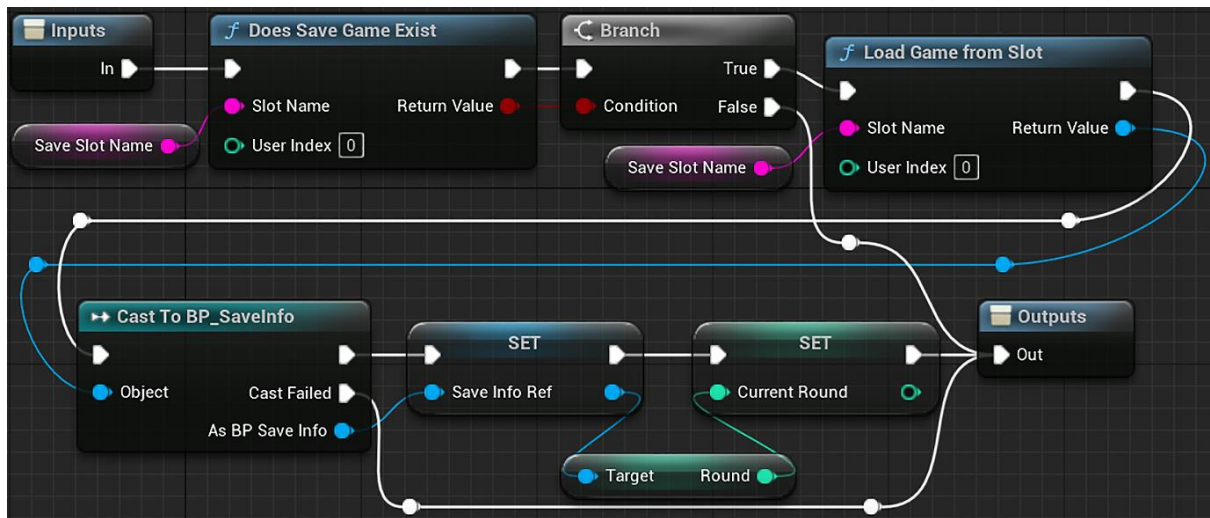
VARIABLE

Variable Name	SaveSlotName
Variable Type	<div> <div></div> <div>String</div> <div></div> </div>
Instance Editable	<input type="checkbox"/>

DEFAULT VALUE

Save Slot Name	SaveGameFile
----------------	--------------





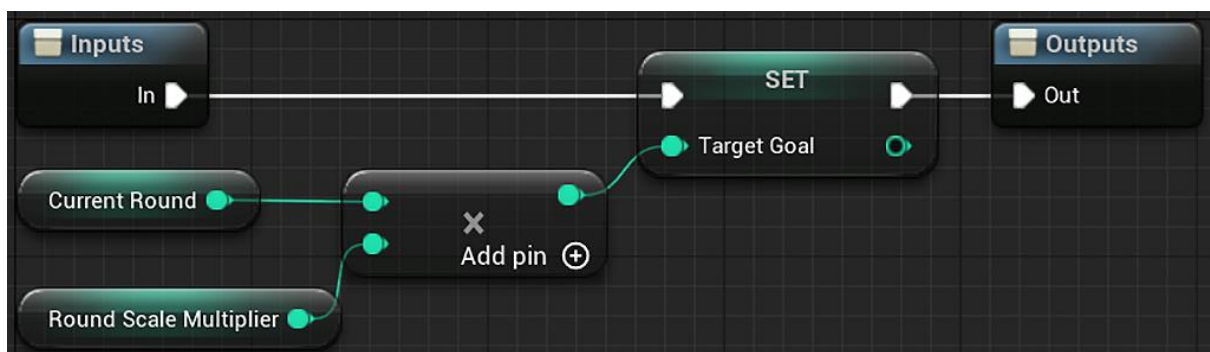
▼
VARIABLE

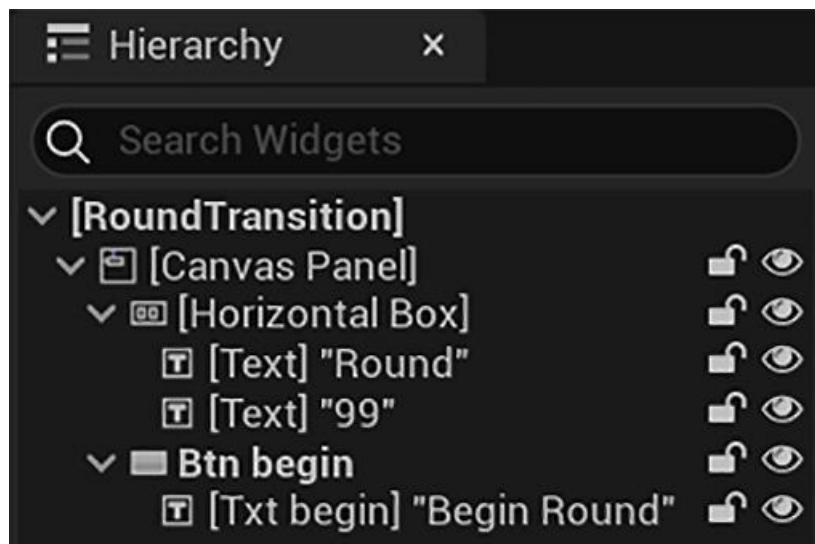
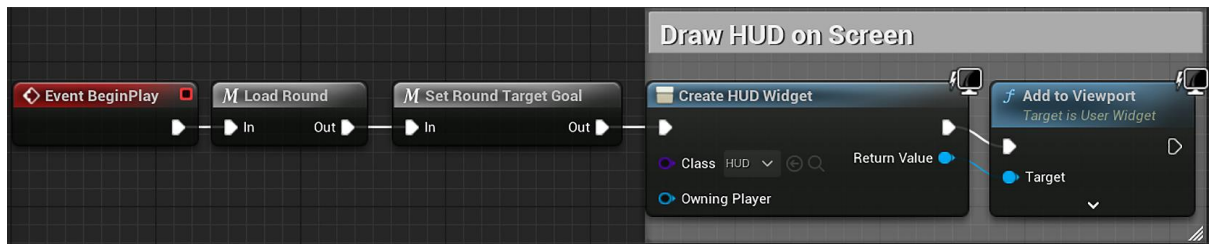
Variable Name	RoundScaleMultiplier
Variable Type	Integer
Instance Editable	<input type="checkbox"/>

▼

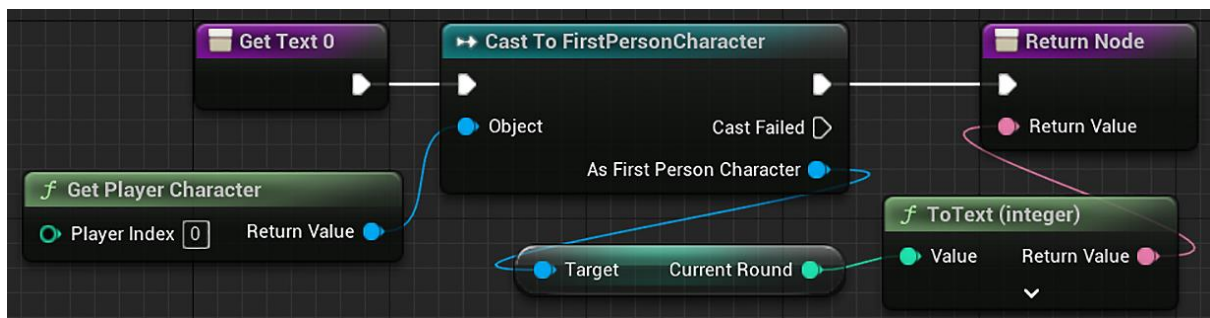
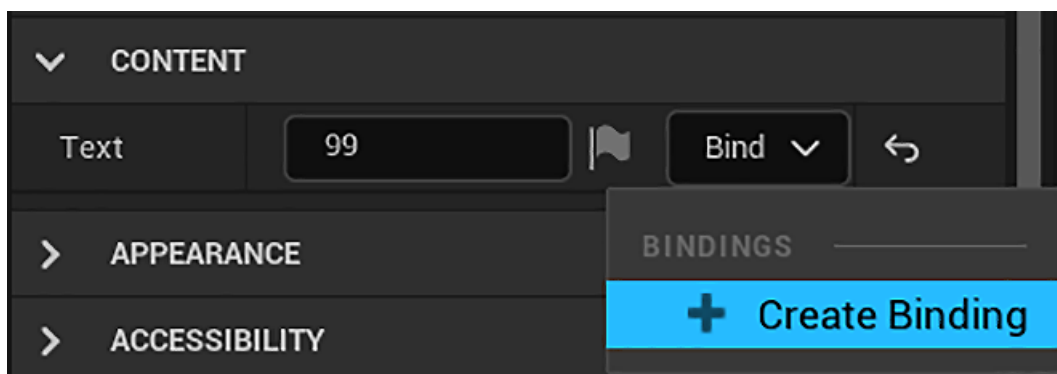
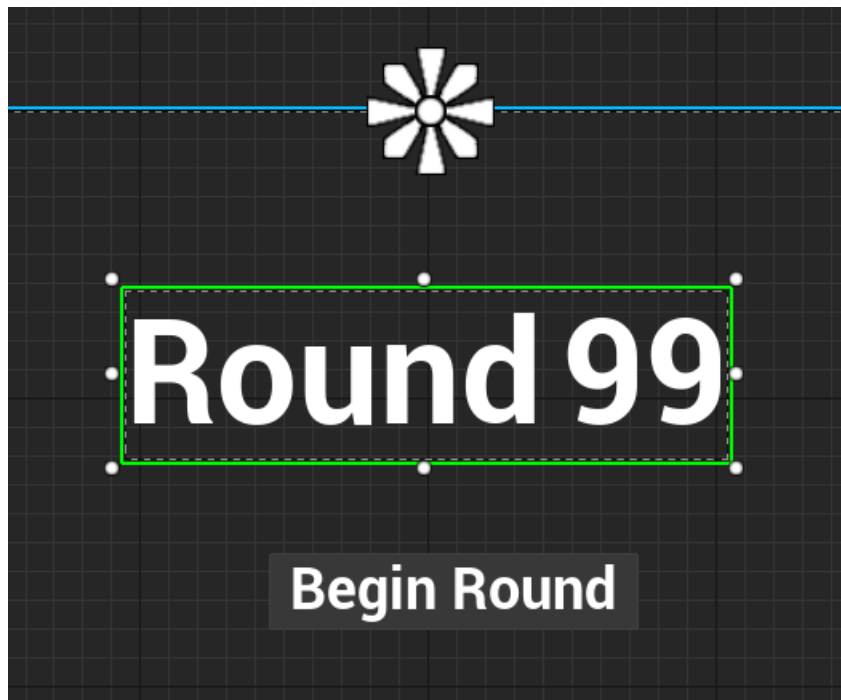
▼
DEFAULT VALUE

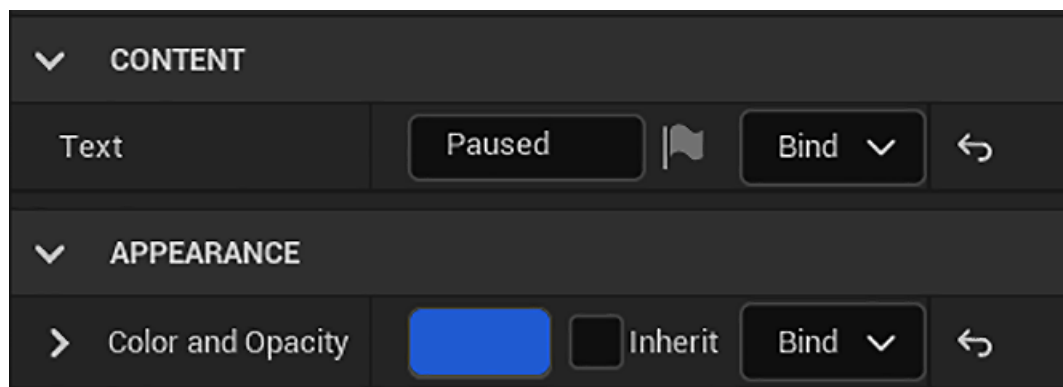
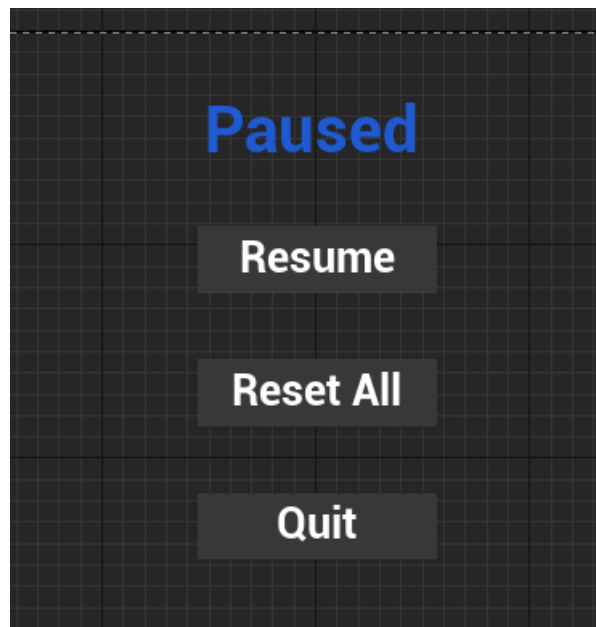
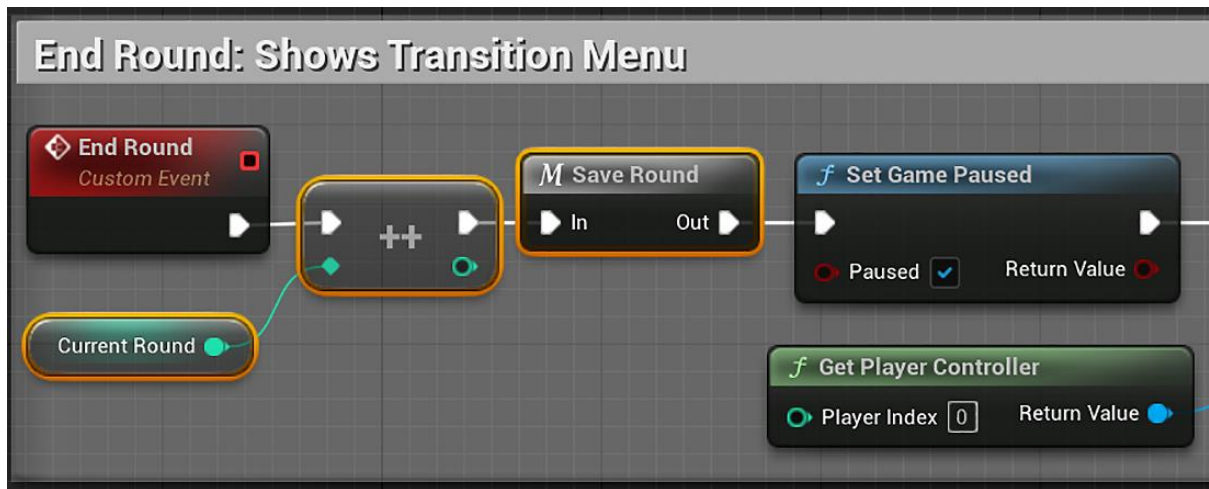
Round Scale Multiplier	2
------------------------	---



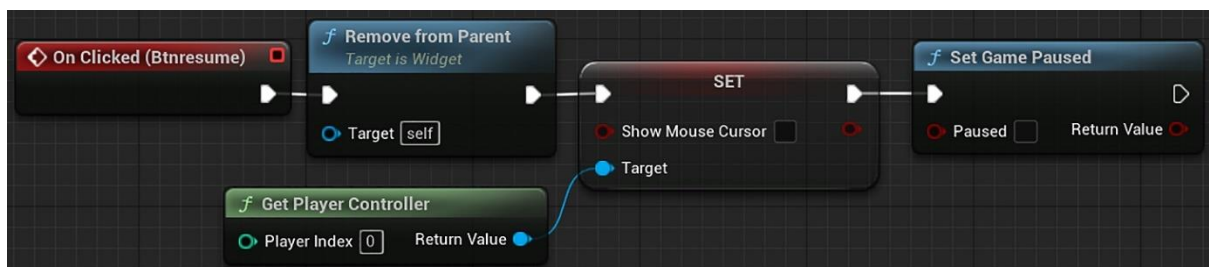
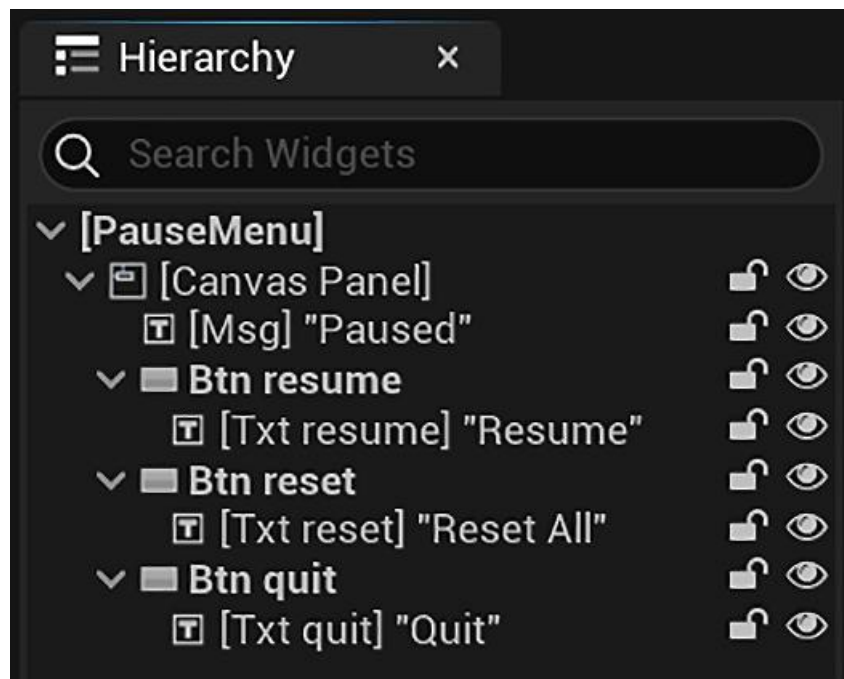


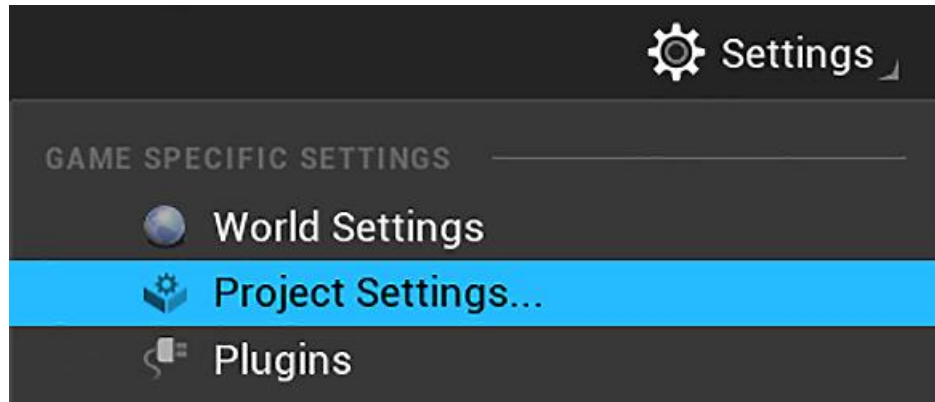
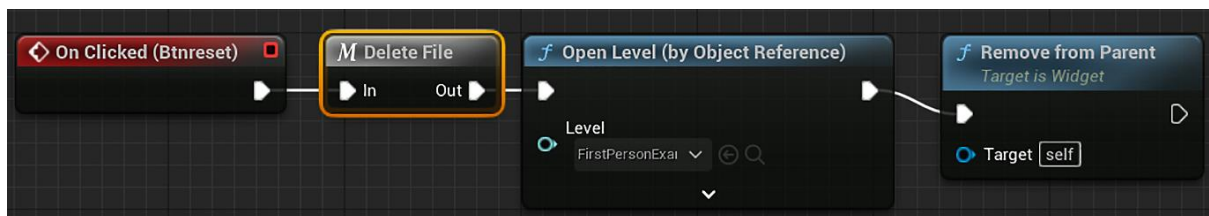
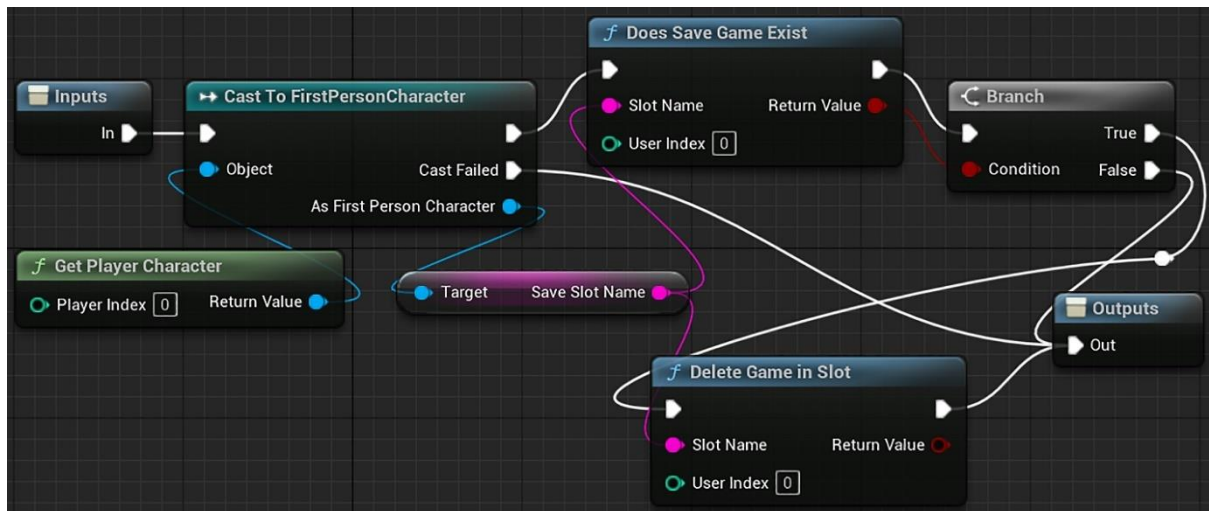
SLOT (CANVAS PANEL SLOT)	
➤ Anchors	Anchors
Position X	-340.0
Position Y	200.0
Size X	100.0
Size Y	30.0
➤ Alignment	0.0 0.0
Size To Content	<input checked="" type="checkbox"/>

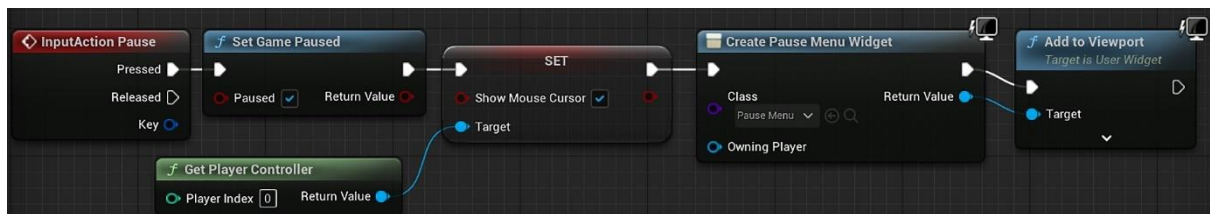
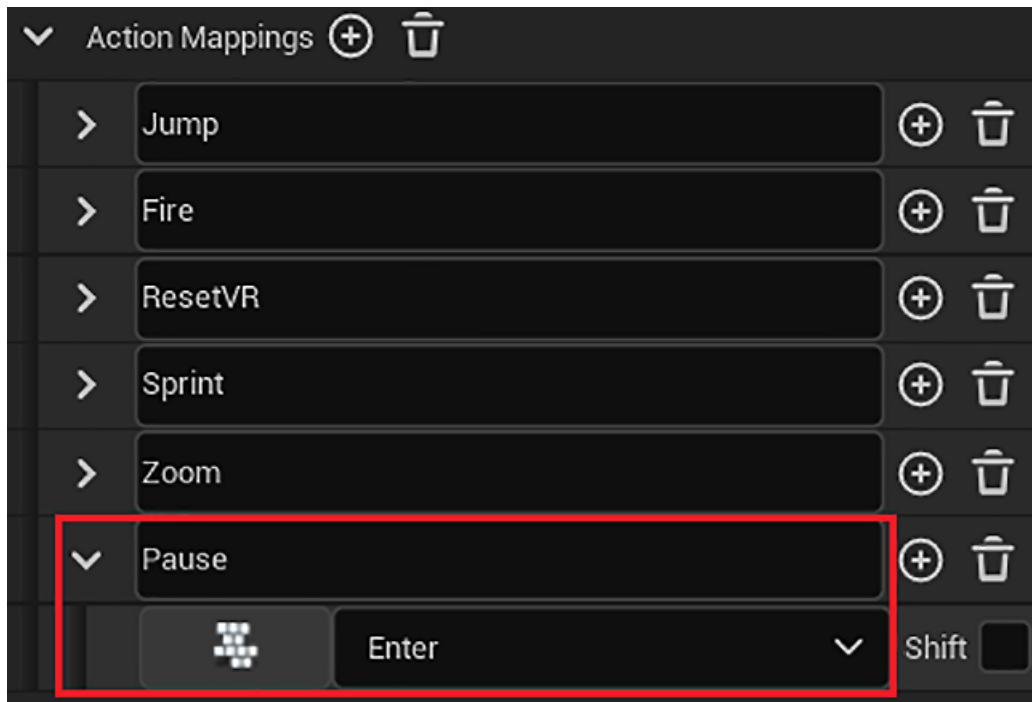




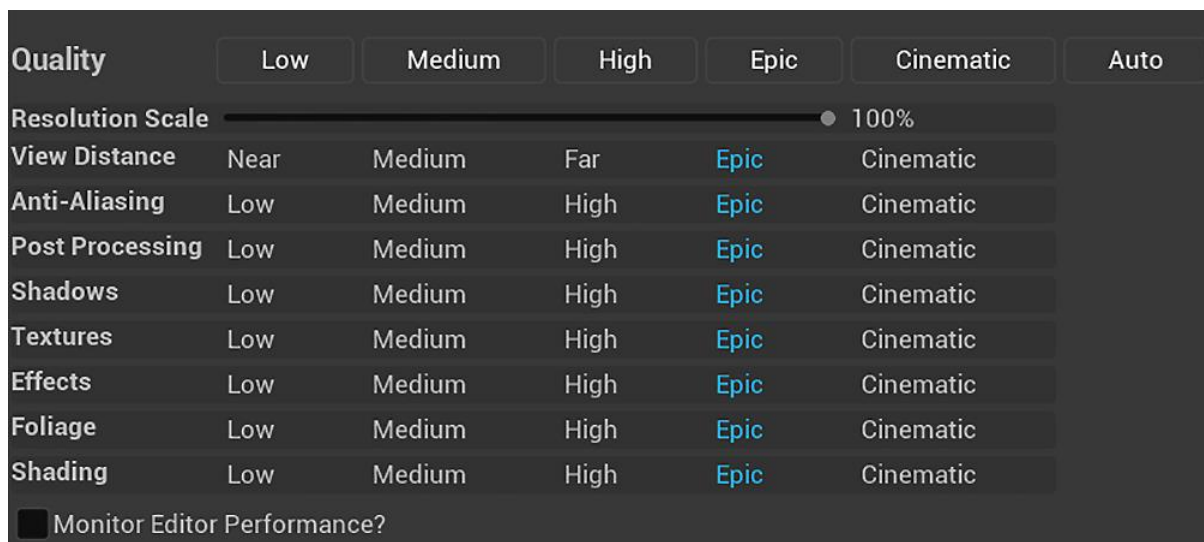
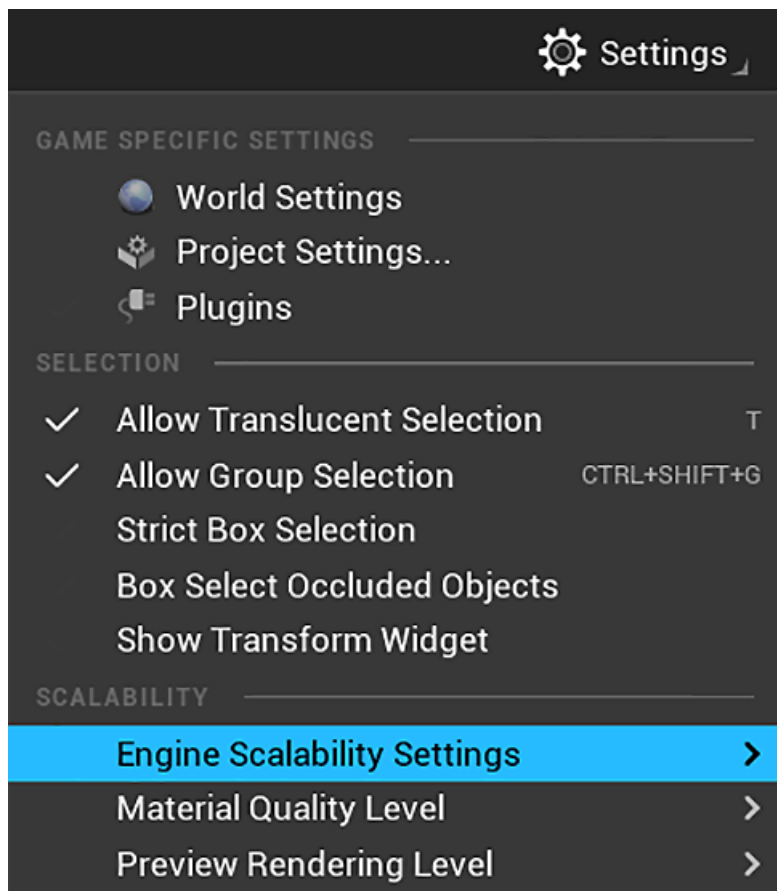
SLOT (CANVAS PANEL SLOT)			
> Anchors	Anchors	↩	
Position X	-170.0	↩	
Position Y	-450.0	↩	

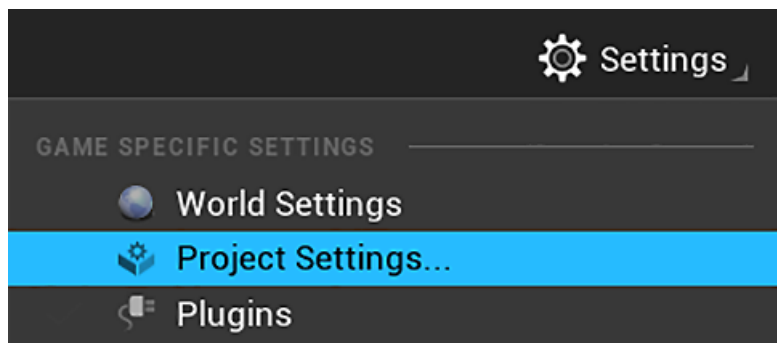






## Chapter 12: Building and Publishing






## Project - Description

Descriptions and other information about your project.

[Export...](#) [Import...](#)

🔒 These settings are saved in DefaultGame.ini, which is currently writable.

### ABOUT

Project Thumbnail		...
Description	<input type="text" value="Blueprint UE5 Tutorial"/>	
Project ID	<input type="text" value="{21D84CBE-4DE1-4F35-0E9A-F892864DFBC7}"/>	
Project Name	<input type="text" value="Zombie Panic!"/>	
Project Version	<input type="text" value="3.0"/>	

### PUBLISHER

Company Name	<input type="text" value="Packt"/>	
Company Distinguished Name	<input type="text"/>	
Homepage	<input type="text" value="www.packtpub.com"/>	
Support Contact	<input type="text" value="romero1978@gmail.com"/>	

## Project - Maps & Modes

Default maps, game modes and other map related settings.

Export...

Import...



These settings are saved in DefaultEngine.ini, which is currently writable.

> DEFAULT MODES

▼ DEFAULT MAPS

Editor Startup Map



FirstPersonExampleMap



Game Default Map



FirstPersonExampleMap



## Platforms - Windows

Settings for Windows target platform

Export...

Import...



These settings are saved in DefaultEngine.ini, which is currently writable.

> TARGETED RHIS

> TOOLCHAIN

> OS INFO

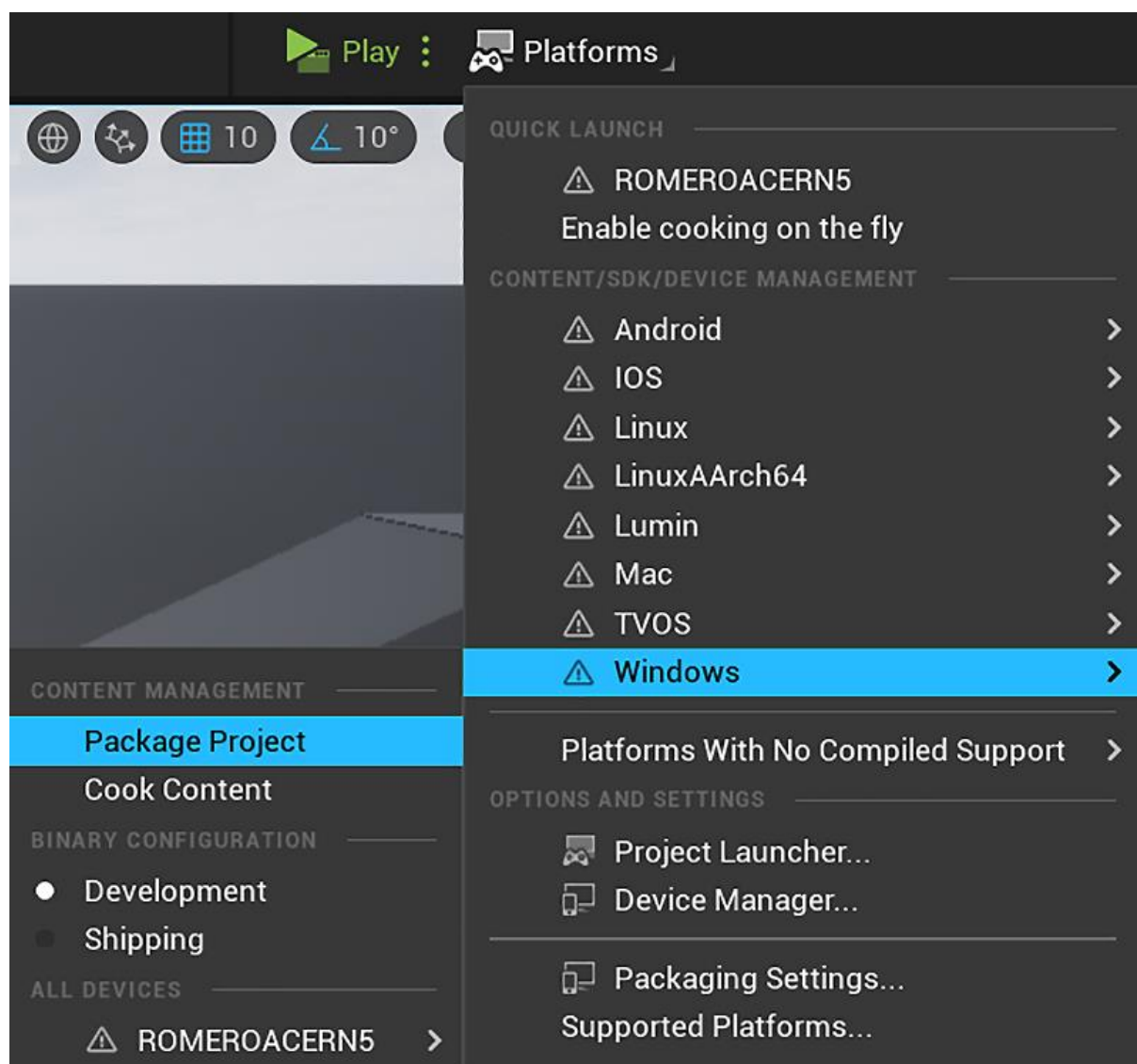
> SPLASH

▼ ICON

Game Icon



> AUDIO



## ▼ Project - Packaging

Fine tune how your project is packaged for release.

Export...

Import...



These settings are saved in DefaultGame.ini, which is currently writable.

### > PACKAGING

#### ▼ PROJECT

Build

If project has code, or running a locally built editor ▼

Build Configuration

Development ▼

Build Target

Staging Directory

Full Rebuild

☐

For Distribution

☐

Include Debug Files

☐

### > PREREQUISITES

#### PROJECT



New Project...



Open Project...



Zip Project



Recent Projects

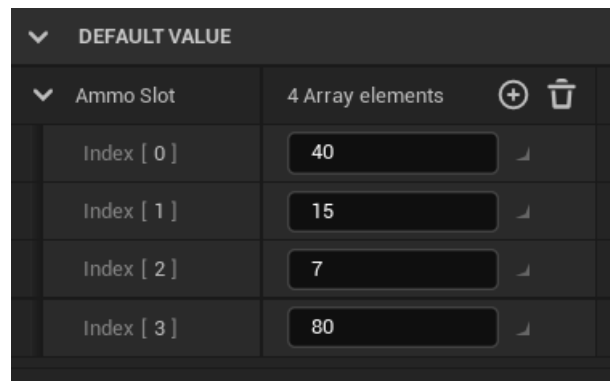
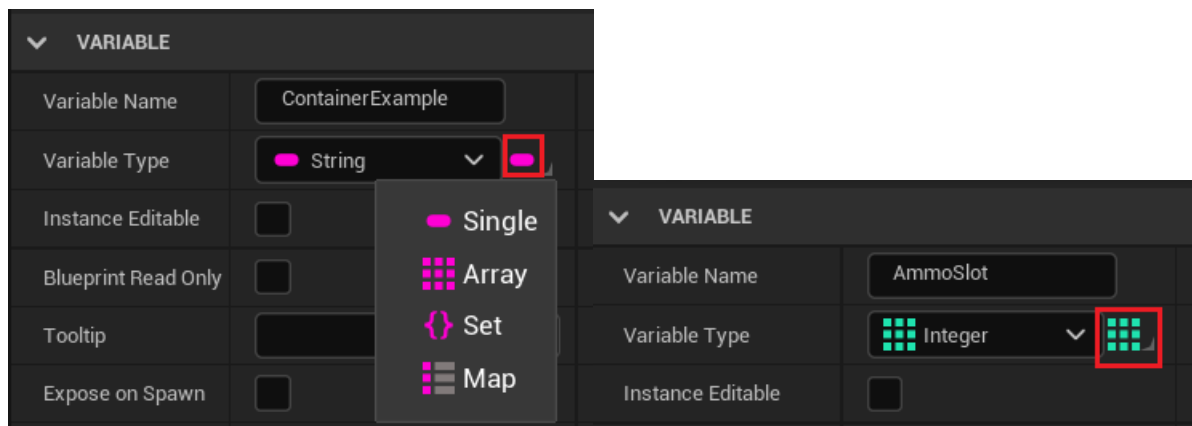


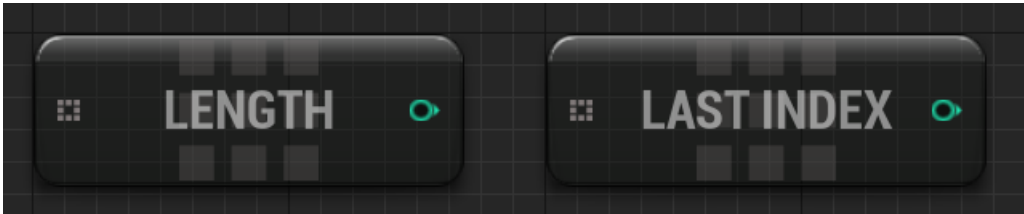
#### EXIT

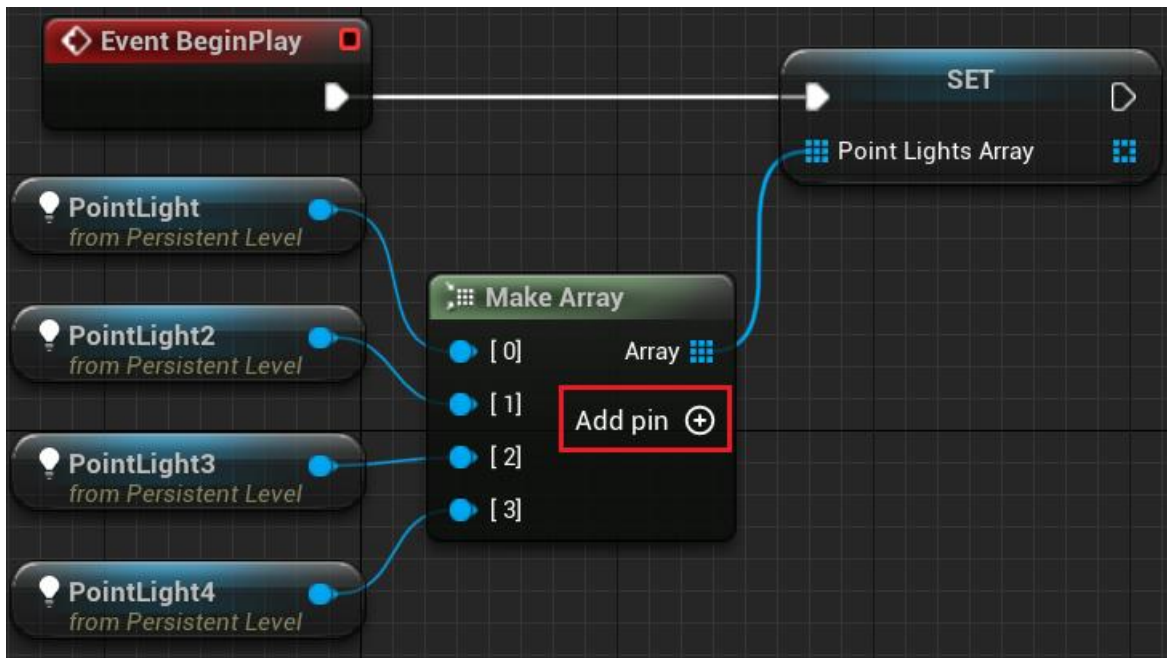


Exit

## Chapter 13: Data Structures and Flow Control



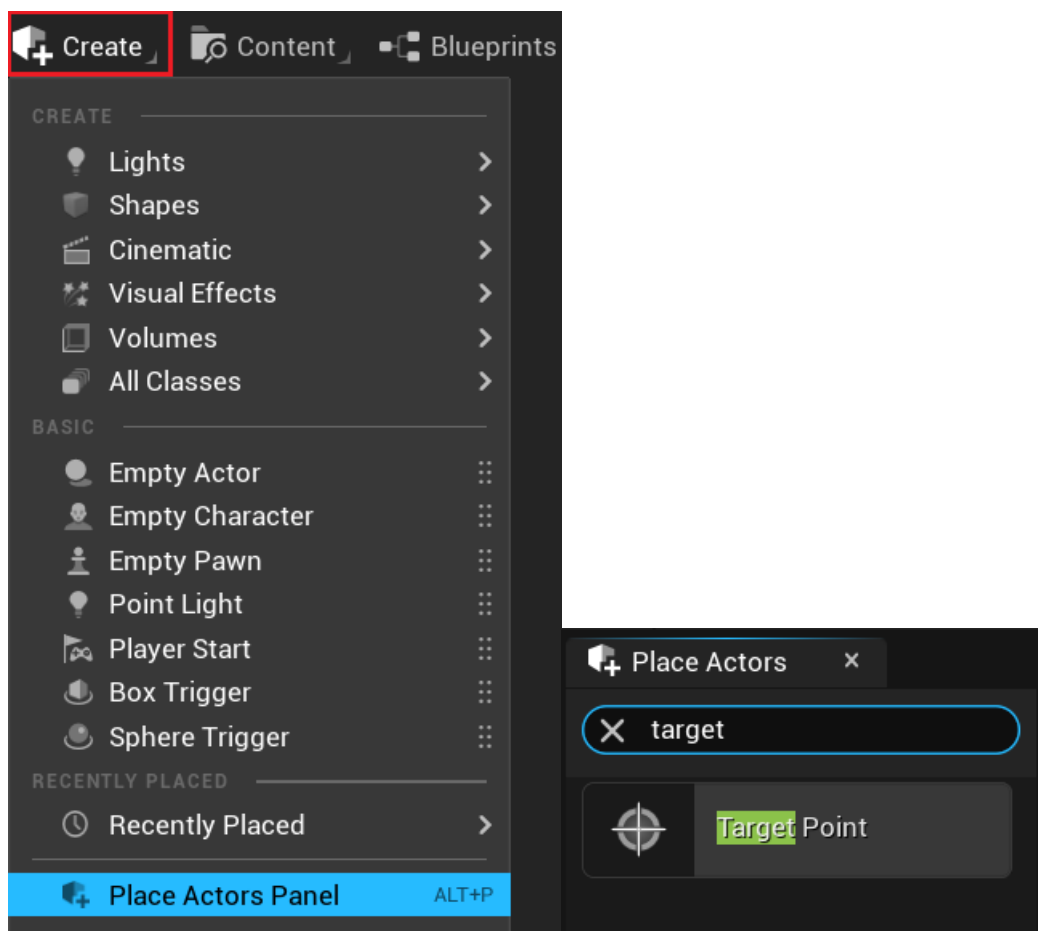
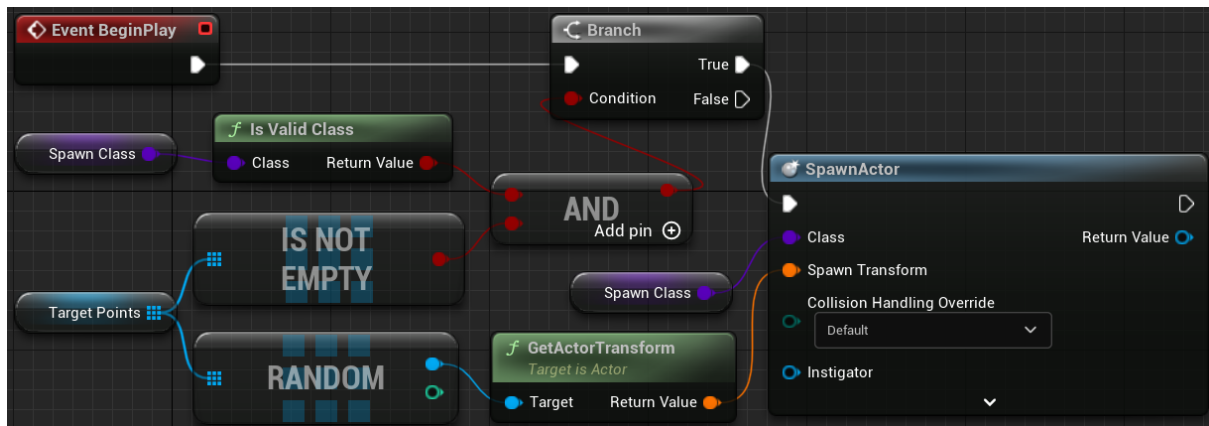




VARIABLE	
Variable Name	TargetPoints
Variable Type	Target Point
Instance Editable	<input checked="" type="checkbox"/>

actor	
> Structure	
v Object Types	
Actor	> Object Reference
Actor Action Utility	> Class Reference
Actor Component	> Soft Object Reference
Actor Sequence	> Soft Class Reference
Actor Sequence Component	>

VARIABLE	
Variable Name	SpawnClass
Variable Type	Actor
Instance Editable	<input checked="" type="checkbox"/>



▼ DEFAULT					
▼ Target Points		4 Array elements	⊕	🗑	↶
Index [ 0 ]	TargetPoint	▼	🔍	🖋	↶
Index [ 1 ]	TargetPoint2	▼	🔍	🖋	↶
Index [ 2 ]	TargetPoint3	▼	🔍	🖋	↶
Index [ 3 ]	TargetPoint4	▼	🔍	🖋	↶
Spawn Class		Blueprint_Effect_Smoke ▼	↶	🔍	⊕
			🗑	✕	↶



▼ VARIABLE

Variable Name	UniqueNames
Variable Type	<div><div>{ }</div>String<div>▼</div><div><div>{ }</div></div></div>
Instance Editable	<input type="checkbox"/>

▼ DEFAULT VALUE

▼ Unique Names

4 Set elements

⊕

🗑

Index [ 0 ]	Hawk
Index [ 1 ]	Ramirez
Index [ 2 ]	Jonesy
Index [ 3 ]	Wildcat

▶

{ }

ADD

▶

▶

{ }

ADD ITEMS

▶

{ }

□

CONTAINS

◂

{ }

LENGTH

◂

▶

{ }

TO ARRAY

▶

▶

{ }

CLEAR

▶

▶

{ }

REMOVE

▶

▶

{ }

REMOVE ITEMS

▶

▶

{ }

UNION

{ }

▶

{ }

DIFFERENCE

{ }

▶

{ }

INTERSECTION

{ }

Make Set

[ 0 ]

Set { }

[ 1 ]

Add pin ⊕

[ 2 ]

[ 3 ]

End of Round

Custom Event

Winner Name

Unique Names { }

ADD

▼

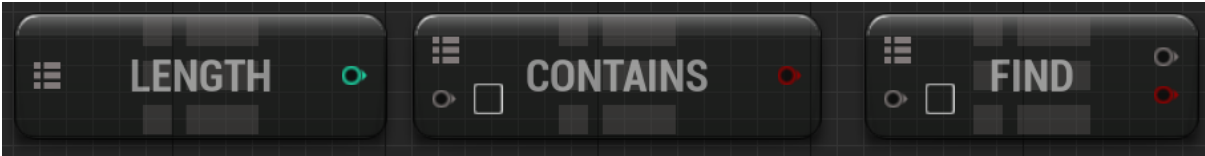
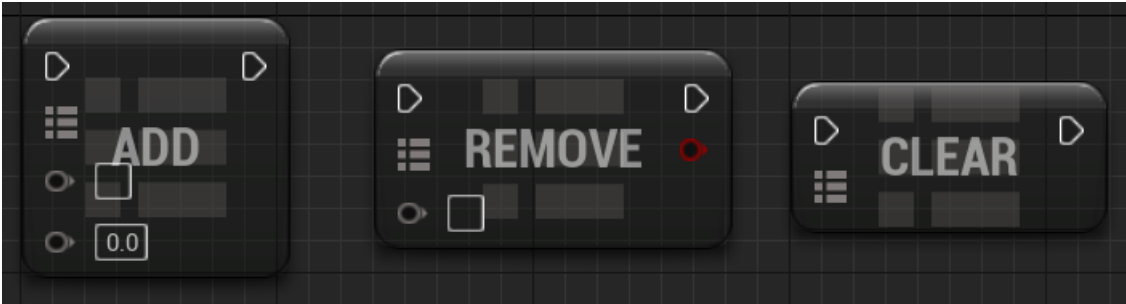
VARIABLE

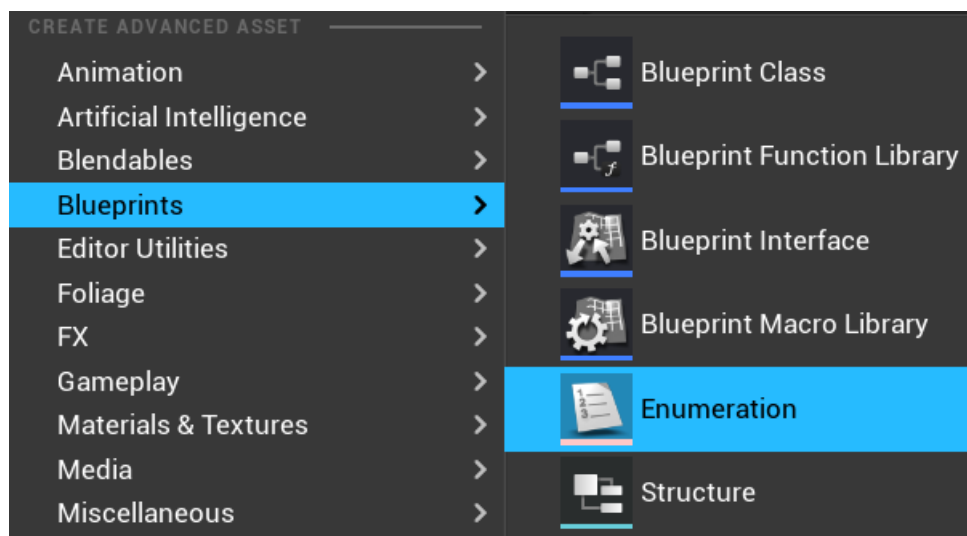
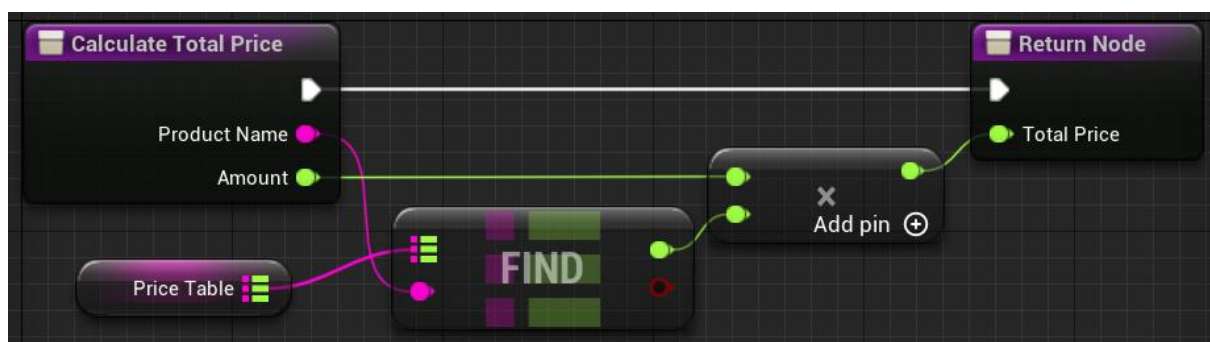
Variable Name	<div>PriceTable</div>	
Variable Type	<div><div></div>String▼</div>	<div><div></div>Float▼</div>
Instance Editable	<div><input type="checkbox"/></div>	

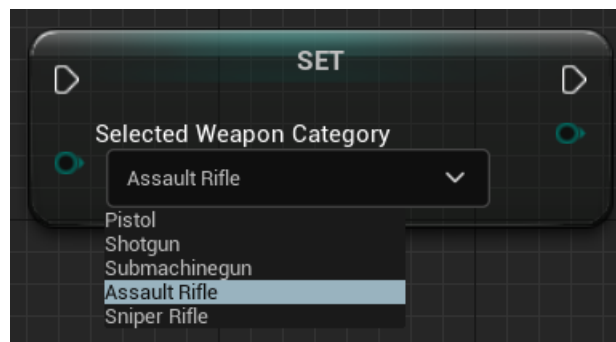
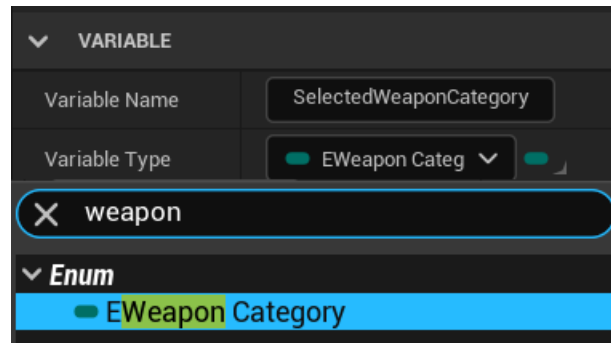
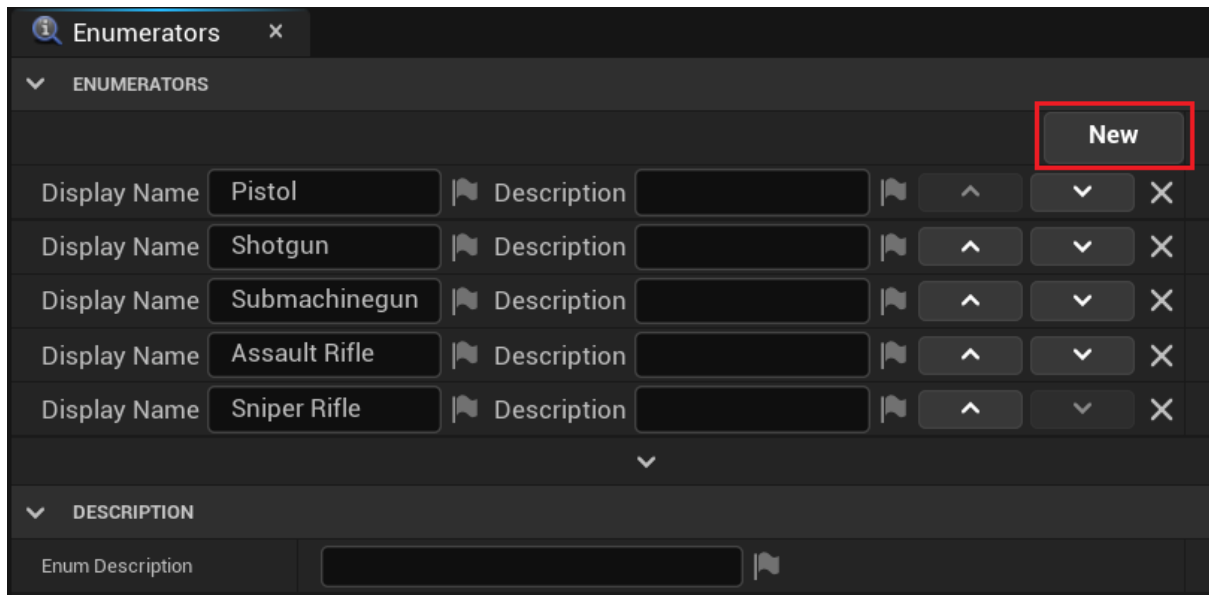
▼

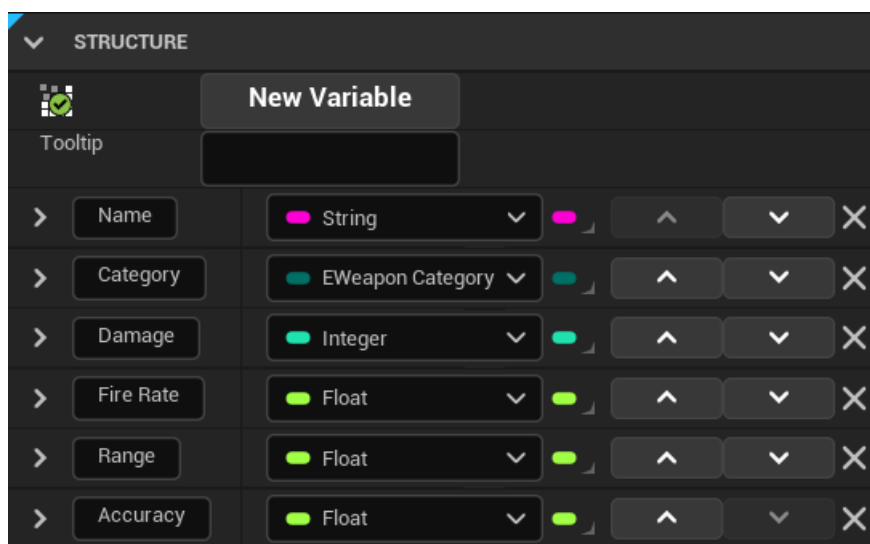
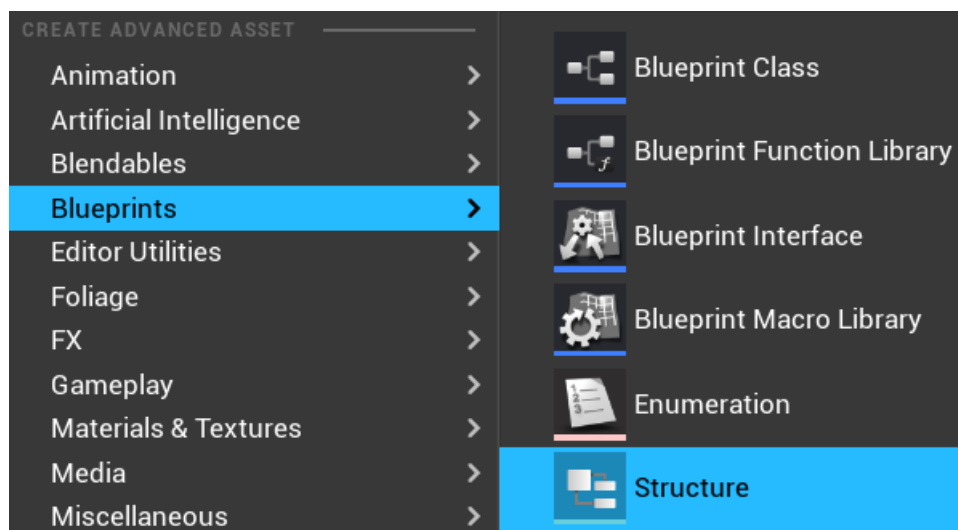
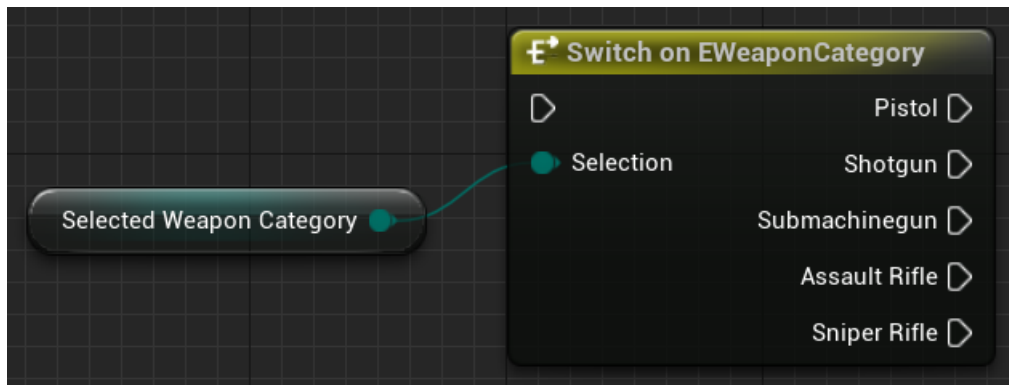
DEFAULT VALUE

▼ Price Table	4 Map elements	<div><div>+</div><div>🗑</div></div>
<div>HealthPotion</div>	<div>3.5</div>	<div>⌵</div>
<div>ManaPotion</div>	<div>5.0</div>	<div>⌵</div>
<div>Sword</div>	<div>100.0</div>	<div>⌵</div>
<div>Shield</div>	<div>50.0</div>	<div>⌵</div>









▼ VARIABLE

Variable Name

CurrentWeapon

Variable Type

Weapon Type

▼

✕

weapon

▼ Structure

Weapon Type

➤ Enum

▼ DEFAULT VALUE

▼ Current Weapon

Name	AK-47
Category	Assault Rifle ▼
Damage	50
Fire Rate	0.6
Range	0.5
Accuracy	0.8

### Make WeaponType

Name

Category 

Pistol

Damage

Fire Rate

Range

Accuracy

Weapon Type

### Break WeaponType

Weapon Type

Name

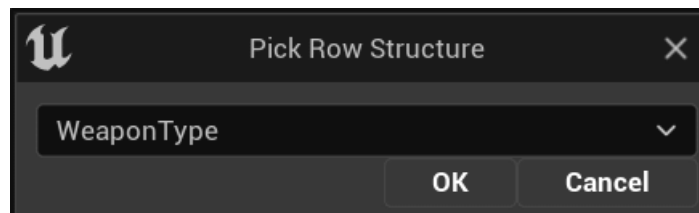
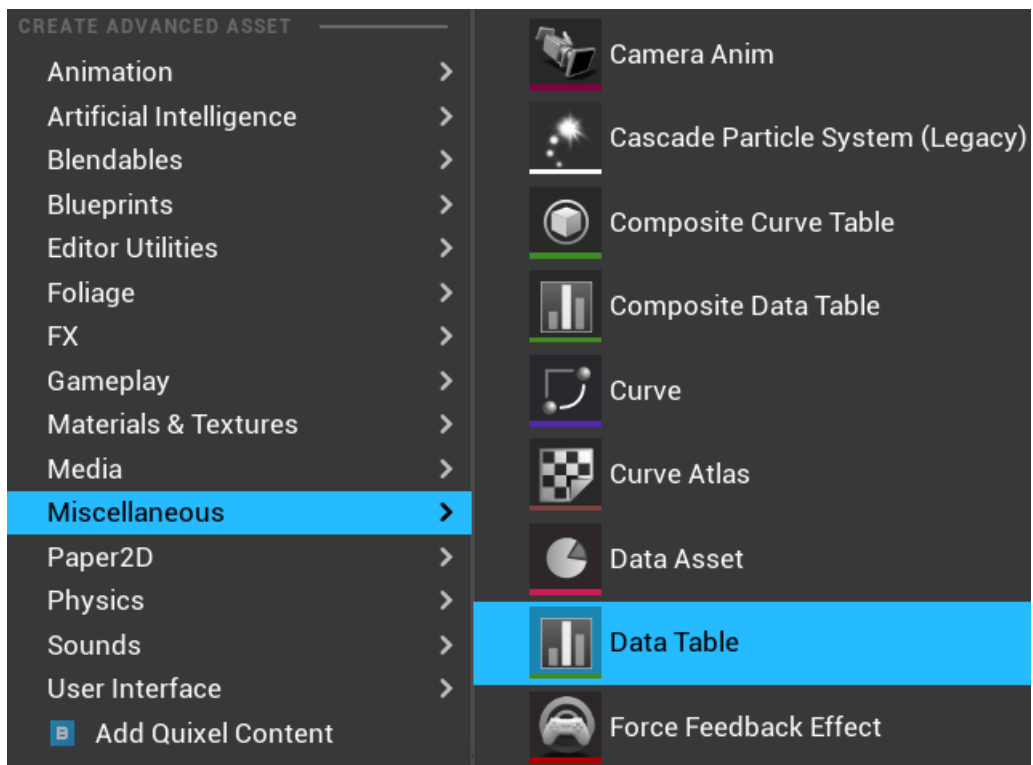
Category

Damage

Fire Rate

Range

Accuracy



WeaponTable

Save

Browse

Reimport

+

Add

Copy

Paste

Duplicate

Data Table

Data Table Detail

Search

	Row Name	Name	Category	Damage	Fire Rate	Range	Accuracy
1	1	Desert Eagle	Pistol	30	0.200000	0.300000	0.600000
2	2	M1887	Shotgun	60	0.300000	0.100000	0.500000
3	3	Uzi	Submachinegun	40	0.500000	0.400000	0.700000
4	4	AK-47	Assault Rifle	50	0.600000	0.500000	0.800000
5	5	Dragunov SVD	Sniper Rifle	70	0.300000	1.000000	0.900000

Row Editor

5

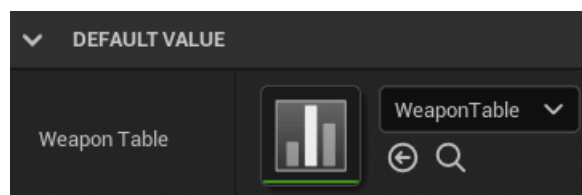
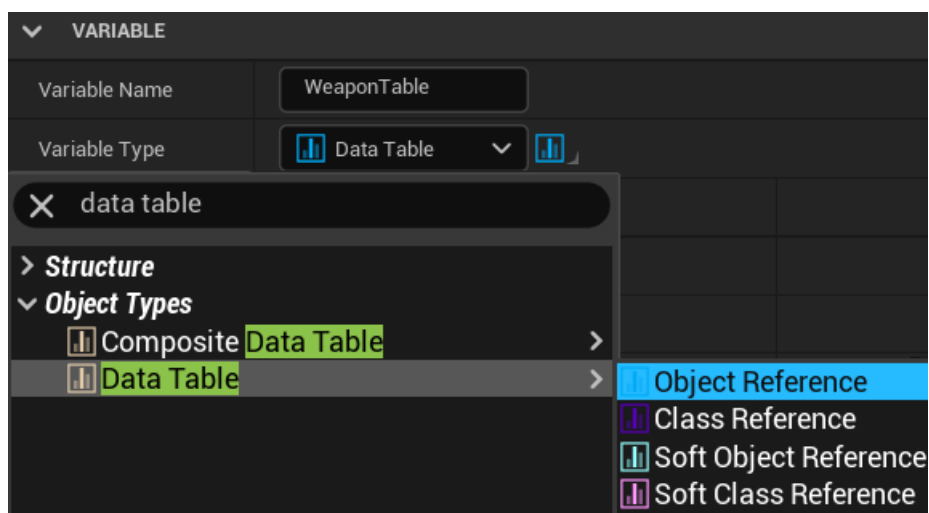
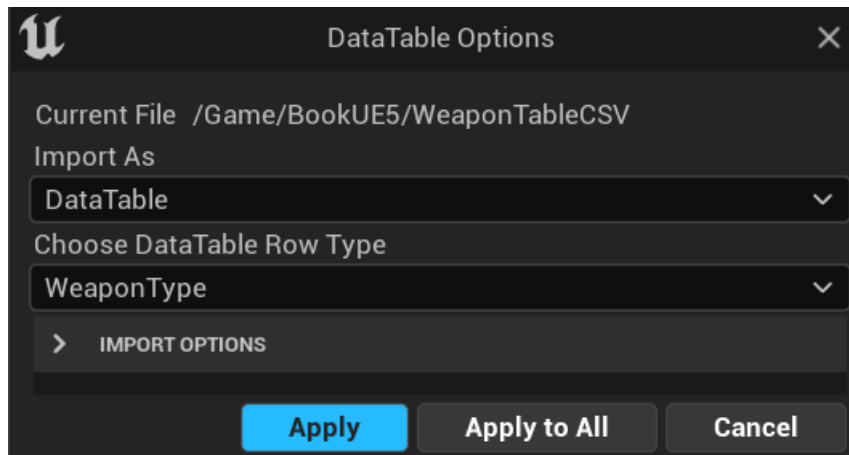
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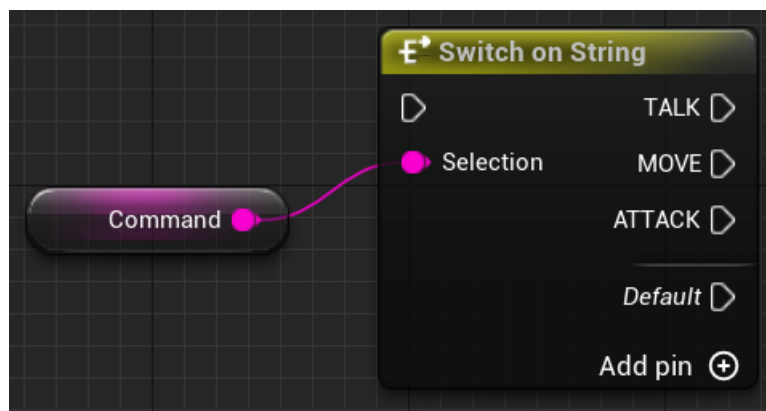
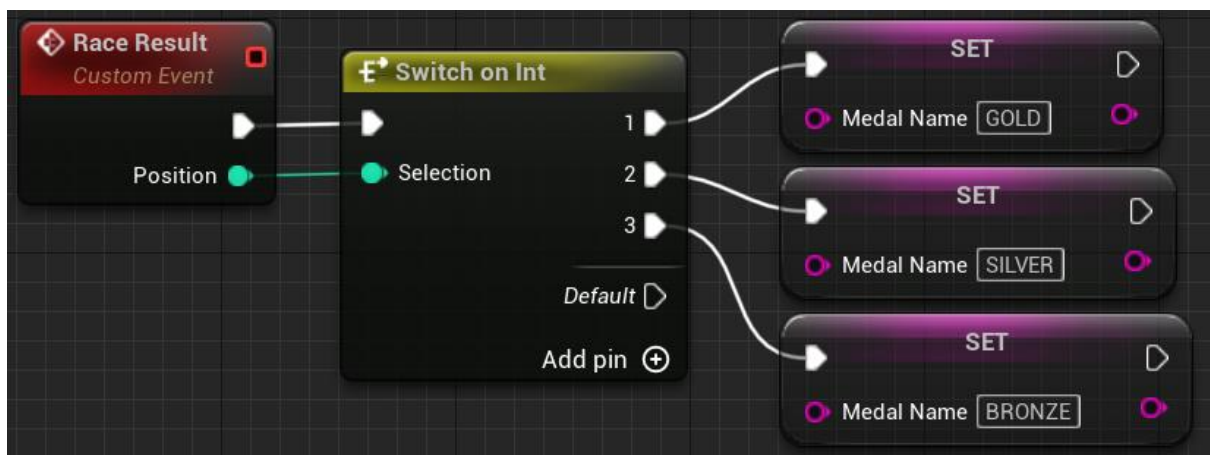
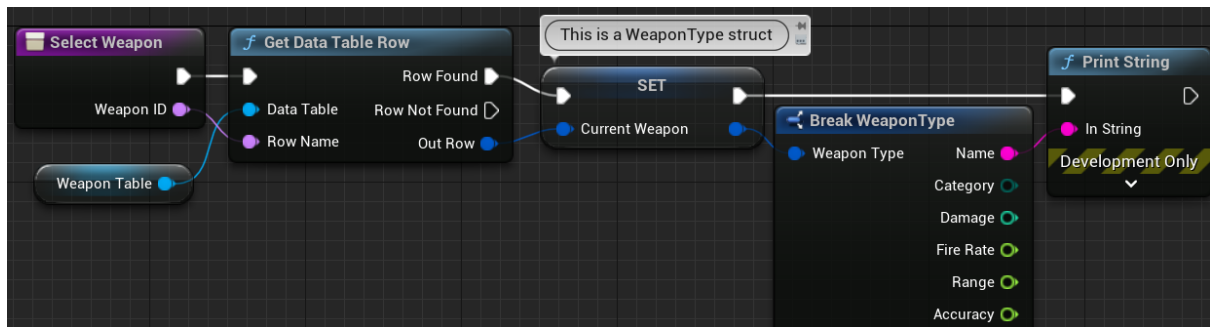
Name	Dragunov SVD
Category	Sniper Rifle
Damage	70
Fire Rate	0.3
Range	1.0
Accuracy	0.9

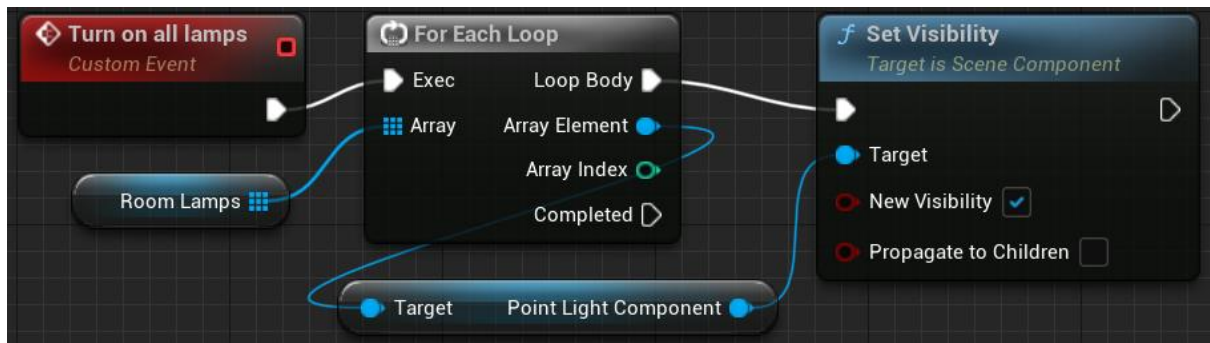
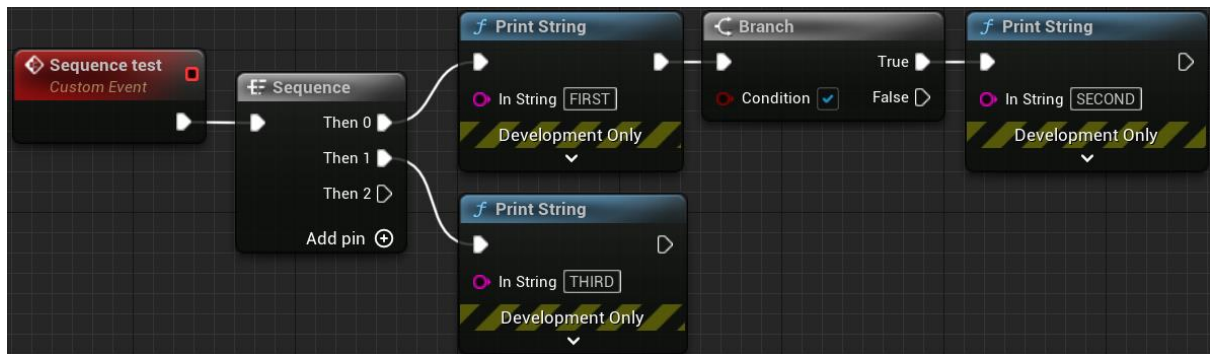
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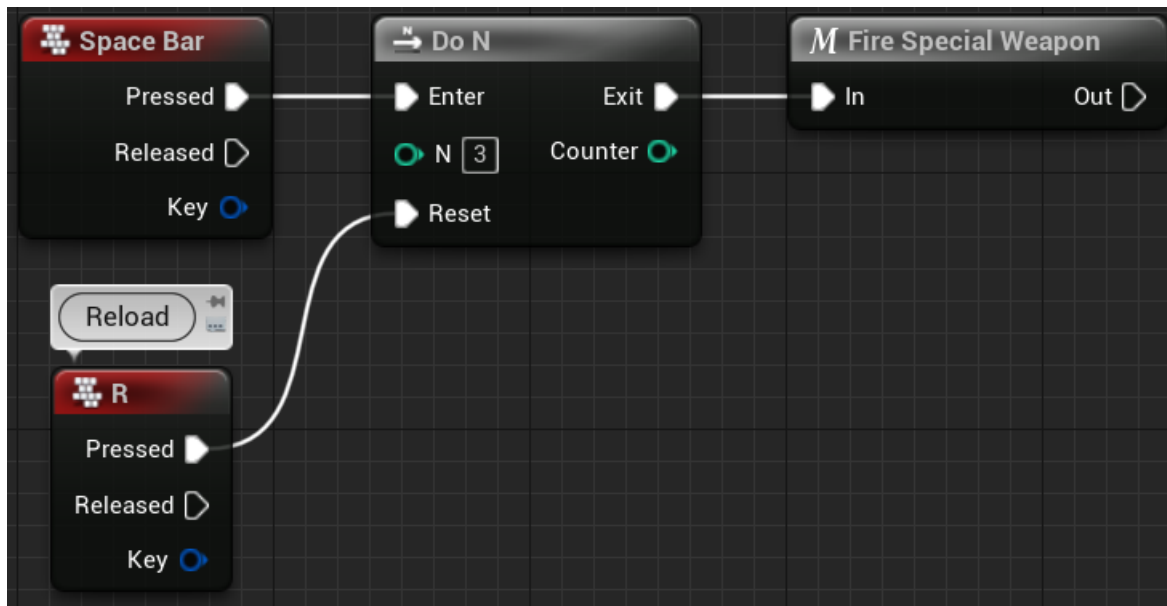
---,Name,Category,Damage,Fire Rate,Range,Accuracy
1,"Desert Eagle","Pistol","30","0.200000","0.300000","0.600000"
2,"M1887","Shotgun","60","0.300000","0.100000","0.500000"
3,"Uzi","Submachinegun","40","0.500000","0.400000","0.700000"
4,"AK-47","Assault Rifle","50","0.600000","0.500000","0.800000"
5,"Dragunov SVD","Sniper Rifle","70","0.300000","1.000000","0.900000"

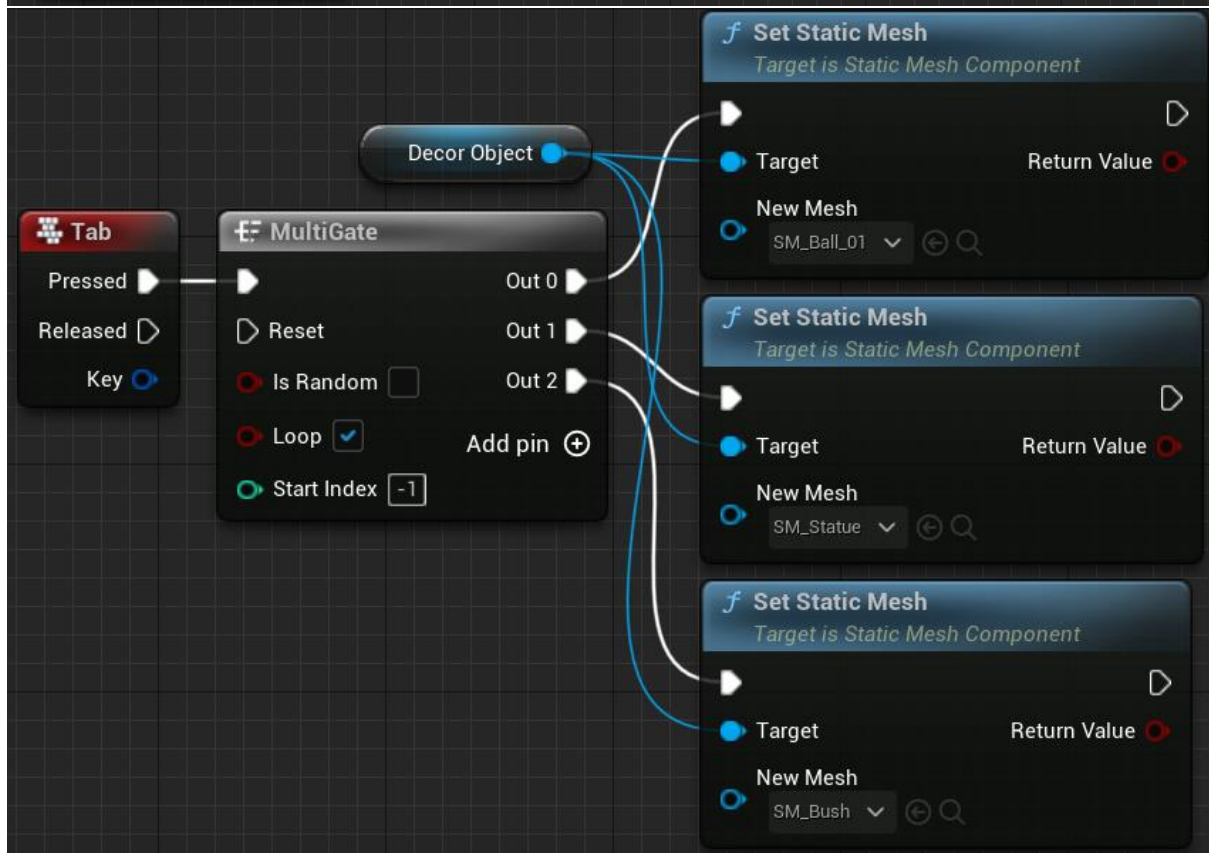
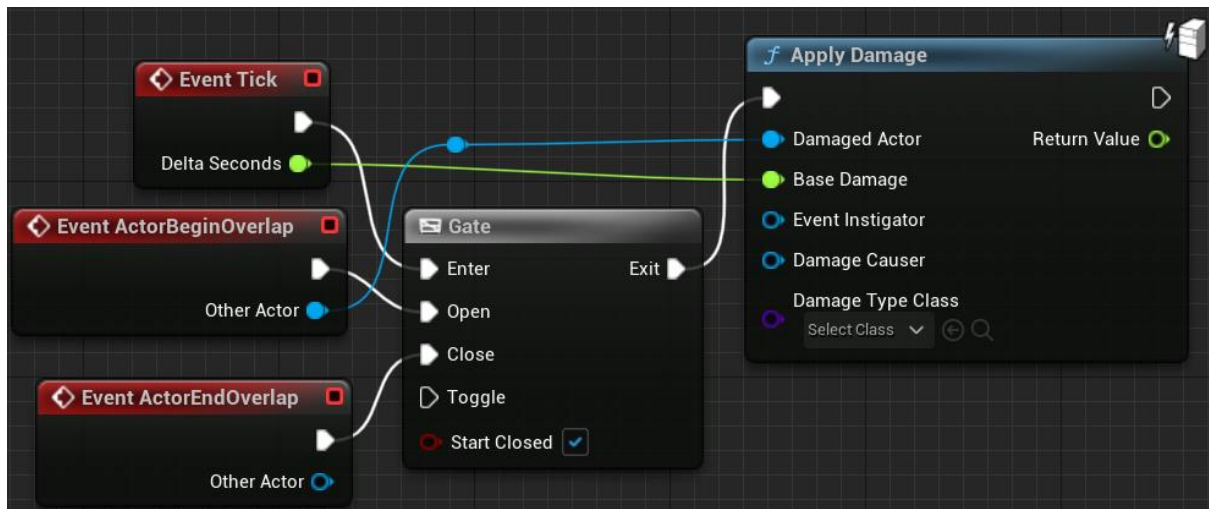
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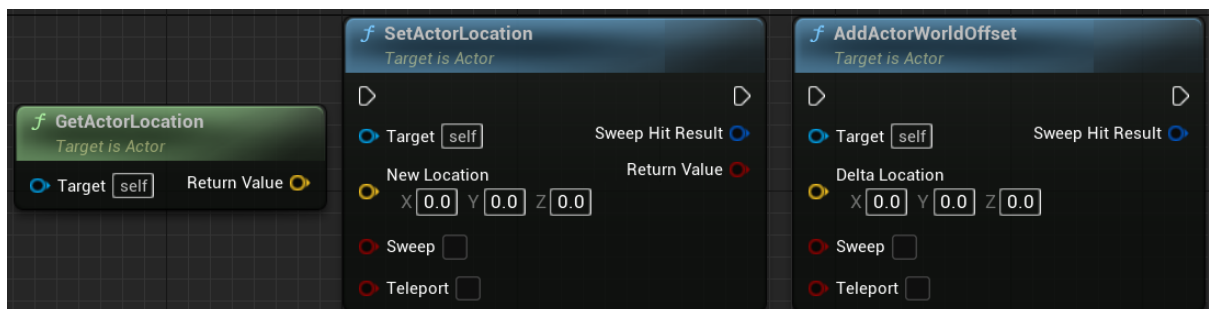
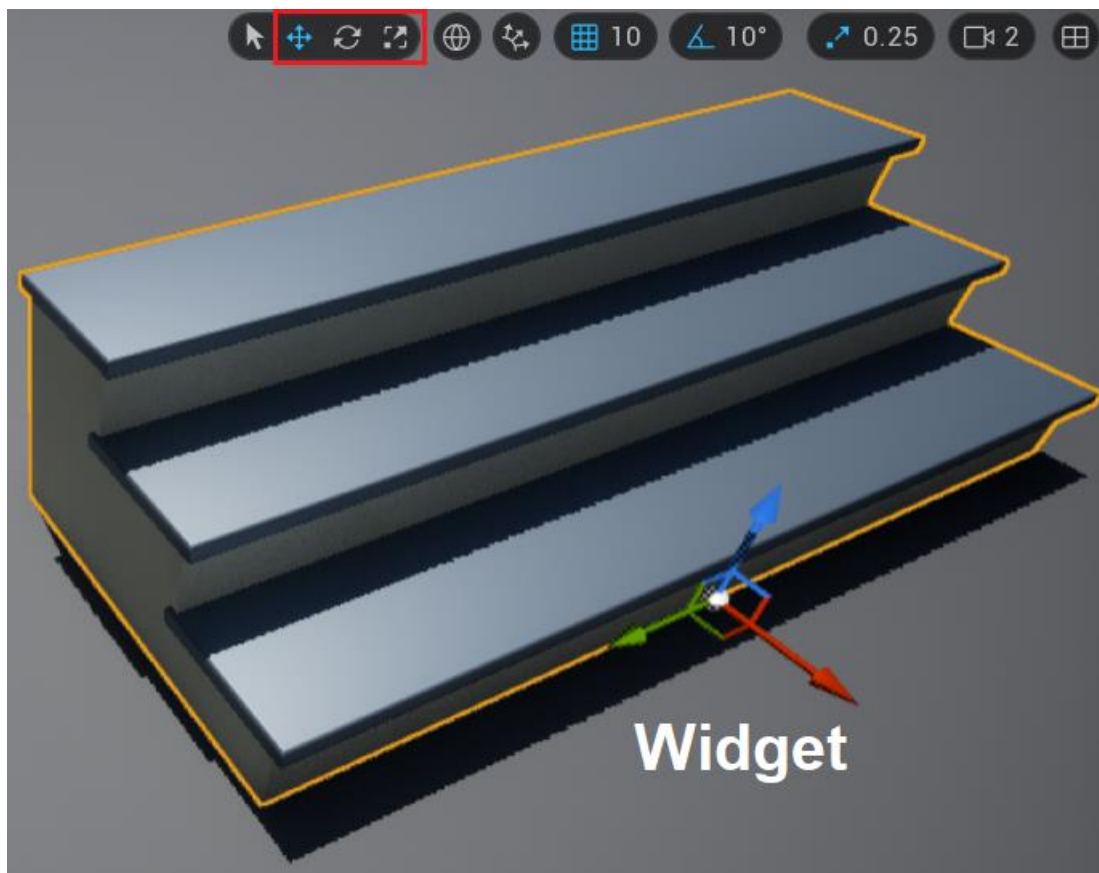
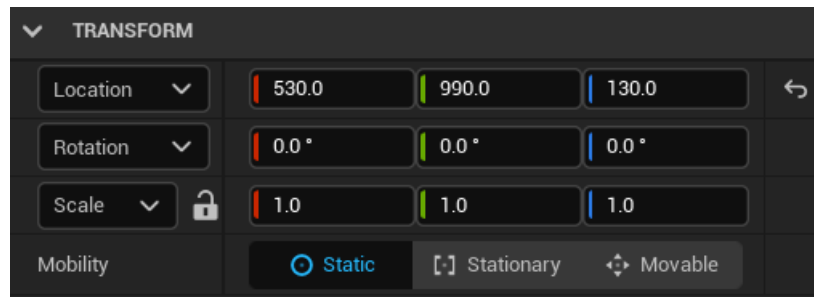


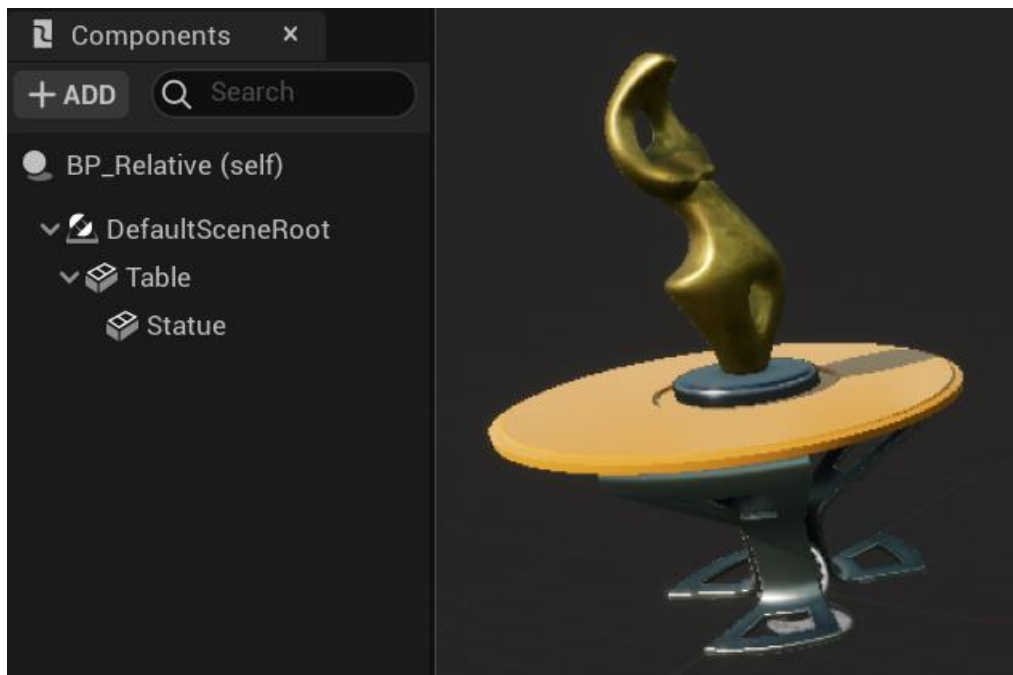
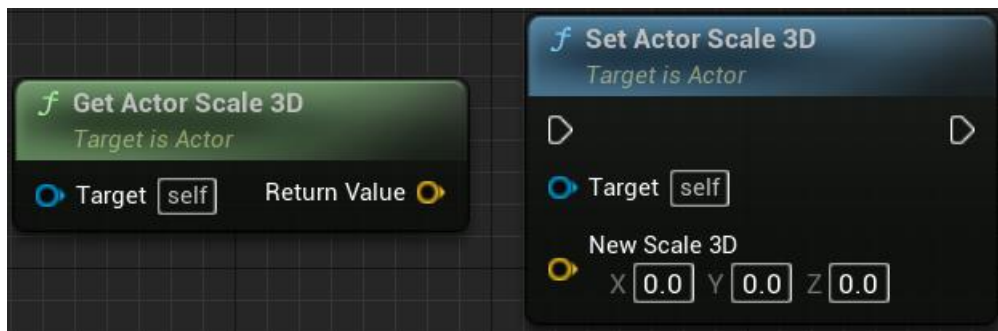
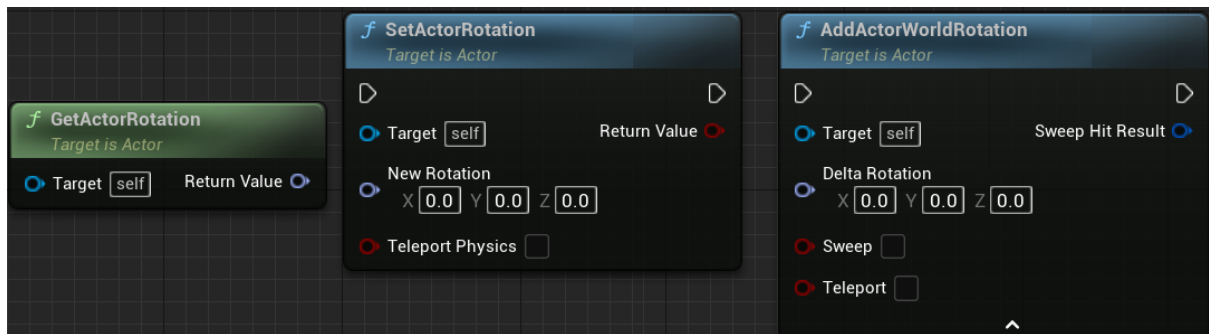


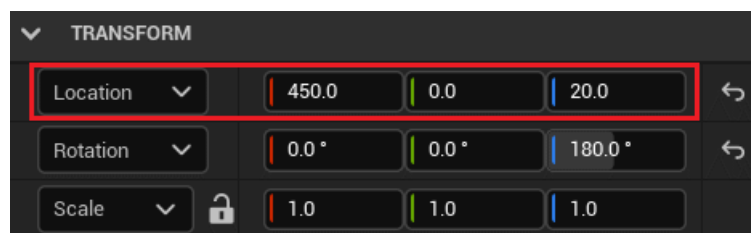
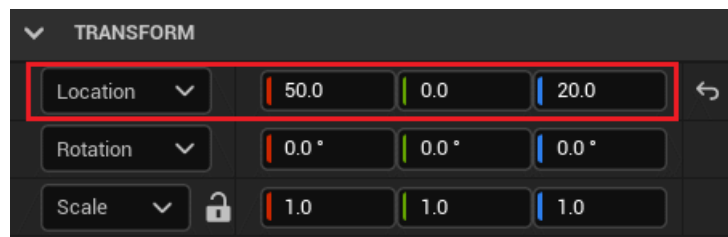
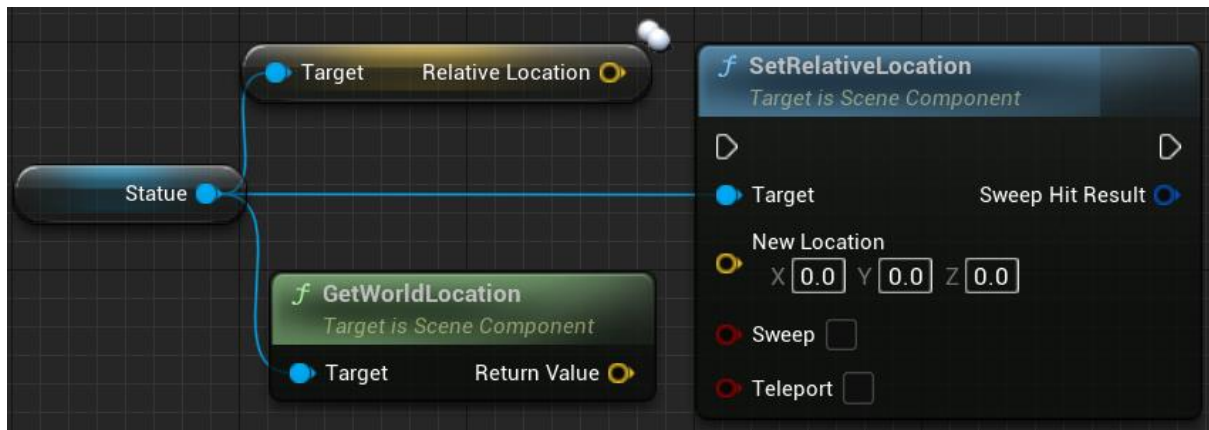


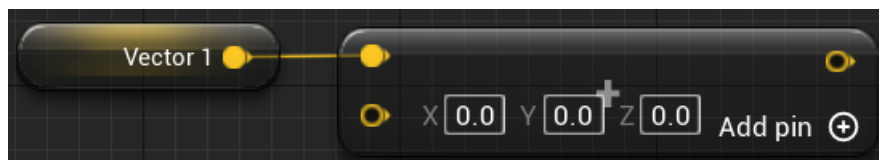
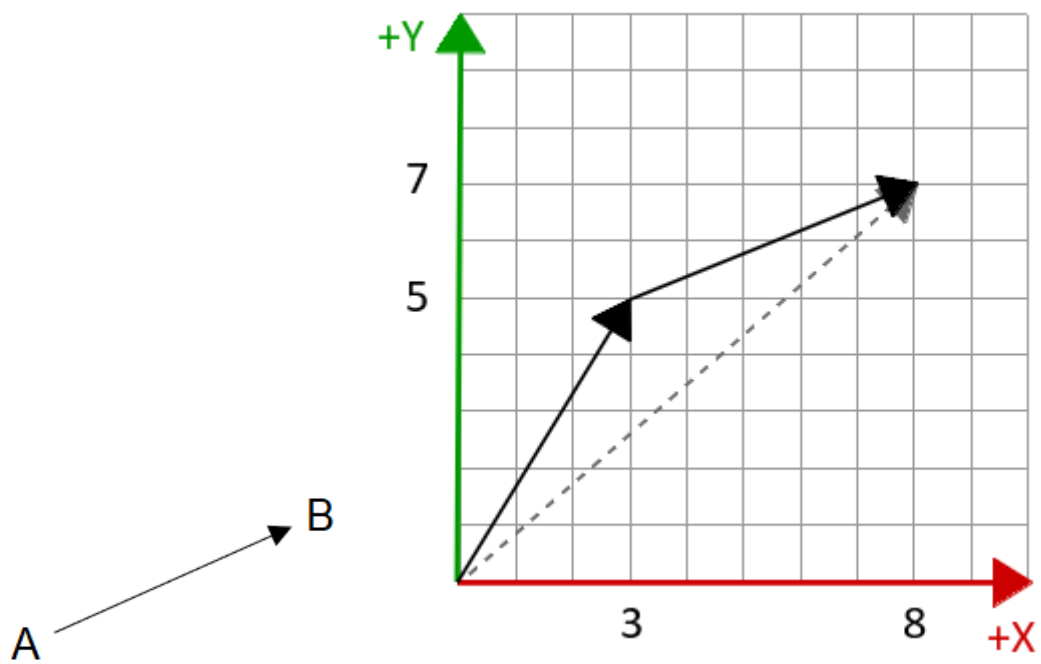
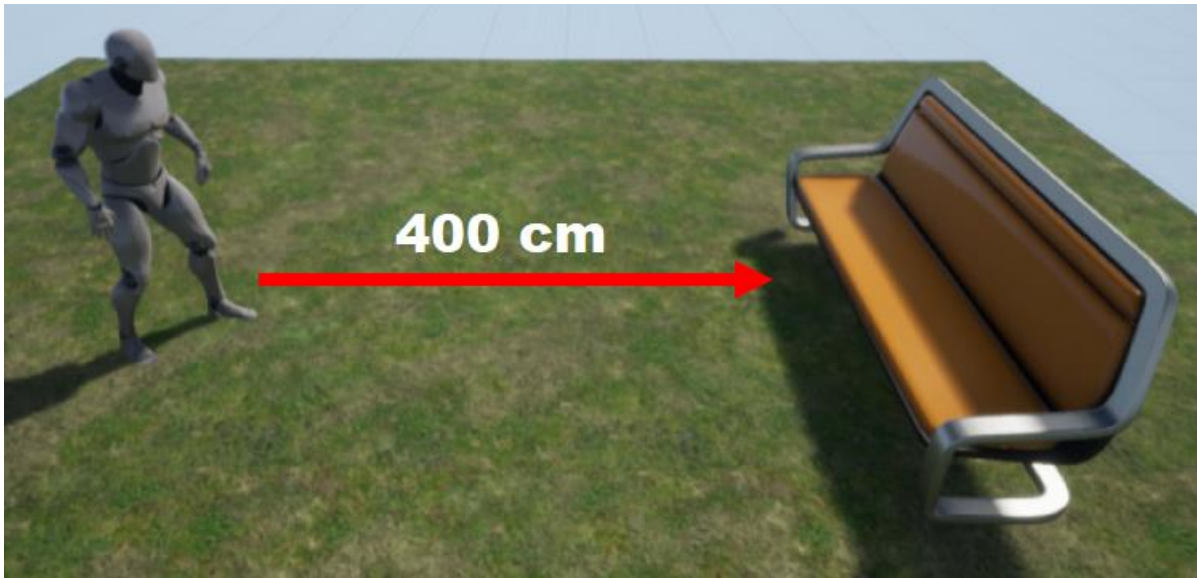


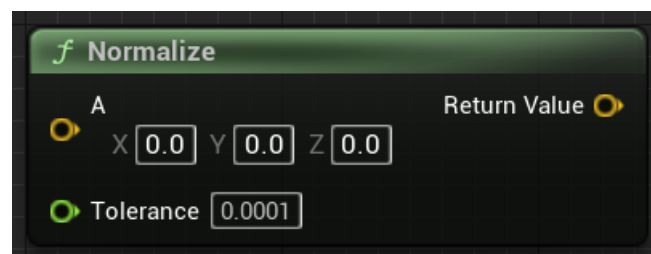
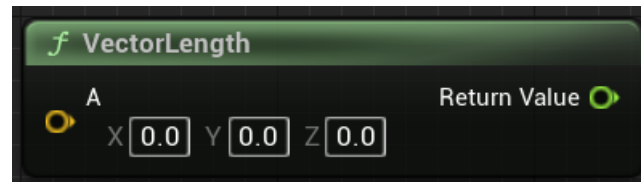
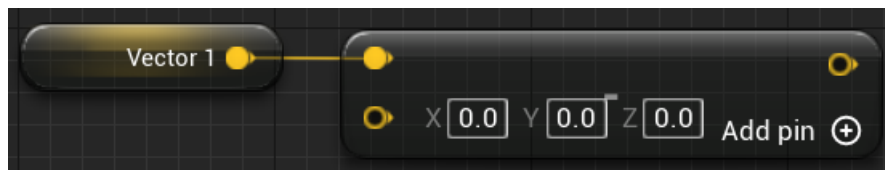
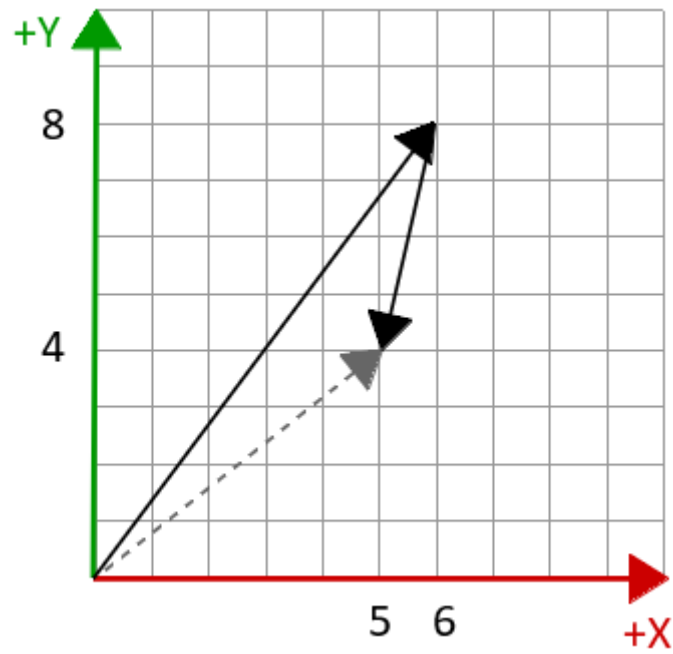
## Chapter 14: Math and Trace Nodes

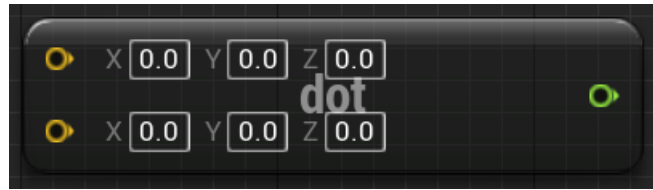




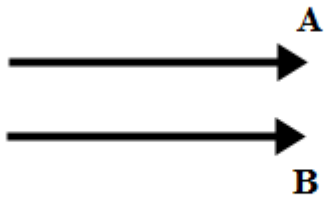




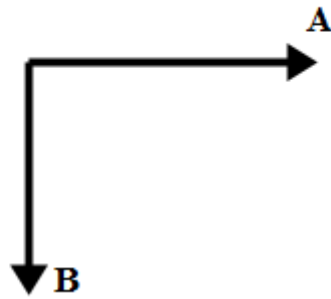




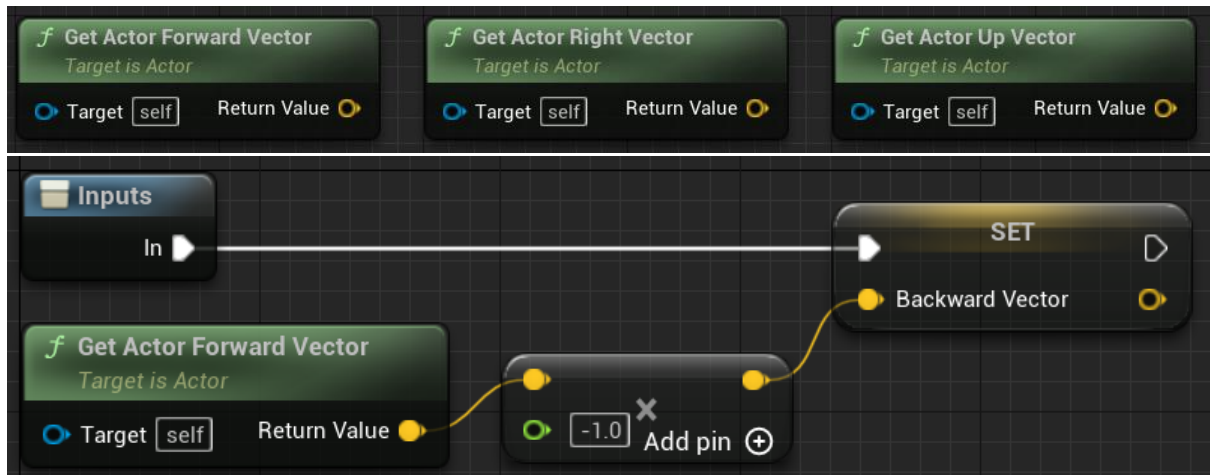
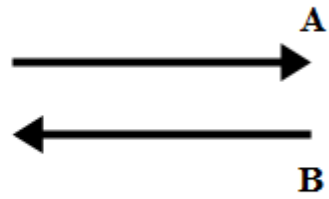
Dot product = 1



Dot product = 0



Dot product = -1



Collision Presets	Custom...	
Collision Enabled	Query Only (No Physics Collision)	
Object Type	WorldDynamic	
	Ignore   Overlap   Block	
Collision Responses	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	
Trace Responses		
Visibility	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	
Camera	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	
Object Responses		
WorldStatic	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	
WorldDynamic	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	
Pawn	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	
PhysicsBody	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	
Vehicle	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	
Destructible	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	

### Break Hit Result

- Hit ☒ Blocking Hit ☐
- Initial Overlap ☐
- Time ☒
- Distance ☒
- Location ☒
- Impact Point ☒
- Normal ☒
- Impact Normal ☒
- Phys Mat ☒
- Hit Actor ☒
- Hit Component ☒
- Hit Bone Name ☐
- Hit Item ☒
- Element Index ☒
- Face Index ☒
- Trace Start ☒
- Trace End ☒

### LineTraceForObjects

Start ☒ X  Y  Z  Out Hit ☒

End ☒ X  Y  Z  Return Value ☐

Object Types ☒

Trace Complex ☐

Actors to Ignore ☒

Draw Debug Type ☒ None

Ignore Self ☒

### MultiLineTraceForObjects

Start ☒ X  Y  Z  Out Hits ☒

End ☒ X  Y  Z  Return Value ☐

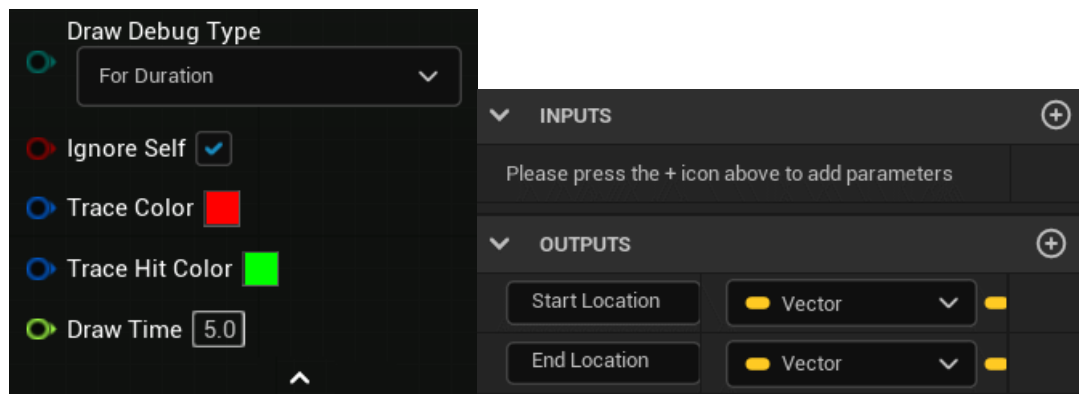
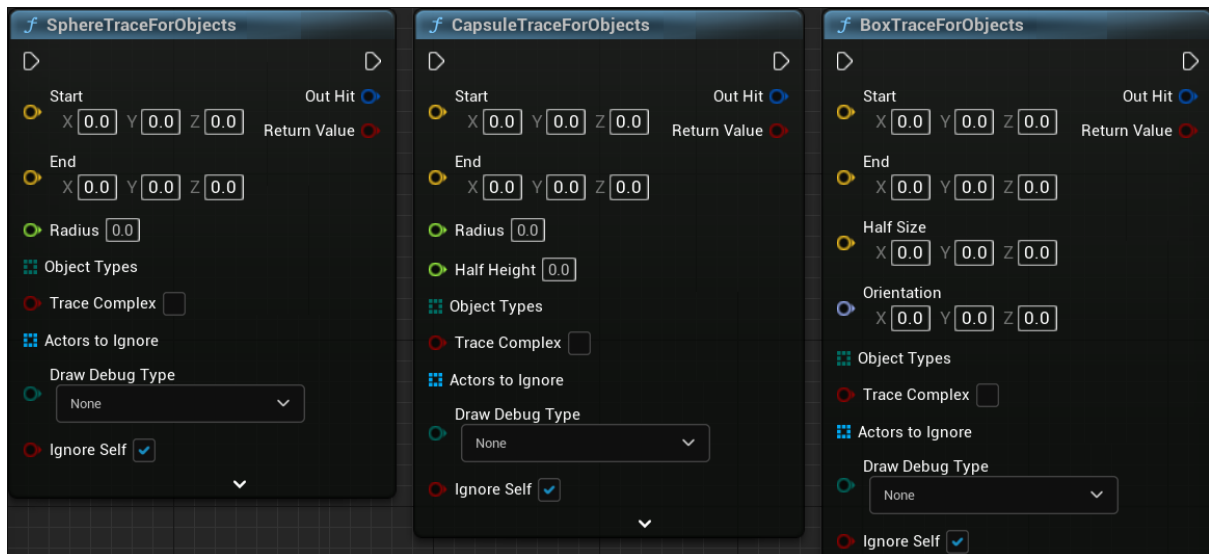
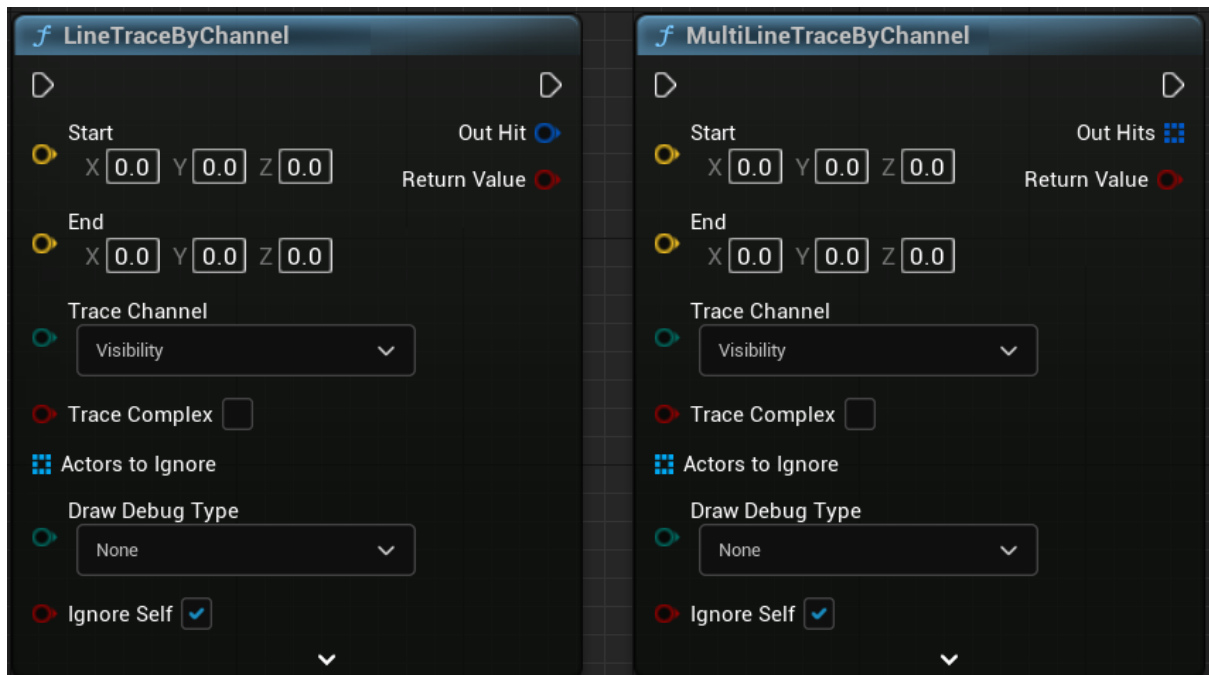
Object Types ☒

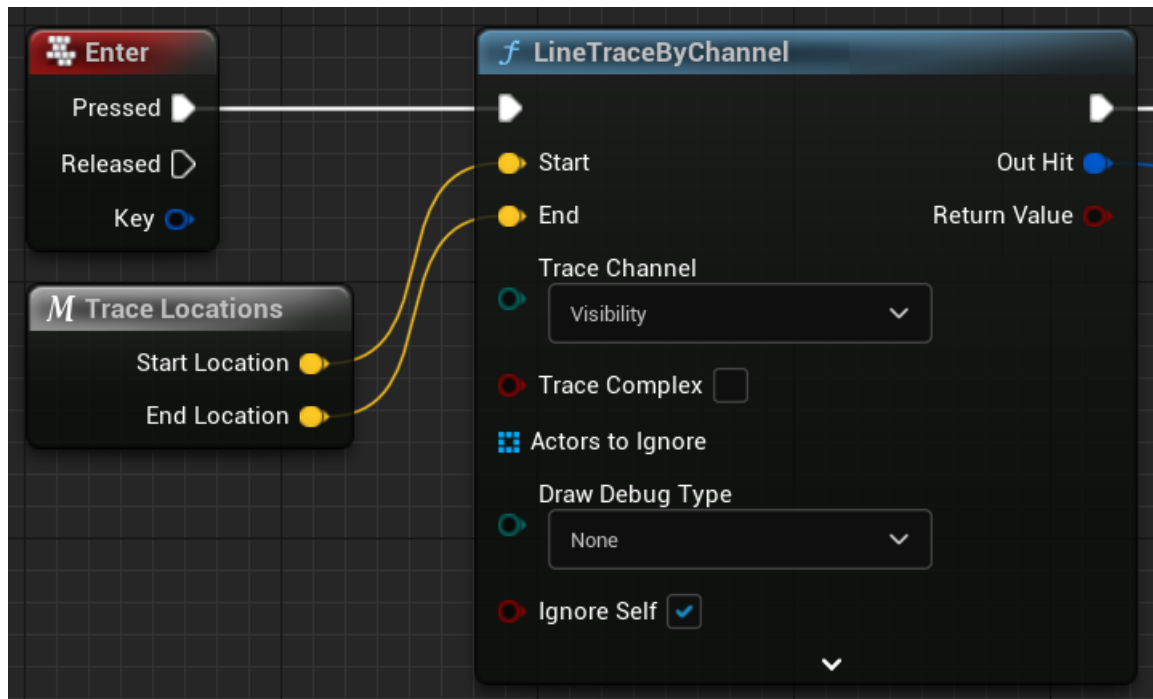
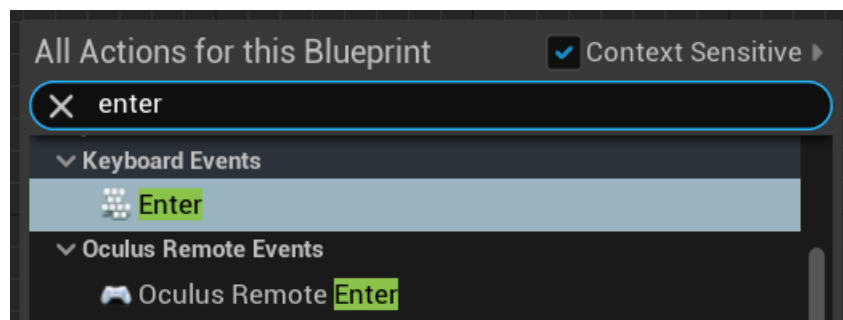
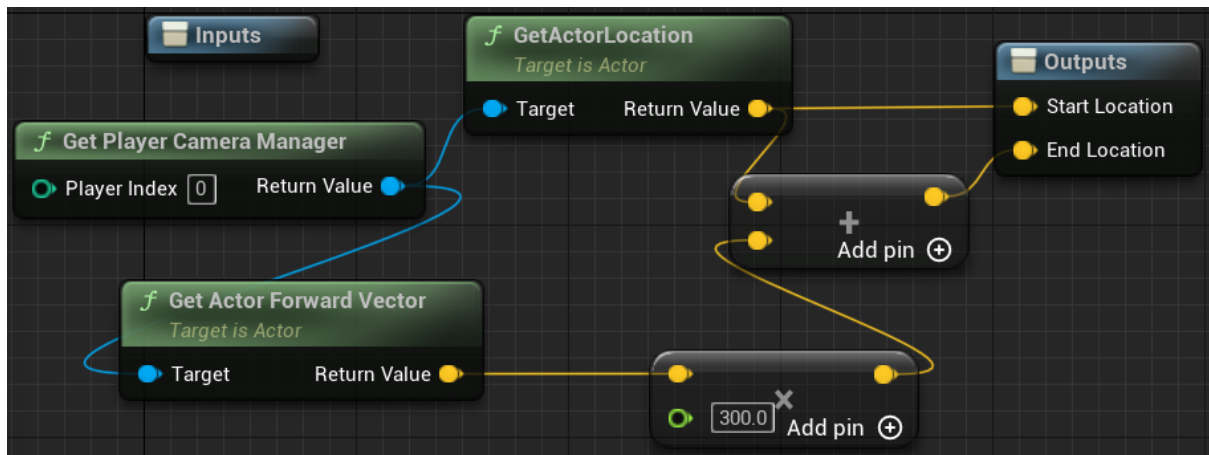
Trace Complex ☐

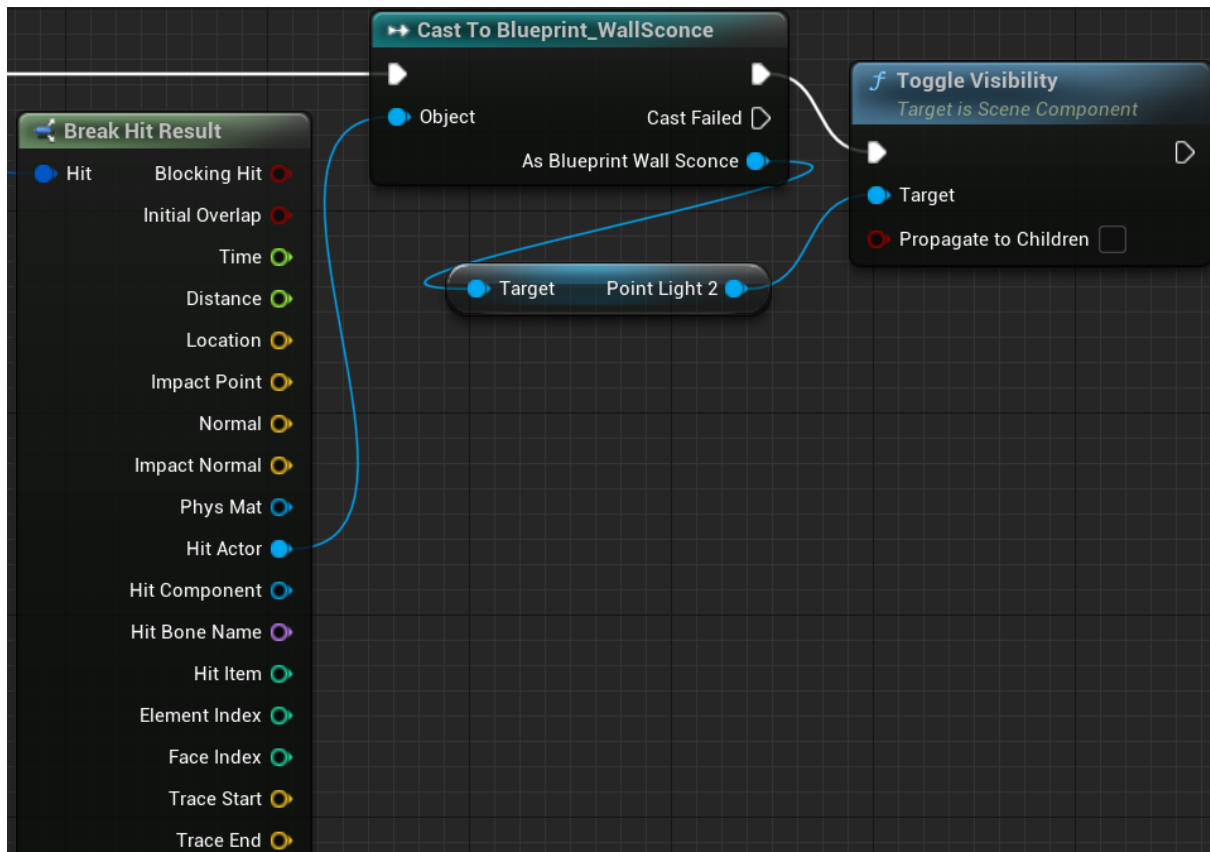
Actors to Ignore ☒

Draw Debug Type ☒ None

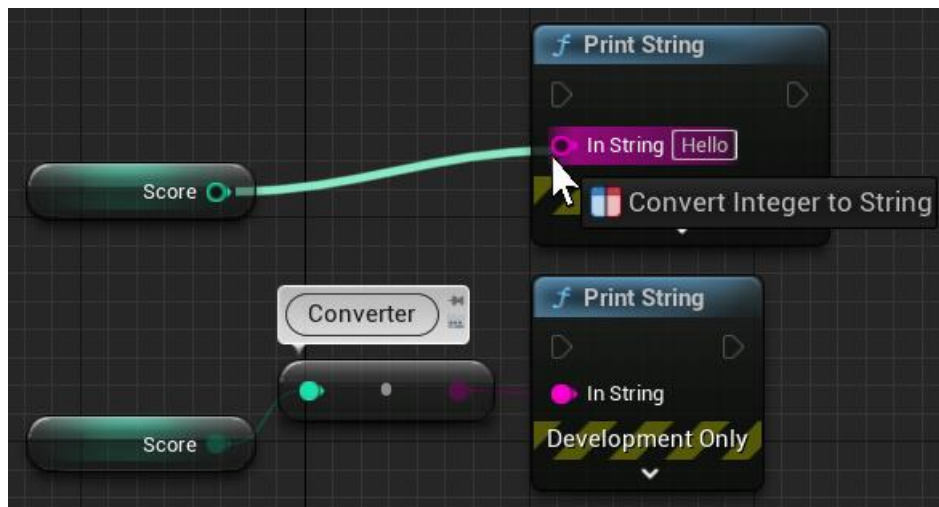
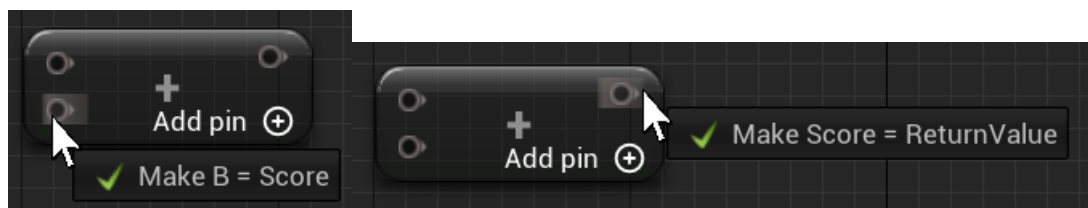
Ignore Self ☒

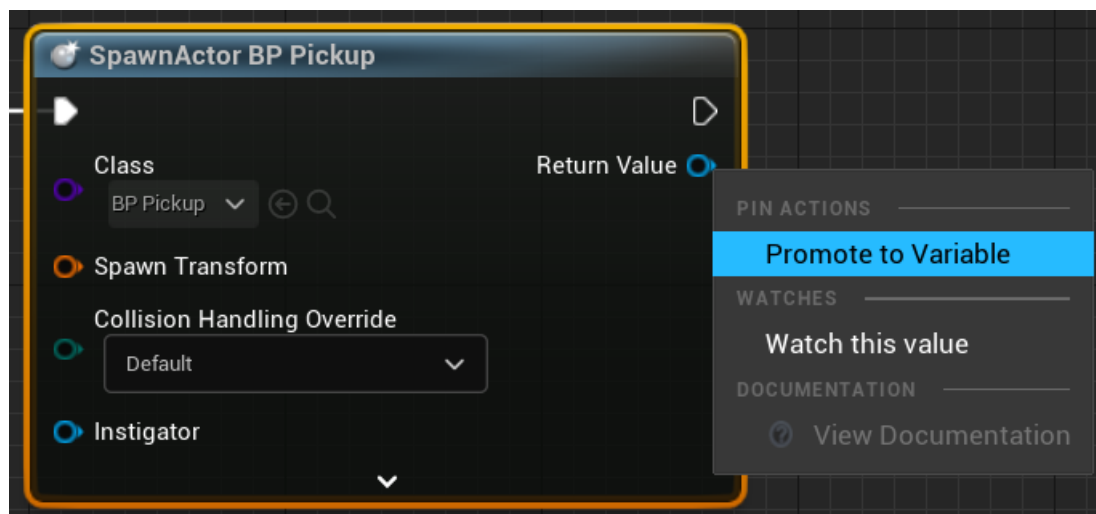
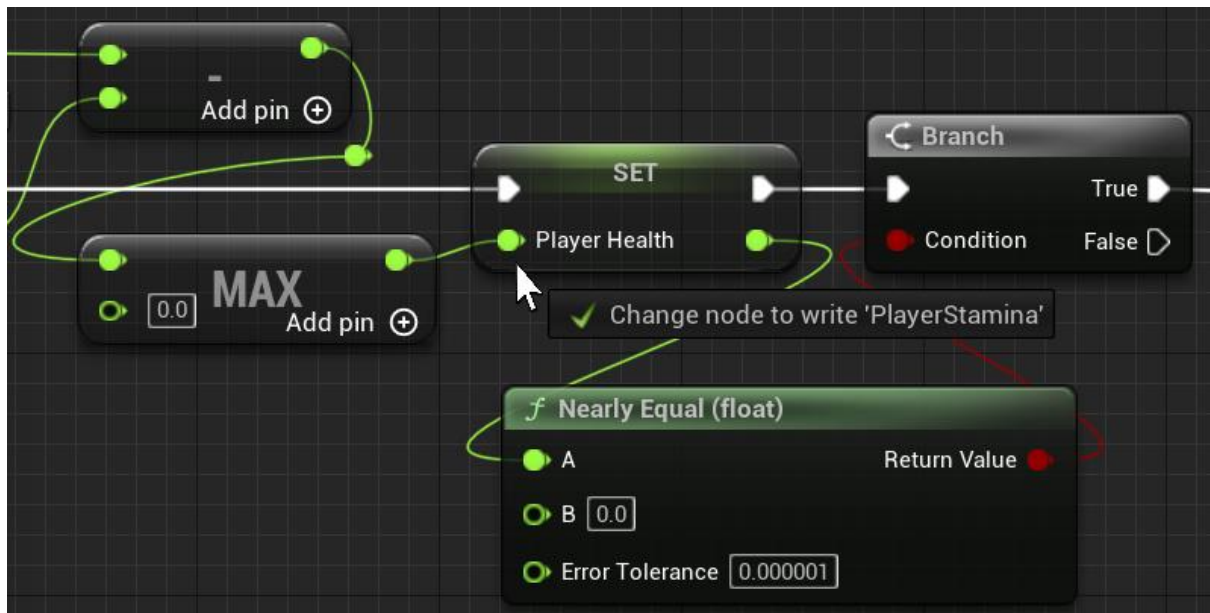


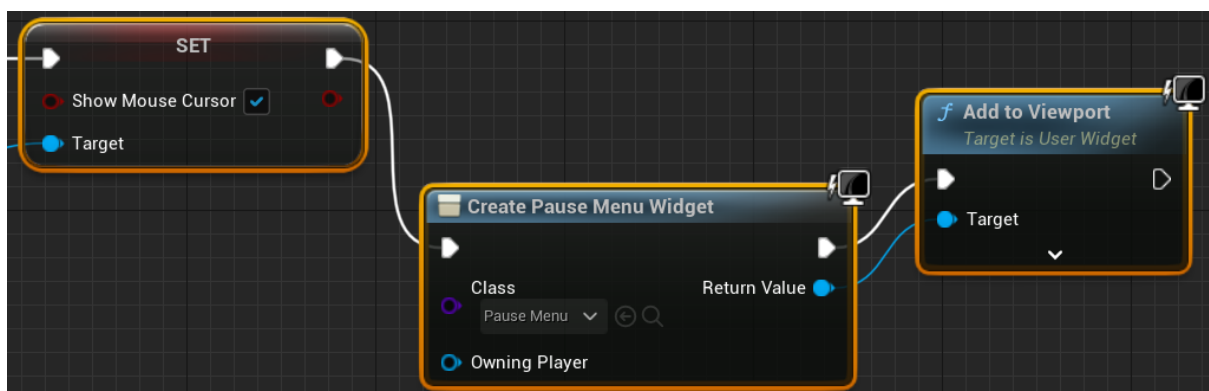
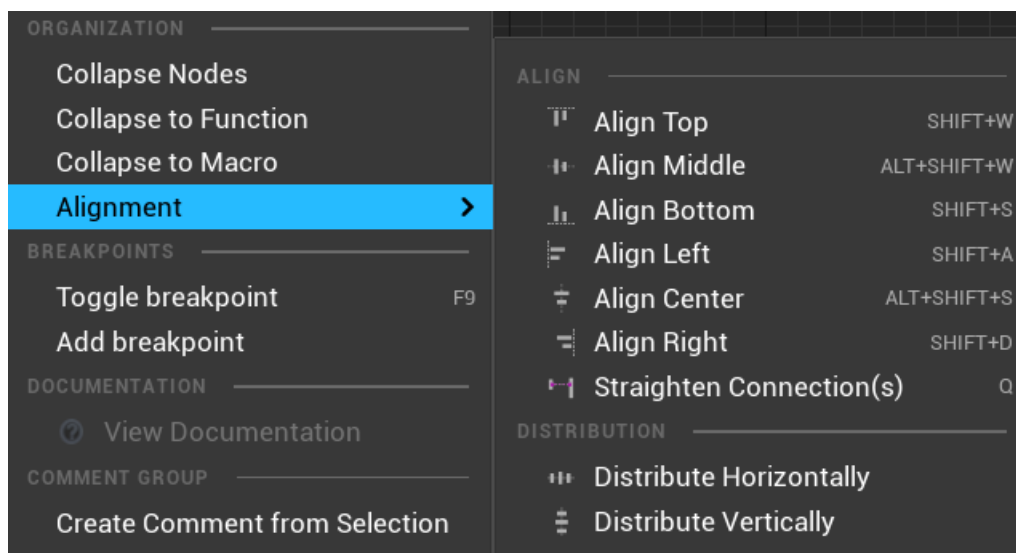
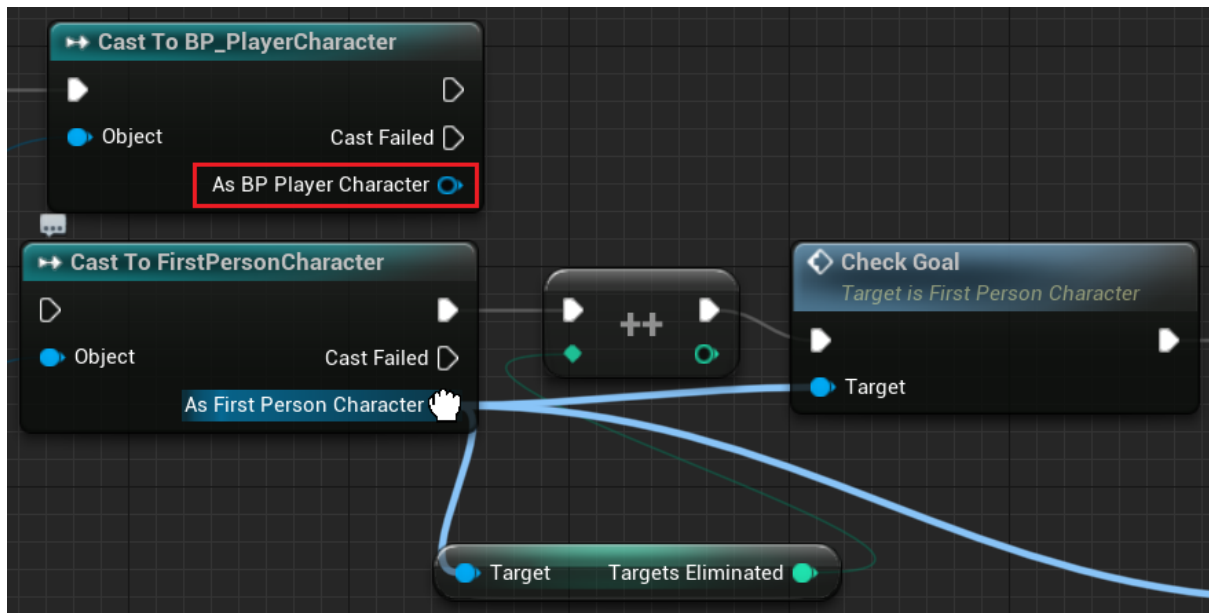


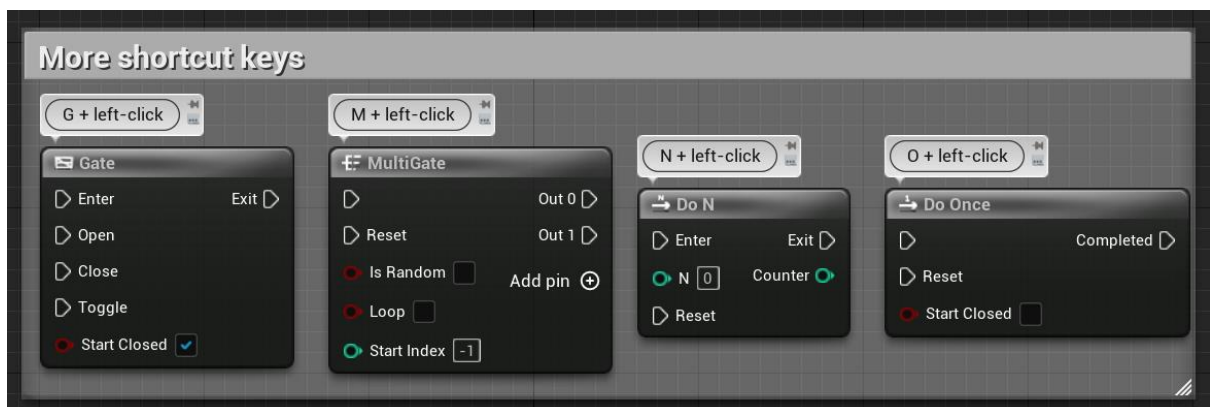
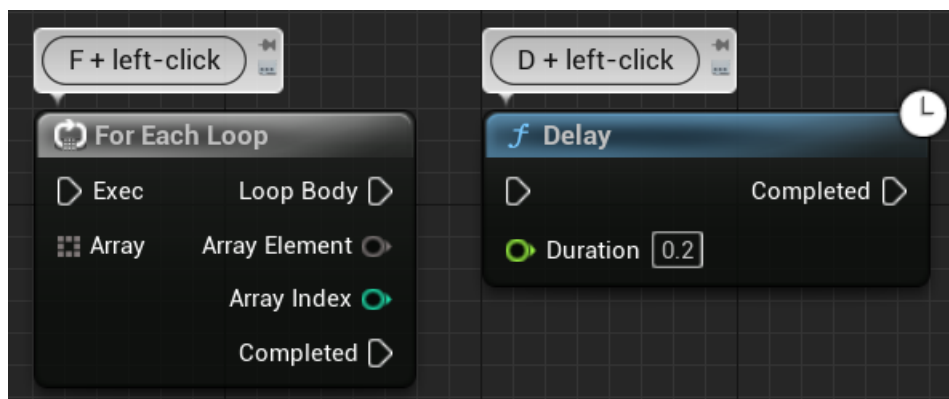
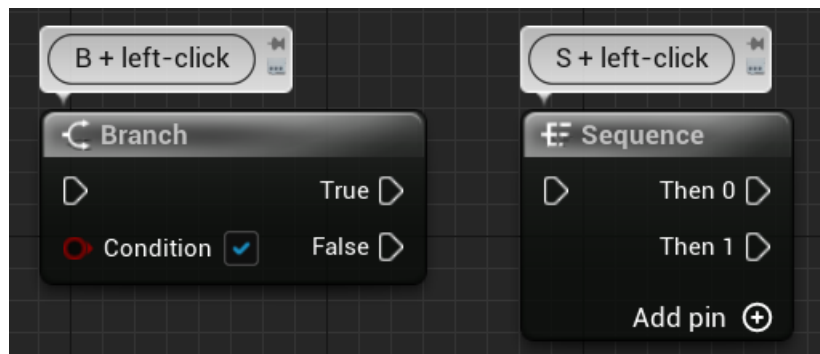
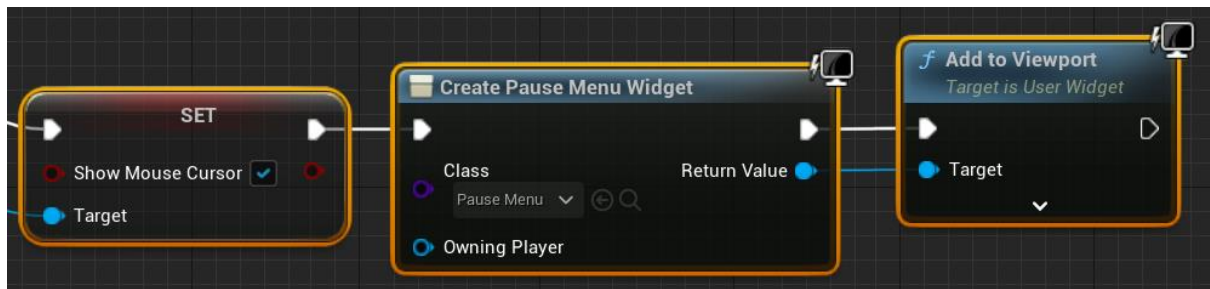


## Chapter 15: Blueprints Tips

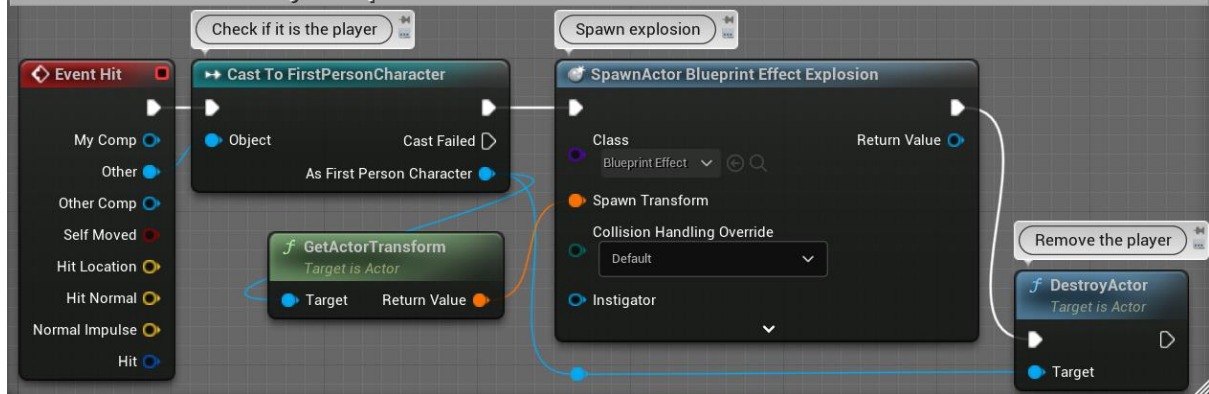




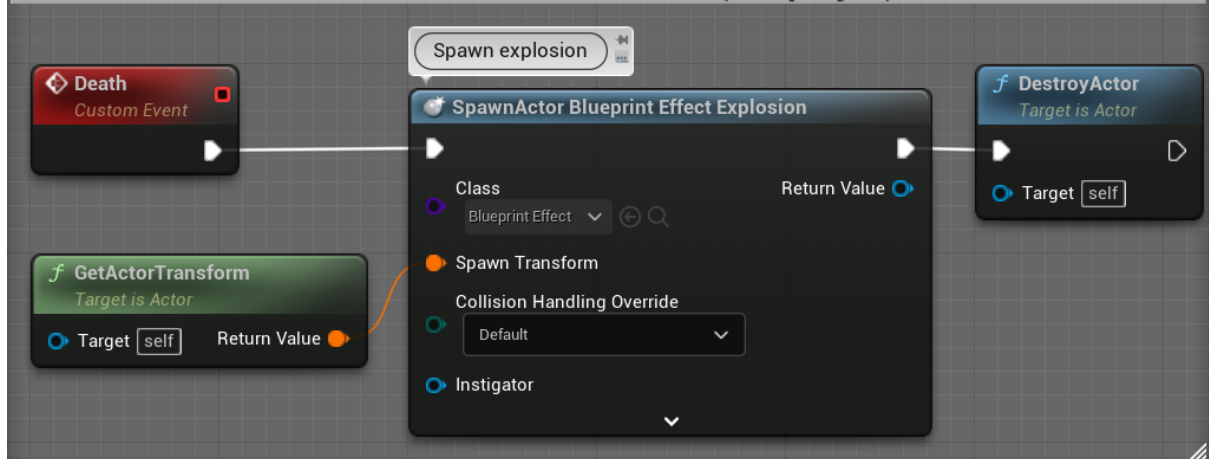




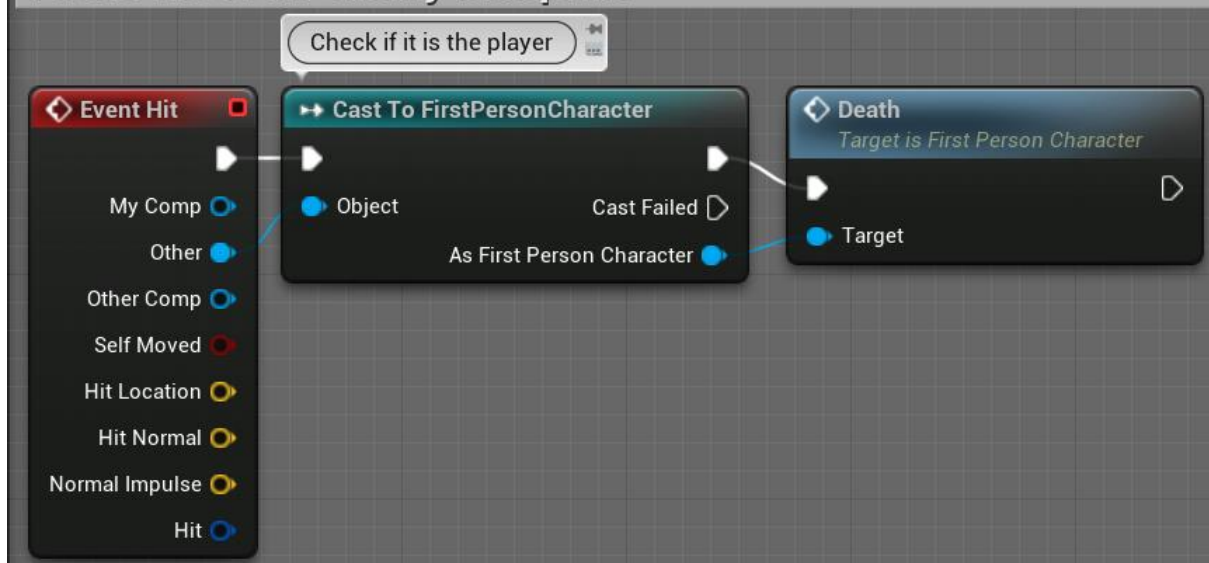
## Event Hit of an Enemy Blueprint

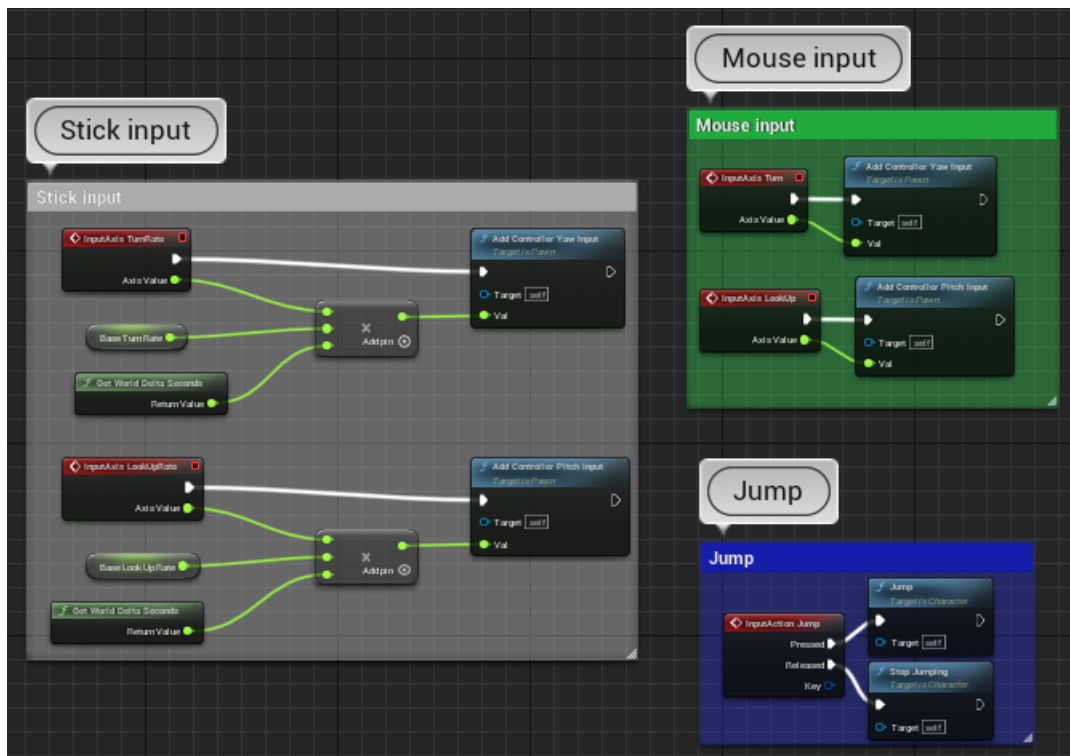
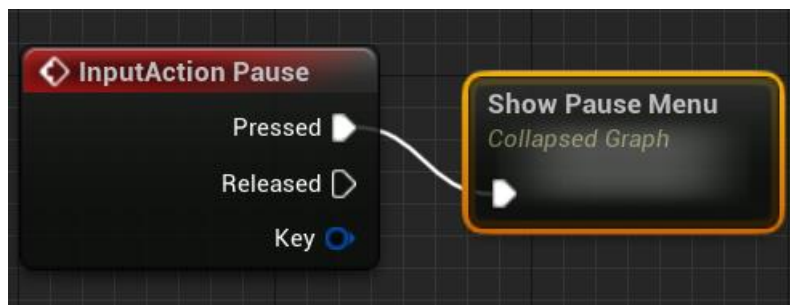
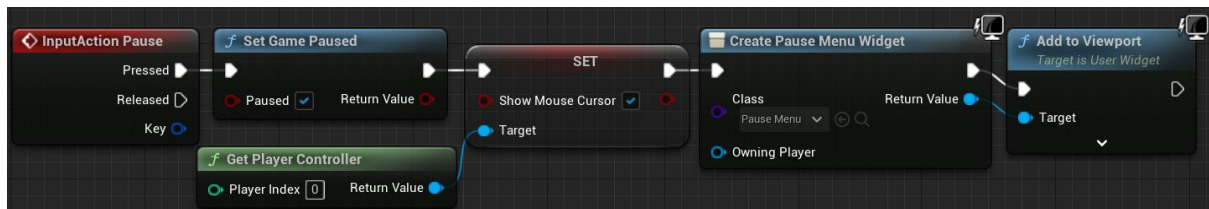
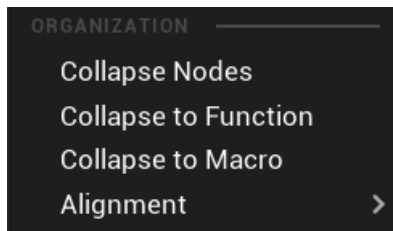


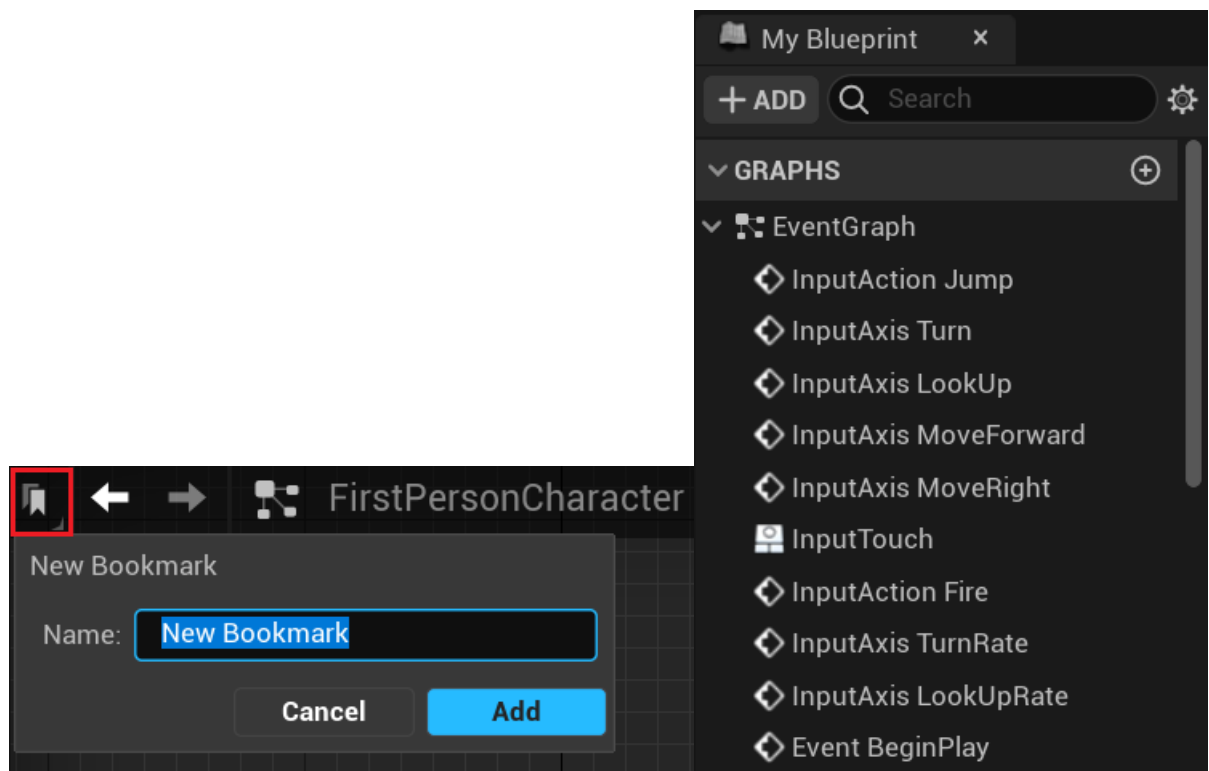
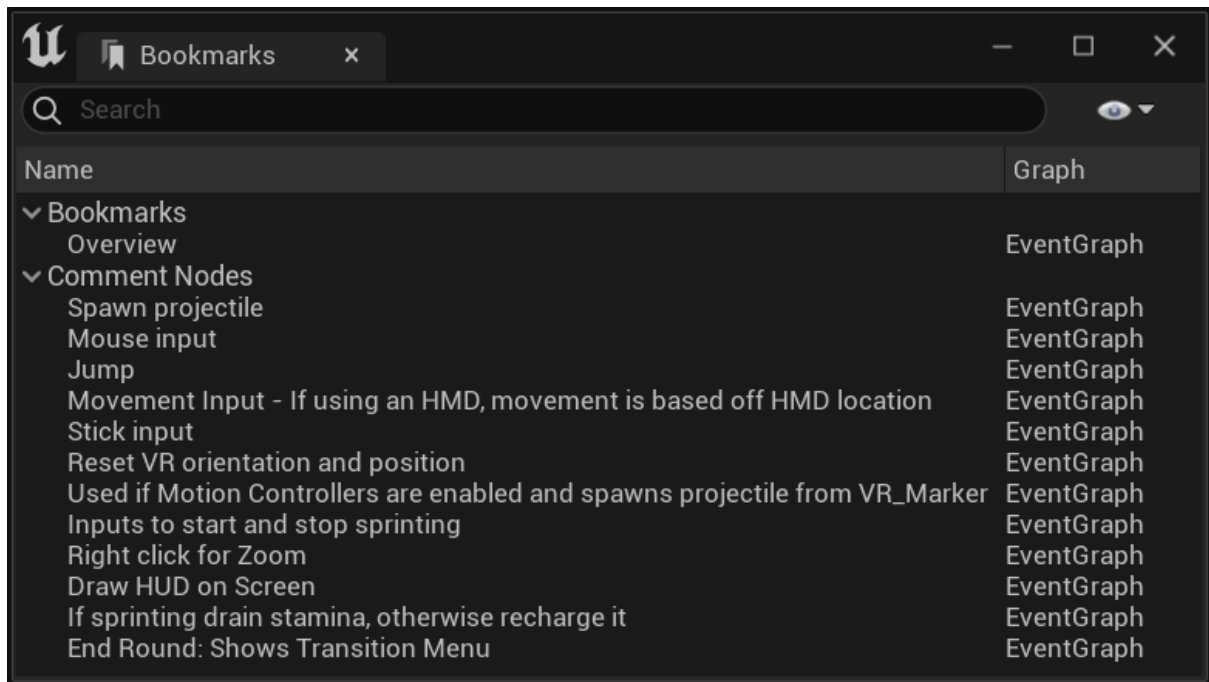
## Custom Event in the First Person Character (the player)



## Event Hit of an Enemy Blueprint





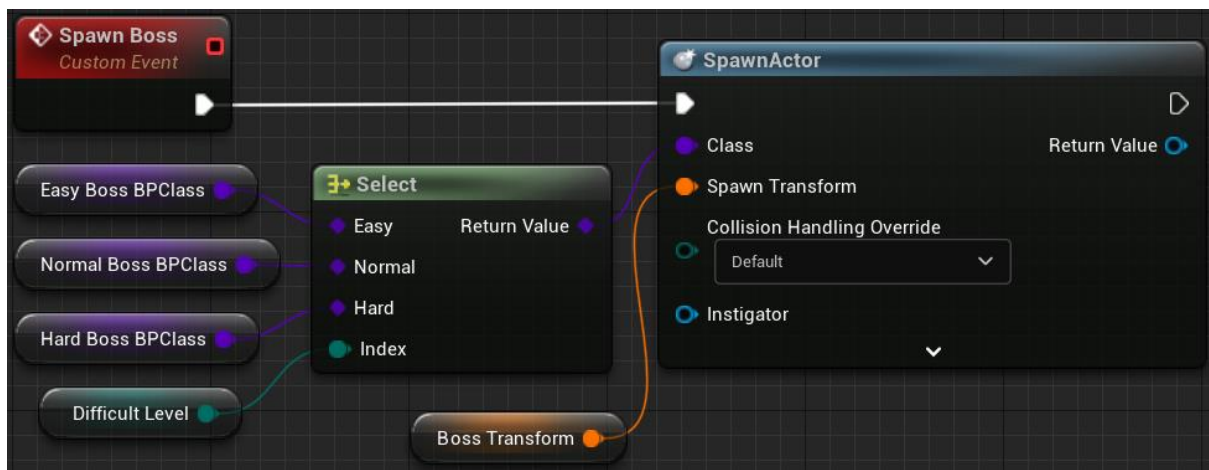
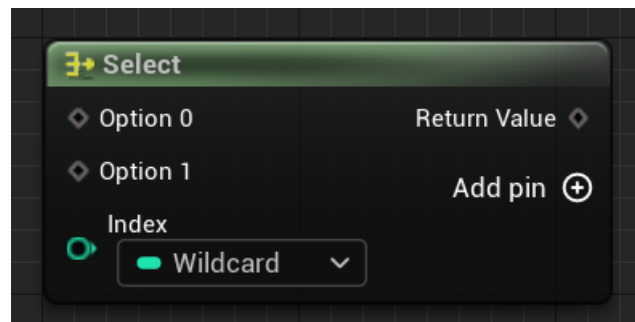
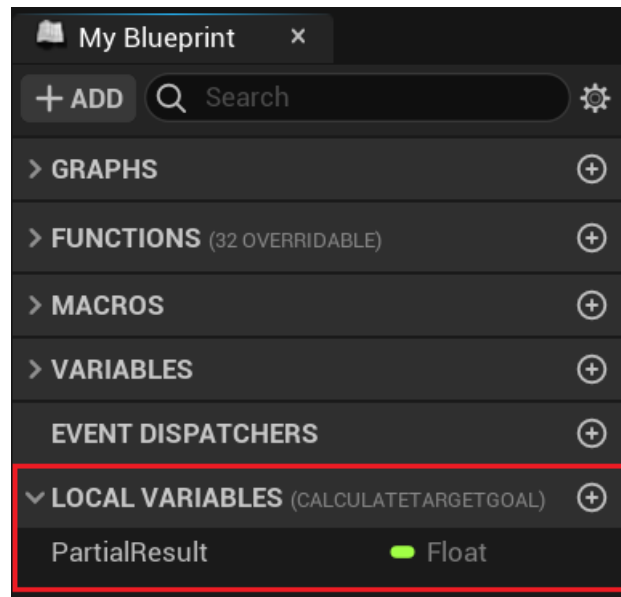


VARIABLE	
Variable Name	TargetGoal
Variable Type	Integer
Instance Editable	<input type="checkbox"/>
Blueprint Read Only	<input type="checkbox"/>
Tooltip	Number of enemies that needed to [Progress Bar]
Expose on Spawn	<input type="checkbox"/>
Private	<input type="checkbox"/>
Expose to Cinematics	<input type="checkbox"/>
Category	Round State

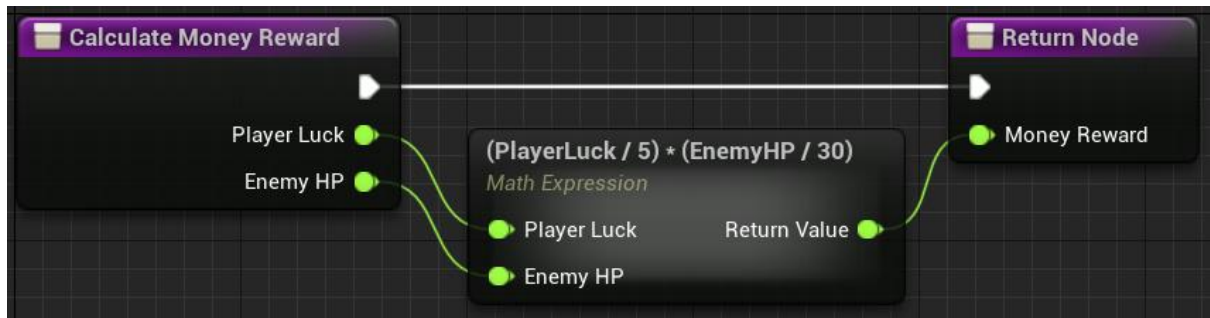
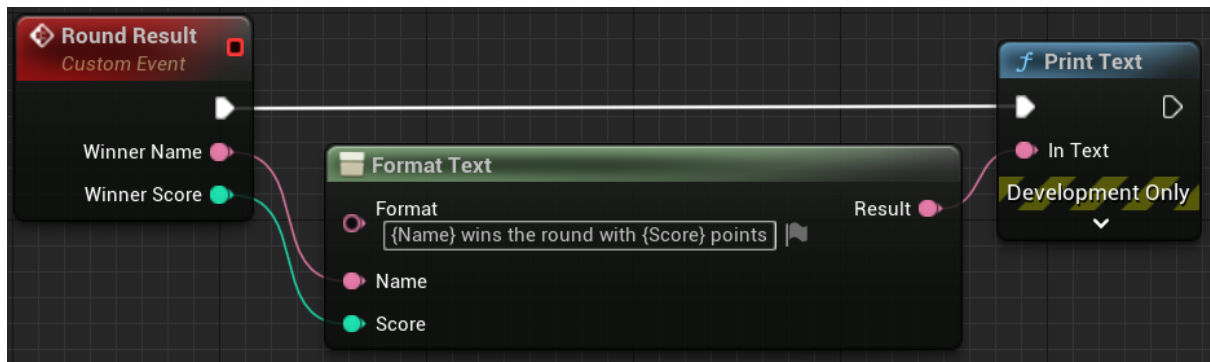
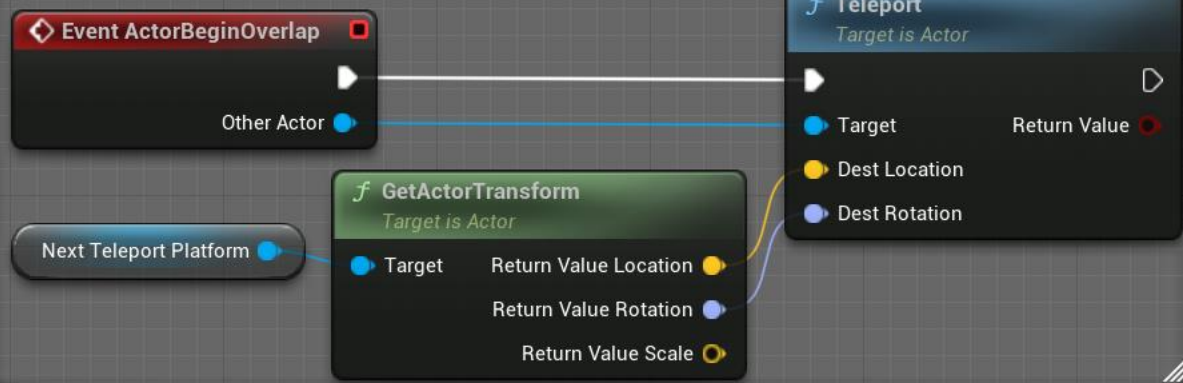
TargetGoal Integer

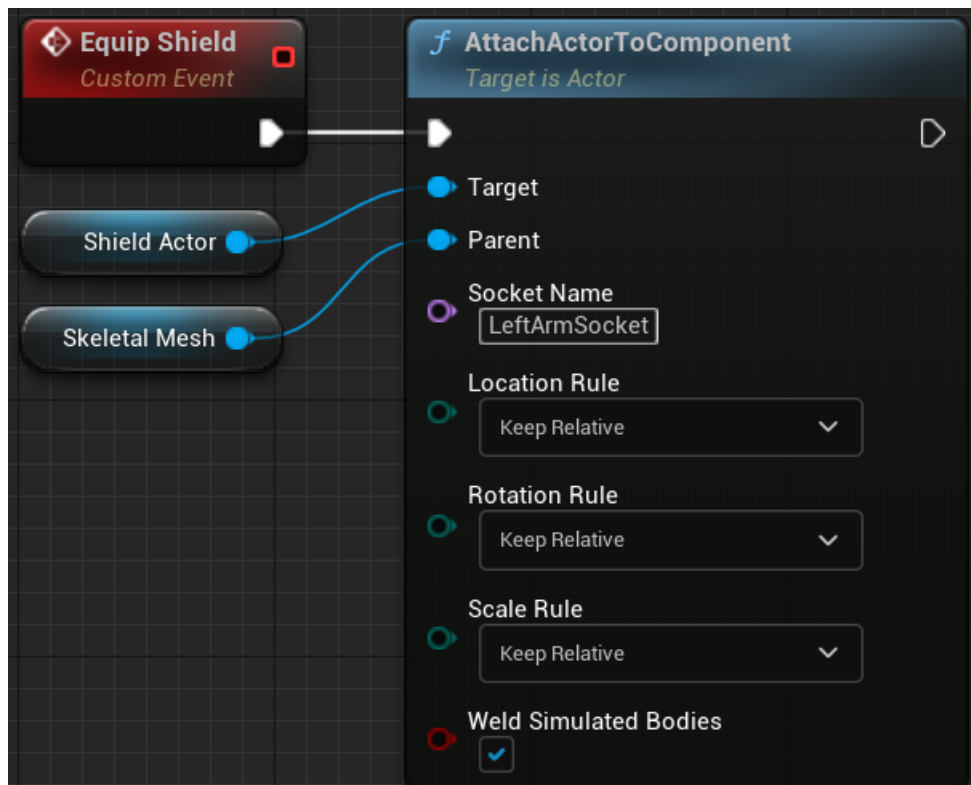
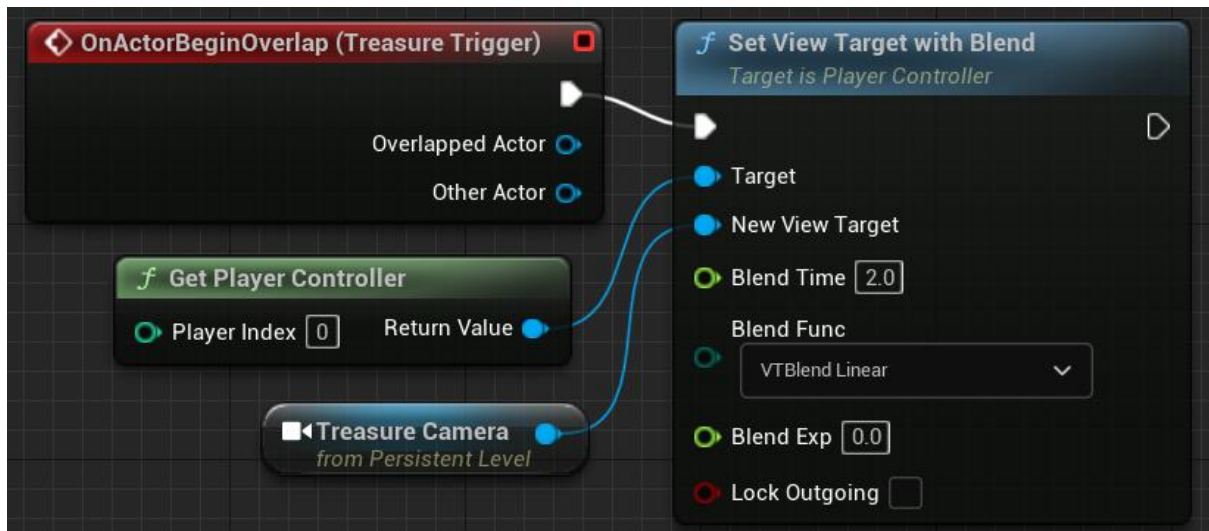
Number of enemies that needed to be eliminated to win the round  
hold (Ctrl + Alt) for more

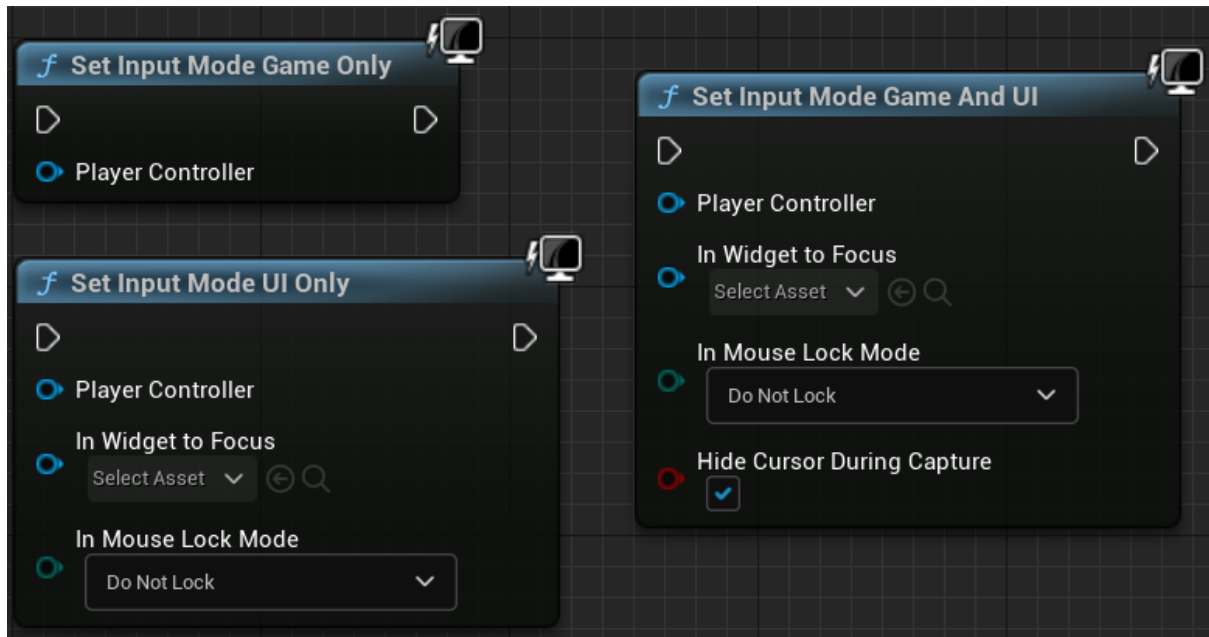
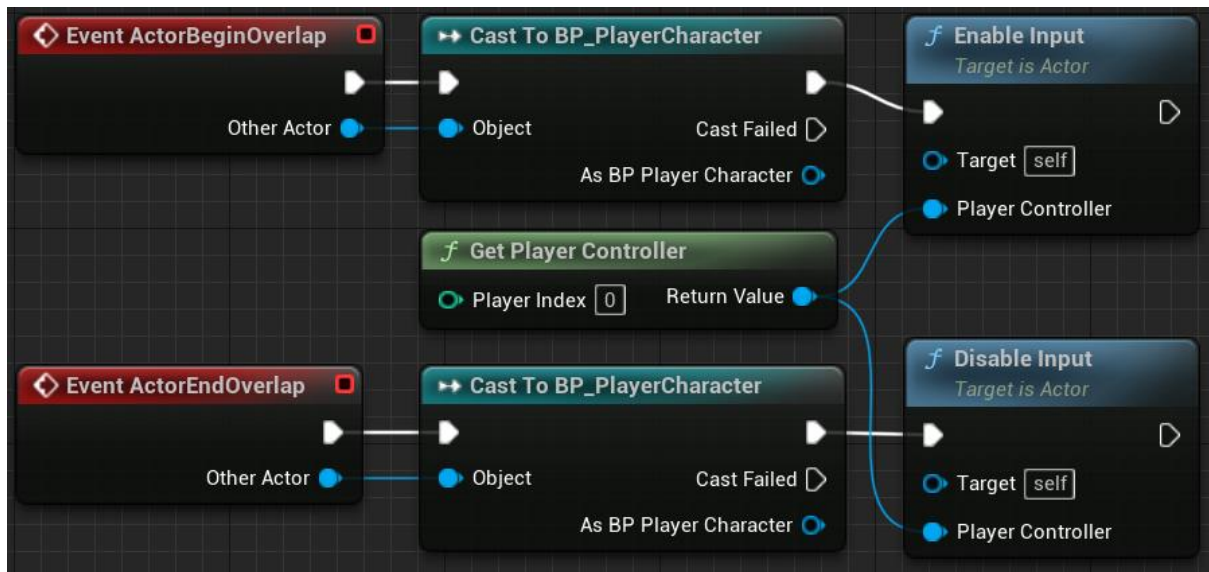
VARIABLES		
> My Character		
> Components		
Round State		
TargetsEliminated	Integer	
TargetGoal	Integer	
CurrentRound	Integer	
> Template		
PlayerHealth	Float	
PlayerStamina	Float	
PlayerCurrentAmmo	Integer	



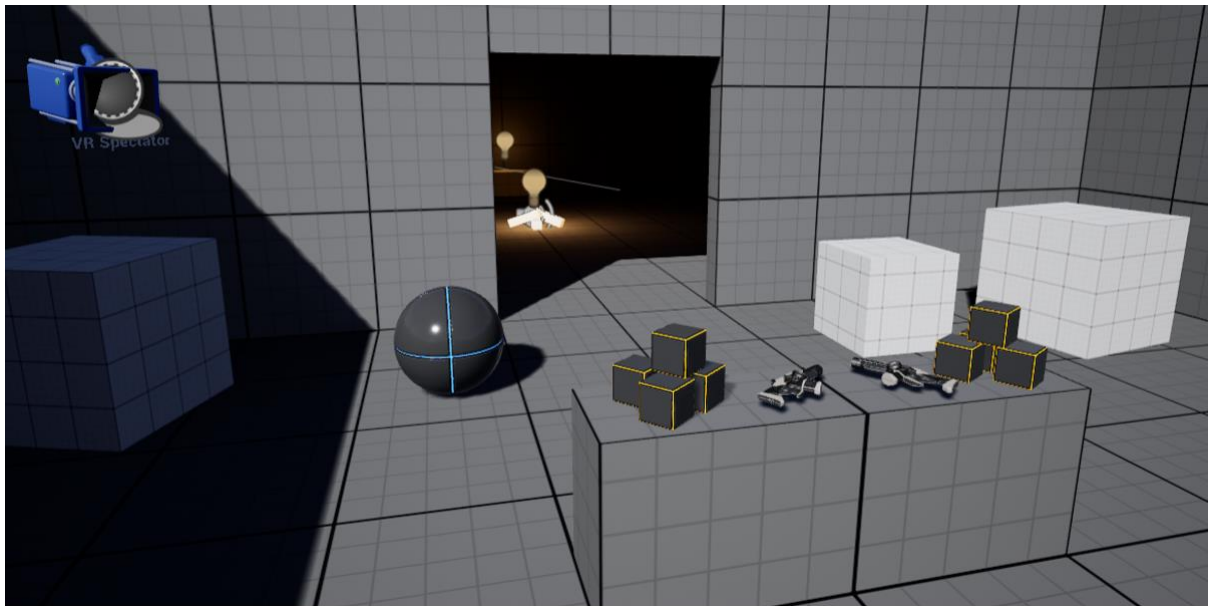
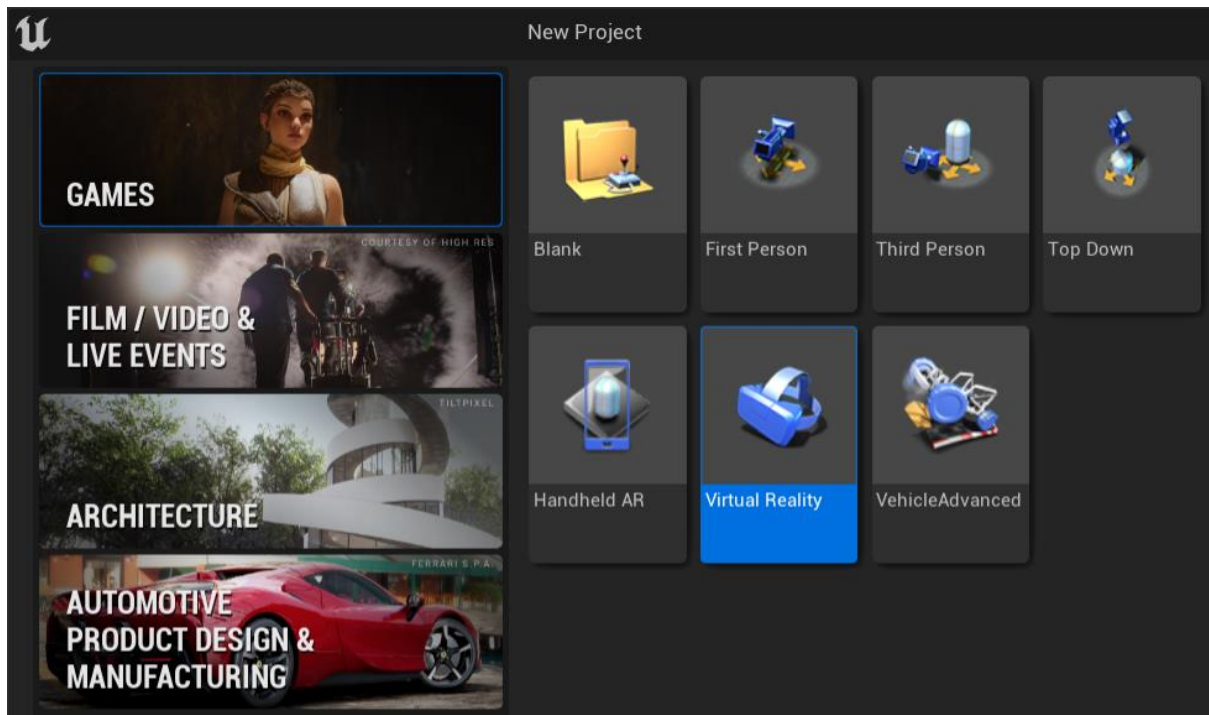
## BP Teleport Platform

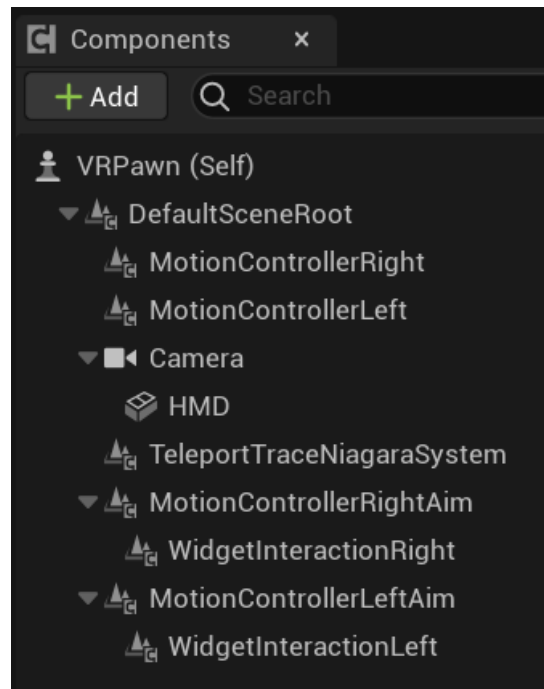










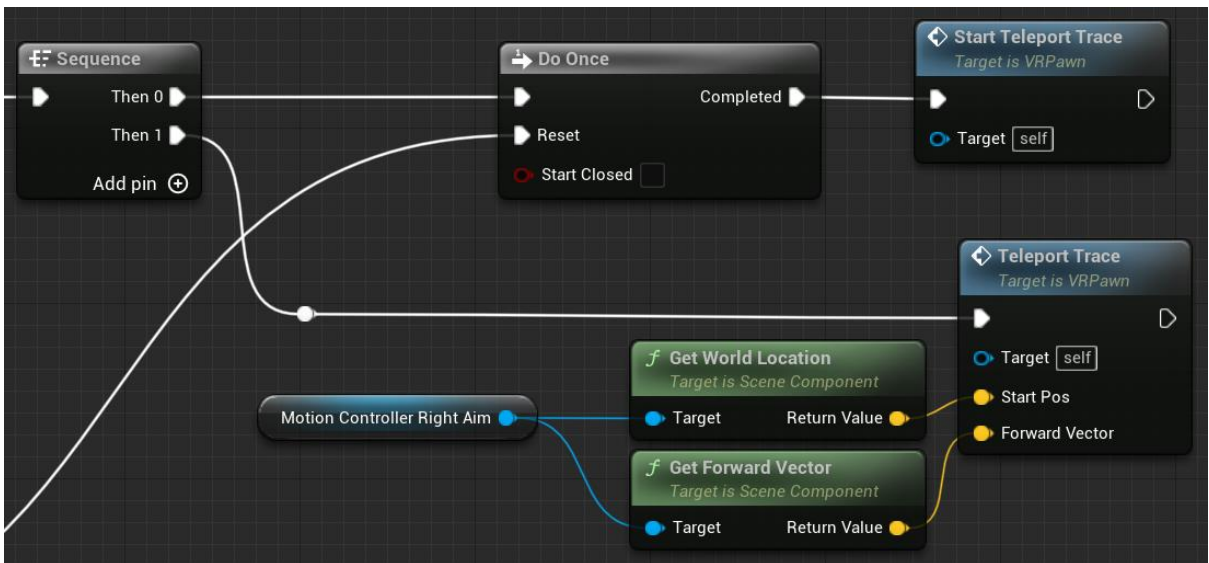
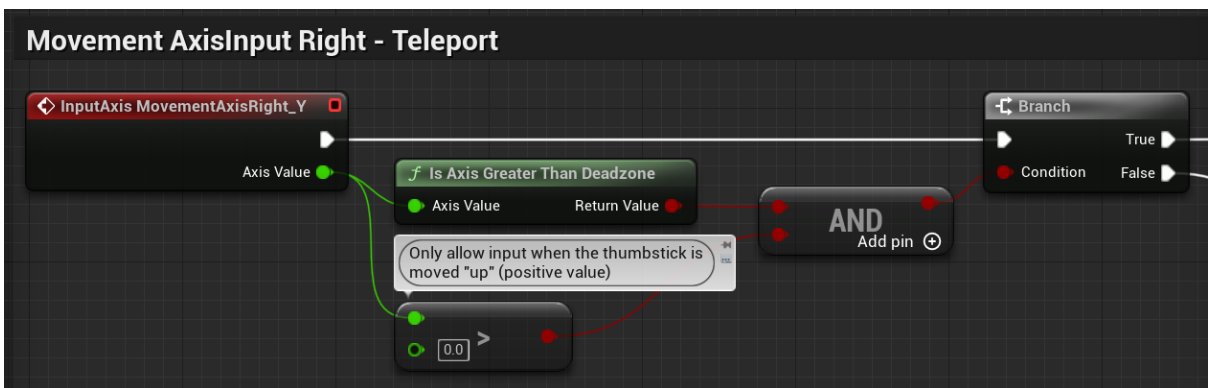
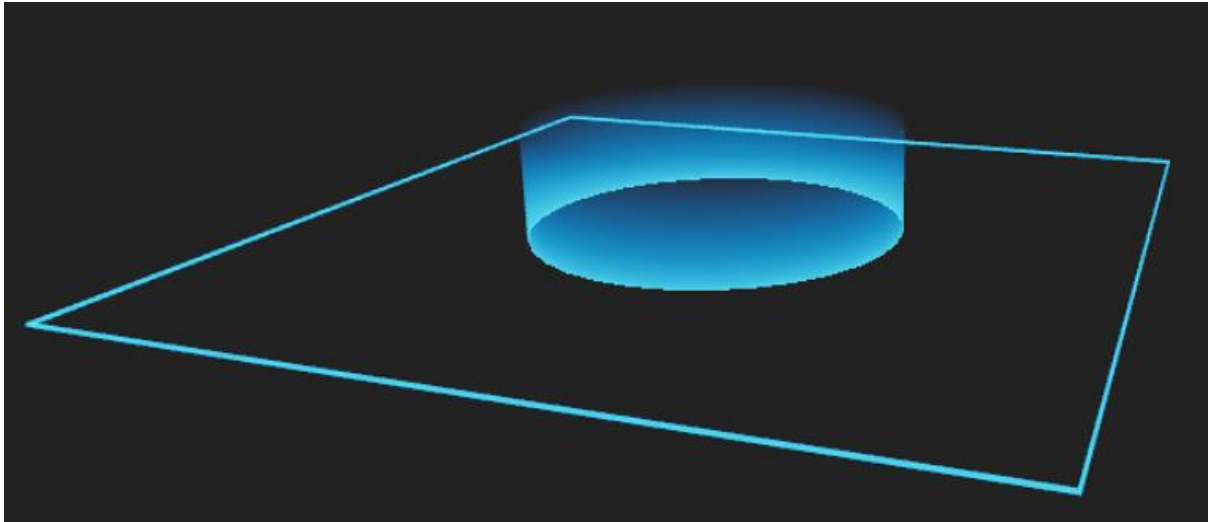
## Chapter 16: Introduction to VR Development

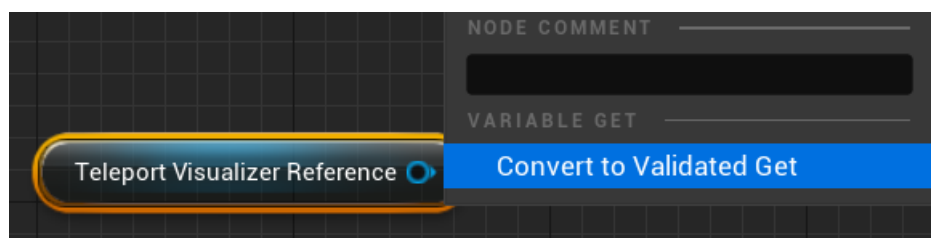
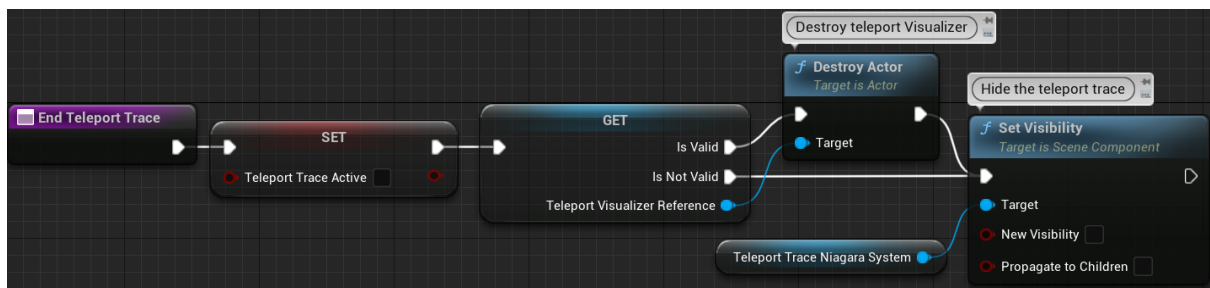
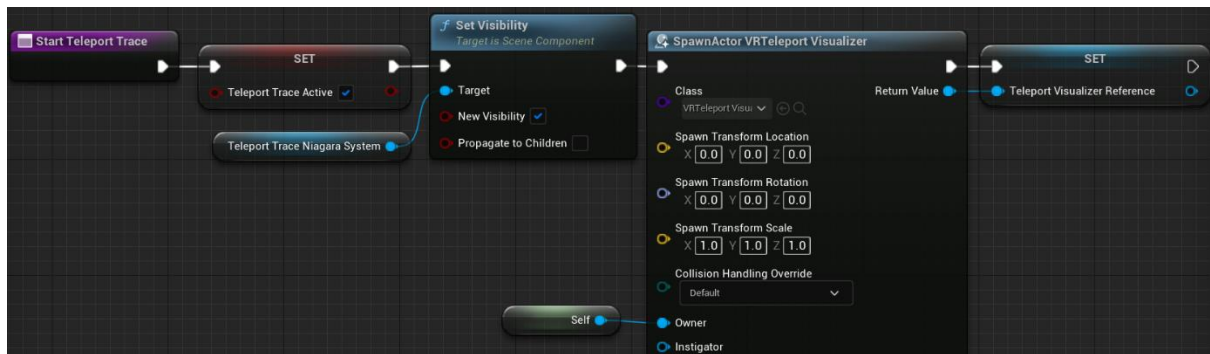
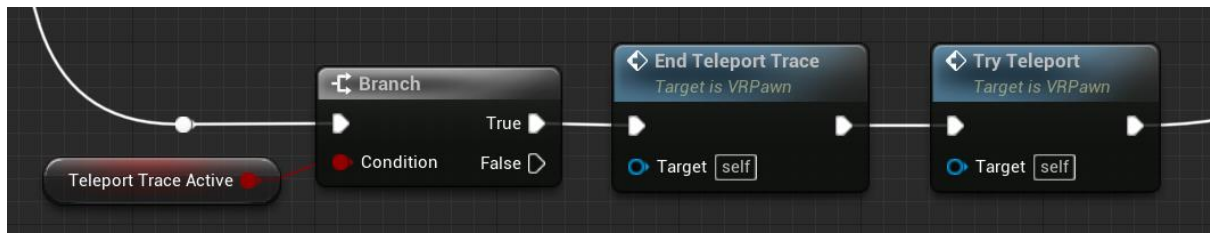


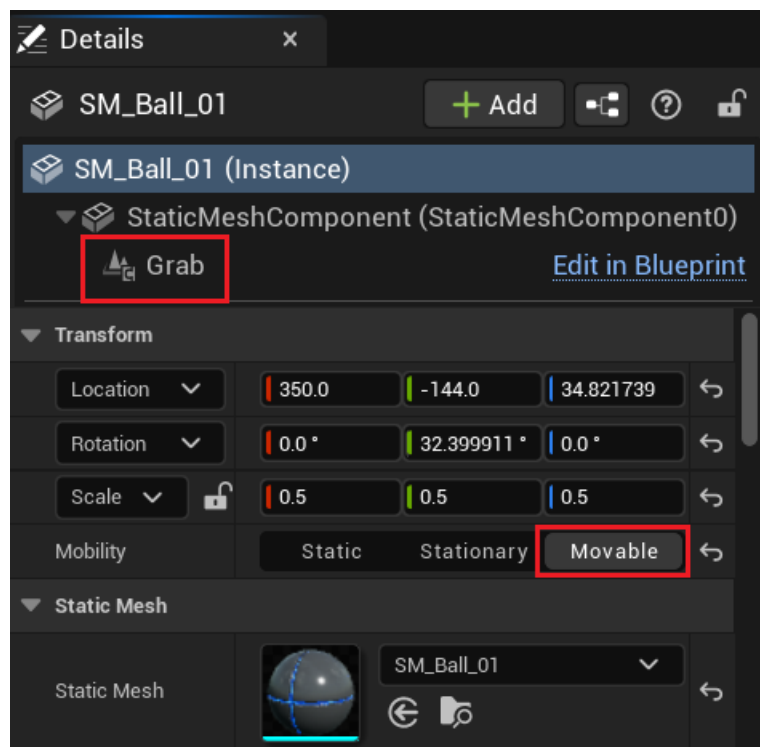
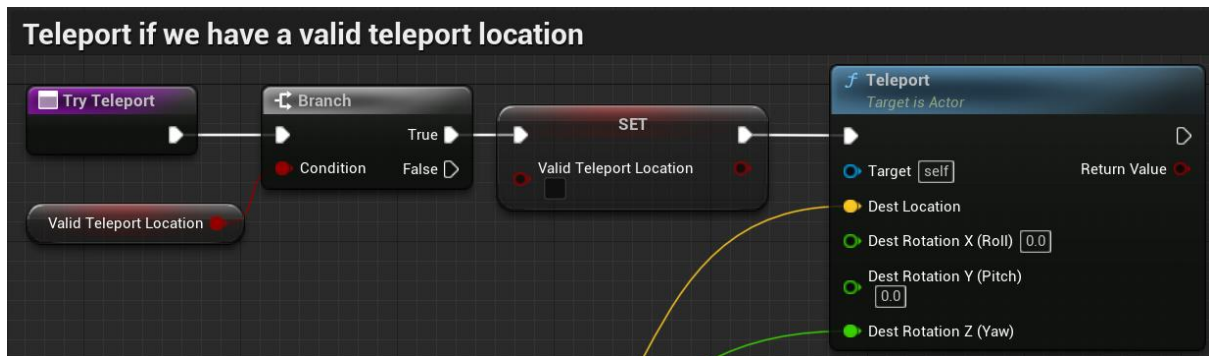
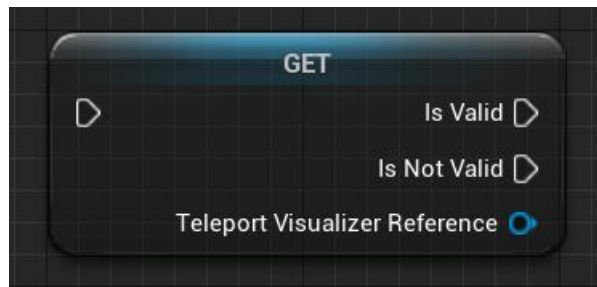


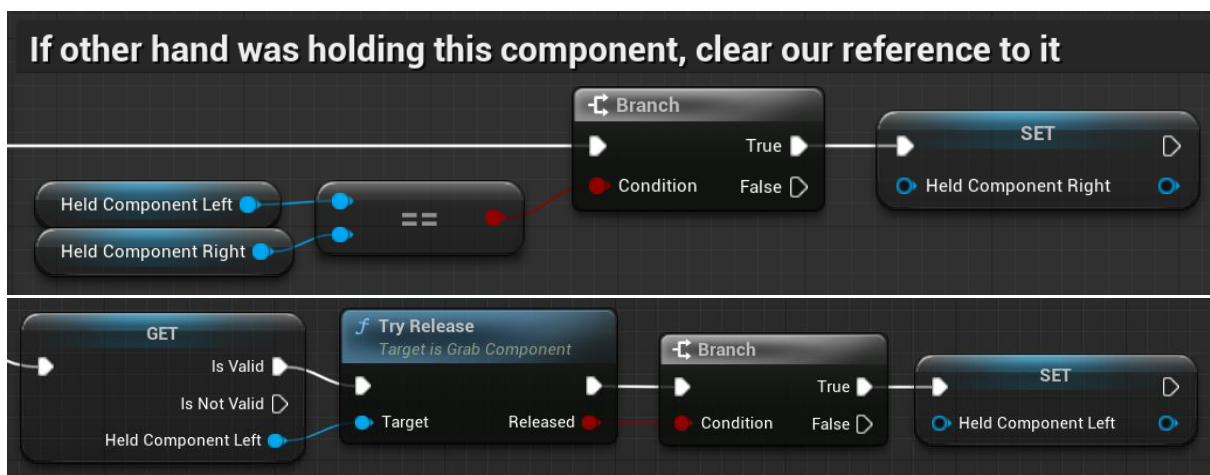
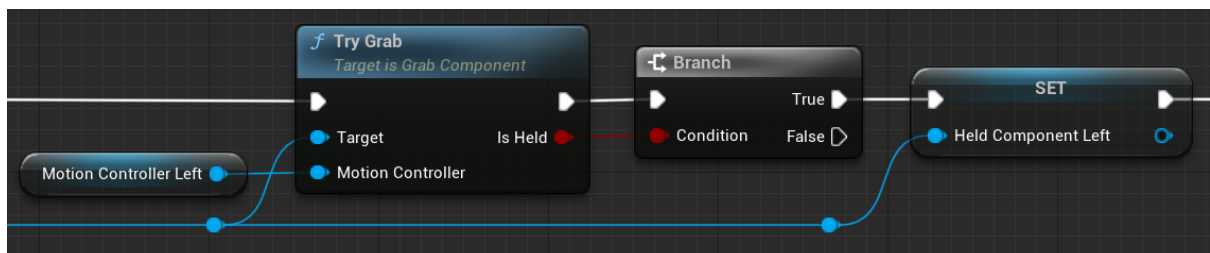
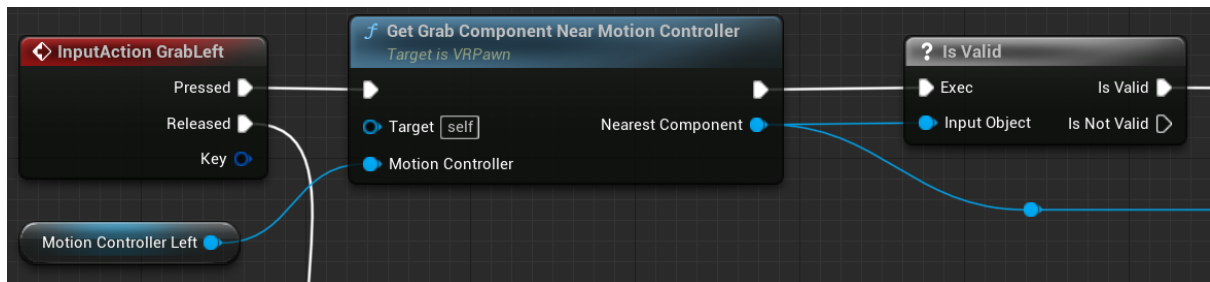
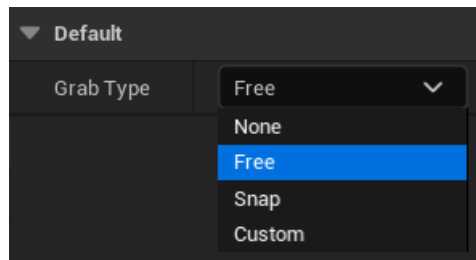
▼ Visualization	
Display Device Model	<input type="checkbox"/>
Display Model Source	Default ▼
Custom Display Mesh	None <span>None ▼</span>  
Display Mesh Material Overrides	0 Array elements  
▼ Motion Controller	
Player Index	0
Disable Low Latency Update	<input type="checkbox"/>
Motion Source	RightAim ▼

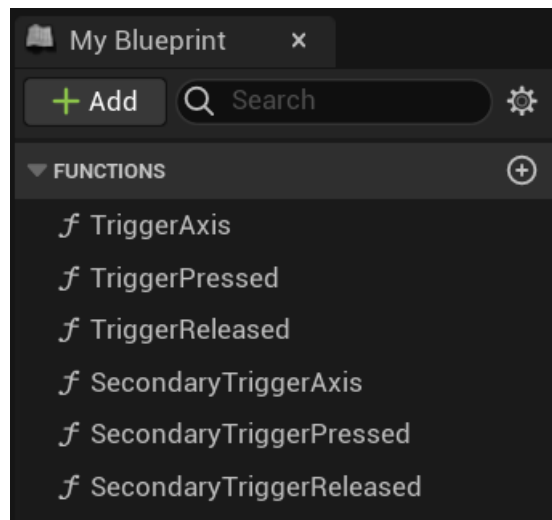
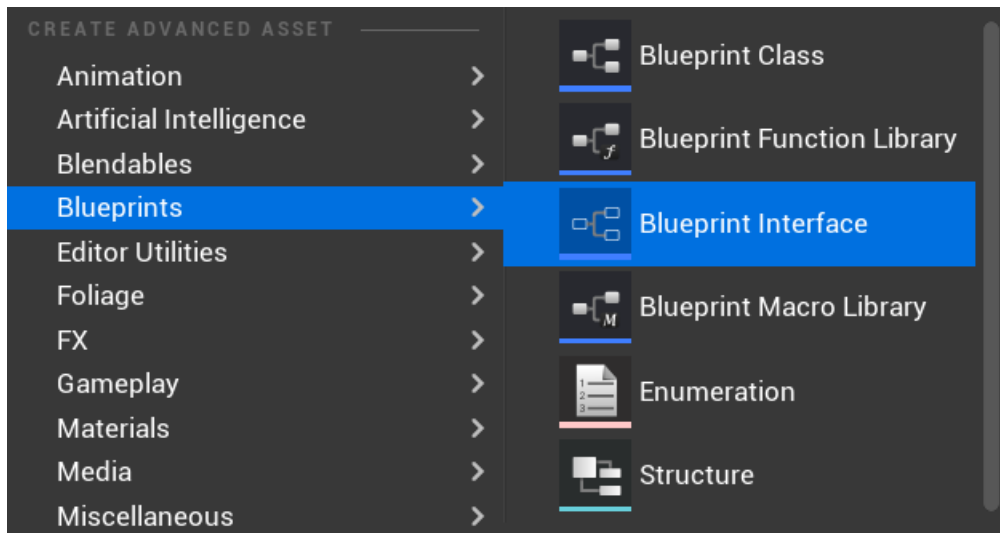


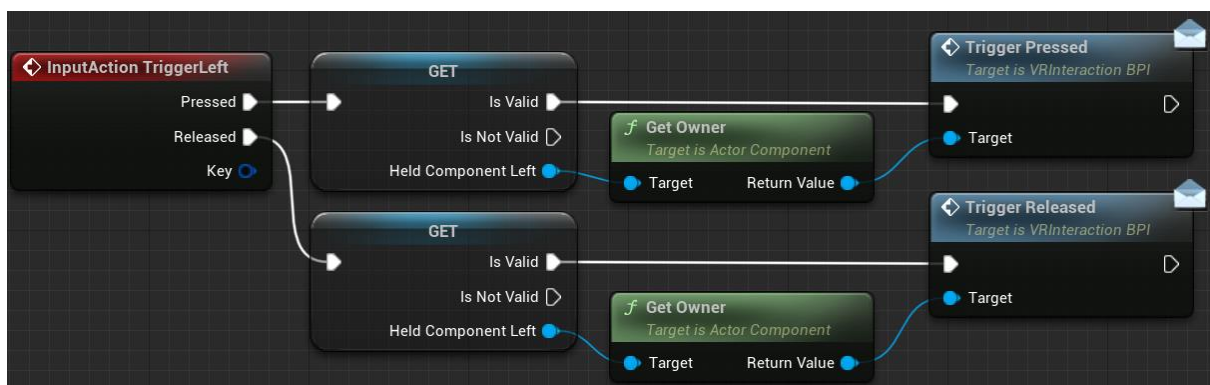
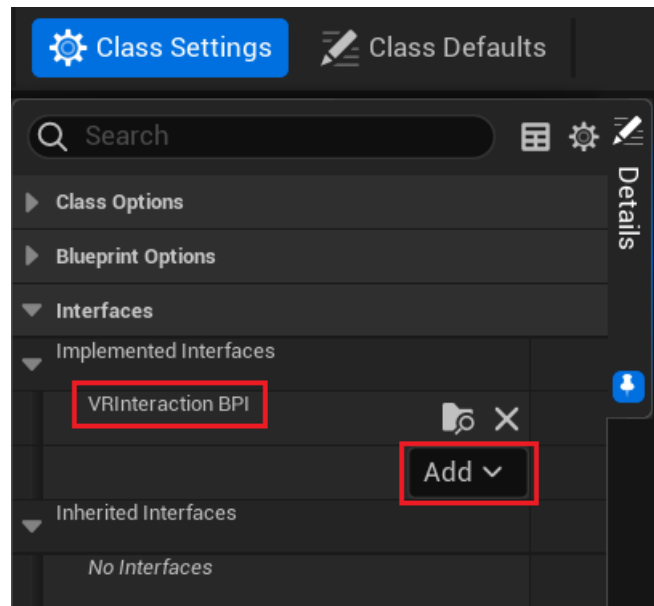


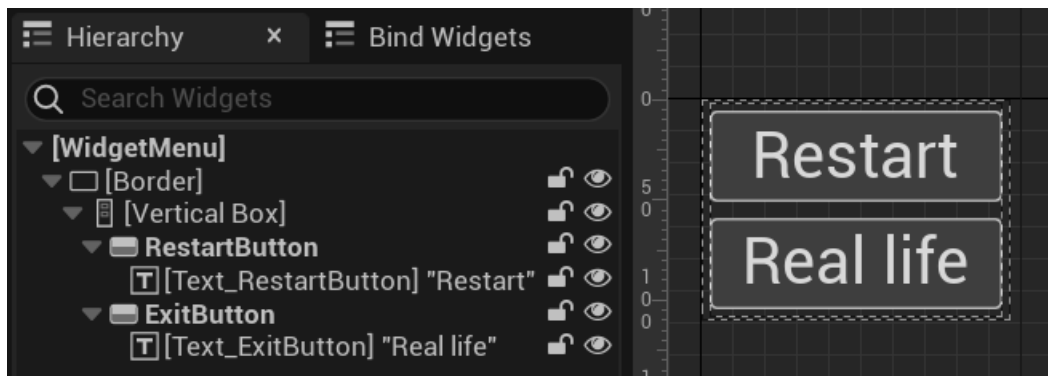
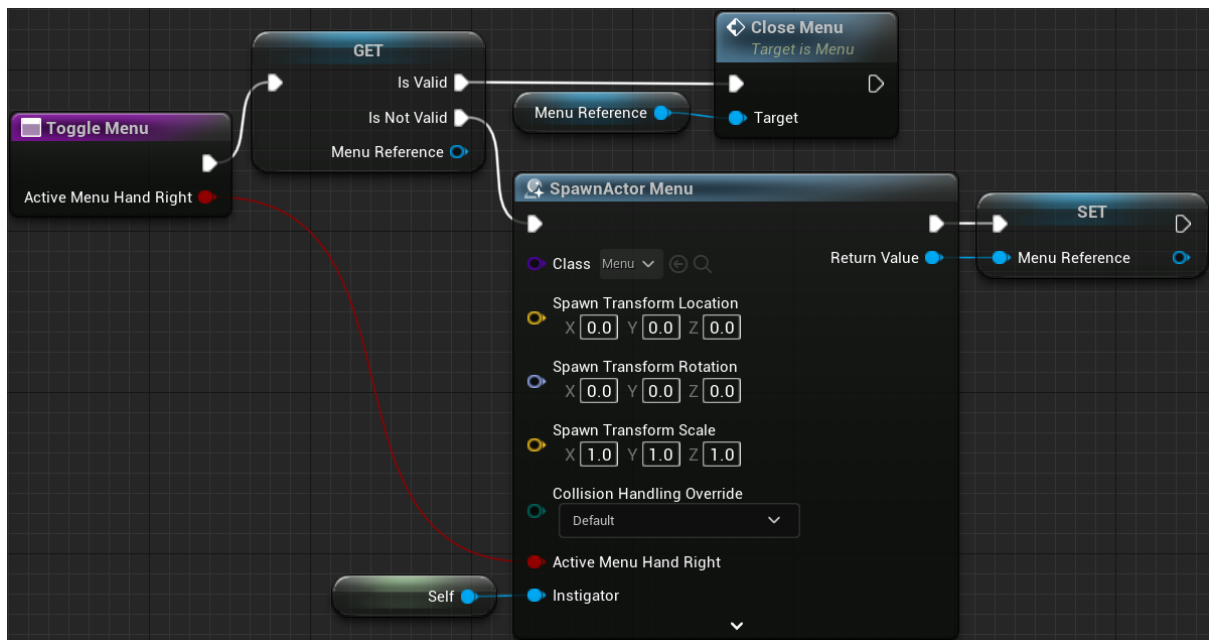
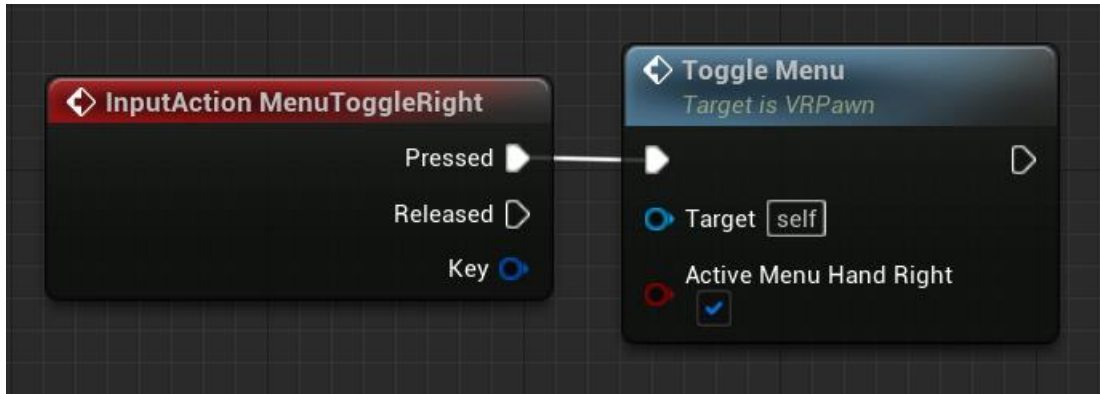


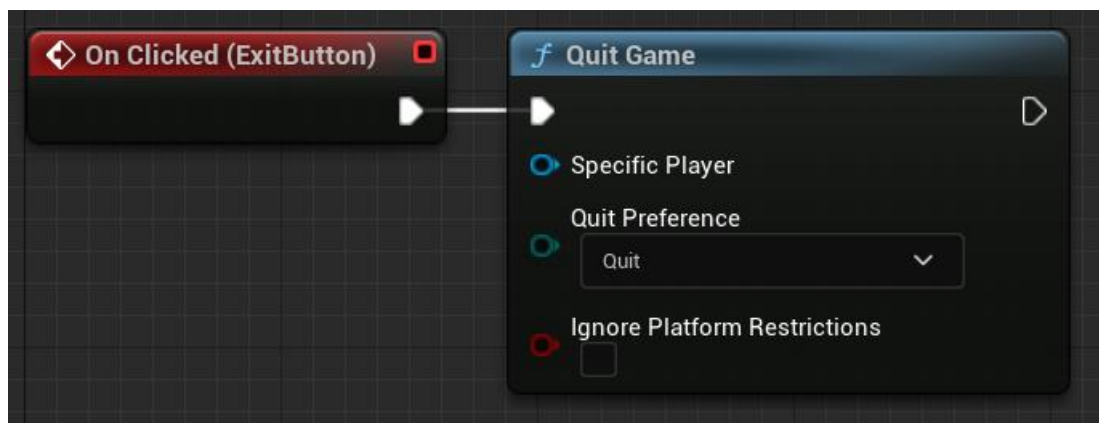
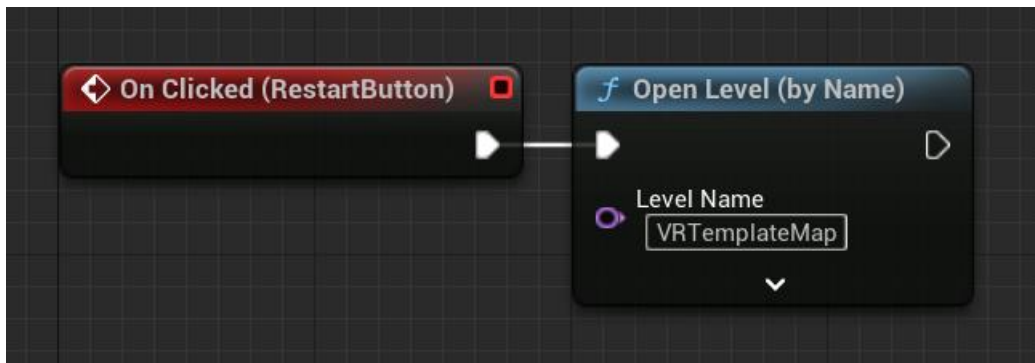




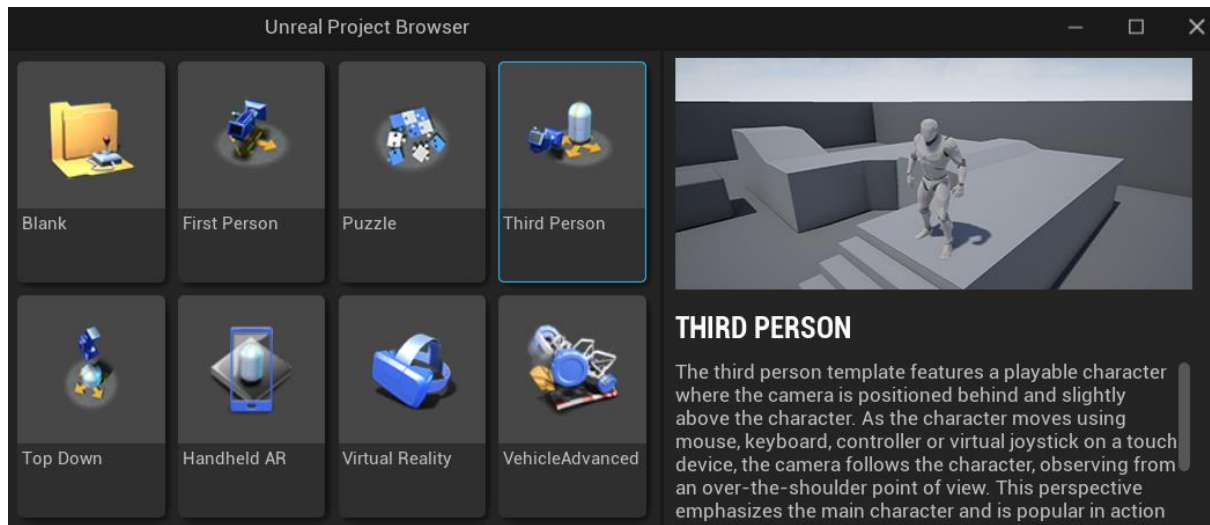


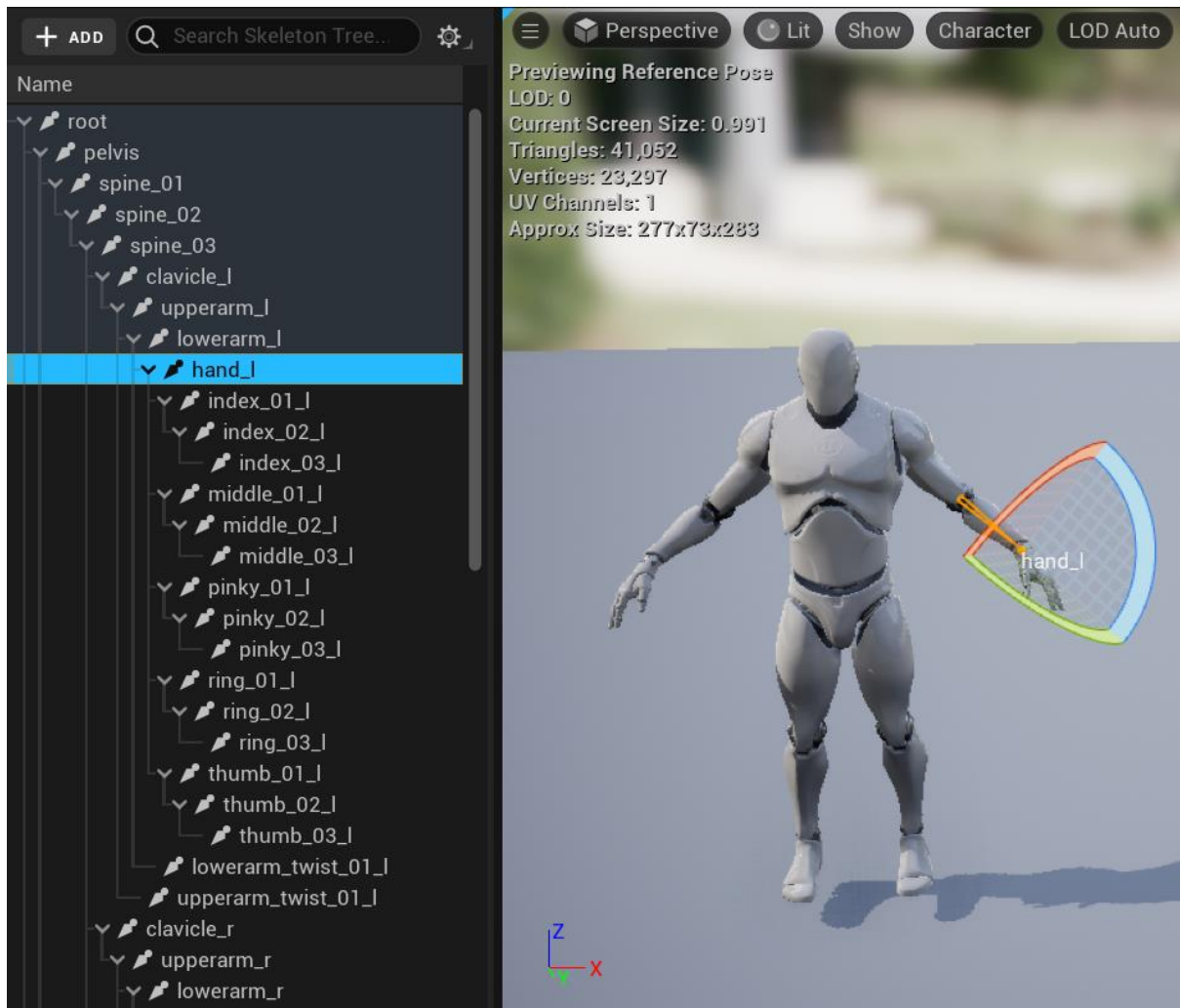






## Chapter 17: Animation Blueprints

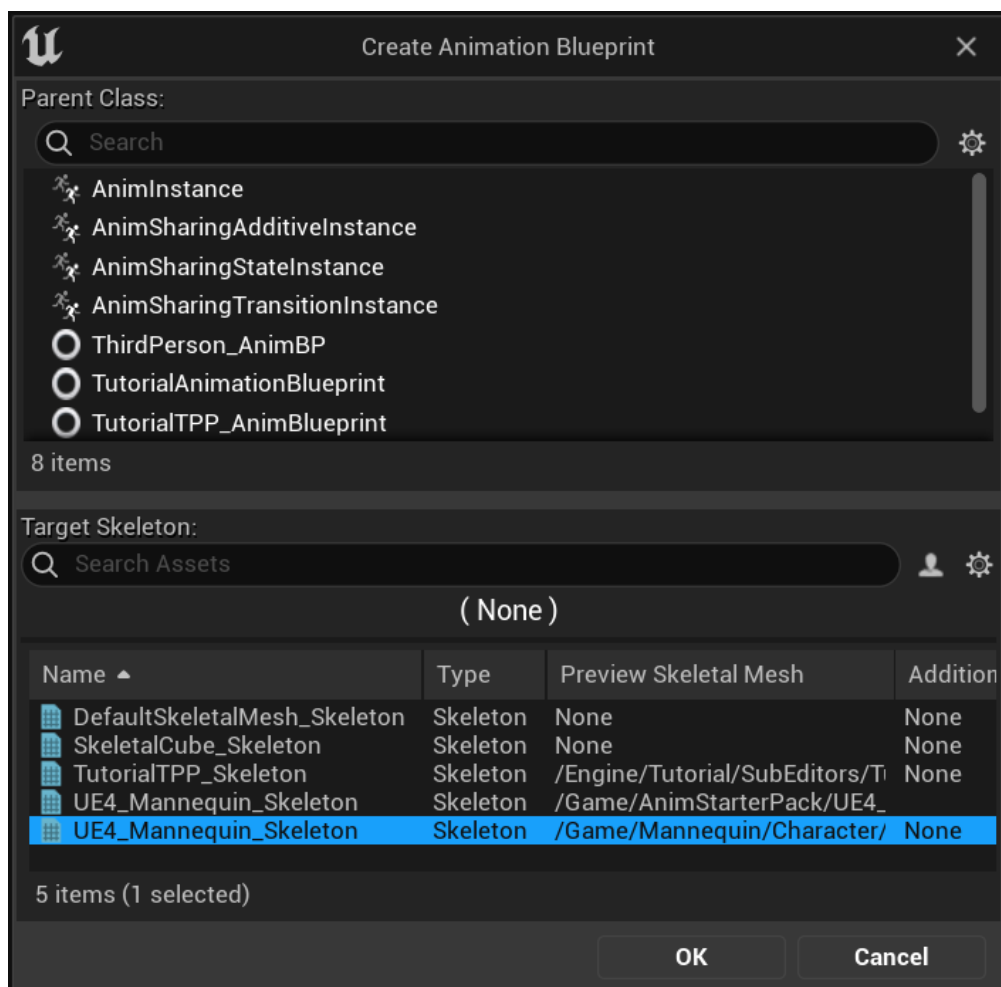
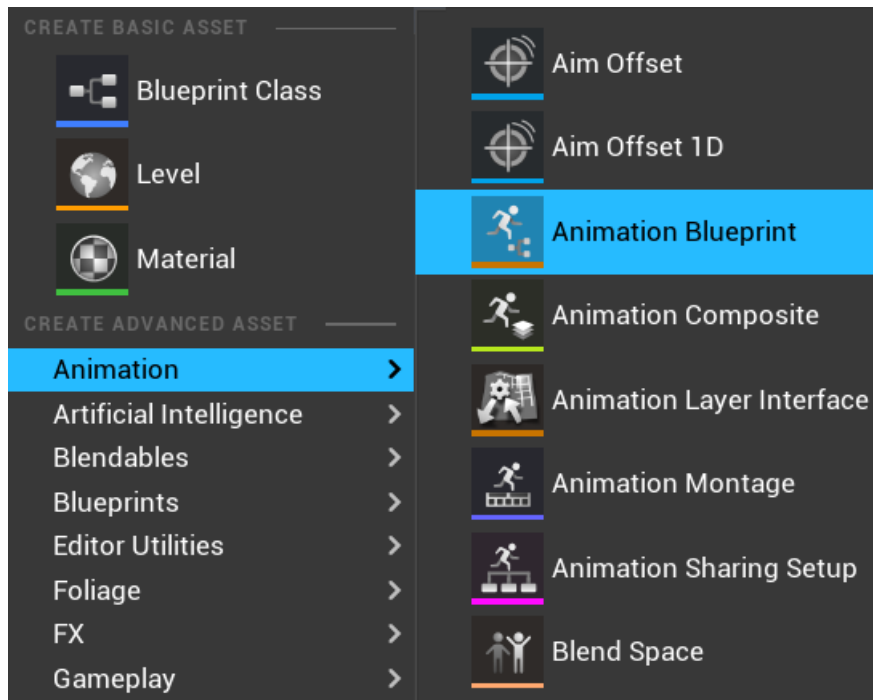


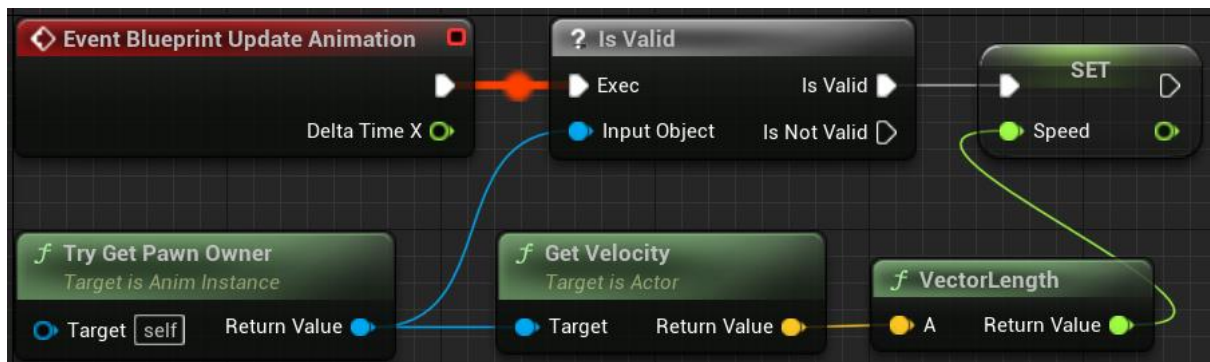
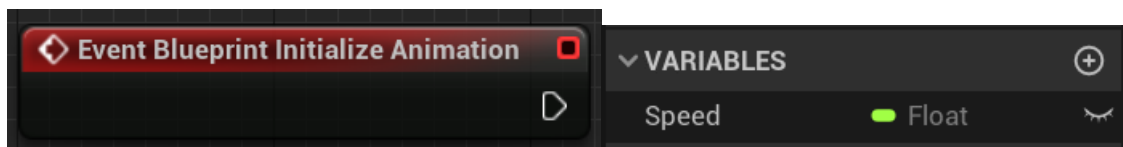
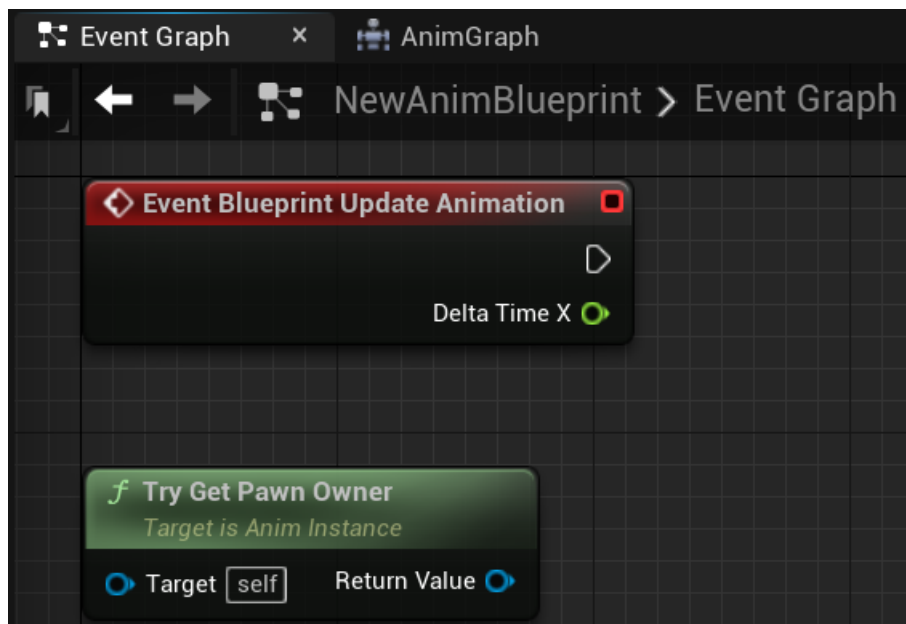


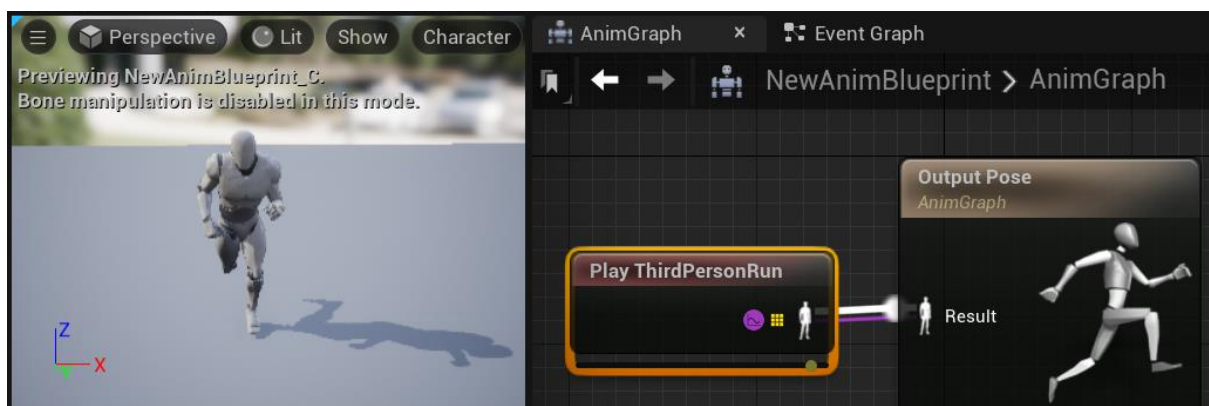
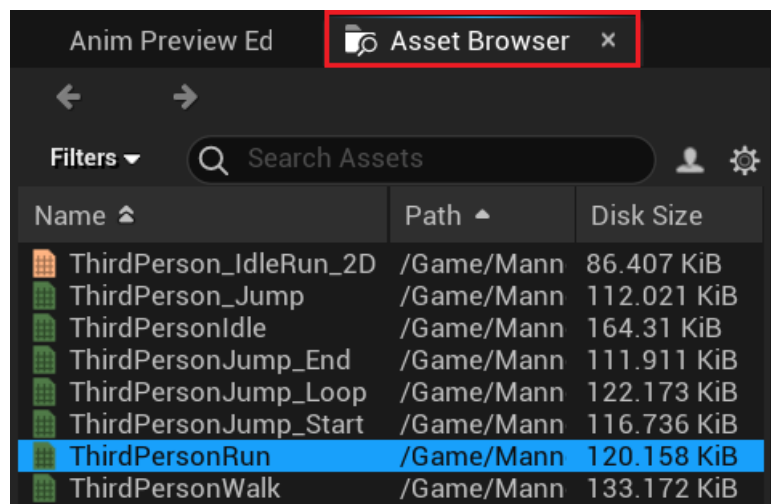
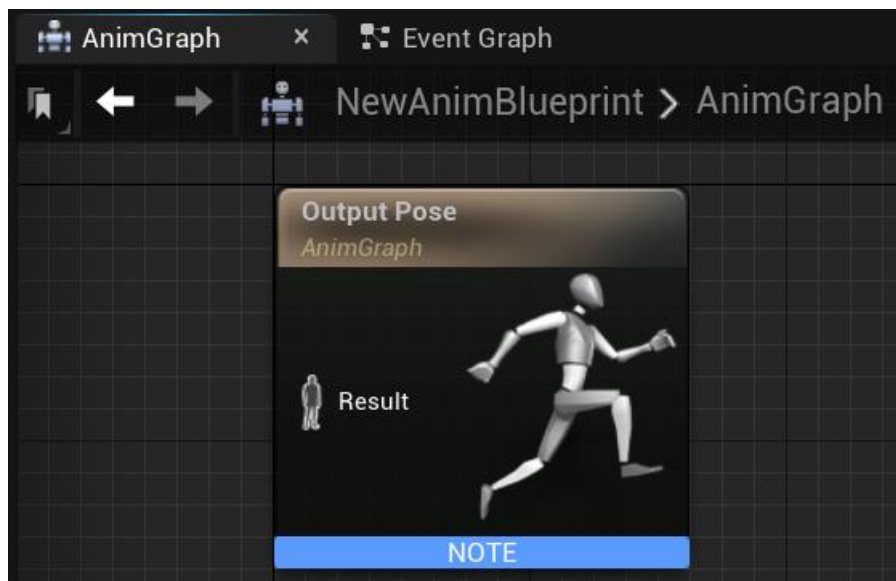
Asset Browser		
Filters		
Search Assets		
Name	Path	Disk Size
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ThirdPerson_Jump	/Game/Mannequin/Animations/	112.021 KiB
ThirdPersonIdle	/Game/Mannequin/Animations/	164.31 KiB
ThirdPersonJump_End	/Game/Mannequin/Animations/	111.911 KiB
ThirdPersonJump_Loop	/Game/Mannequin/Animations/	122.173 KiB
ThirdPersonJump_Start	/Game/Mannequin/Animations/	116.736 KiB
ThirdPersonRun	/Game/Mannequin/Animations/	120.158 KiB
ThirdPersonWalk	/Game/Mannequin/Animations/	133.172 KiB

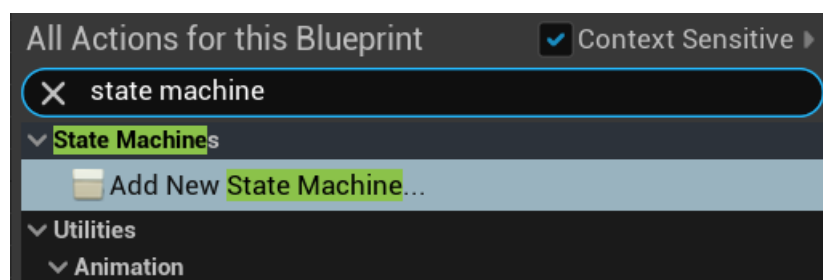
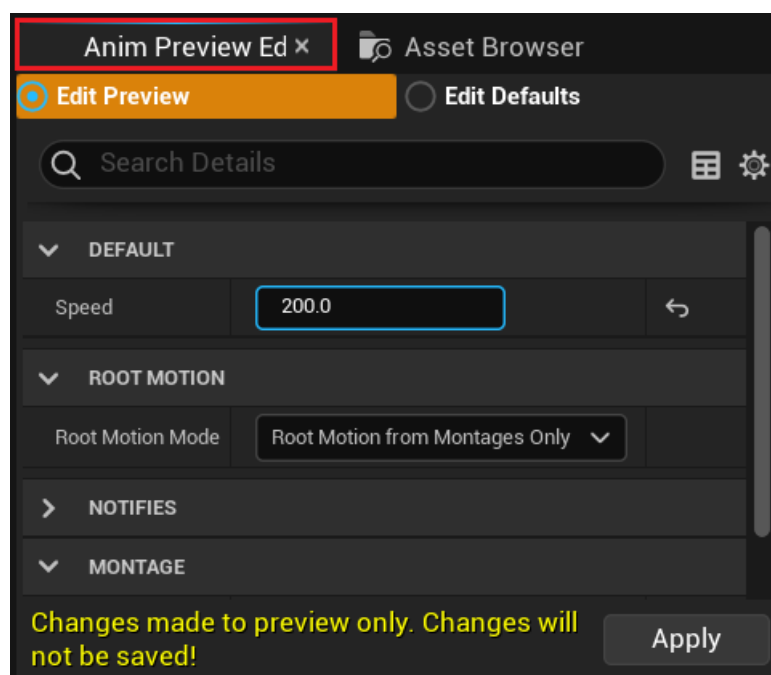
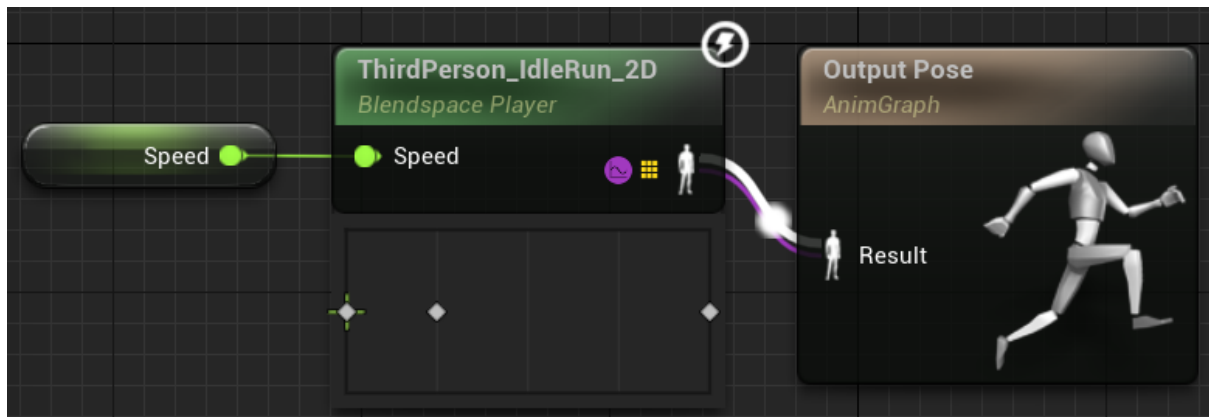


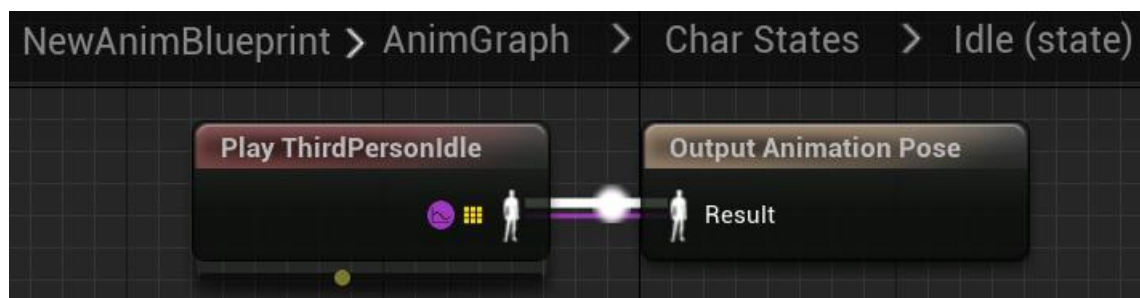
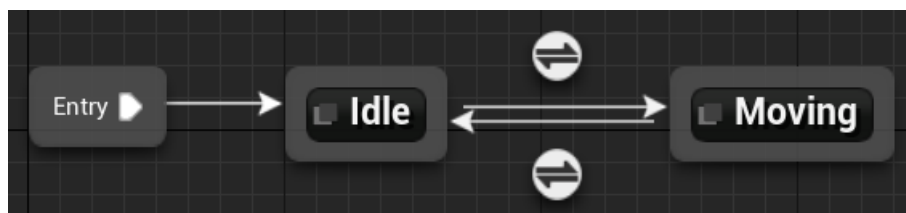
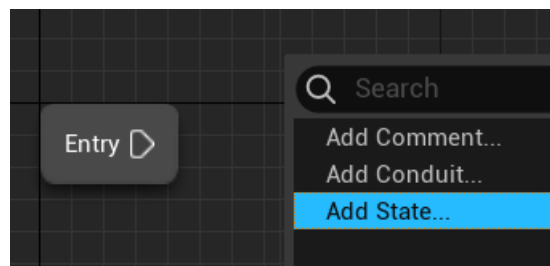
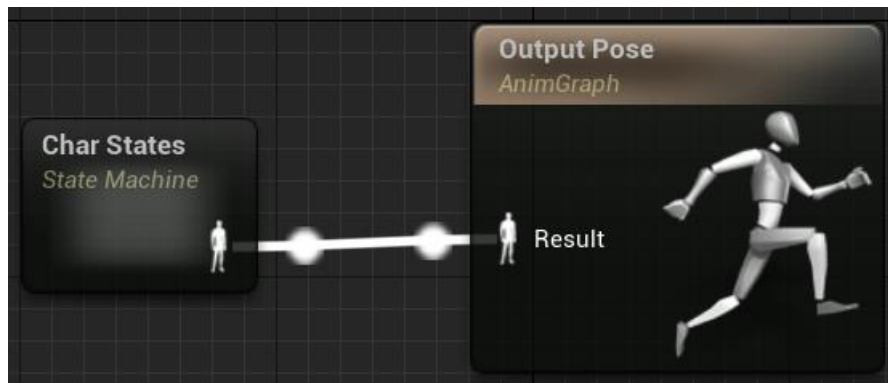


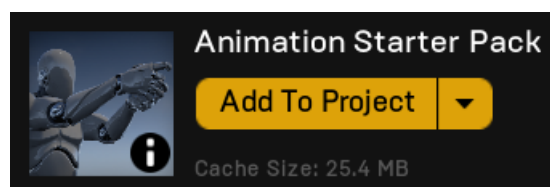
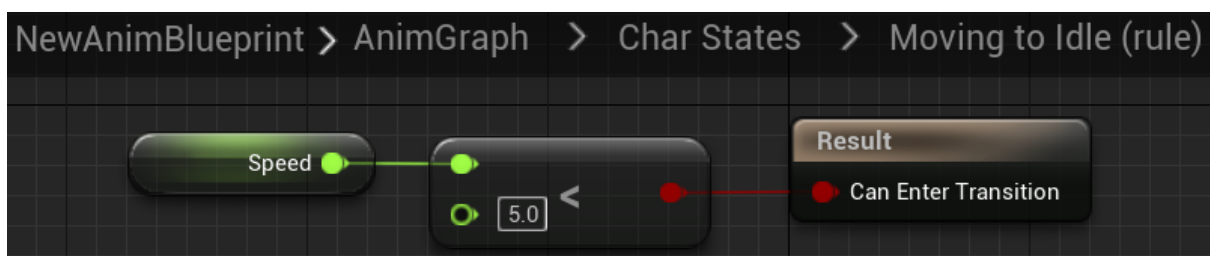
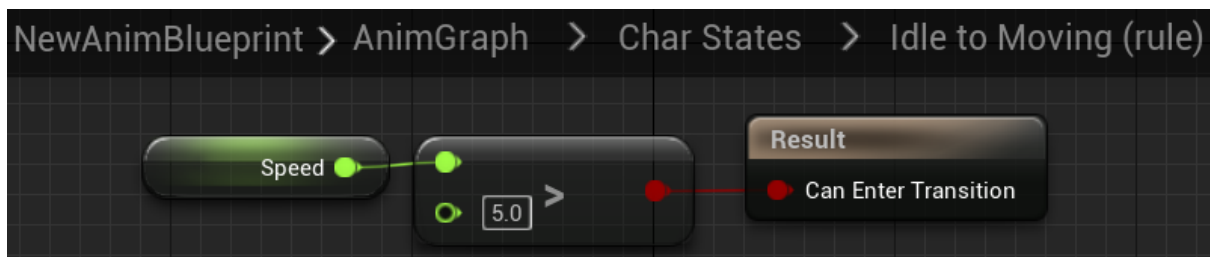
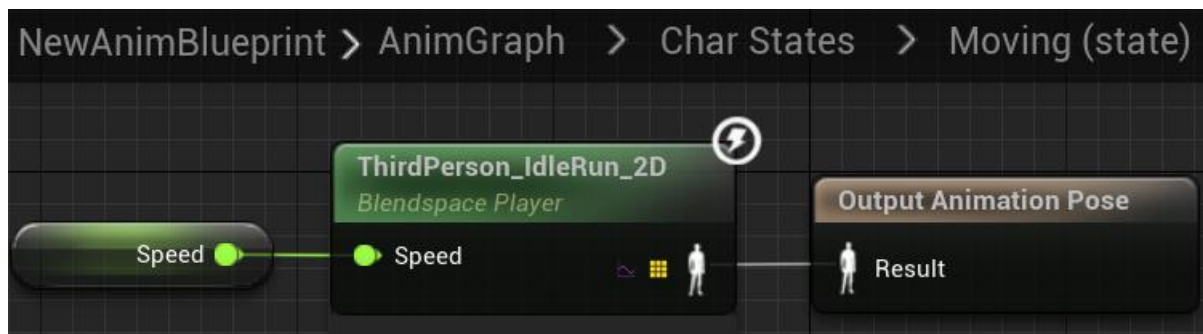












CLASSES	
Game Session Class	GameSession ↵ 🔍 ✕
Game State Class	GameStateBase ↵ 🔍 ➕
Player Controller Class	PlayerController ↵ 🔍 ➕
Player State Class	PlayerState ↵ 🔍 ➕
HUD Class	HUD ↵ 🔍 ➕ ✕
Default Pawn Class	Ue4ASP_Character ↵ 🔍 ➕ ✕
Spectator Class	SpectatorPawn ↵ 🔍 ➕
Replay Spectator Player Controller Class	PlayerController ↵ 🔍 ➕
Server Stat Replicator Class	ServerStatReplicator ↵ 🔍

RENDERING

Visible ☒

Hidden in Game ☒

Settings

GAME SPECIFIC SETTINGS

World Settings

Project Settings...

Plugins

BINDINGS

Action and Axis Mappings provide a mechanism to conveniently map keys and axes to input behaviors presses and releases, while Axis Mappings allow for inputs that have a continuous range.

Action Mappings

Jump

ResetVR

Crouch

Prone

C

X

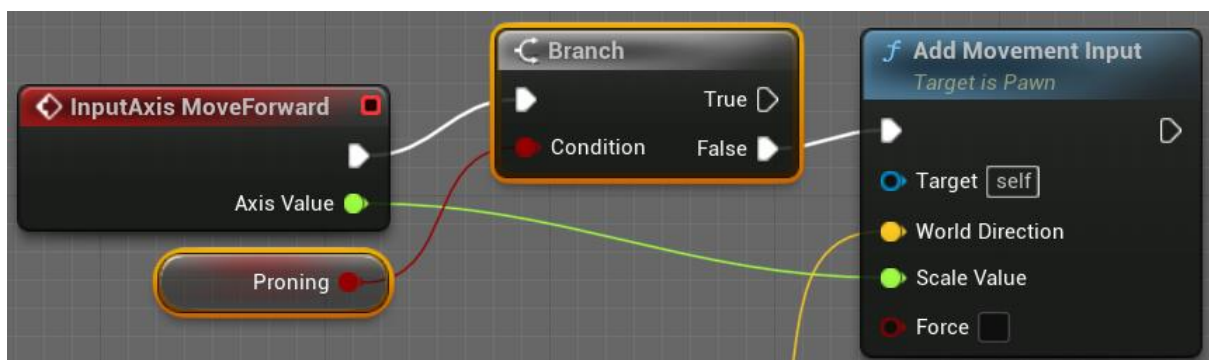
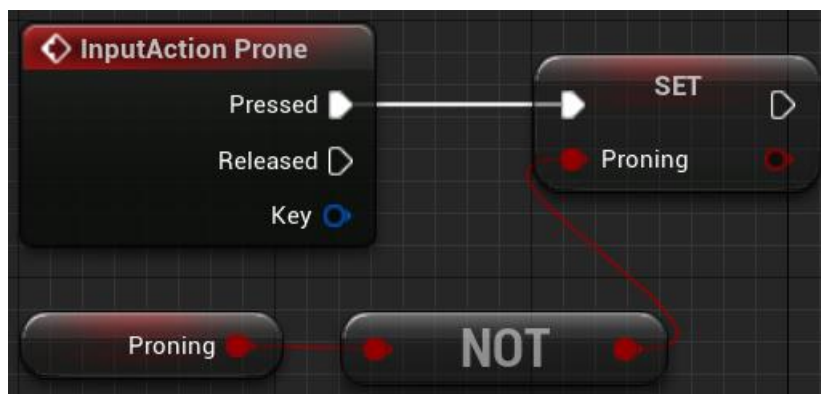
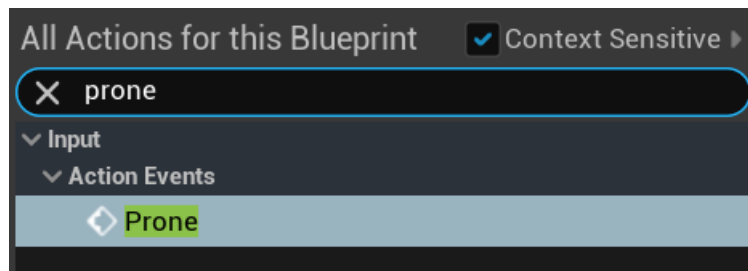
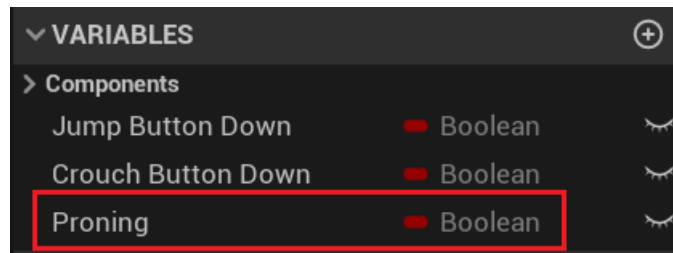
Shift

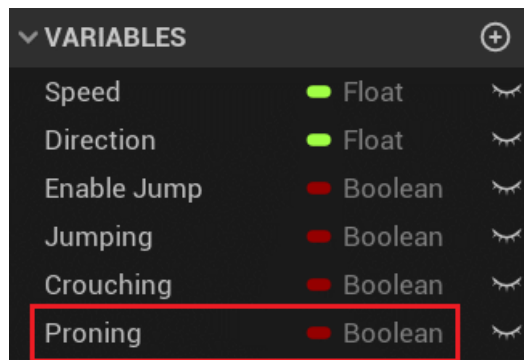
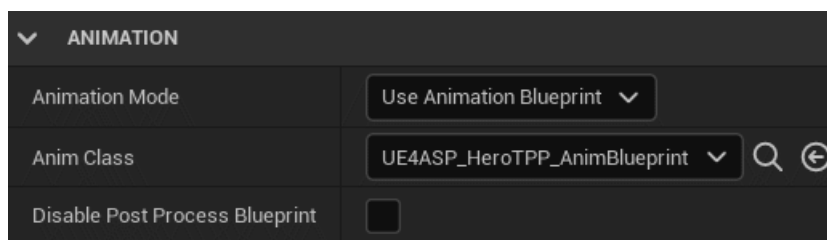
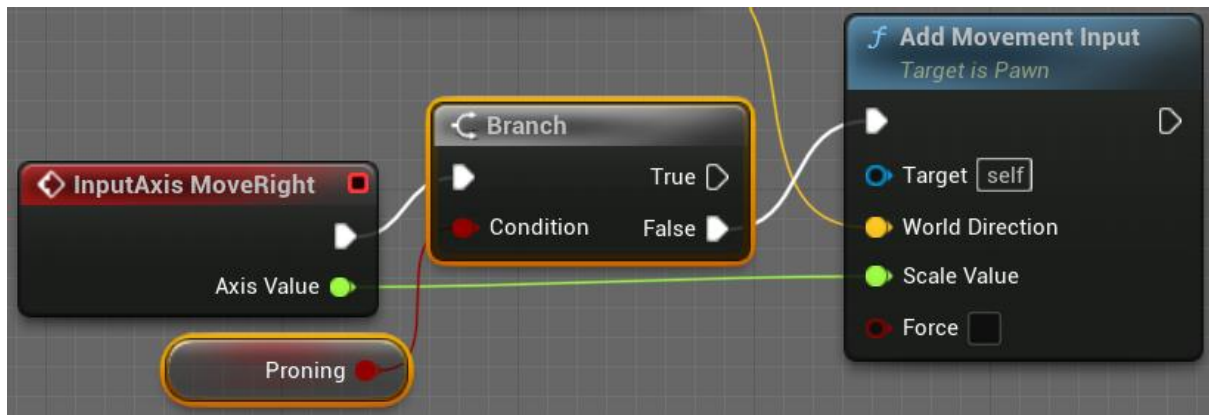
Ctrl

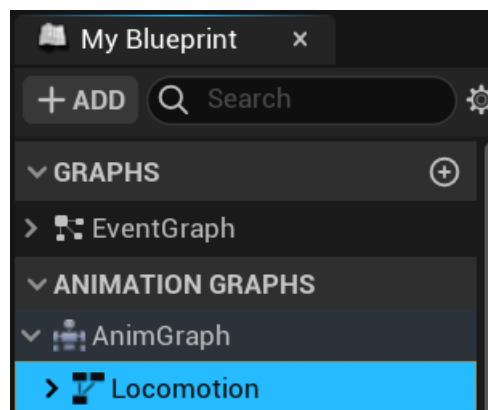
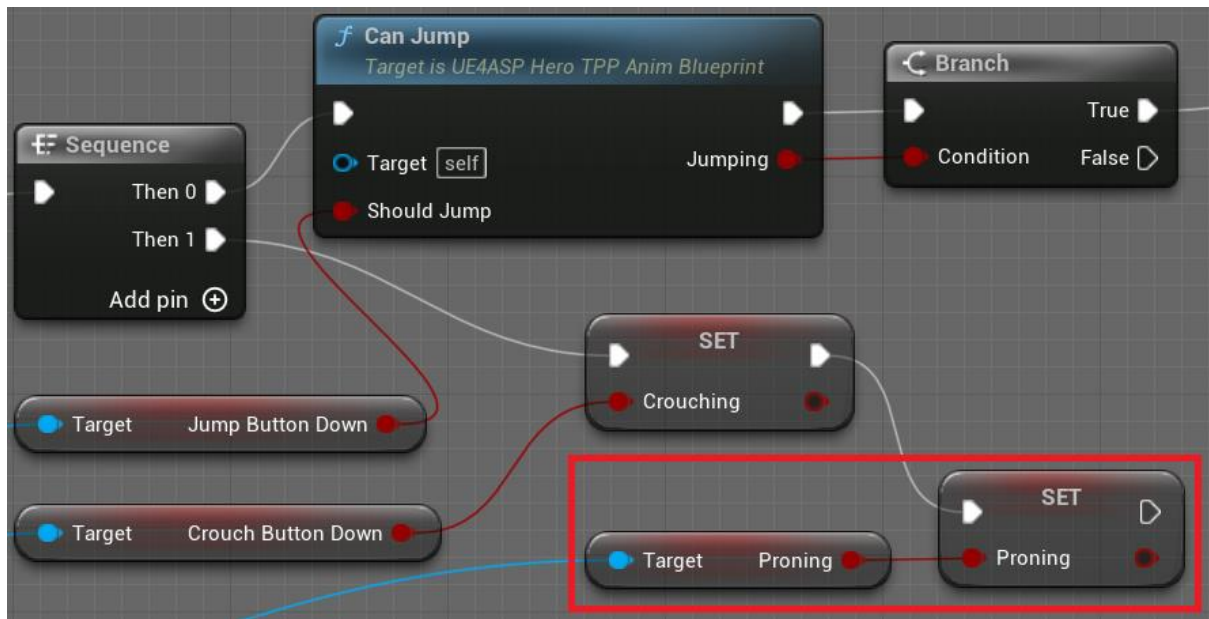
Alt

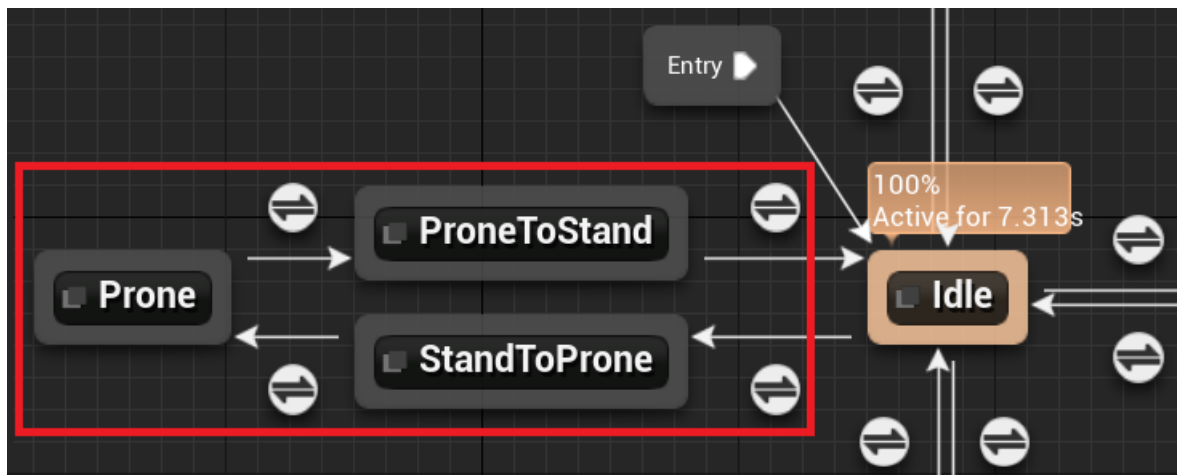
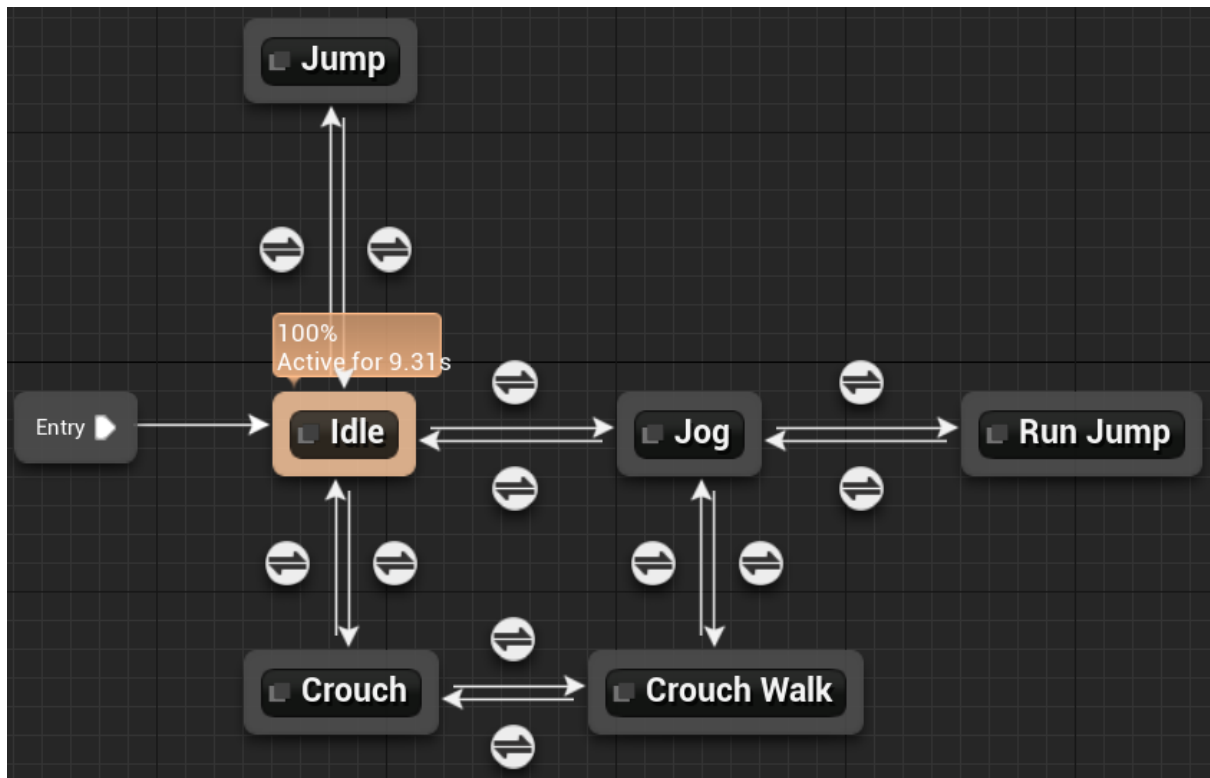
Cmd

Axis Mappings





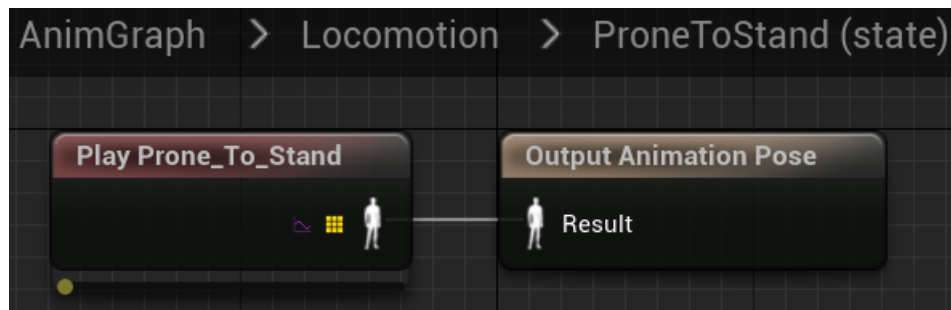
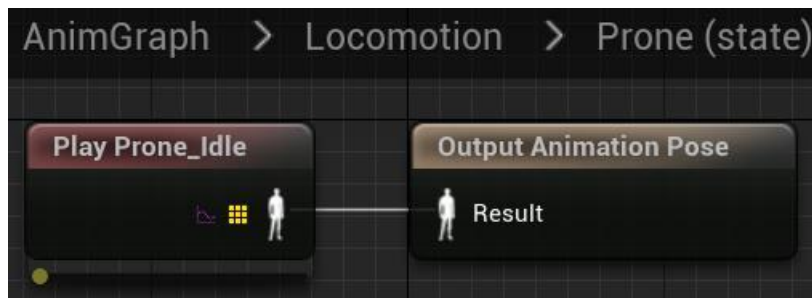


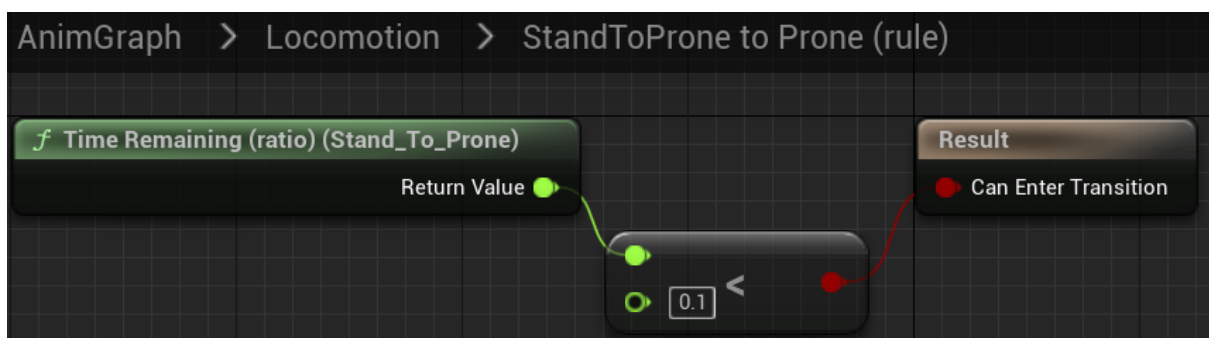
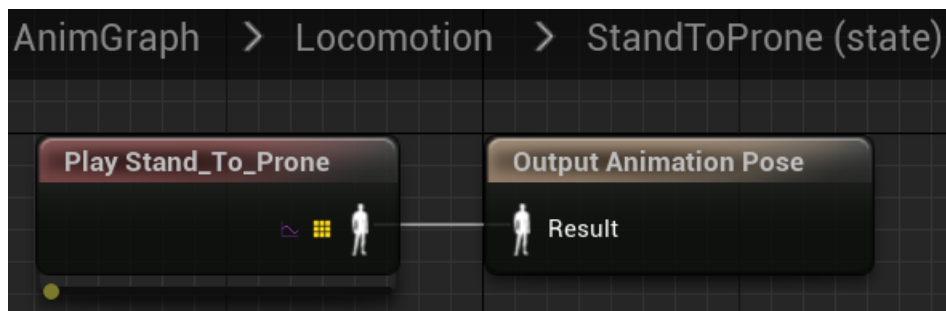
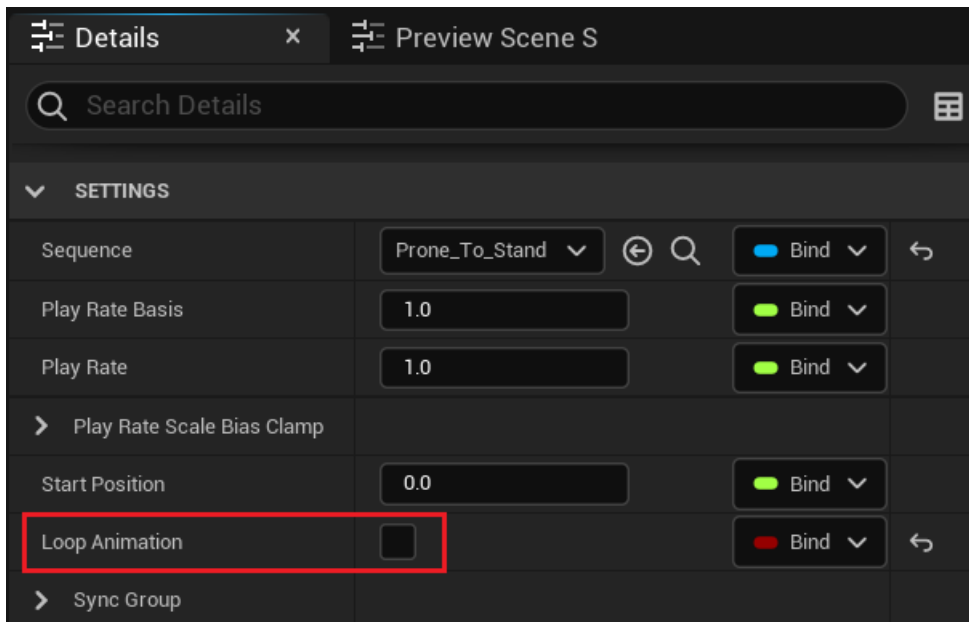


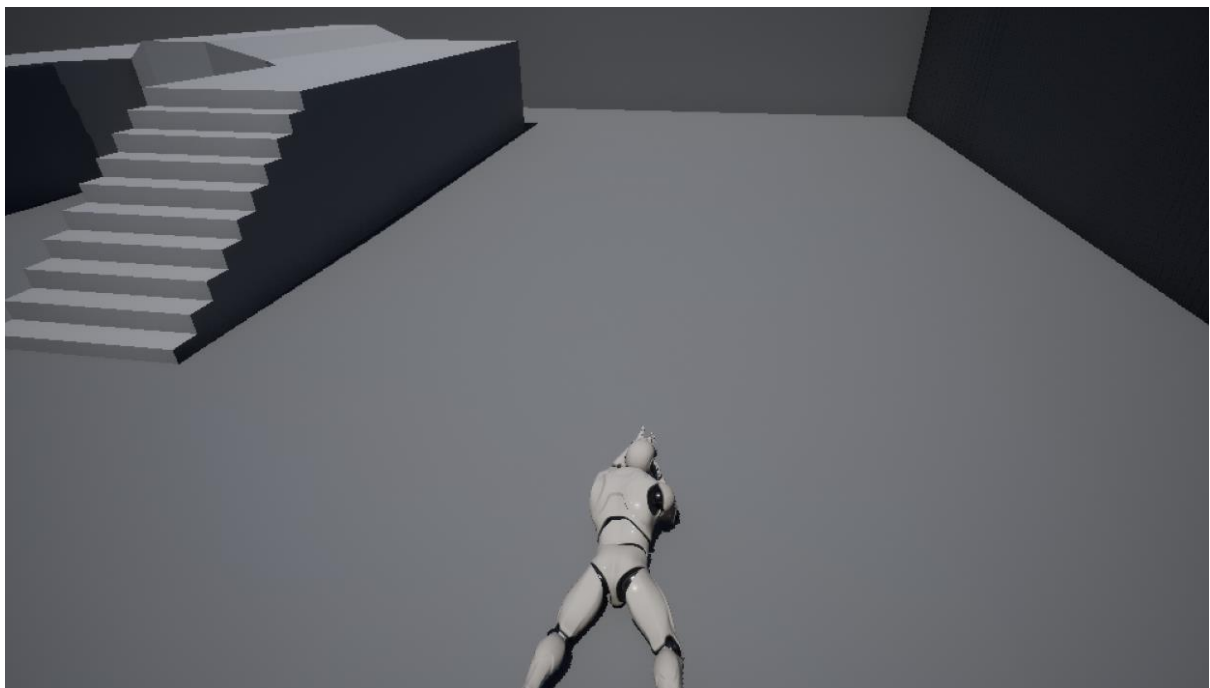
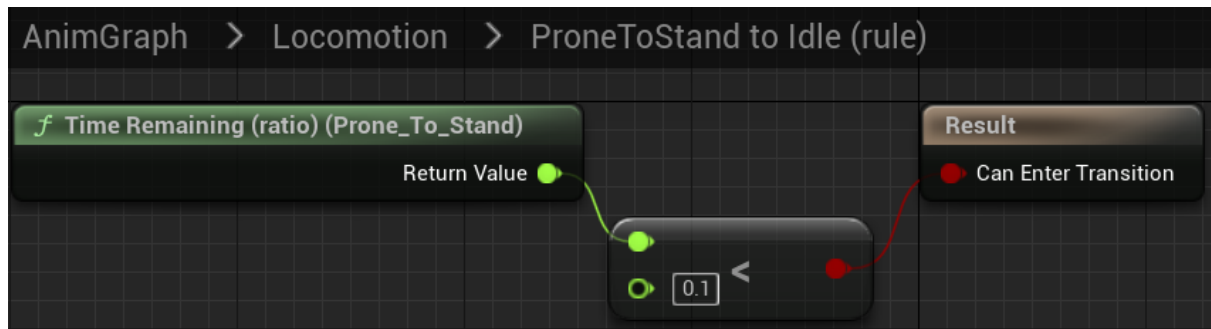
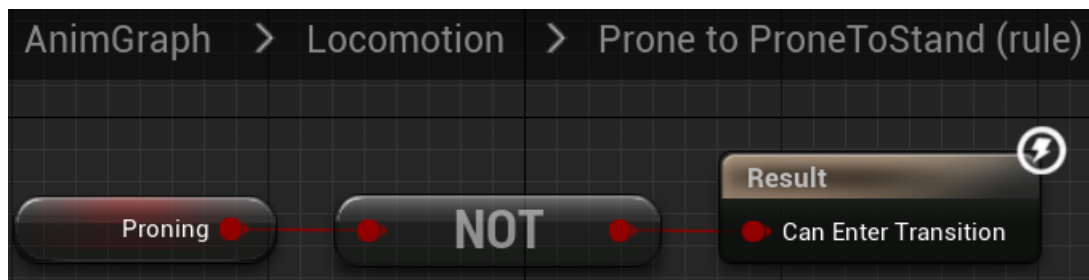
Anim Preview Ed    Asset Browser

Filters    Search Assets

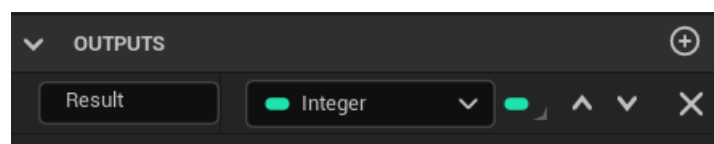
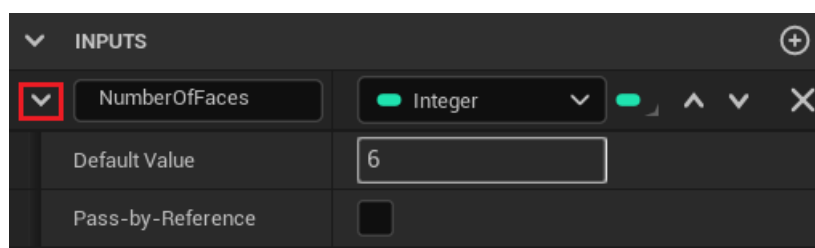
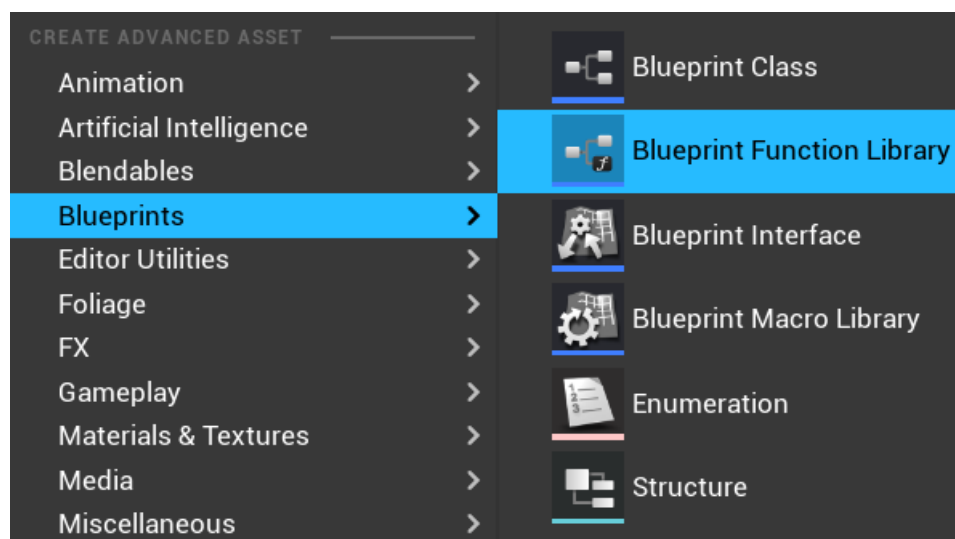
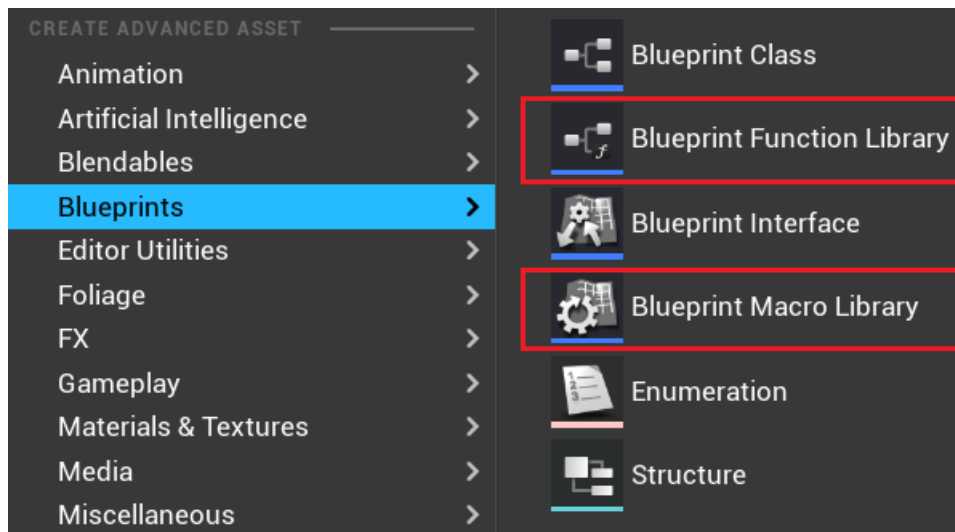
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Prone_Fire_2	/Game/Anim	98.088 KiB
<b>Prone_Idle</b>	<b>/Game/Anim</b>	<b>328.315 KiB</b>
Prone_Reload_Rifle	/Game/Anim	234.008 KiB
Prone_Reload_Shotgun	/Game/Anim	275.742 KiB
Prone_To_Stand	/Game/Anim	158.138 KiB

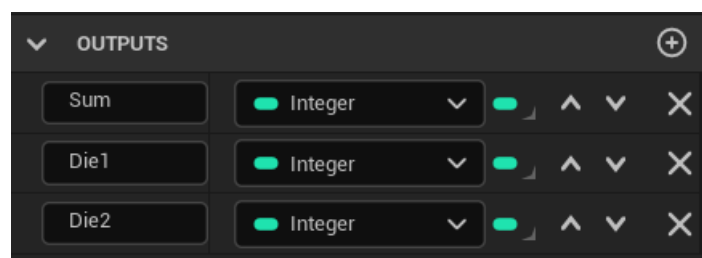
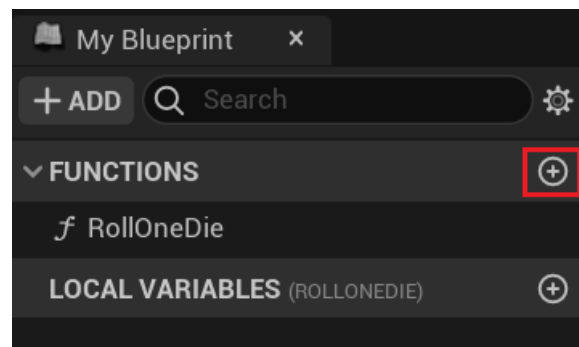
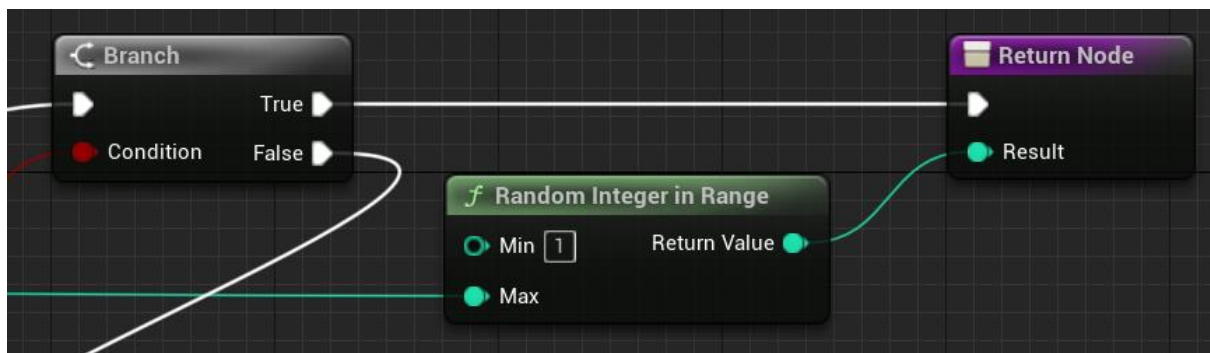
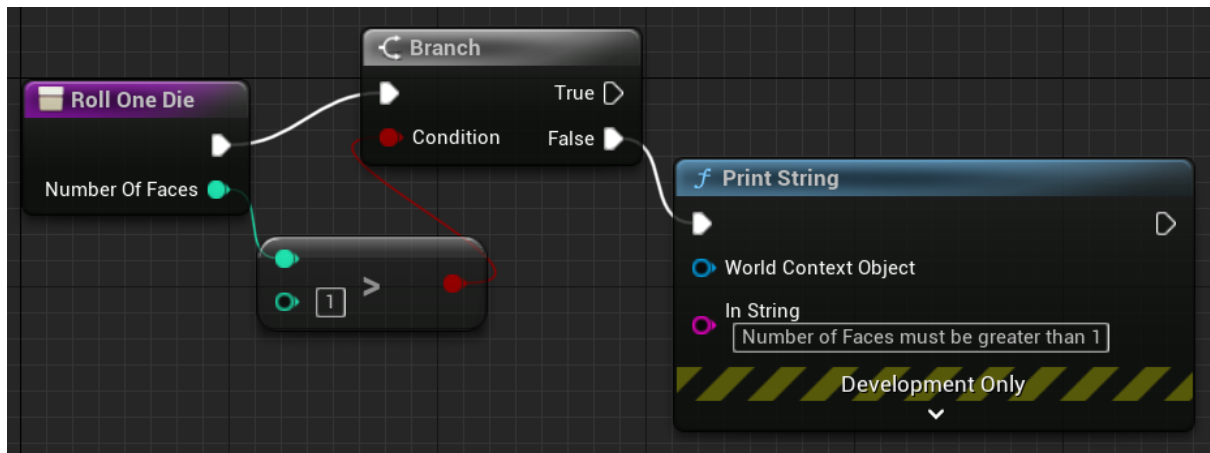


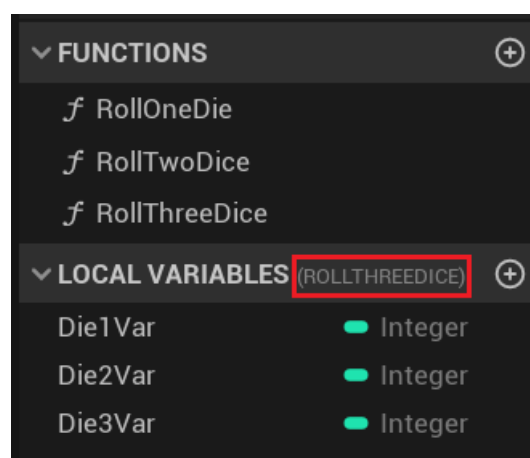
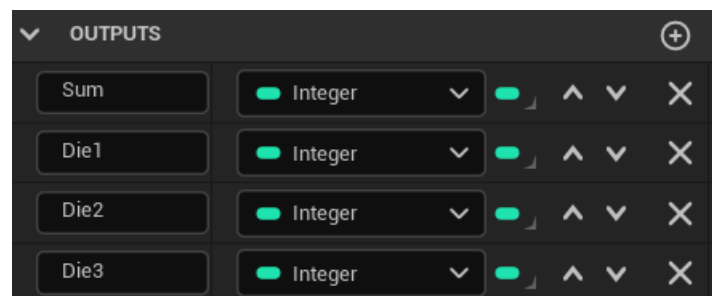
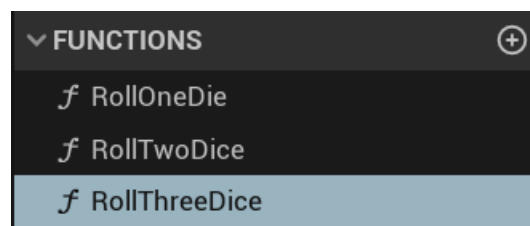
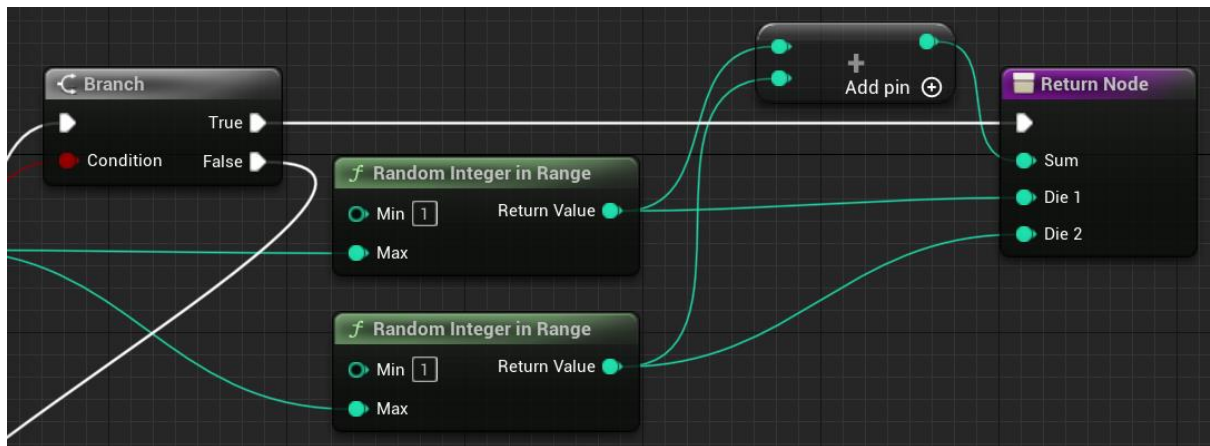


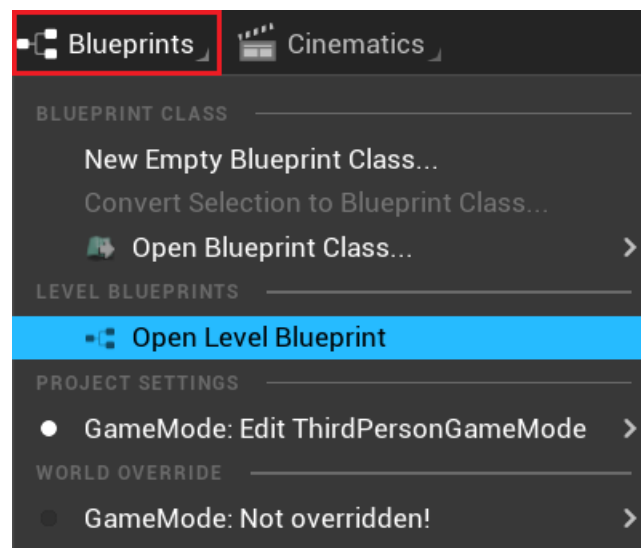
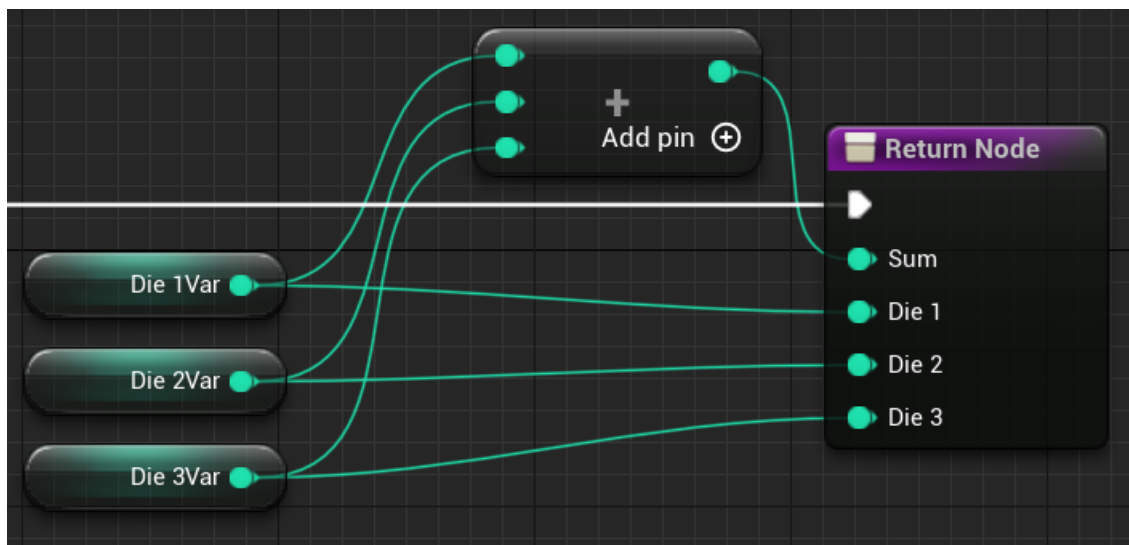
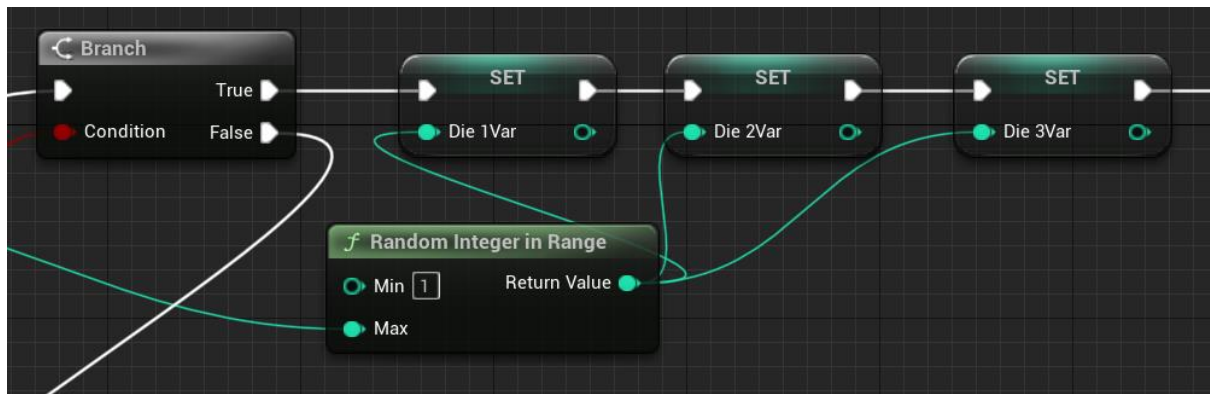


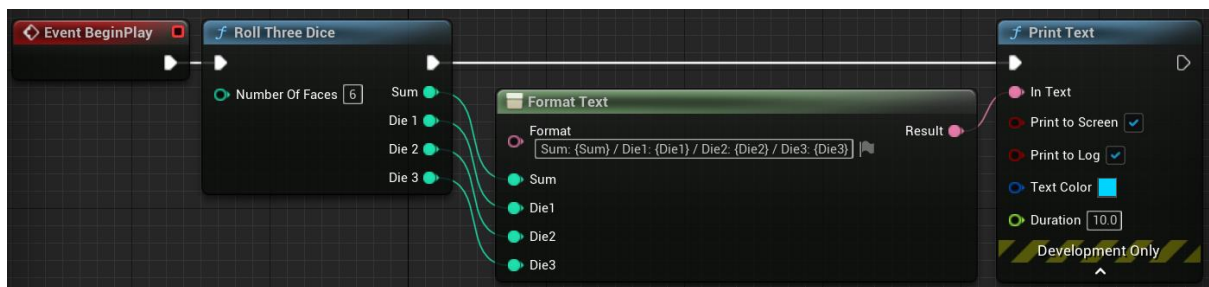
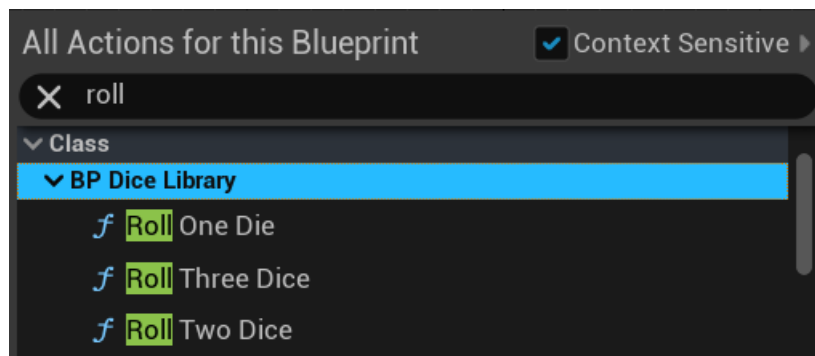
## Chapter 18: Creating Blueprint Libraries and Components



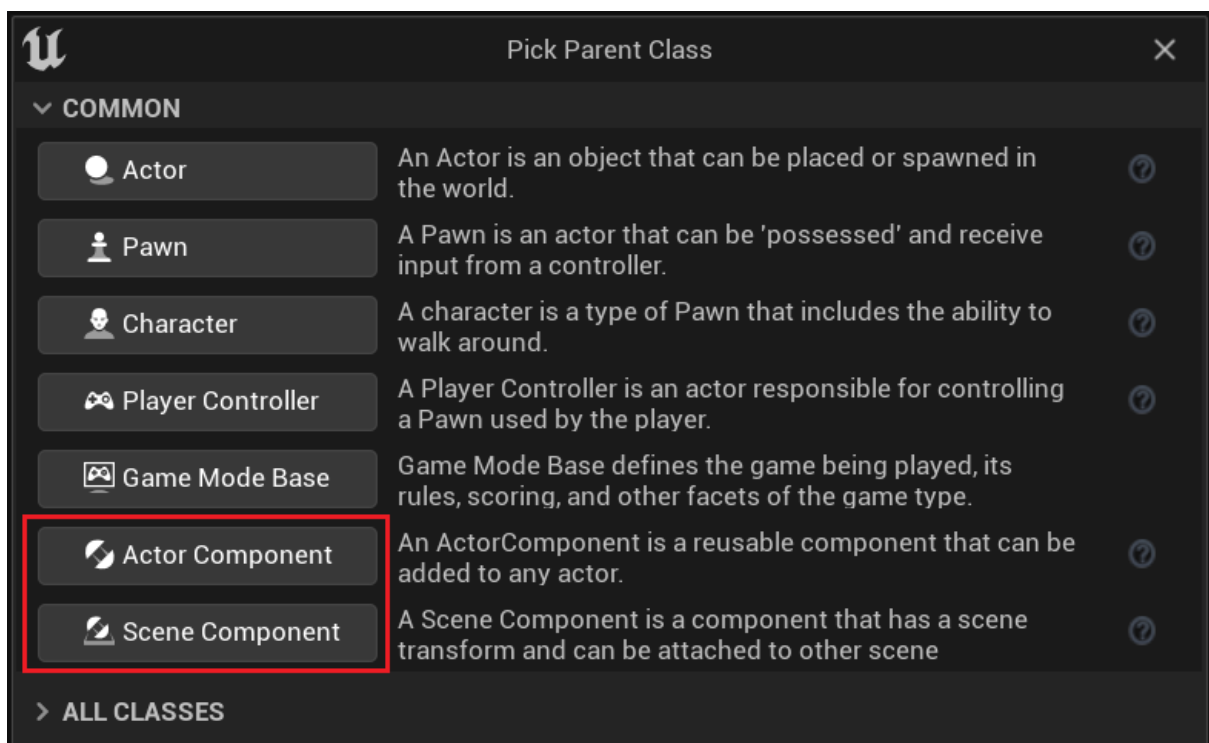








Sum: 8 / Die1: 4 / Die2: 1 / Die3: 3



f

Get Owner

Target is Actor Component

Target

self

Return Value

VARIABLES

CurrentLevelInteger

CurrentXPInteger

VARIABLE

Variable Name

ExpLevel

Variable Type

Integer

Instance Editable

DEFAULT VALUE

Exp Level

10 Array elements

Index [ 0 ]

0

Index [ 1 ]

100

Index [ 2 ]

200

Index [ 3 ]

400

Index [ 4 ]

800

Index [ 5 ]

1200

Index [ 6 ]

1600

Index [ 7 ]

2000

Index [ 8 ]

2500

Index [ 9 ]

3000

MACROS

M CanLevelUp

INPUTS

+

In

Exec

^

v

×

OUTPUTS

+

Yes

Exec

^

v

×

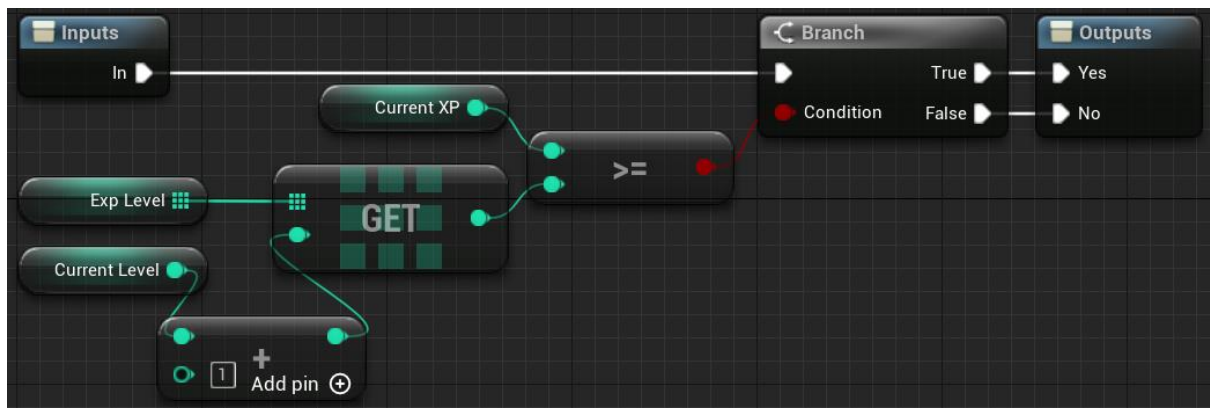
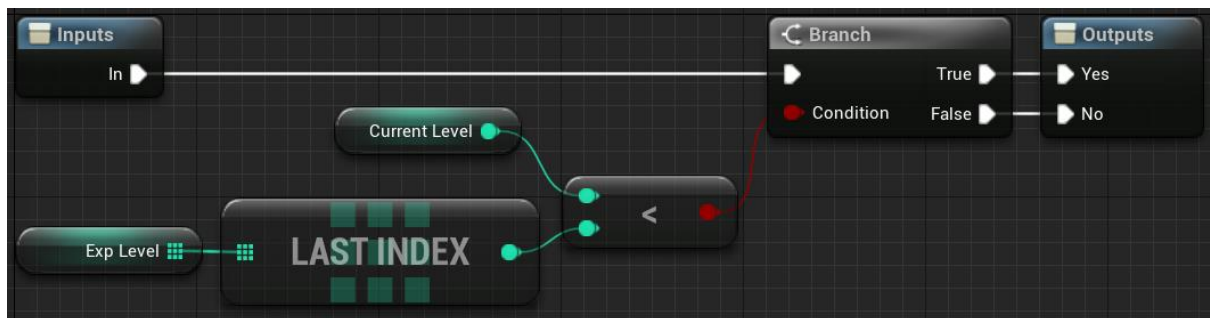
No

Exec

^

v

×



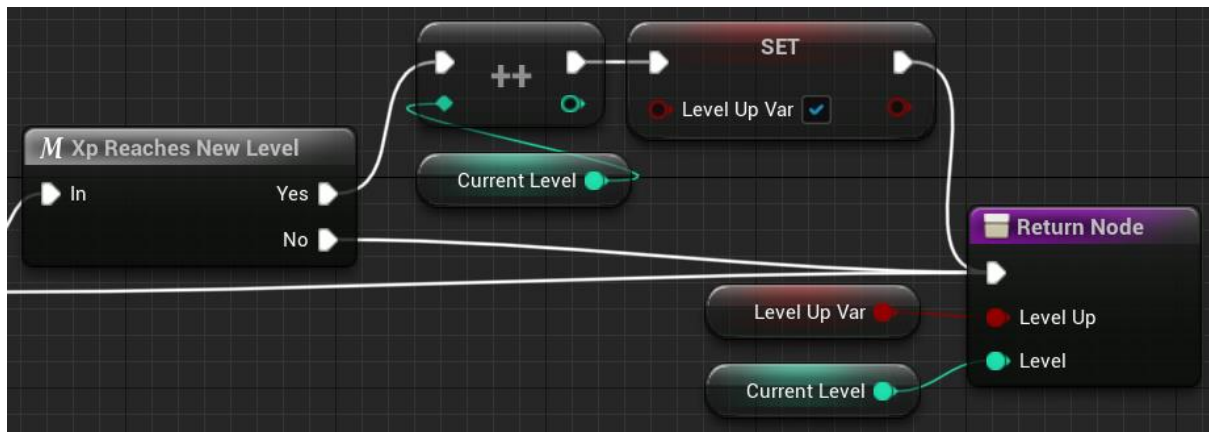
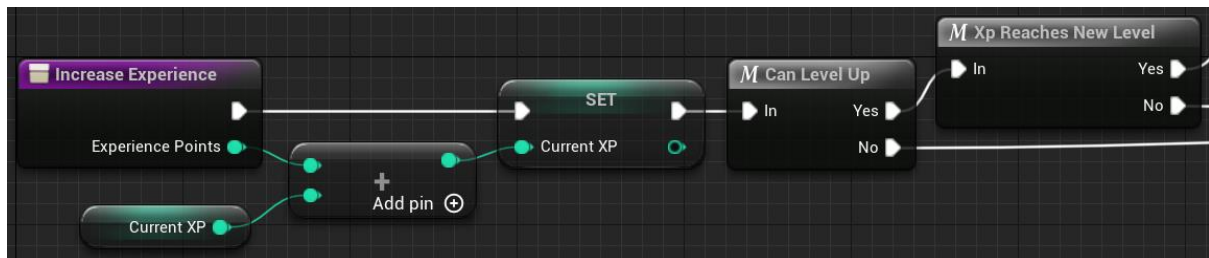
FUNCTIONS (1 OVERRIDABLE)

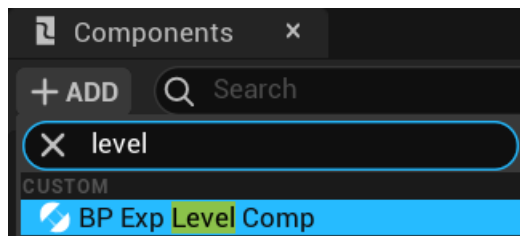
+

*f* IncreaseExperience

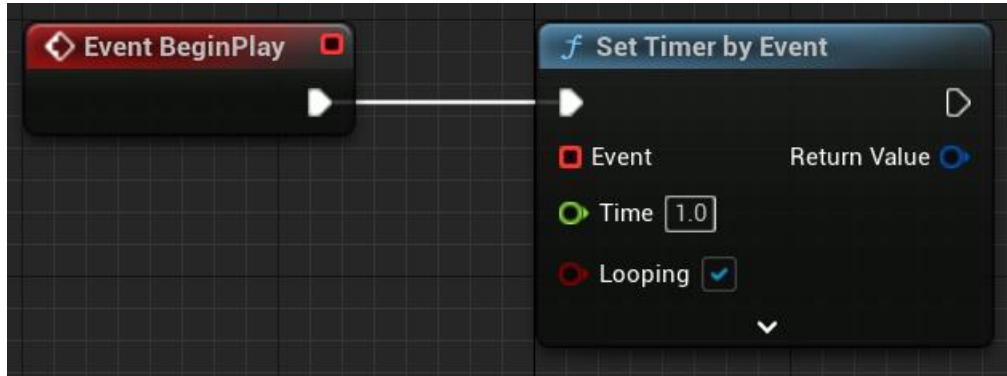
▼ **LOCAL VARIABLES** (INCREASEEXPERIENCE) (+)

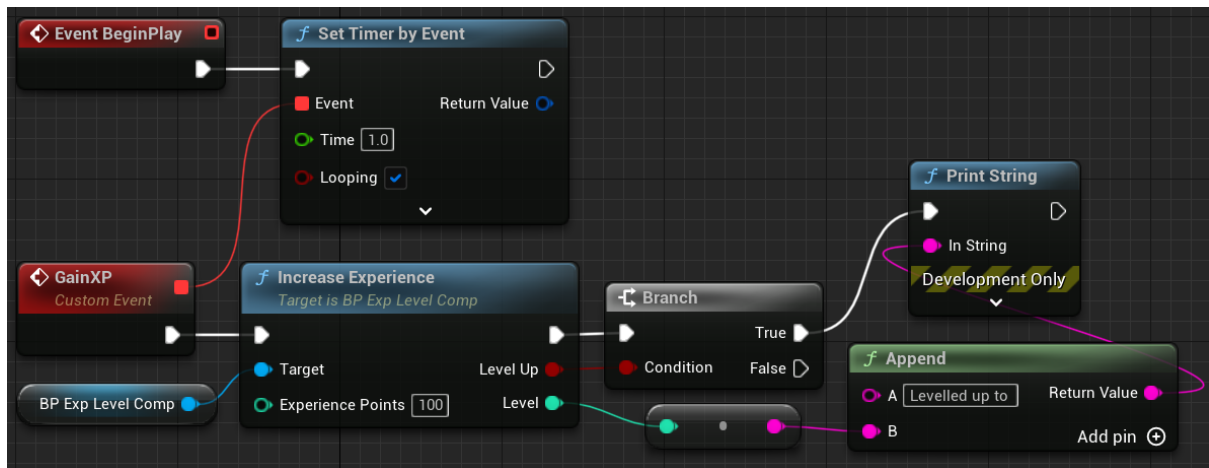
LevelUpVar ● Boolean



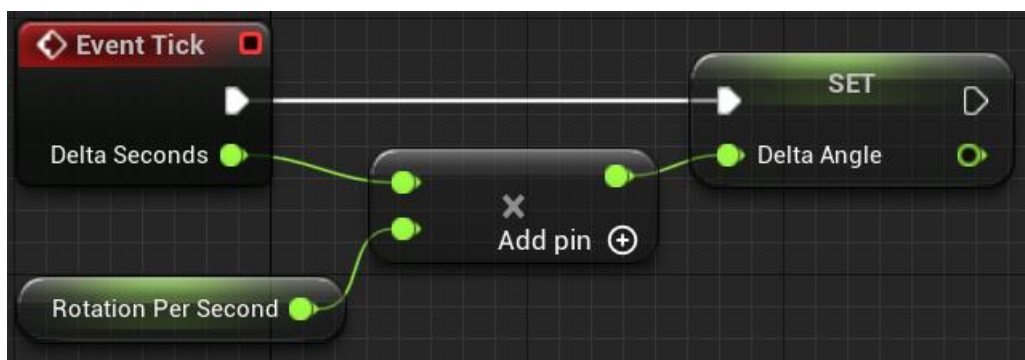


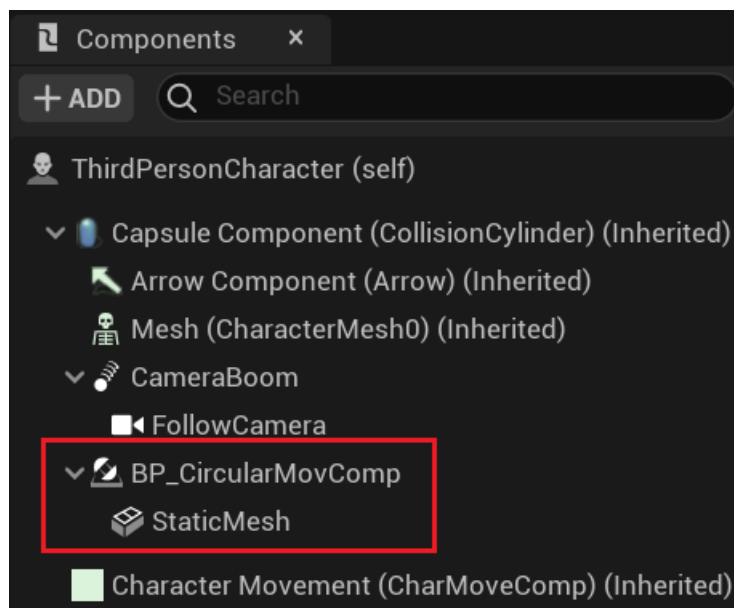
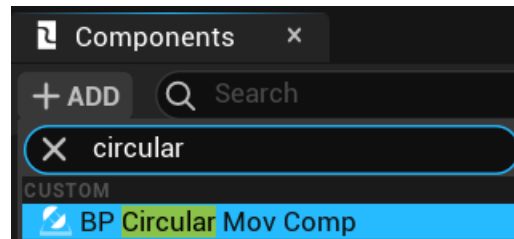
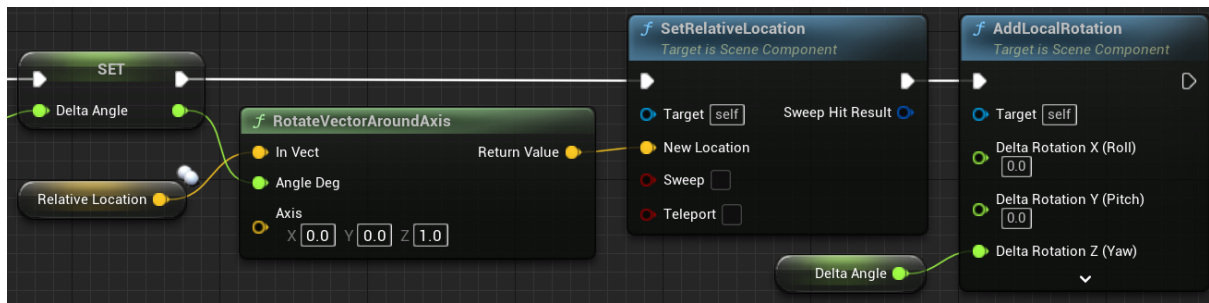
▼ DEFAULT	
Current Level	0
Current XP	0
▼ Exp Level	10 Array elements <span>⊕</span> <span>🗑️</span>
Index [ 0 ]	0
Index [ 1 ]	100
Index [ 2 ]	200
Index [ 3 ]	400
Index [ 4 ]	800
Index [ 5 ]	1200
Index [ 6 ]	1600
Index [ 7 ]	2000
Index [ 8 ]	2500
Index [ 9 ]	3000





VARIABLES			DEFAULT VALUE	
RotationPerSecond	Float		Rotation Per Second	180.0
DeltaAngle	Float			





TRANSFORM

Location

70.00.00.0

↶

Rotation

0.0°0.0°0.0°

Scale

1.01.01.0

Mobility

Static

Stationary

Movable

SOCKETS

DEFAULT

Rotation Per Second

180.0

Delta Angle

0.0

TRANSFORM

Location

0.00.0-80.0

↶

Rotation

0.0°0.0°0.0°

Scale

0.11.01.5

↶

Mobility

Static


Stationary

Movable

SOCKETS

STATIC MESH

Static Mesh




Shape\_Cube

↶

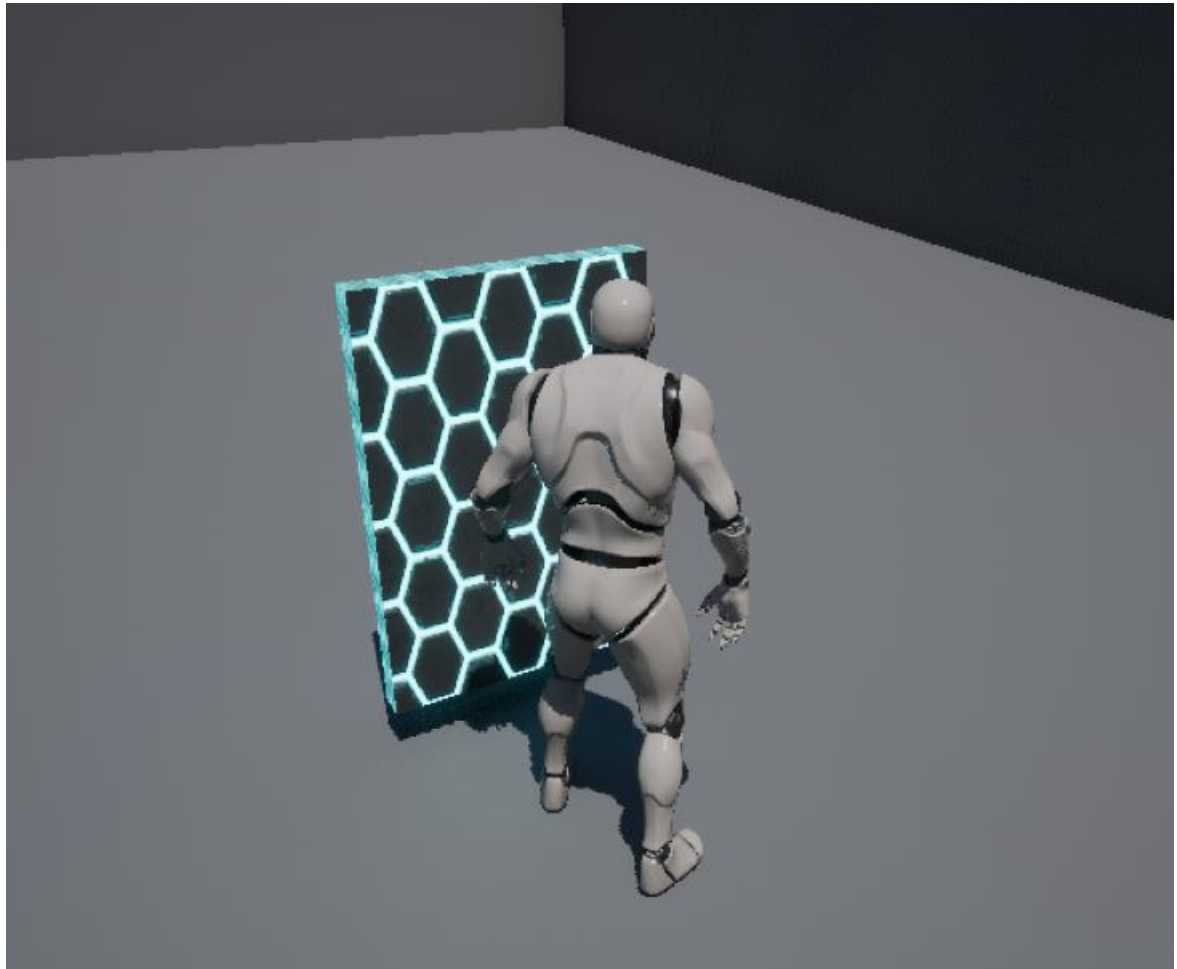
MATERIALS

Element 0

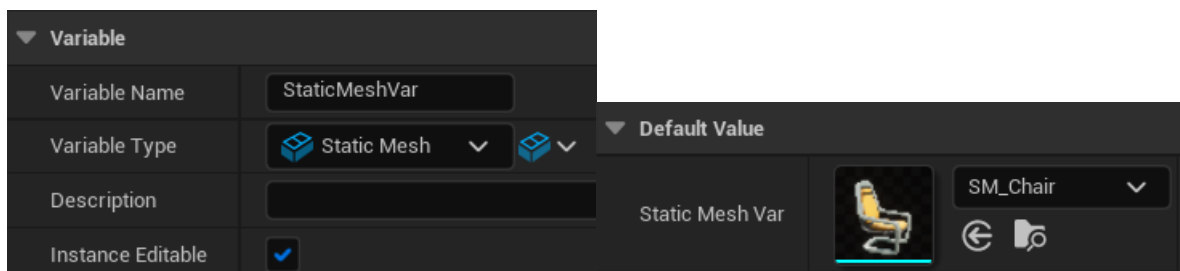
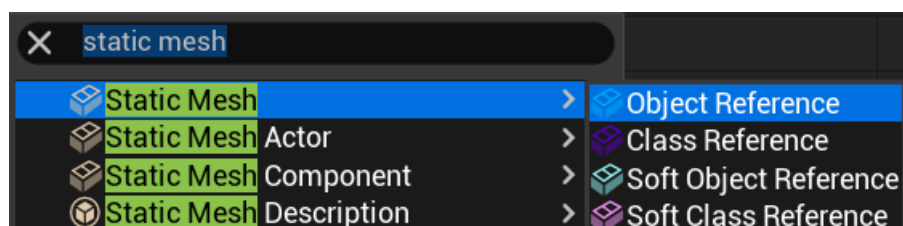
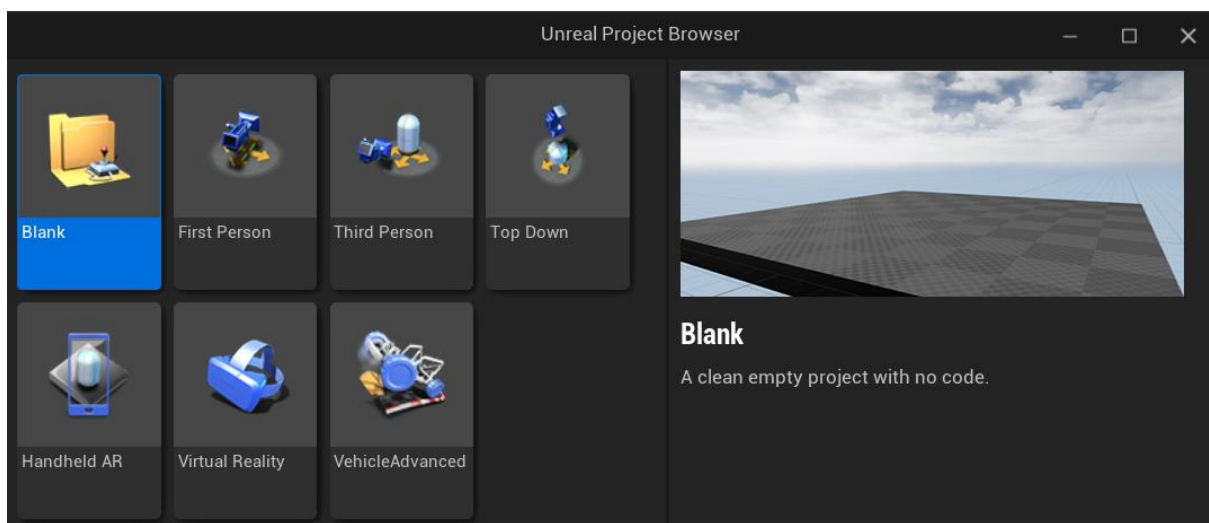
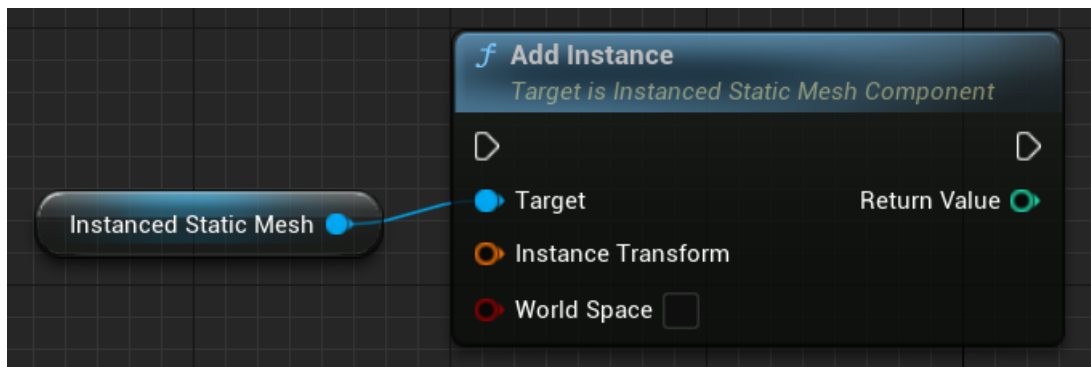


M\_Tech\_Hex\_Tile\_Pulse

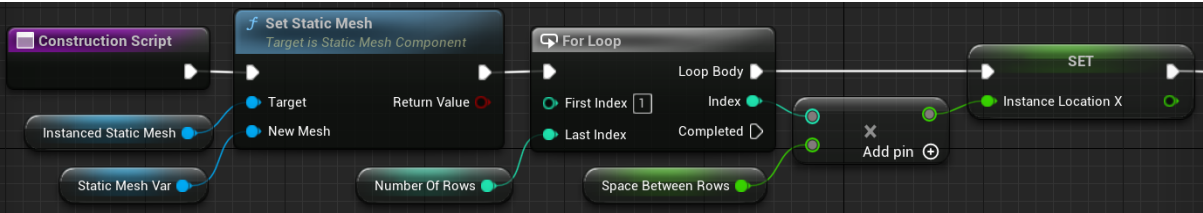
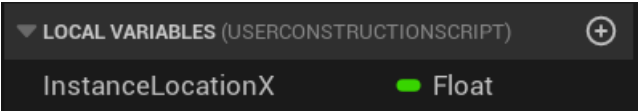
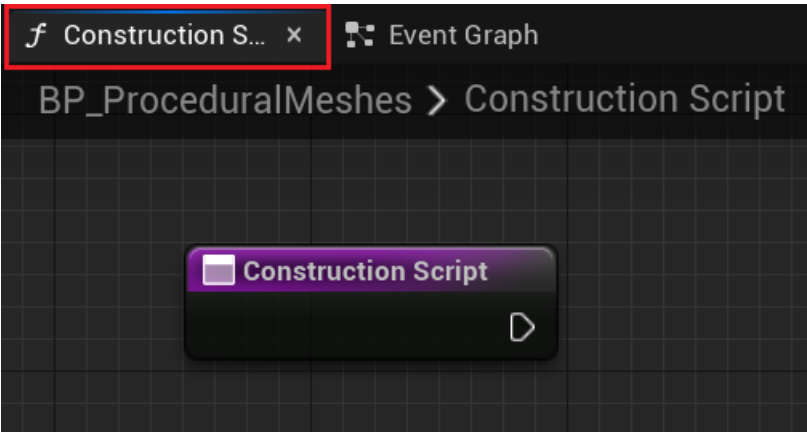
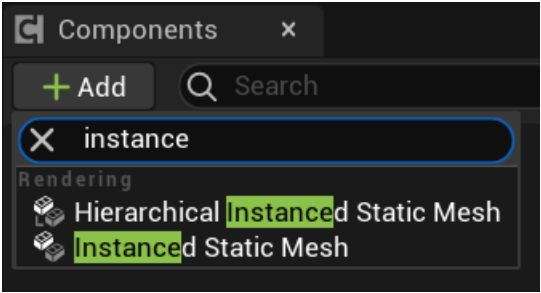
↶



## Chapter 19: Procedural Generation






InstancesPerRow	Integer	
NumberOfRows	Integer	
SpaceBetweenInstances	Float	
SpaceBetweenRows	Float	

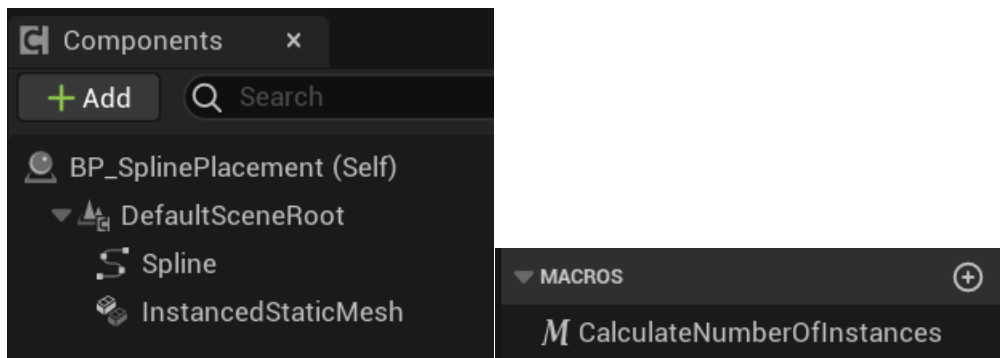
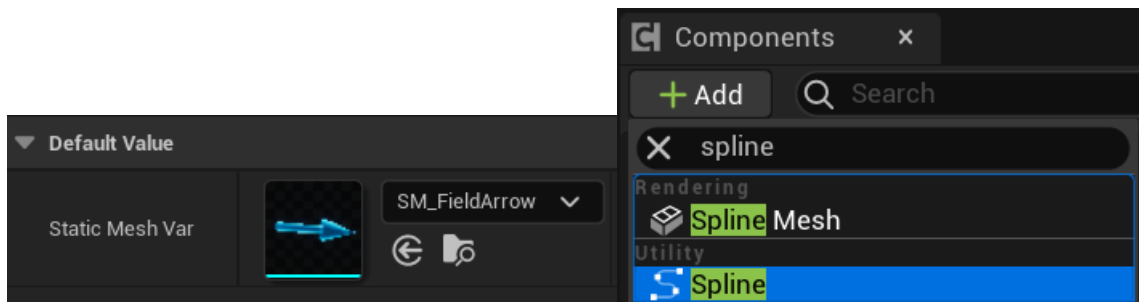
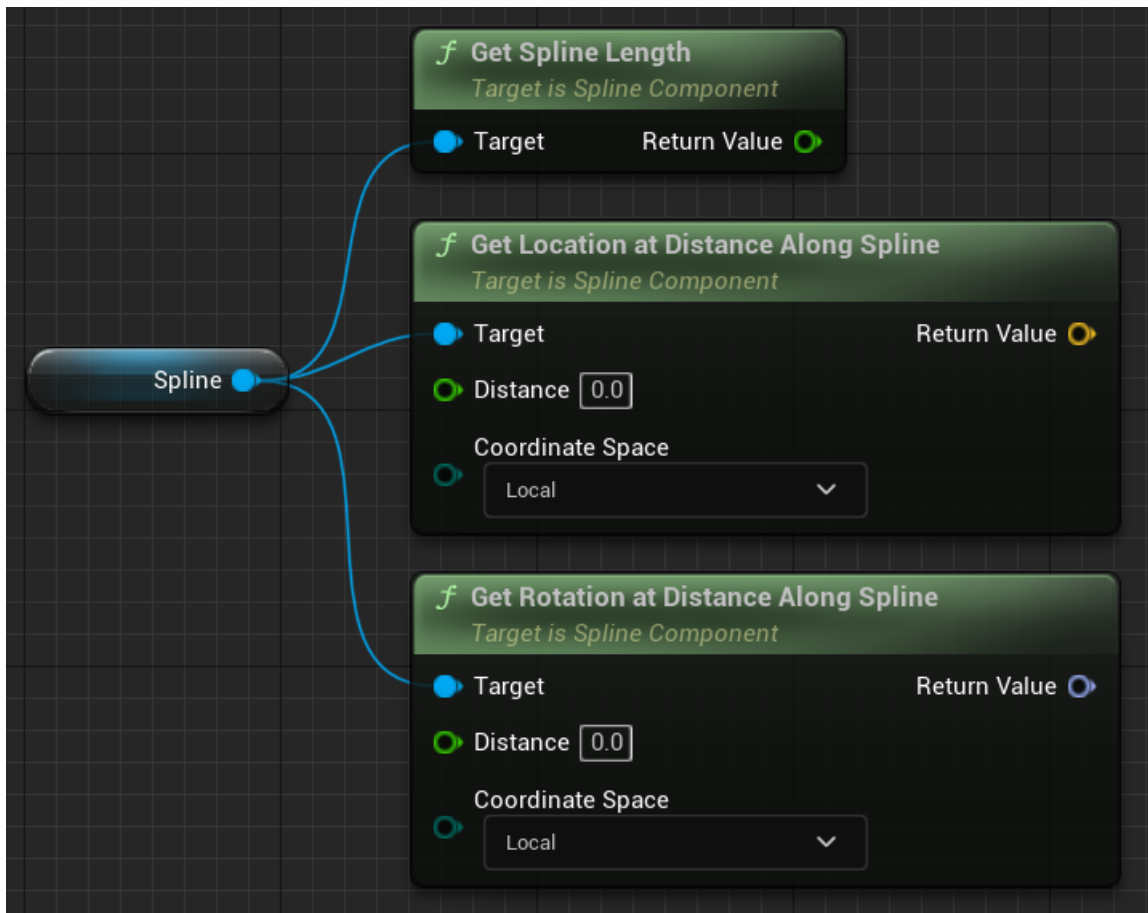




▼ Default

Static Mesh Var	<div><div>SM_Bush ▼</div><div></div></div>	↶
Instances Per Row	<div>10</div>	↶
Number Of Rows	<div>10</div>	↶
Space Between Instances	<div>300.0</div>	↶
Space Between Rows	<div>300.0</div>	↶





Inputs

+

Please press the + icon above to add parameters

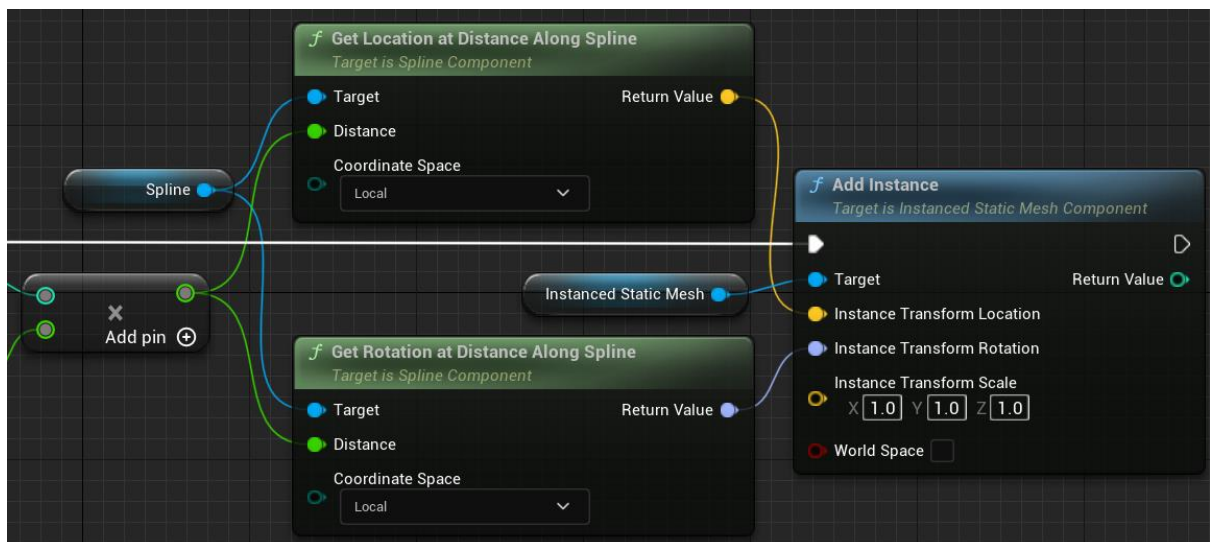
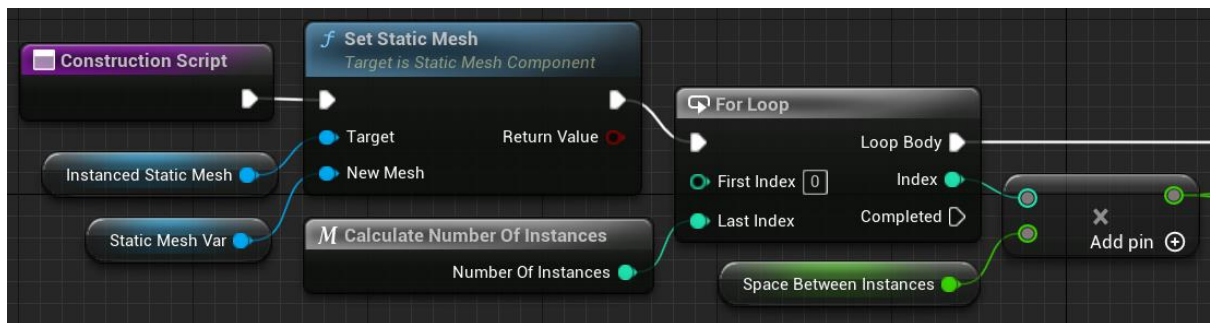
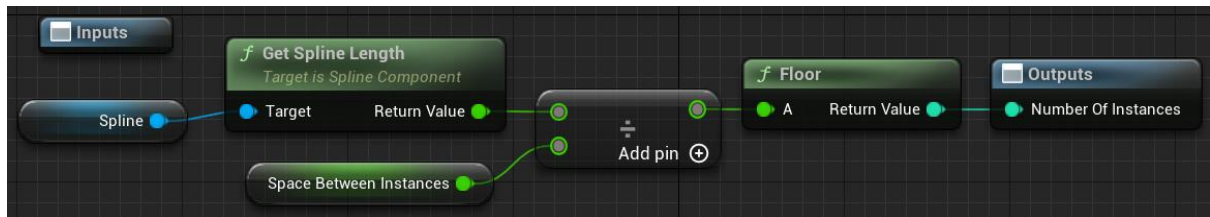
Outputs

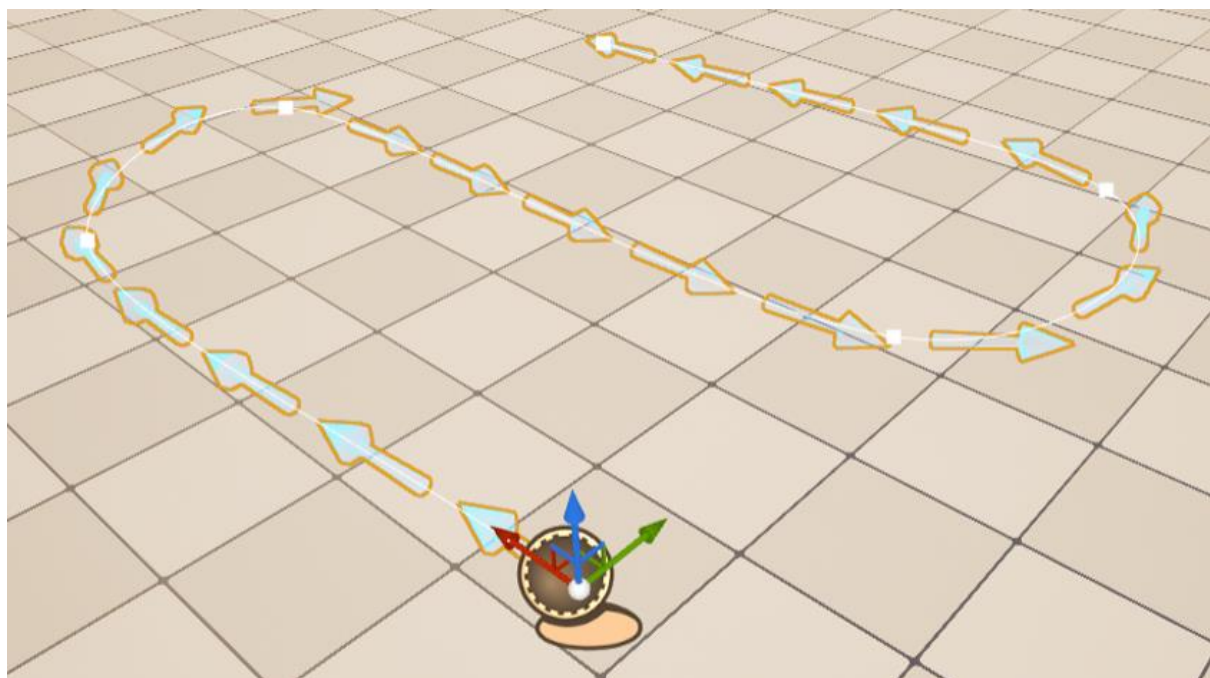
+

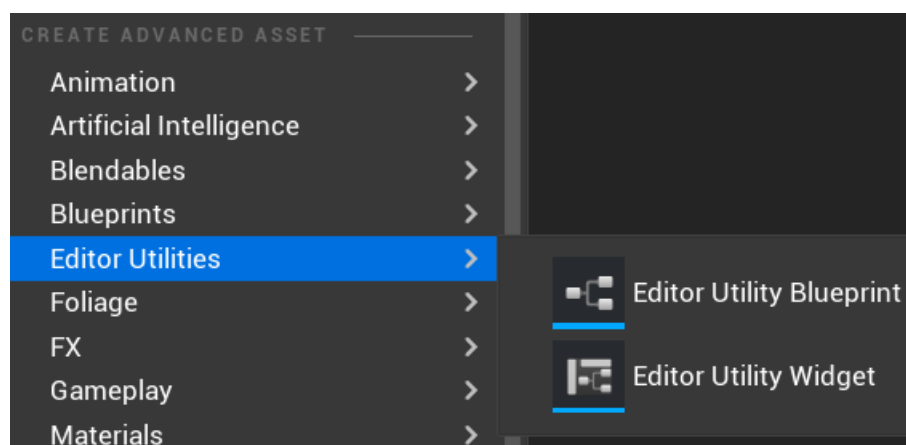
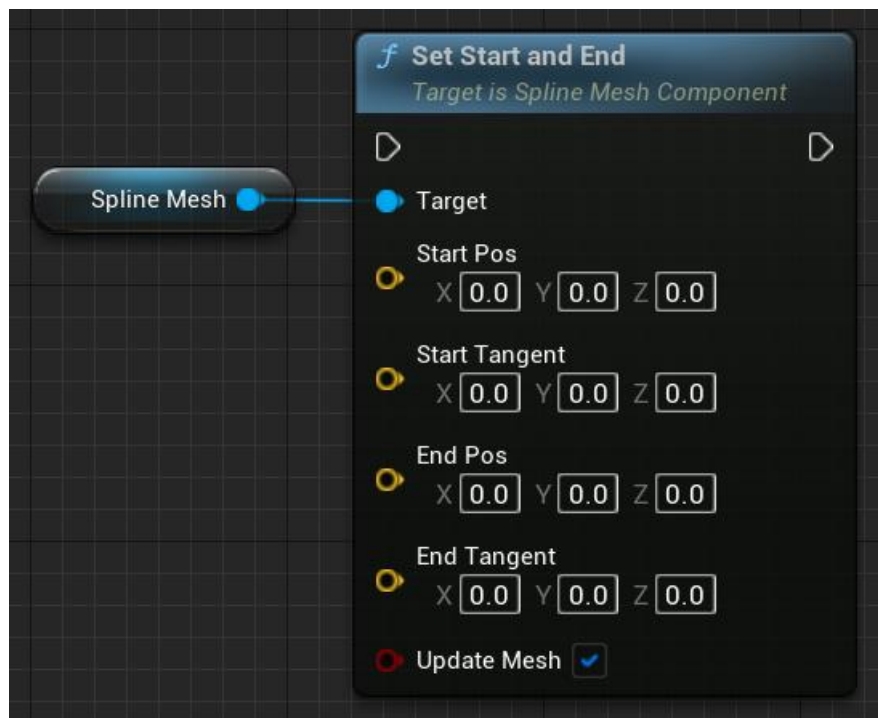
Number Of Instances

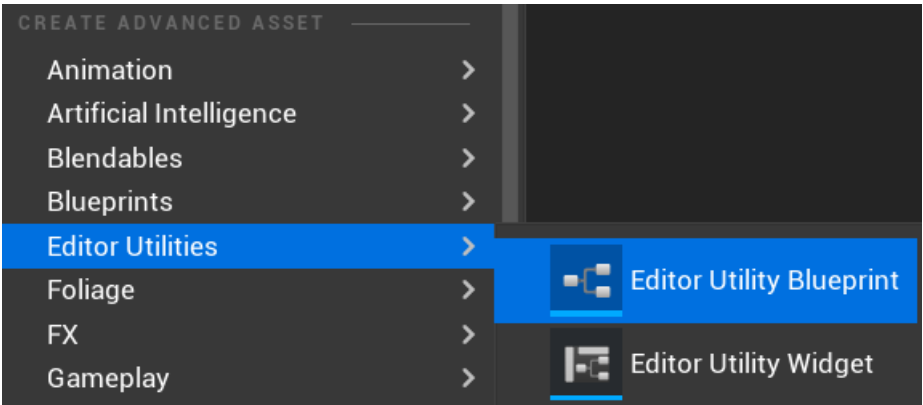
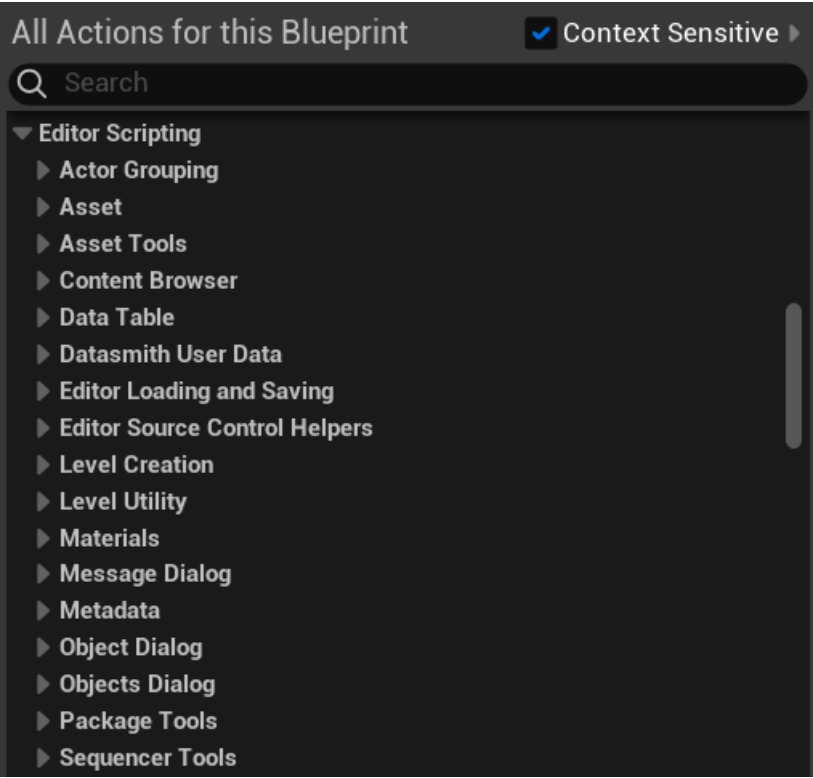
Integer

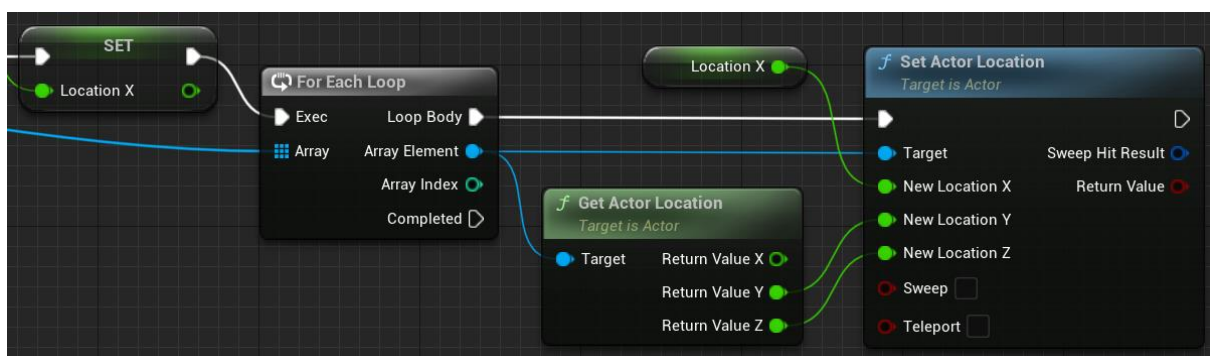
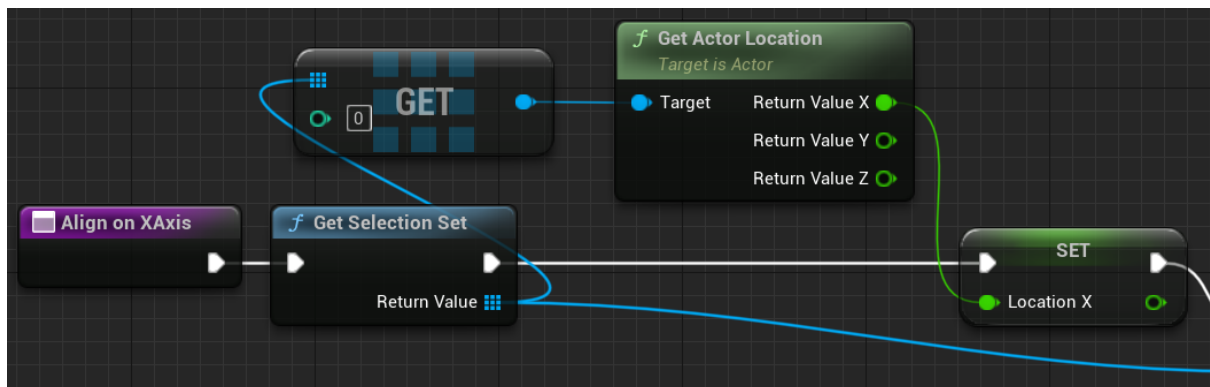
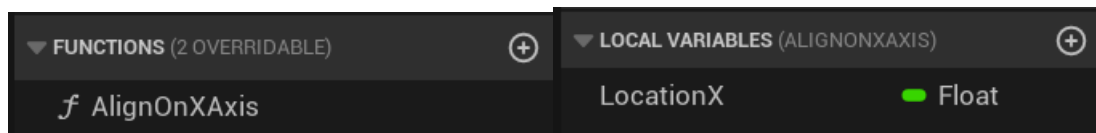
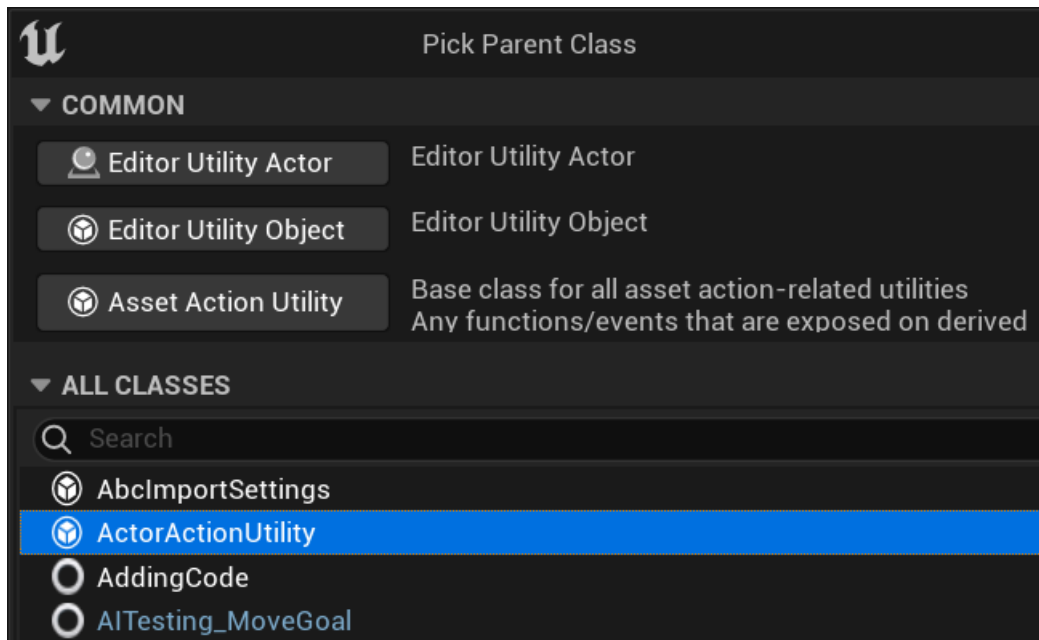
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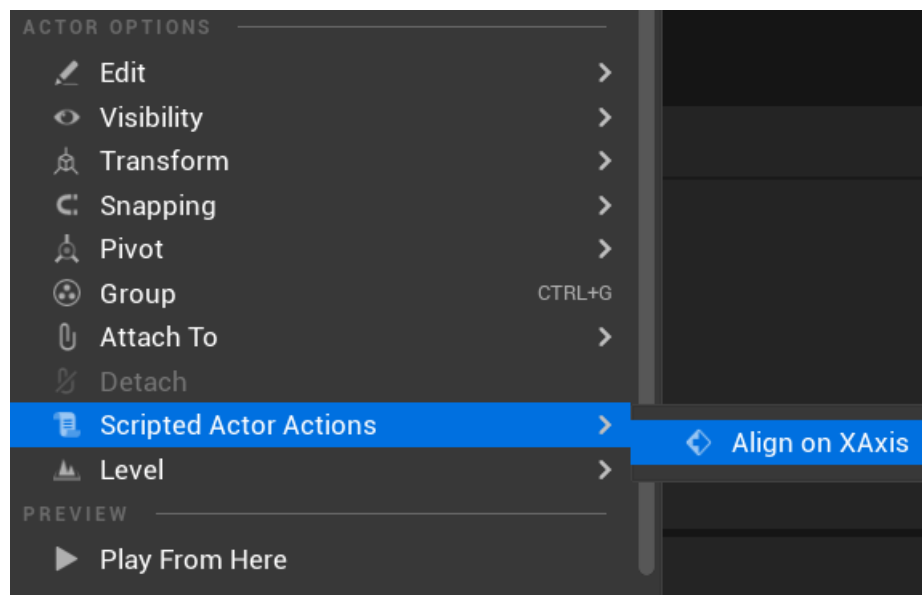
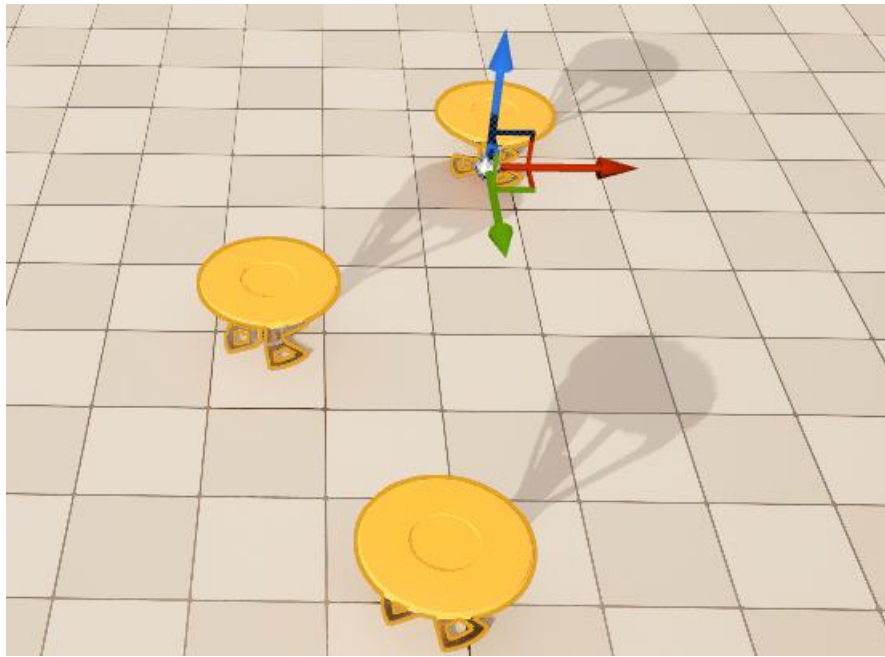


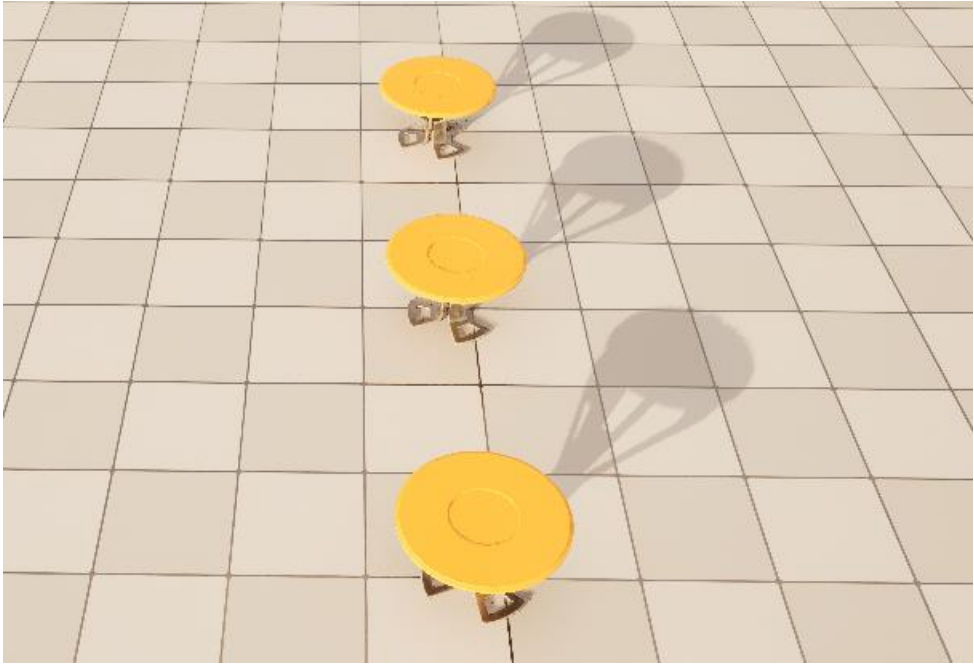




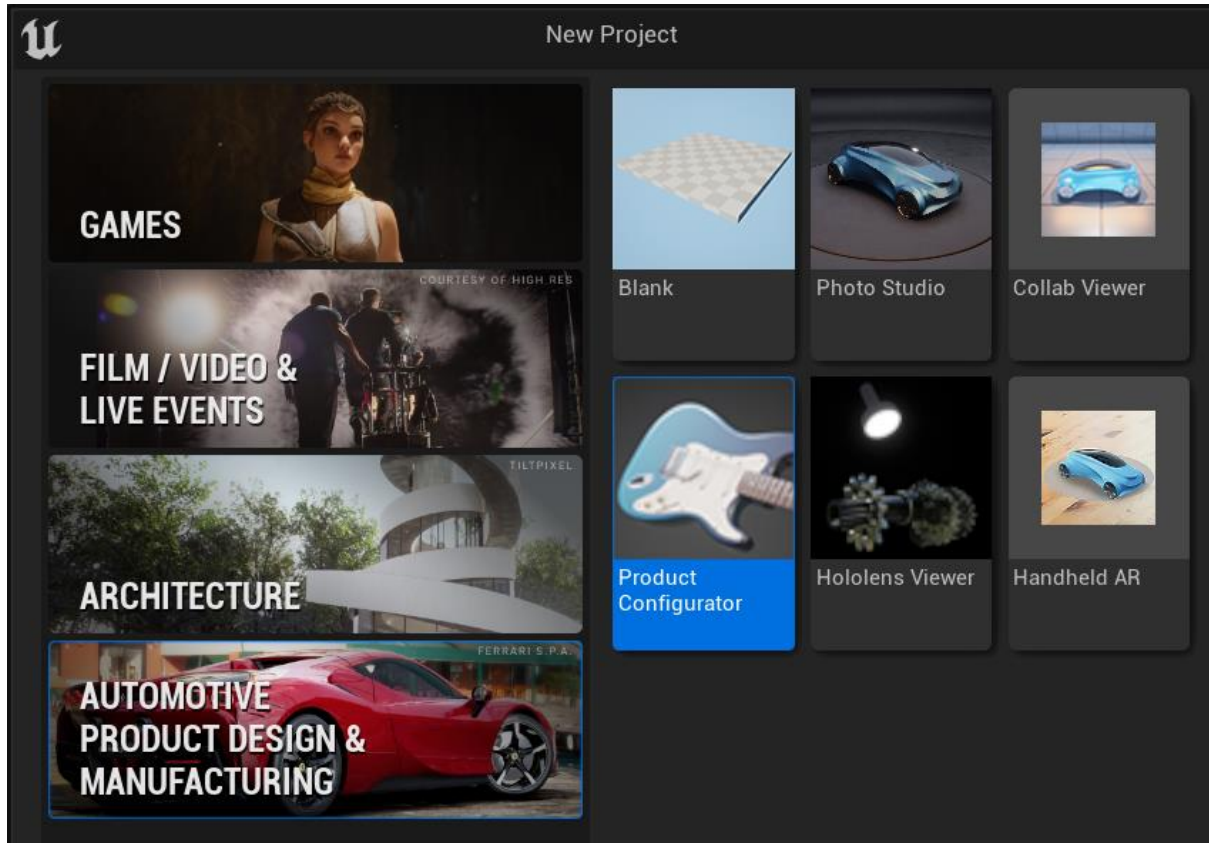


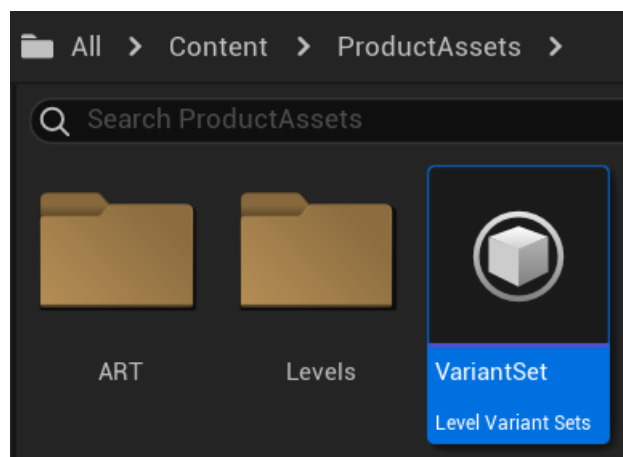
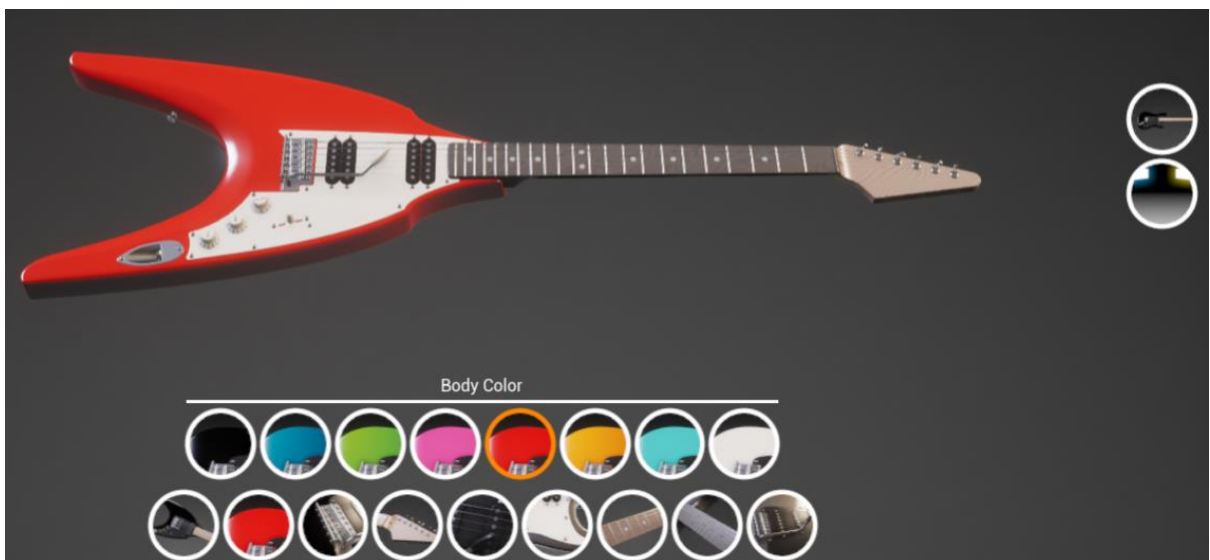
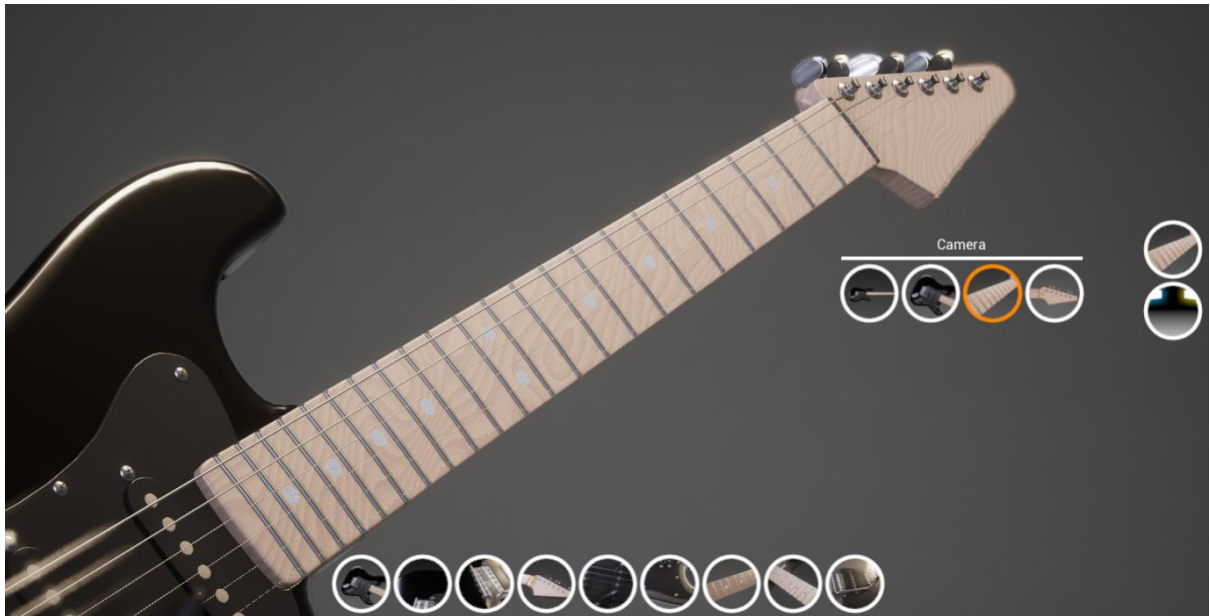


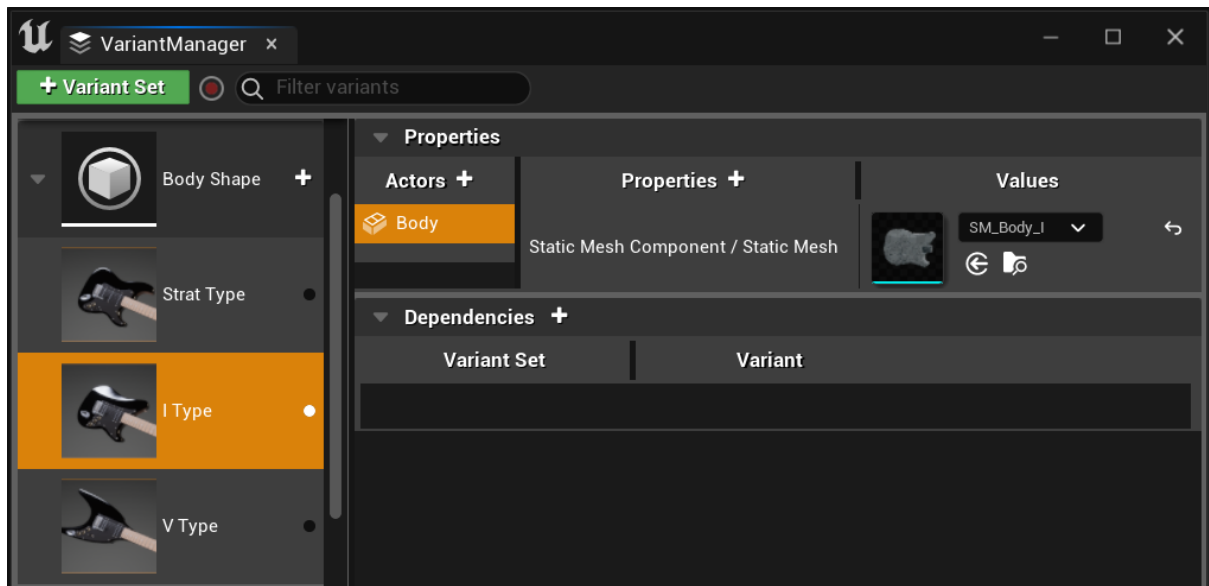




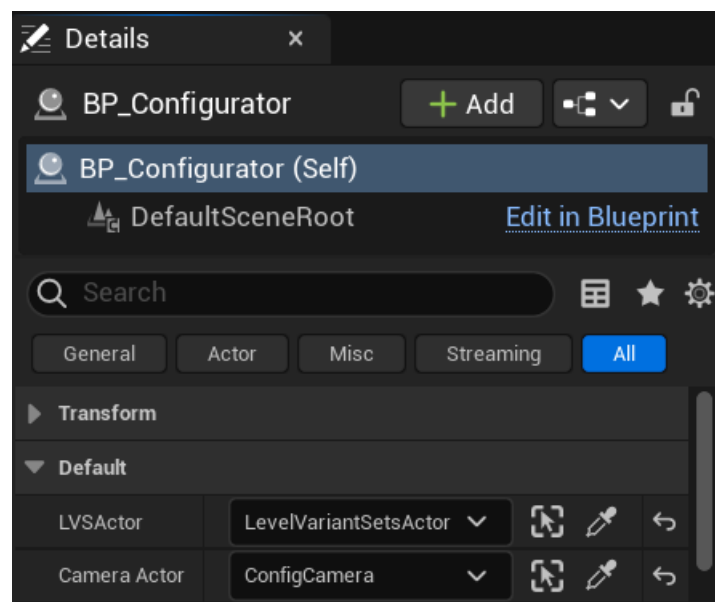
## Chapter 20: Creating a Product Configurator using the Variant Manager

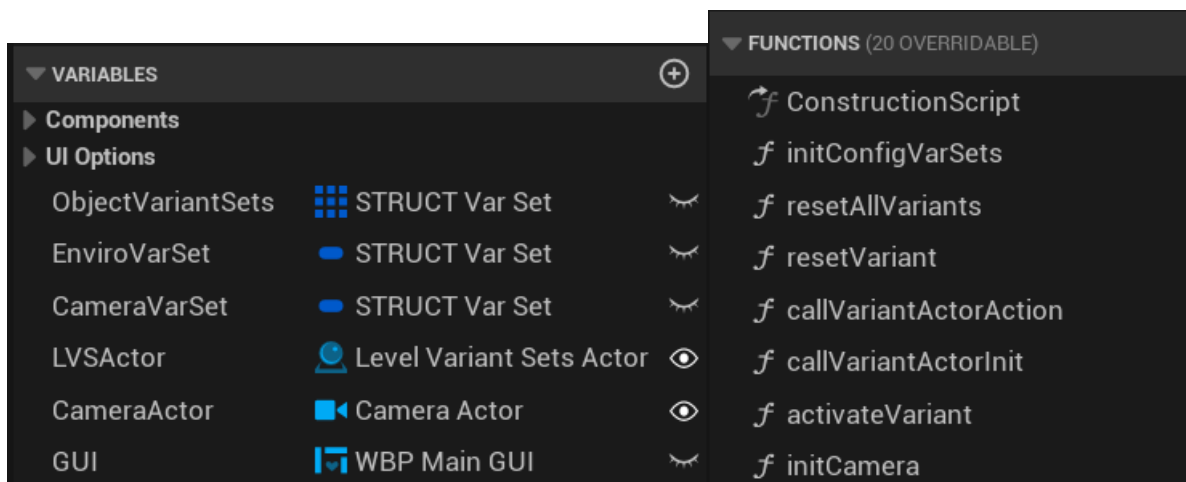
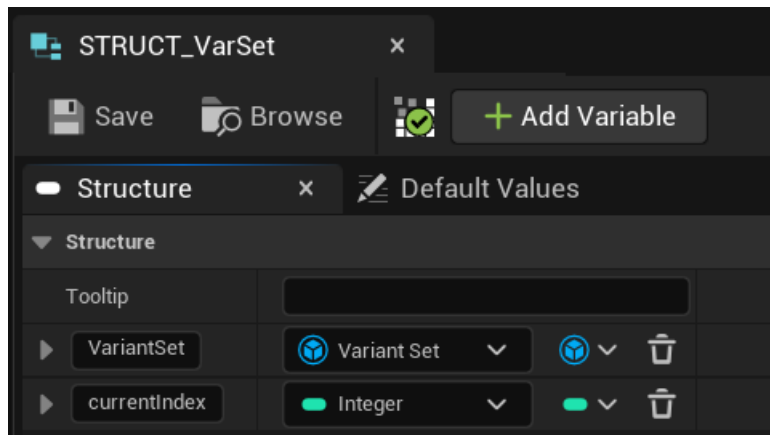




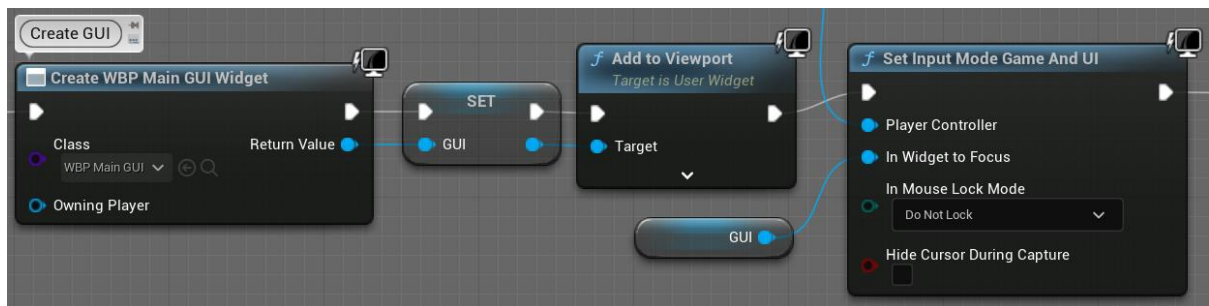
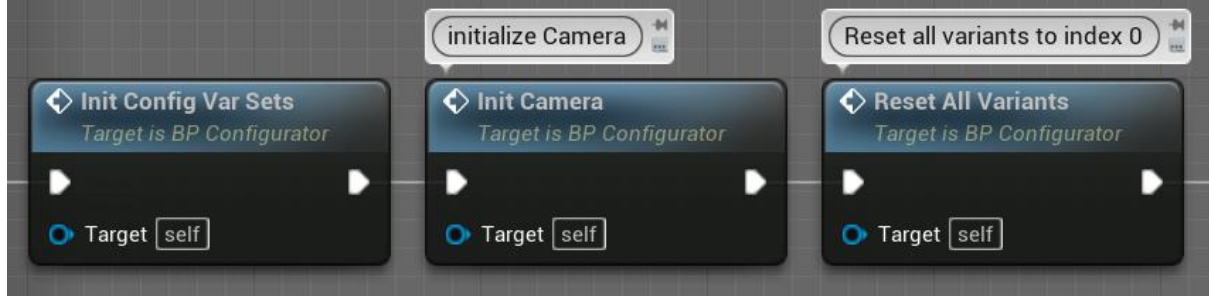


GuitarRoot	Actor
Body	StaticMeshActor
Bridge	StaticMeshActor
Head	StaticMeshActor
Neck	StaticMeshActor
Strings	StaticMeshActor
Tremolo	StaticMeshActor
ULogo	StaticMeshActor

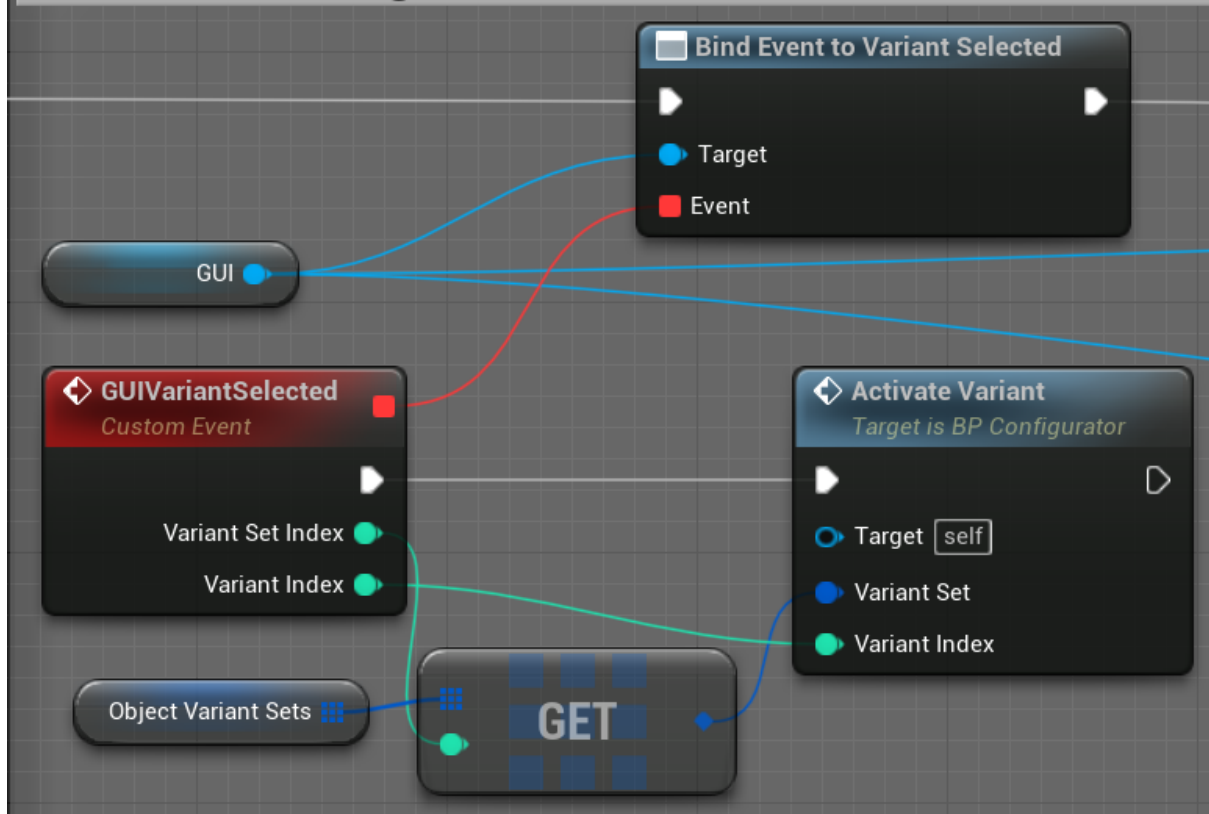


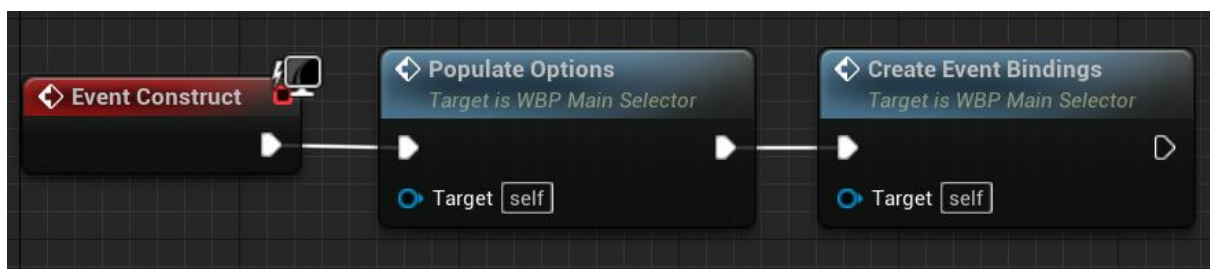
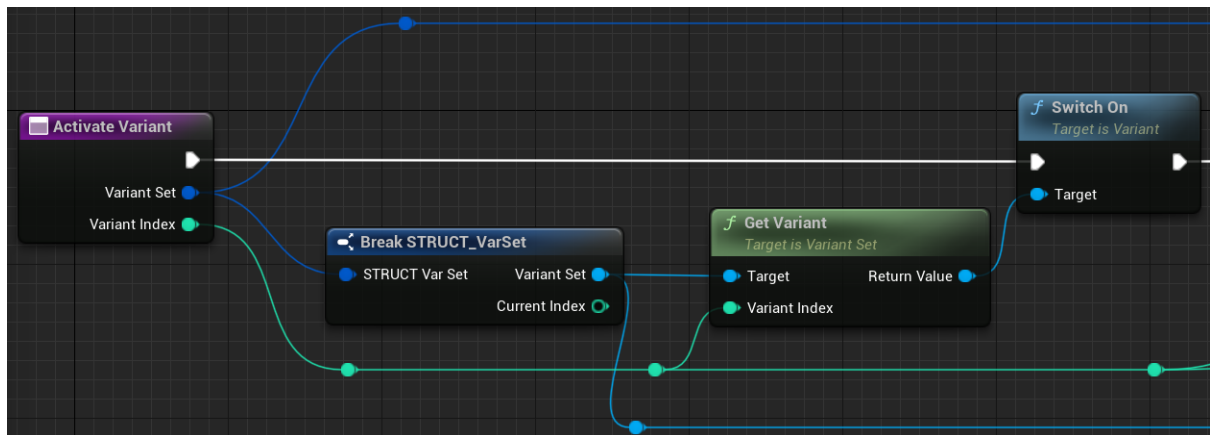


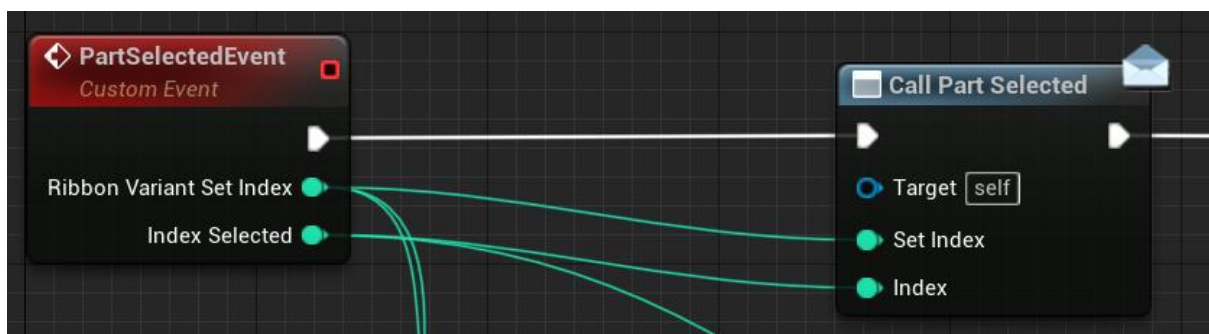
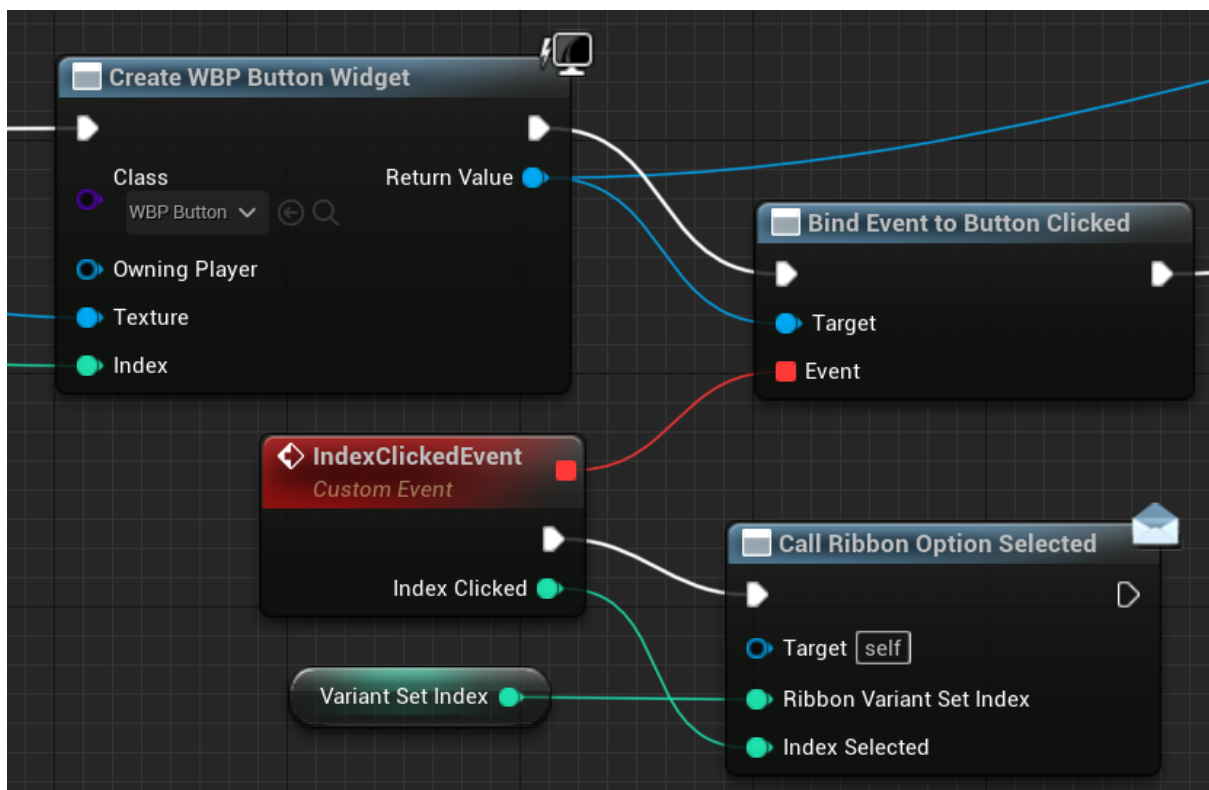
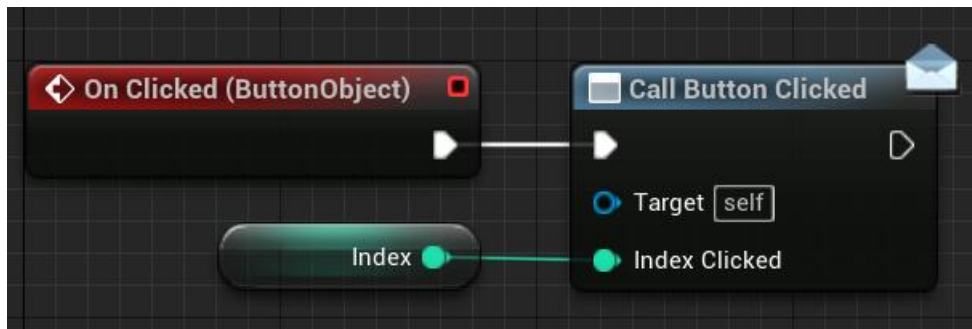
## Init App



## GUI event bindings and actions







## Variant Buttons

