# Mod Mission Setup

In this page you can find step by step instructions for how to setup your own mission. We'll start with the broader side of things and go more in depth as we go along.

Set up a Mod Creating the Mod Set up the Holo Table Creating a level Make Mission playable in Campaign Creating a mission **Objectives Objective Waypoint Destroy Objective Destroy Units Objective** Scan Objective Destructible zone Objective **Timer Objective** Spawning AI Track Unit Death/Damage Waypoints MoveToWaypoint SmartObjectWaypoint **AttackWaypoint** JumpJet Links Custom unitcards Repair bays Out of bounds system (OOB) Artillery Turrets **Turret variants** Popup Turrets in MissionScript Capture turrets Indestructible units Gates Hiding Mesh from Battlegrid **Proximity Mines** NIS (Level Sequences) In game sequence **Cinematic sequence** Union ship Setup Laser Fence Ammo/Treasure Crates Ammo Crate **Treasure Crate** AeroSpaceFighterSequence BP\_AeroSpaceFighterAttackSequence BP\_AeroSpaceFighterAttackSequence\_Triggerable Dialogue

# Set up a Mod @

# Creating the Mod $\mathscr{O}$

At the top of the screen, click on **Mod manager**.



-

## Click on New Mod.



New Mod button

A screen will pop up and it'll ask you where to save the Mission. Keep the folder as is and give it a suitable name. Click on **Basic Mod** and **Create Mod** should become clickable.

t c	Create Mod	×				-		×
Choose	a template and then spe	cify a i	name to create a new n	nod.				
â	Basic Mod Create a blank mod.							
d:\Projects	Kelpie\MW5Clans\Mod	ls\			ModTest			
▼ Descript	or Data							
Author								
Descripti								
Advance								
Show Co	ontent Directory							
						C	reate Mo	bd

Create Mod screen

Click on Create Mod and it'll ask you to **restart** Unreal.



Screen after creating Mod

Now you should have a **Content** folder in the **Plugins** folder that has the same name as what you named your Mod.

⊛ ⊝	All > Plugins > ModTest Content	
= ~	Q Search ModTest Content	•
		Drop files here or right click to create content.
0 items		

Mod folder

Set up the Holo Table  $\mathscr{O}$ 

Create a KelCampaignTrigger Asset. That can be found under Kelpie. Open it up, change Valid Campaigns to CoreGame\_Attributes and Active to Always True.



KelCampaignTrigger settings

Create a **DataTable Asset** as a **KelLocaleDataAsset**. Add a **Display Name, Holotable Prop, Component Name, Scenario** (Will be created later, see 'Make Mission Playable in Campaign') and **Trigger Asset**. Component Name should be **Planet** to make it appear.

U	Pick Class For Data Asset Instance		×
ALL CLASSES			
× locale			₿
🕑 Kel <mark>Locale</mark> Data Asset			
1 item			
		Cance	

Kel Locale Data Asset

r Kel Locale Data Asset	
Display Name	ModMissionExample
Display Order	0
Holotable Prop	BP_LocaleProp_TurtleBay 🗸 🗲 🍺 🕀 🗙
Component List	1 Array element 💮 🛱
	4 members 🗸
Component Name	None
Component Display Name	
Banner Image	None V
	1 Array element 🕘 🛱
	3 members 🗸
Scenario	ModMission_Scenario ✓ € ₯
Marker Pos	0.0 0.0
Widget Pos	0.0 0.0
Trigger Asset	ModMission_Trigger ✓ €₽

Kel Locale Data Asset settings

# Creating a level @

I'll explain here how to setup your level before actually going in and creating a playable mission.

I would start by creating a simple **Folder structure** that start with Missions or whatever name you prefer in case you want to create multiple levels to play. In there create a folder with the actual name of your mission. That's going to be the folder that we're working in. Right click anywhere in that folder and create your level. Create two folders, one for your sublevels and one for your mission files.



Simple setup with a folder for sublevels and a folder with your mission files

For now add an existing sublevel for lighting, so we can see things. I've added L\_Lighting\_daytime\_no\_fog.

Û		Open	Level				-	- 🗆 X
Q Search Folders	× lighting							📄 🖬 🌣
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Interpretation Interpretation Interpretation Interpretation	23 items (1 selected)							
Path: /All/Game/Art/Lighting							Open	Cancel

Add a lighting sublevel

Add a landscape with a **heightmap** that you can sculpt in Unreal or import. Landscape resolution size is 4081 x 4081. Used the material **LandscapeTest\_MTL** from the project to see it properly.



Your editor should look something like this

Create a new **Sublevel** and name it as you see fit.



Can find it here

Make sure that the Sublevels are set to Always Loaded, so it's visible when you play the game.



Only visible in game when loaded

Add a **NavMeshBoundsVolume** roughly the size of your map, so AI can move around.



Press P to see NavMesh when build

In your Missions folder, create a **BP\_KelMissionScript\_Base** and name it according to your mission.

Ú	Pick Parent Class	×				
COMMON						
<u>C</u> Actor	An Actor is an object that can be placed or spawned in the world.	?				
<u>±</u> 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.	?				
≜ter Scene Component	A Scene Component is a component that has a scene transform and can be attached to other scene components.	?				
▼ ALL CLASSES						
X mission 🔅						
KeiAdvanced Mission Parameter Evaluator_Under Lonnage (Under Lonnage Evaluator)						
VelBase <mark>Mission</mark> Script	· arameter_ratator_rorae rormager manoana (rorae rormage	<u>.</u>				
v 🖳 BP_Kel <mark>Mission</mark> Script	_Base					
O BP_ALS05_Mission	Script					
🤝 🖳 BP_ArenaMode_ <mark>Mi</mark>	<mark>ssion</mark> Script					
O BP_ARENA03_Mis	sionScript					
O BP_CombatSim_Mi	<mark>ssion</mark> Script					
O BP_COR01_Mission						
BP_COR02_ <mark>Mission</mark> Script						
253 items	Script					
Loo Kenio						
	Can	cel				

BP\_KelMissionScript\_Base is used to build your mission logic

After having created your MissionScript, drag it into your Gameplay level. Also drag in a CinematicStartEncounter.

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<b>∓</b> × α		× 0 \$
<ol> <li>Item La</li> </ol>	bel 🔺	Туре
	R LGT_SAN03B_SkyLight	MWSkyLight
	흤 LGT_SAN03B_SkyLight_disable	MWSkyLight
	🐢 LGT_SAN03B_SkyLight_STATIC	MWSkyLight
	🔆 LGT_SAN03B_SunLight_for_baking	DirectionalLight
	🔆 LGT_SAN03B_SunLight_for_cloud	DirectionalLight
	🚔 NA_LGT_SAN03B_AtmosphericFog	AtmosphericFog
	🔆 NA_LGT_SAN03B_SunLight_STATIC	DirectionalLight
	🚔 NA_LGT_SAN03B_WorldFog	ExponentialHeightFo
	🚔 NA_LGT_WorldFog	ExponentialHeightFo
۰ 👤	BP_ModMission_MissionScript	Edit BP_ModMission
۰ 👱	CinematicStartEncounter	Edit Cinematic StartE
<u>.</u>	KelDecorationMap0	KelDecorationMap

Both in Gameplay Sublevel

Drag in 5 MWSpawnPoints and a BP\_CinematicStartEncounterSequence. Assign them in your CinematicStartEncounter.



Player squad spawn points and blueprint for cinematic mission intro

Assign the CinematicStartEncounter to your MissionScript.



Now the Missionscript tells Players to spawn

Create a new folder for your **Level Sequences**. This project will need a sequence at the start of a mission to allow the mechs to walk around. Create a new Level Sequence and add a Fade track of 1 second. You can create any intro you like later by changing that sequence.



New LevelSequences folder



Intro Sequence

Add that Intro Sequence to your **BP\_CinematicStartEncounterSequence**.



Assign it to the Sequence Asset in BP\_CinematicStartEncounterSequence

Open your MissionScript and add this to play your Intro Sequence.



Start mission setup

To setup the Editor to test what you've created, we'll have to **Override the GameMode** in the **World Settings** to **BP\_KelMissionScriptTestMode**.



Change GameMode to play in Editor

One final step before playing the mission. Make sure that the MissionScript and the Default Mission Start are selected here.



Select the MissionScript to tell the game to use your logic.

## Make Mission playable in Campaign 🖉

Create an **MW.AreaSpecification Asset**. Level Path will be your **Persistent Level**. Mission Script will be the **MissionScript** you created.

▼ Area	
➡ Area Specification	
▼ Area Information	
Battle Map	None V
Music Asset Id	None 🗸 🖉 🕼 X
▼ Persistent Level	
▶ Area Transform	
▼ Level Path	
Level Path	LVL_ModMission V © Do
Vission Parameters	⑦ Kel Mission Script Parameters ✓
Mission Configuration	
Mission Script	BP_ModMission_MissionScript 🗸 🗲 🔀 🖋
Game Director Class	KelMissionScriptDirector 🗸 🗲 🍺 🗙
Persona Overrides	0 Map elements 💮 🛱

Create an **MW.ScenarioSpecification** Asset. Generate a **Scenario Id**, add a **Mission Name** and set **Allowed Tonnage** to **500** or lower depending on what weight Mechs are allowed in your mission.

Q Search	
▼ Scenario Asset	
▼ Scenario Specification	
▼ Scenario Details	
Scenario Id	{BC0D5D7D-0000-0000-0000-000000000000}
Mission Name	ModMissionTest
Description	į ir statistininti ir s
Abort Mission Disabled	
Completion Rewards	0 Array element 📀 🛱
Allowed Tonnage	500
Next Launch Additional Cycles	0
Briefing Elements	0 Array element 📀 🛱
	None Y
Utspatcher	None 🗲 📭
▼ Debrief Message	
	None 🗸
Persona Asset	None 🗲 📭
Message	

Scenario setup

Set Area Spec Asset to the **MW.AreaSpecification Asset** that you created and the Trigger Condition to the **KelCampaignTrigger Asset** you created.

Area Spec Asset	ModMission_AreaSpec  C
Show in Instant Action List	
▼ Scenario Asset	
▼ Trigger	
Trigger Condition	ModMission_Trigger
Unlock Asset	UnlockedCampaignMissionsGroup ~

Scenario setup with MW.AreaSpecification and KelCampaignTrigger

# Creating a mission @

# Objectives $\mathscr{O}$

Objective Waypoint  $\mathscr{O}$ 

Drag in a **trigger**, make it quite big and make sure that **Generate Overlap Events** is true.



Trigger in Gameplay level



Generate Overlap Events is true

Open the MissionScript and create a new variable of type TriggerBase. Make that a Soft Object Reference.



Trigger Base Soft Object Reference

From the event where you start your mission, add a node for **Add Objective**. Give it a **Display Text**(Will display objective text on left hand side of the screen) and a **Marker Class**(Marker that appears in world). Good practice is to create a variable for that to use it later if needed, but not obligatory.

Custom Event	f Add Objective			SET	
	Parent Objective     Objective Type     Primary     Progress Style     None	Obj	jective 🌒	Waypoint Objective	0
	Display Text Move to Waypoint				

Add Objective

To make it appear on the trigger and resolve when the trigger is hit, we need to add a **TrackVolumeEnteredByUnit** node. Plug in your trigger and objective variable to that node and it should look like this. You can add more logic that fires after that node or when the trigger is hit by what is specified in the unit filter.



TrackVolumeEnteredByUnit

Assign the trigger to your **TriggerBase** variable in your MissionScript.



Trigger assigned to TriggerBase variable

## Destroy Objective 🖉

Drag in an object with a **Destructible Component**. In this case, I've used **UTL\_Industrial\_Military\_SatelliteDish**.



In the MissionScript, create variables for your destructible actor and your objective. The destructible actor will be of type **Actor** and a **Soft Object Reference**. The Objective variable will be of type **MWObjective** and an **Object Reference**.



Destroy Objective variables

In the Components tab, create a **DestroyObjectivesTracker**. Drag that into the Event Graph, get the **Objectives to Detroy** variable from the Destroy Objectives tracker and add the Actor you want to destroy to that array.



Create an **Add Destroy Object Objective** node, fill in the **Display Text** and the **Marker Class**. Plug in the variables for the Actors to Destroy and Destroy Object Tracker. You could change the Progress Style to Progress Counter if you want it to count for example, but not necessary.

DestroyObjectiveEvent     Custom Event	J       Add Destroy Object Objective         Target is BP Kel Mission Script Base	e	SET	D
	● Target Self	Objective 🐤 🛑	Destroy Objective	•
	🗰 Actors To Destroy			
;≣ Make Array	🔶 Destroy Object Tracker			
● [ 0] Array III Add pin ④	₩idget Attack Building ) ✔ ⓒ Q			
	• Text Destroy satellite dish			
Destroy Objective Actor	Objective Type Primary			
Destroy Objectives Tracker	Progress Style Progress Counter			

Setup for tracking if an object is destroyed

Add the Destructible actor to your DestroyObjectiveActor variable in the MissionScript.



Assign object to DestroyObjectiveActor variable in MissionScript

Bind and event to **OnObjectivesDestroyed** to Resolve the objective and add more things after the objective is finished.



Objective doesn't resolve automatically

### Destroy Units Objective $\mathscr{O}$

Create an Add Objective node and fill in the Display Text. Everything else is optional, depending on what you want to do.

DestroyUnitsObjectiveEvent	f Add Objective			
	•		SET	D
	Parent Objective	Objective 🔷	Destroy Units Objective	o
	Objective Type			
	Primary V			
	Progress Style			
	Progress Counter 🗸			
	Display Text			
	Destroy enemy units			
	Marker Class			
	Primary Attack 🗸 🕞 📿			

Add Objective node for tracking dead units counter

Plug in the **MWObjective** variable to the SpawnUnits node and it should track the units spawned.



SpawnUnits node can track the destroyed units

Can also track the objective like this if you decide to Track the objective later, rather than immediately at spawn.



Track Destroy Units Objective after units have spawned

## Scan Objective $\mathscr{O}$

Drag an actor with a KelScannableComponent in your level. In this example BP\_GateTerminal



Actor with KelScannableComponent

Create variables in your MissionScript for the Actor to scan and the scan objective.



Variables for scan objective

Create an Add Objective node and set a Display Text. Everything else is optional.



Add Objective node also used for Scan objectives



Add a **StartTrackingInteractionTasks** node and plug in the ScanObjectiveActor and the ScanObjective.

The scanning is tracked and objective completes when scanned

Assign the Actor to scan to the ScanObjectiveActor variable in your MissionScript.



Actor to scan assigned to MissionScript

#### Destructible zone Objective $\mathscr{O}$

Before actually creating the objective, you need something to destroy. We can add a **Garrison** from MW5 Mercenaries in our level. They can be found in this folder.



Garrisons can be found here

I recommend **copying** the Garrison that you like in your LevelInstance folder.



Garrison level copied

Open the level and **delete** the **foliage** and **landscape**. These actors aren't used in clans, so won't work.



Selected Foliage and Landscape actors

Add it to your level as a **sublevel** and move it where you want it to be.



Sublevel added



Garrison in level

Add a **BP\_KelMissionObjectiveDestructibleZone** to your level and put it on your Garrison. Change the **radius** to make it big enough.



Destructible zon placed around Garrison

Go to Build and select **Kel Build Map**. This will build your destructibles and navigation at the same time.



Kel Build Map can be found in Build

Select your **BP\_KelMissionObjectiveDestructibleZone** and click on **Generate** to make sure that it registers the destruction. Also set it to hostile if you want friendly mechs to target the buildings.

🔀 Details 🛛 🗙	🙀 World Partition	🌍 World	Settings
🚊 BP_KelMissionObj	ectiveDestructible	Zone 🕂 Add	•C ~ d
BP_KelMissionObjectiv	eDestructibleZone (S	elf)	
≜ Root Component (\$	SceneComponent)		Edit in C++
Q Search			
General Streaming	All		
Scale 🗸 🖬	1.0	1.0	
➡ Default			
■ Generate ■ Lo	og Inclusions 🛛 🗖 🗖	.og Exclusions	
Team Membership	Hostile 🗸		¢
Radius	18891.904297		¢
Base Aggro	0.0		
Auto Activate	<b>~</b>		
Inclusion List	8 Set elements	⊕ ū	
Exclusion List	0 Set elements	⊕ ū	
Destructibles List		⊕ <u>ū</u>	

BP\_KelMissionObjectiveDestructibleZone settings

Create a **SoftObjectReference** variable for your Destructible zone of type **BP\_KelMissionObjectiveDestructibleZone**. This time make it a set. Also a variable for your MWObjective.

<ul> <li>Destructible Zone Objective</li> </ul>		
DestructibleZoneObjectiveActor	BP Kel Mission Objev	۲
DestructibleZoneObjective	<ul> <li>MWObjective</li> </ul>	$\sim$

Destructible zone objective variables

Create a new Add Objective and fill in the Display Text.

DestructibleZoneObjectiveEvent     Custom Event	f Add Objective		SET	P
	<ul> <li>Parent Objective</li> <li>Objective Type</li> <li>Primary</li> <li>Progress Style</li> <li>None</li> <li>Display Text</li> <li>Destroy the town</li> <li>Marker Class</li> <li>Attack Building I </li> </ul>	Objective •	Destructible Zone Objective	

Objective for Destructible zone

Add a **Track Destructibles** node, plug in your Destructible zone and objective variables. Give the **Destruction Meter** a name to tell players what they're destroying and set a **Destruction Complete Target** of when the objective completes. As you can see in the image, you can fire logic after certain percentages of destruction.



Destructible zone objective

Assign the BP\_KelMissionObjectiveDestructibleZone to your MissionScript.



Destructible zone assigned in MissionScript

### Timer Objective $\mathscr{O}$

In the MissionScript, create an Add Timer Objective node. Fill in the Display Text, Time in Seconds and Time Expired Resolution.

TimerObjectiveEvent Custom Event	f Add Timer Objective	
		D
	Parent Objective	Timer Objective 🔿
	Objective Type Primary	·
	Display Text O Wait for reinforcements	
	O Time in Seconds 60	
	Time Expired Resolution State Complete	/
	Time Expired Resolution Clear	
	Ountdown	

Timer objective setup

# Spawning AI $\mathscr{O}$

Spawn enemies by placing **Unitcards** in your level. You can tell them to **AutoSpawn**, but I recommend telling them to spawn through the **MissionScript**. That way they can spawn in when you need them. I recommend after spawning a unit to have them walk to a **Waypoint** and then an **AttackWaypoint** to help them get out of their spawn location. Waypoints are explained in the Waypoint section.



Mech UnitCards

Fill in the details for the Unit behaviour. Most important are the Team, Attitude, Behavior Config and Sequence List.

- Team (Hostile, Neutral or Friendly)
- Attitude (Passive or Aggressive behavior)
- Behavior Config (Difficulty)
- Sequence List (Movement and Targeting)

•	Unit Spawner		
	Snap to Smart Object	Always 🗸	
	Auto Spawn		
	Unit Card	None Multiple Values V	¢
	Paint Theme	None V	
	Team	Hostile 🗸	
	Initial Attitude	Aggressive 🗸	
	Combat Tactic	None 🗸	
	Behavior Config	MWAIBehaviourC 🗸 🗲 🍺 🗙	¢
	Leader	None 🗸 🗲 🔀 🖉	
	Perception Config Asset	None V	
•	Advanced		
	Cycle Sequence		¢
•	Sequence List	1 Array element 🕒 🛱	¢
		AttackWaypoint 🗸 🗲 🏵 🖉	¢

UnitCard settings

Create a variable of type KelUnitSpawner as a SoftObjectReference. Use a **SpawnUnits** node in MissionScript to spawn them.



SpawnUnits node

Assign the units to your KelUnitSpawner variable in your MissionScript.



Array of UnitCards

There's a couple of locations that enemies can spawn from.

- Hide them (Use explanation above)
- Dropship:

2 Dropships that work exactly the same way **BP\_SpawnSequence\_LeopardDrop**(Inner Sphere Mechs Max 4) and **BP\_SpawnSequence\_BroadswordDrop**(Clan Mechs Max 5). Assign the Unitcards that you want to drop out of the ship and follow the instructions above.



Both available dropships to spawn



Assign Mechs to the dropship

• Spawn Door:

Drag a **BP\_SpawnSequence\_MegaFactoryDoor** in your level and assign the Unitcards that you want to spawn.



Spawn Door in level



Assigned Unitcards to Spawn Door

• Spawn Garages:

Drag a BP\_SpawnSequence\_GroundGarage into your level and assign the Unitcards that you want to spawn.



#### Spawn garage in level

🔀 Details 🛛 🗙	🙀 World Partition	🕤 World Settings		
凿 BP_SpawnSequenc	e_GroundGarage	+ Add •€ ~ 🖬		
BP_SpawnSequence_G	roundGarage (Self)			
🗢 📥 Root Component (S	SceneComp)	Edit in C++		
🔆 CaragaChildAstar Edit in Dhuanrint				
Q Search		📃 🖬 \star 🗄		
General Streaming	All			
➡ Transform				
Location 🗸	-36263.0 46971	.0 -4477.257102 5		
Rotation 🗸	0.0 *	( 144.999999 ° 😽 🕤		
Scale 🗸 🖬	1.0	1.0		
🔻 Default				
➡ Linked Unit Spawners	2 Array elements	⊕ Ū ↔		
Index [ 0 ]	ARC-2W_UnitCard 🗸	🕒 🕞 🕅 🧭 👻 🕤		
	AS7-D_UnitCard V			
Biome	Courchevel 🗸			

Assigned Unitcards to Spawn Garage

# Track Unit Death/Damage 🖉

You can track the units death after they've been spawned already with Track Unit Death.

- Pass through (Can continue the fire logic after firing this node)
- Unit Death (Can fire logic each time a unit dies that's tracked)
- All Units Dead (Can fire logic when all tracked units are dead)
- Dead Enemy (Retrieves the actor that died)
- Total Dead (Counter for amount of Units Died)
- Percentage Dead (Percentage dead of the total tracked Units)



Track Unit Death node

Can also track units damage after they've spawned with Track Unit Damage.

- Pass through (Can continue the fire logic after firing this node)
- Unit Damage (Can fire logic each time a unit that's tracked receives damage)
- Damaged Unit (The tracked unit that received damage)
- Damage (Damage received)
- Accumulated Damage (Total damage received)
- Critical Health Percent (Unit at critical health)



## Waypoints 🖉

#### MoveToWaypoint $\mathscr{O}$

The name kind of explains it. It's a waypoint that the unit moves to. Can do a couple of things and I'll got through each one of them.

- Assigned Actor (Not used with this Waypoint)
- Switch To (UnitCards have usually have Waypoints in Sequence, this allows the unit to move to a Waypoint that's not in that Sequence)
- Start Attitude (This is the Units Attitude when it is moving to this Waypoint)
- End Attitude (Attitude when the Waypoint is reached)
- Start Perception Config (Not used)
- End Perception Config (Not used)
- Hold Delay (Amount of seconds before going to the next Waypoint 0.0 = infinite)
- · Hold Damage (Amount of damage before moving to the next Waypoint)



MoveToWaypoint

🔀 Details		📕 World I	Partition	() ()	World	Sett	ings		
🖲 MoveToWayp	oint			+	- Add		•		ď
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📥 Root Compo	nent (S	SceneRoot	)				Edit	in C	;++
<b>Q</b> Search							▤	*	Ľ
General LOD		hysics	Streaming	All					
Assigned Actor		None		~	e	Я	Ø		
Switch To					e	$\Re$			
Start Attitude									
End Attitude									
Start Perception (			None						
End Perception Co			None						
Hold Delay									
Hold Damage									

MoveToWaypointSettings

#### SmartObjectWaypoint $\mathscr{O}$

This Waypoint can do things to make the unit feel more **smart**. In my example, I'll use the **GuardPoint**, but I'll go through all of them. Same settings as a regular Waypoint, but now we can use **Assigned Actor**.

- Assigned Actor (Assign a Smart Actor to have the unit act different from Perceiving and attacking)
- Switch To (UnitCards have usually have Waypoints in Sequence, this allows the unit to move to a Waypoint that's not in that Sequence)
- Start Attitude (This is the Units Attitude when it is moving to this Waypoint)
- End Attitude (Attitude when the Waypoint is reached)
- Start Perception Config (Not used)
- End Perception Config (Not used)
- Hold Delay (Amount of seconds before going to the next Waypoint 0.0 = infinite)
- Hold Damage (Amount of damage before moving to the next Waypoint)



SmartObjectWaypoint

🔀 Details 🛛 🗙	🙀 World Part	tition	🕤 V	Vorld Set	tings	
👱 UseSmartObjectWa	ypoint		+	Add	-:: ~	
🧕 UseSmartObjectWaypo	oint (Self)					
≜ Root Component (S	SceneRoot)				Edit i	in C+
Q Search General LOD PI	nysics Sti	reaming	All		⊞	*
Assigned Actor	GuardPoint		~	e k	. 1	¢
- Switch To				€ K	) <i>d</i>	
Start Attitude	Aggressive	~				
End Attitude						
Start Perception Confi		None				
End Perception Config		None				
V Hold Delay	20.0					¢
Hold Damage						

SmartObjectWaypoint used with a GuardPoint

The Smart Actors have different uses.

- GuardPoint (Has the unit wait for the Hold time specified and look left and right)
- ParkingSpot (Unit can't move from here unless told otherwise)
- Melee Target (Will melee targets within range of this Waypoint)
- LandingPad (Only for VTOLS and works similar to the ParkingSpot)
- LookAtPlayer (Unit will focus attention on the Player)

#### AttackWaypoint $\mathscr{O}$

You want to use this one on all your AI that needs to attack. Anything that gets in the radius of this Waypoint will be selected as a **target**. This prevents AI from just standing around. Some extra functionality has been added to the **AttackWaypoint**.

- Assigned Actor (Not used with this Waypoint)
- Switch To (UnitCards have usually have Waypoints in Sequence, this allows the unit to move to a Waypoint that's not in that Sequence)

- Start Attitude (This is the Units Attitude when it is moving to this Waypoint)
- End Attitude (Attitude when the Waypoint is reached)
- Start Perception Config (Not used)
- End Perception Config (Not used)
- Hold Delay (Amount of seconds before going to the next Waypoint 0.0 = infinite)
- Hold Damage (Amount of damage before moving to the next Waypoint)



AttackWaypoint

🔀 Details 🛛 🗙	World Partition	🜒 World Settings	
🚊 AttackWaypoint		+ Add •C •	ſ
🚊 AttackWaypoint (Self)			
🛓 Root Component (S	ceneRoot)	Edit in C	++
Q Search			ł
General LOD Ph	ysics Streaming	g All	
🔻 Waypoint			
Radius	63103.859375	÷.	5
Assigned Actor	None	~ E X 🖉	
Switch To		<ul> <li>✓ ⊕ ℜ Ø</li> </ul>	
Start Attitude			
End Attitude			
Start Perception Confi	None Rone		
End Perception Config	None None		
Hold Delay	0.0		
Hold Damage			

Same options to change as other Waypoints

The new functionality gives a little bit more freedom in attack behavior.

- Hold Position (Will stay in the same location when Waypoint has been reached)
- Combat Range Override (Usually AI uses the radius from the AttackWaypoint as combat range, but this overrides that with this range instead)



Extra functionality AttackWaypoint

# JumpJet Links @

Some mechs can use JumpJets. We can force them to use those to jump over obstacles or jump down ledges.

Drag in a **UnitCard** with **JumpJets** and set it up to spawn when you need it.



Unit with JumpJet

I recommend setting the **Initial Attitude** to either **Safe** or **Passive**, so it won't start attacking and moves away from its path. Give it a **MoveToWaypoint** to tell the unit where it should move to. Give it an **AttackWaypoint** as well to tell it to attack when the destination is reached. Set the **End Attitude** on the MoveToWaypoint to **Aggressive** to have it attack.

	Snap to Smart Object	Always 🗸	
	Auto Spawn		
	Unit Card	JVN-10P_UnitCard V C D	¢
	Paint Theme	None ~	
	Team	Hostile 🗸	
	Initial Attitude	Safe 🗸	¢
	Combat Tactic	None 🗸	
	Behavior Config	MWAIBehaviourCı 🗸 🗲 🍺 🗙	¢
	Leader	None 🗸 🗲 🔀 🖉	
	Perception Config Asset	None ~	
•	Advanced		
	Cycle Sequence	<ul> <li>Image: A start of the start of</li></ul>	
•	Sequence List	2 Array elements 💮 🛱	¢
		MoveToWaypoint2 🗸 🗲 沃 🗸 🗸	¢
		AttackWaypoint 🗸 🗲 🏵 🗸 🗸	¢

Settings for UnitCard

Radius	2000.0
Assigned Actor	None 🗸 🗲 🔀 🖉
	None 🗸 🖉
End Attitude	Aggressive V
	None V
	None V

Settings for MoveToWaypoint



Unit path setup to move towards the ledge

Drag a **KelJumpJetNavLinkProxy** into your level. It has a **Left and Right handle** to manipulate. When you drag it in, it should sit quite **flush** with the **Landscape**.



We should be able to click on one of the handles and move it around. Move the handle to the surface that the mech comes from, the ledge in my example. Make sure that it **intersects** with the **landscape mesh**, so it can influence the **NavMesh**. Put it in the **unit's path**, so it will hit it when it moves to the destination. I usually put three **KelJumpJetNavLinkProxy's** there, so it hits it even when the unit's path slightly gets adjusted. Use **KelBuildMap** to build your **navigation** and then the **KelJumpJetNavLinkProxy** should look like this when you **press P**.



Active KelJumpJetNavLinkProxy

#### Custom unitcards @

I recommend creating a separate folder for your custom units in your Mission folder.



Folder for units specific to this mission

Copy any Unitcard that you want to customize into that folder.



Copied unitcard to use as a Boss unit

You can **customize** the unit to be what you need for your level. I'll go through any settings you can change. Anything that isn't mentioned, shouldn't be touched.

- Mech Loadout Template (Copy this file and change it to the loadout that you want)
- Mech Starting Structure Damage (Start the Mech with internal structure damage)
- Mech Starting Armor Damage (Start with the Mech having damaged armor)
- Mech Startin Rear Armor Damage (Start with the Mech having rear armore damage)
- AIBehaviour Config (This file can also be copied and adjusted to make it specific to this unit, variables such as health and accuracy are available in there)
- Persona Asset (Pilot that speaks in conversations if that's setup for the character)
- Unit Skin Customization (Can change skin or colors of the Mech)
- Unit Quirks (Quirks can make your unit much stronger or weaker, double the damage it inflicts for example)

🔀 Details 🛛 🗙	
Q Search	
I Unit Card	
▼ Unit Card	DerivedMech 🗸 🗲 🍺 🕣 🗙
Unit Type.Unit Type	
Mech Loadout Template	MWMechLoadoutAsset:AS7-P_Loadout 🗸 🗲 🍺 🗙
Initial Power State	On 🗸
Disarmed	
Mech Starting Structure Damage	
Mech Starting Armor Damage	
Mech Startin Rear Armor Damage	
Name	
AlBehaviour Config	
Persona Asset	None 🗸 😌 🕼 X
Unit Skin Customization	
▼ Unit Quirks	
Quirks	
Add New Quirk	Quirk Filter:
Conditional Quirks	0 Array element 🔿 🛱
Attributes	Unit.Usage.InstantAction $ imes$ 🗸
Required Entitlement	None V
Required Entitlements	0 Array element 💮 🛱

UnitCard settings

In the **Mech Loadout**, there are settings for structure health, armor and weapons.

	Structure
Head Structure	15.0 (15.0) Current Maximum
	62.0 (62.0 ) Current Maximum
Left Torso Structure	42.0 ( 42.0 ) Current Maximum
Right Torso Structure	42.0 (42.0 ) Current Maximum
	34.0 (34.0 ) Current Maximum
Right Arm Structure	34.0 (34.0 ) Current Maximum
	42.0 (42.0 ) Current Maximum
Right Leg Structure	42.0 (42.0 ) Current Maximum

# Loadout Structure settings

	Armor Values
Head Armor	18.0 / 18.0 ( 30.0 ) Current Installed Maximum
Center Torso Armor	94.0 / 94.0 ( 124.0 ) Current Installed Maximum
Left Torso Armor	64.0 / 64.0 ( 84.0 ) Current Installed Maximum
Right Torso Armor	64.0 / 64.0 ( 84.0 ) Current Installed Maximum
Left Arm Armor	68.0 / 68.0 ( 68.0 ) Current Installed Maximum
Right Arm Armor	68.0 / 68.0 ( 68.0 ) Current Installed Maximum
Left Leg Armor	82.0 / 82.0 ( 84.0 ) Current Installed Maximum
Right Leg Armor	82.0 / 82.0 ( 84.0 ) Current Installed Maximum
Center Torso Rear Armor	28.0 / 28.0 ( 124.0 ) Current Installed Maximum
Left Torso Rear Armor	20.0 / 20.0 ( 84.0 ) Current Installed Maximum
Right Torso Rear Armor	20.0 / 20.0 ( 84.0 ) Current Installed Maximum

Loadout Armor settings

	Weapon Groups
-	Center Torso Weapons
Hardpoint ID:	Torso_Center_EH1_mediumlaser
Weapon Item:	IS_Mediumlaser
Weapon Groups:	1: 🖌 2: 3: 4: 5: 6:
Hardpoint ID:	Torso_Center_EH2_mediumlaser
Weapon Item:	IS_Mediumlaser
Weapon Groups:	1: 🗸 2: 3: 4: 5: 6:
-	Left Torso Weapons
Hardpoint ID:	Torso_Left_MH1_Irm15
	IS_Lrm15_Stream
Weapon Groups:	1: 2: 3: 4: 5: 6:
-	Left Arm Weapons
Hardpoint ID:	Arm_Left_Assault_MeleeWeapon
Weapon Item:	IS_BattleAxe_Assault
Weapon Groups:	1: 2: 3: 4: 5: ✓ 6:
Hardpoint ID:	Arm_Left_Hand_Actuator_Melee
Weapon Item:	None
Weapon Groups:	1: 🗸 2: 3: 4: 5: 6:

Weapon group settings

-	Right Torso Weapons
Hardpoint ID:	Torso_Right_BH1_autocannon20
Weapon Item:	IS_Autocannon20
Weapon Groups:	1: 2: 🗸 3: 4: 5: 6:
-	Right Arm Weapons
Hardpoint ID:	Forearm_Right_EH1_mediumlaser
Weapon Item:	IS_Mediumlaser
Weapon Groups:	1: 🗸 2: 3: 4: 5: 6:
	i
Hardpoint ID:	Forearm_Right_EH2_mediumlaser
Weapon Item:	IS_Mediumlaser
Weapon Groups:	1: 🗸 2: 3: 4: 5: 6:
Hardpoint ID:	Arm_Right_Hand_Actuator_Melee
Weapon Item:	None
Weapon Groups:	1: 2: 3: 4: 5: 🗸 6:

More Weapon group settings

# Repair bays 🖉

Sometimes we want to repair a mech mid mission. We can do that with a **MobileRepairBase** actor. Drag one into your level and set **Is Powered** to **true** to make it work.



MobileRepairBase

There are some settings you can change to make it function as you like.

- Ammo Resupply (Percentage of ammo resupply)
- Armor Repair (Percentage of armor repair)
- Uses (Number of times this repair bay can be used)
- Is Powered (Active or Inactive state)
- Infinite Uses (Repair bay has inifinite uses or not)

🔀 Details 🛛 🗙	World Partition	🌍 World Settings	
🧕 MobileRepairBas	se	+ Add •[• •	•
🧕 MobileRepairBase (\$	Self)		h
🗢 🛓 DefaultSceneRo	oot	Edit in Blueprin	ŗ
4 TargetCompo	nantDocitionar	Edit in Diversion	·
Q Search		📃 🖬 🖈	\$
General Actor	LOD Misc	Physics	
Rendering Stream	ing All		
Transform			
Location 🗸	-77845.610: 1333	97.8511 -8557.0 +	2
Rotation 🗸	0.0 *	-50.0 ° ←	2
Scale 🗸 🖬	1.0 1.0	1.0	
🗢 Configure			
Ammo Resupply	100		
Armor Repair	100		
Uses	1		
Is Powered			
Infinite Uses			

MobileRepairBase settings

You can also change settings in the MissionScript, but all you probably need is know how to activate and deactivate it. Start by creating a variable of type **MobileRepairBase** and make it a **SoftObjectReference**.

RepairBay	👄 Mobile Repair Base	۲	
MobileRepairBase variable			

From the variable, call **Manage Power** and set **Is Powered** to true or false. Depending if you want to activate or deactivate it. In my example, I scan an actor and it activates the Repair bay.

Start Tracking Interaction Tasks		
•	D	
III Tasked Actors	Interaction Segment Complete D	
🕒 Objective Tracking Objective	Single Interaction Task Complete D	Target is Mobile Repair Base
Objective Tracking Auto Resolve	All Interaction Tasks Complete 📡 🗕 🗕	<b>→</b> ► D
	Actor 🔿	- Target
	Segments Complete Percentage 🔿	🕞 Is Powered 🗸
;≣ Make Array		
🔹 [ 0] 🛛 Array 🏢 🧹		Repair Bay
Add pin 🕣		
Scan Objective Actor		
Scan Objective 🔷		

Scan an actor to activate repair bay

Assign the MobileRepairBase to your MissionScript.



MobileRepairBase assigned to MissionScript

# Out of bounds system (OOB) 🖉

Create a **spline** that covers the whole play area. Make sure that the spline sits **flush** with the **landscape mesh** and is set to **Loop**.



Spline covering gameplay space



Every spline point is flush against the landscape

While the spline is selected, go to **MeshSplines**. Change the **Thickness** to **1** and **Output Type** to **Volume**. Then **Volume Type** to **KelMissionAreaVolume**.

Triangulate Splines	Pre	sets 🗸	
Spline			
Error Tolerance	1.0		
Flatten Method	Do Not Flatten 🗸		
Mesh			
Thickness	1.0		¢
Flip Result			
Output Type			
Output Type	Volume 🗸		
Volume Type	KelMissior 🗸 🗲	X	¢
Material			
Material	None Contraction	~	
UV Scale	1.0		
World Space UV Scale			
Show Wireframe			

Settings for OOB Mesh

Click accept and it should create the KelMissionAreaVolume.



Make sure it's selected in the **Outliner** and click on **GenerateMissionAreaMesh** to create a **Mesh Actor** in the root of the mission folder. **Save** that Mesh.



Button to create KelMissionArea Mesh



Mesh will be in your Mission root folder

You can create more than one and activate them when needed to open up more Gameplay space for example. Just make sure that the first active **KelMissionAreaVolume** is **Enabled** and the other ones **Disabled**.

🔻 Kel Mission Area Volume	
Mission Area Enabled	<b>~</b>

KelMissionAreaVolume Enabled

To change which one is active during runtime, you can Enable and Disable them as needed. One should be active at all times, so enable the new one before you disable the old one with **Enable Mission Area**.



Enabling new MissionAreaVolume

Assign the KelMissionAreaVolume to your MissionScript.

🔀 Details 🛛 🗴 🌆 World Partition 🌒 World Settings							
BP_ModMission_N	BP_ModMission_MissionScript (Self)						
Sprite Component (Sprite) Edit in C++							
Q Search			) 🖽 \star 🗄				
General Actor	Misc Physics	All					
🔻 Mission Area Volumes	1 Array element	⊕ <u></u>	¢				
Index [ 0 ]	KelMissionArı 🗸	E X 1	, ^ <del>2</del>				

KelMissionAreaVolume assigned to MissionScript

## Artillery @

Start by putting an **Artillery** in your level and setting that up. Only settings to worry about are in **Allegiance**. Set it to **Hostile** and set **Can Target** when Hostile to true.



Artillery



Artillery settings

We're going to put in a zone where the **Artillery** will be firing next. Put a **BP\_ArtilleryBombardmentZone** in your level where you want it to fire.



BP\_ArtilleryBombardmentZone

To make it function, Assign the Artillery in your level to **Artillery Source Soft** and set **Auto Start** to **true**. There are also settings that you can change and you can activate it in script when you need it.

- Artillery Source Soft (Artillery firing, when Artillery is destroyed, firing will stop)
- Explosion Class External (The actual explosion when it hits, don't need to change this)
- Auto Start (Will start firing automatically when mission starts)
- Radius (Radius of where explosions can hit)
- Bombing Interval in Seconds (Amount of seconds between each explosion interval)
- Num Bombs Per Interval (Number of explosions per interval)
- Max Random Bomb Launch Delay (Random delay between each explosion in an interval)

🔀 Details	×	World Par	tition	۹ ا	Norld	Setting	ļs
🚊 BP_Artillery	Bombar	dmentZo	one	+ A	dd	•[•	
🧕 BP_ArtilleryBo	mbardme	ntZone (S	elf)				
च 🛓 DefaultSc	eneRoot				Edit i	n Bluep	orint
●£ Onhara					Edit i	- Bluar	wint
Q Search						▦	×
General LO	D Phy	ysics	Streaming		All		
Artillery Source Se	oft	None	~	(	εx	; Ø	
Explosion Class Explosion Class Explosion Class Explosion (Class Explosin (Class Explosin (Class Explosin (Class Explosion (C	cternal	ArtilleryExp	losion. 🗸	e	) 🏹	Э×	
👻 Kel Bombardment	Zone						
Auto Start							
Radius		5000.0					
Bombing Interval i	n Se	5.0					
Num Bombs Per li	nterval	5					
Max Random Bom	b La	0.25					

BP\_ArtilleryBombardmentZone settings

To activate it in MissionScript, create a variable for the Bombardment zone of type **BP\_ArtilleryBombardmentZone** as a **SoftObjectReference**.

BombardmentZone 🗢 BP Artillery Bombard 💿 BP\_ArtilleryBombardmentZone variable

Drag it into the Event graph and call **Set Enabled** from it.



Enable BP\_ArtilleryBombardmentZone in MissionScript

Assign the BP\_ArtilleryBombardmentZone to the MissionScript.



Assigned BP\_ArtilleryBombardmentZone to MissionScript

## Turrets @

#### Turret variants 🖉

We've got many different types of turrets and I recommend to try them all out to create the gameplay that you like. I'll go through what different setups we have for them.

- Regular Turret (Place in a level and it fires what type of weapon it has)
- Turret Tower (Same as a regular turret, but on a tower)
- Turret Popup (Turrets that can pop out of the ground or walls when a hostile is close enough)



The three different turret variations

	Unit Spawner							
	Snap to Smart Object	Always	~					
	Auto Spawn							
	Unit Card		Turret_AC:	2_2x2_Pop	up_UnitCa	rd 🗸		¢
	Paint Theme	None	None			~		
	Team	Hostile	~					
	Initial Attitude	Aggressive	~					
	Combat Tactic	None	~					
	Behavior Config	None		~	e D	5 X		
	Leader	None			~	e	8 🖉	
	Perception Config Asset	None	None			~		
•	Advanced							
	Cycle Sequence	<b>~</b>						
	Sequence List	0 Array elem	ent	⊕ <del>–</del>				

Same as other UnitSpawners

Popup Turrets in MissionScript 🖉

**Popup Turret Unitcards** that are named **Triggered**, can be activated in the MissionScript. Create a variable of type **KelUnitSpawner** and make it a **SoftObjectReference** that references the Popup Turret Triggered Unitcard.

# \_\_\_\_\_ Turret\_AC2\_1x1\_Popup\_Triggerd\_UnitCard

Popup turret triggered unitcard

Call Activate Popup Turrets in the Eventgraph



Popup turrets activation in MissionScript

Assign the Popup turret triggered unitcard to the MissionScript.

🔀 Details 🛛 🗡	🚛 World Partitio	on 🌍 World S	ettings		
BP_ModMission	n_MissionScript		+ Add	•:•	· •
BP_ModMission_M	issionScript (Self)				
🋞 Sprite Compon	ent (Sprite)			Edit in	C++
Q Search					*3
General Actor	Misc Physics	All	J		
Pop Up Turret	Turret_AC	2_1x1_Popup_Triggerd_Uni	t 🖌 🗲	R Ø	¢

Popup Turret Triggered unitcard assigned to MissionScript.

You can also deactivate the PopupTurrets by calling Deactivate Popup Turrets in the MissionScript.



Deactivate Popup Turrets

### Capture turrets $\mathscr{O}$

Players can turn hostile turrets into friendly turrets. Start by dragging a **UTL\_GPL\_Military\_Industrial\_SmallTurretControlTower** in your level. To prevent it from being destroyed, I usually put a **BP\_TurretControlTower\_Bunker** on top of it.



Turret control tower with bunker

You should have some turrets in your level by now and if not, drag a couple of regular turrets in and spawn them. You can assign them to Linked Turret Spawners in UTL\_GPL\_Military\_Industrial\_SmallTurretControlTower.

🔀 Details 🛛 🗙	🚟 World Partition	🌍 World Settings
UTL_GPL_Military_	Industrial_SmallTurret(	( + Add •(= ~ •
🚊 UTL_GPL_Military_Ind	ustrial_SmallTurretControlT	Tower (Self)
च ≜ <sub>लि</sub> DefaultSceneRoot		Edit in Blueprint
Q Search		📃 🖬 🛨 🗄
General Actor Streaming All	LOD Misc Physics	s Rendering
🔻 Default		
TestAimTarget		
<ul> <li>Linked Turret Spawners</li> </ul>	2 Array elements 🕒	) <b>Ū</b> (
Index [ 0 ]	Turret_AC2_1x1_Uni 🗸	E 🕅 🖉 🗸 🕤
Index [1]	Turret_LRM20_1x1_' V	@ K 🖉 🗸 🕤

Assigned turrets to UTL\_GPL\_Military\_Industrial\_SmallTurretControlTower

Create a variable for the UTL\_GPL\_Military\_Industrial\_SmallTurretControlTower in the MissionScript as type **Actor** and make it a **SoftObjectReference**.



Call Start Tracking Interaction Tasks and plug in the Turret control tower to Tasked Actors.



Setup for capturing Turrets

#### Indestructible units @

In the MissionScript, you can make units indestructible with a KelIndestructibleScript Component. Create the component.



KelIndestructibleScript

In the Details panel, you can tell it which units should be indestructible. Add them to the Spawner List.



List to tell what units can be indestructible

Drag KelIndestructibleScript in the Eventgraph and call Request Indestructible from it.



Set to true to make units indestructible

### Gates @

We can open and close gates. There are a couple to choose from, but I'll be using **BP\_Space\_Station\_Gate** for this example. Drag one into your level. I've also grabbed a cube for each side to block the path and make it actually function as a Gate.



Gate

I've also added a **BP\_Gate\_Terminal** to scan when opening and closing the Gate. Not necessary to do it this way, but makes sense for the example. I also changed some settings in the terminal to open and close the Gate. In the **KelScannableComponent**, set **Interaction|NumSectionRequired** to 1, so it's easier to use. Set **Interaction|bDestroyScanComponentAfterInteraction** and **Interaction|bIsOneTimeInteraction** to **false**.



Gate Terminal to scan

Z	Details	×	181	World P	artition		•	World Se	ettings										
<u>e</u>	BP_GateTerm	inal	2												+ Ad	d	-C	~	6
	🌮 Turret_Co	ntrol_	B_Ba	ise_STM												Edit	in Bl	uepr	int
	👍 KelScanna	ableC	ompo	nent												Edit	in Bl	uepr	int
Q																	E	1	k 3
0	General LOD		Misc	Phy		Rende		All											
🔻 s	cannable Settings																		¢
	ObjectType						Un	iknown		<b>*</b>									
	ObjectName						GA	ATE TERM	IINAL										
	Interaction blsInte	eracta	ble				~												
	Interaction Metho	d					Ba	isic Charg	je '	<b>*</b>									
	Interaction Promp	ot					UF	PLOAD CO	DES										
	Interaction Interac	ctionS	ucces	sPrompt			TE	RMINAL	ACTIVA	TED									
	Interaction/NumS	egme	ntsRe	quired			1												¢
	Interaction bDestr	roySca	anCon	nponentAf	terInterac	tion													¢
	Interaction/blsOne	eTime	Intera																¢

Gate Terminal KelScannableComponent settings for following example

Create two **SoftObjectReference** variables in the MissionScript, one for the Gate Terminal of type **Actor** and one for the Gate of type **BP\_Space\_Station\_Gate**.

GateTerminal	<ul> <li>Actor</li> </ul>	$\odot$
Gate	<ul> <li>BP Space Station Gat</li> </ul>	۲

Variables for opening and closing gate example

Create an event and call Start Tracking Interaction Tasks. Plug in the Gate Terminal variable.

Custom Event	Start Tracking Intera	action Tasks	
		D	
	Tasked Actors	Interaction Segment Complete D	
	<ul> <li>Objective Tracking</li> </ul>	Single Interaction Task Complete D	E Sequence
		All Interaction Tasks Complete 🔪 —	
		Actor 🔿	Then 1 🔪 👡
		Segments Complete Percentage 🔿	Add pin 🕣
	; III Make Array		
	🔶 [ 0] 🛛 Array 🏭		
	Add pin 🕣		
	Gate Terminal		

Interaction setup for scanning Gate Terminal

To open and close the Gate, I've added a **FlipFlop** to switch between events. Output A calls **Open Door** from the Gate and Output B calls **Close Door** from the Gate. The sequence is there, so I can reset the Interaction after 5 seconds, giving the Gate time to open and close.



Gate setup to Open and Close after scanning the Terminal

# Hiding Mesh from Battlegrid 🖉

Some levels might have a roof. Could be a structure or maybe a cave. The roof will prevent the players to issue commands in the **Battlegrid**. We can exclude meshes, so the Battlegrid doesn't try to use it.



Roof

We have to change some collision settings to exclude it. Set Collision Presets to Custom and set Visibility to Ignore.

•	Collision		
	Simulation Generates Hit Ev		
	Phys Material Override	None V	
	Generate Overlap Events		
	Others Generate Overlap Ev		
	Can Character Step Up On	Yes 🗸	
•	Collision Presets	Custom V	¢
	Collision Enabled	Collision Enabled (Query and Physics) $\checkmark$	
	Object Type	WorldStatic V	
		Ignore Overlap Block	
	Collision Responses 🥐		

Collision with custom settings

Collision Responses 🧿	-	-	-	
Trace Responses				
Visibility	>			
Camera			<b>~</b>	
FluidTrace	>			
ScanTrace	<b>~</b>			
Object Responses				
WorldStatic			<b>~</b>	
WorldDynamic			<b>~</b>	
Pawn			<b>~</b>	
PhysicsBody			<b>~</b>	
Vehicle			<b>~</b>	
Destructible			<b>~</b>	
Projectile			<b>~</b>	
DestructibleCollider			<b>~</b>	
HumanPawn			<b>~</b>	
Volume		~		
Flow		~		
MechPawn			~	

Custom collision settings to exclude mesh from Battlegrid

# Proximity Mines $\mathscr{O}$

You can place **Proximity Mines** either Friendly or Hostile, depending on the gameplay you want.



Proximity Mine

Here are some settings that you can change and where you can set the team to be Hostile or Friendly. Hostile in my example. The settings that I haven't mentioned here, shouldn't be touched.

- Explosion Radius (Radius of how far the explosion will reach)
- Explosion Damage (How much damage the explosion will inflict)
- Explosion Delay (Amount of settings for the explosion to trigger after mine had been triggered)
- Health Points (Amount of damage required to destroy the mine)
- Team Membership (Set the mine to Hostile or Friendly here)

▼ Aim Targets		
Base Aggro	25.0	
Ignore from Garrison Tracking		
🔻 Default		
TestAimTarget		
Explosion Radius	0.0	
Explosion Damage	7.0	
Explosion Delay	1.5	
Health Points	12.0	
Damage Taken Data		
State	Undamaged V	
Name		
Target Component Class	DestructibleObjectTargetCr 🗸 🕞 🕞 🗙	
Team Membership	Hostile V	¢

Proximity Mine settings

# NIS (Level Sequences) 🖉

### In game sequence $\mathscr{O}$

Create a **Level Sequence** and create in there what you would like to happen. I usually create a separate folder for my Level Sequences, so they're easy to find. For this example, I'm just going to copy having a Union ship land.



New Level Sequence in LevelSequence folder

Drag a KelGameplaySequence in your level. Select the Level Sequence you created in Sequence Asset.



KelGameplaySequence



Assigned Level Sequence to Sequence Asset

Create a variable of type **KelGameplaySequence** as a **SoftObjectReference**.



Get the Sequence Player from the variable and call Play.

SET		<b>f</b> Play Target is Movie S	cene Sequence Player	
jective	•	🗕 🕨 Carget	D	>
		Target Se	quence Player	
		Union Sequence		

Call Play from the Sequence Player

Assign the KelGameplaySequence to the MissionScript.

ValidateSettings			
Mission Area Volumes	1 Array element 🛛 🕀 🛱		¢
Repair Bay	MobileRepairBase 🗸 🗸	E 🕅 🖋	¢
Bombardment Zone	BP_ArtilleryBombardmentZone 🗸	E 🕅 🖋	¢
Pop Up Turret	Turret_AC2_1x1_Popup_Trigge 🗸	E 🕅 🖋	¢
Turret Control Tower	UTL_GPL_Military_Industrial_S 🗸	E 🕅 🖋	¢
Gate Terminal	BP_GateTerminal2 V	E 🕅 🖋	¢
Gate	BP_Space_Station_Gate 🗸 🗸	E 🕅 🖋	¢
Union Sequence	UnionSequence 🗸	E 🕅 🖋	¢

Assigned the KelGameplaySequence to the MissionScript

## Cinematic sequence $\mathscr{O}$

Create a **Level Sequence** and create in there what you would like to happen. I usually create a separate folder for my Level Sequences, so they're easy to find. For this example, I'm just going to copy having a Union ship land.



New Level Sequence in LevelSequence folder

Drag a **BP\_CinematicSequence** in your level. Select the Level Sequence you created in **Sequence Asset**.



**BP\_CinematicSequence** 

🗢 Gameplay Sequence			
Sequence Asset		LS_ModMission_UnionDropShip ∨ € ₯	¢
Origin Relative	<b>~</b>		

Assigned Level Sequence to Sequence Asset

 $Create \ a \ variable \ of \ type \ \textbf{BP\_CinematicSequence} \ as \ a \ \textbf{SoftObjectReference}.$ 



Call Enter Cinematic Presentation State and Play from the BP\_CinematicSequence variable.

Enter Cinematic Presentation State     Target is BP Cinematic Sequence	J Play Target is Movie Scene Sequence Player
Target	- Target
	Target Sequence Player
Union Cinematic Sequence	

Call Enter Cinematic Presentation State and Play

Bind an event to Sequence Finished and call Exit Cinematic Presentation State to continue gameplay.



Exit Cinematic Presentation State to continue gameplay

# Union ship Setup @

Drag a **BP\_UnionBoss** into your level. It has some settings to adjust it to your gameplay. The settings that I won't mention aren't used to setup gameplay.

- Turrets HP (Amount of health for each Turret)
- Turret Explosion Damage (Amount of damage it inflicts to the Union when Turret is destroyed)
- Team Attitude (Change Union to Hostile or Friendly)
- Clan (Change Union Skin)
- Mech 1 to 4 (What Mechs it can spawn)
- Turrets 1 to 8 (Select what UnionBoss Turrets to spawn)



**BP\_UnionBoss** 

Turrets HP	250.0
Turret Explosion Damage	250.0
Landing Gear Ejection	1.0
Doors Open Percentage	0.0
Team Attitude	Hostile 🗸
Clan	No Clan 🗸
Can Body Affect Nav	<b>&gt;</b>
Is Hull Damaged	
🔻 Mechs	
Mech 1	CDA-2A_UnitCard V © Do
Mech 2	HBK-4J_UnitCard V © Do
Mech 3	CPLT-K2_UnitCard ✓ € ₽
Mech 4	AS7-KR_UnitCard

BP\_UnionBoss settings

Turret 1	(۵	Turret_UnionBoss_AC5_x2 ✓ € ₯	
Turret 2	(۵	Turret_UnionBoss_MLaser_x5 ∨ € ₯	
Turret 3	(۵	Turret_UnionBoss_AC5_x2 ∨ € ₯	
Turret 4	(۵	Turret_UnionBoss_MLaser_x5 ∨ € ₯	
Turret 5	(۵	Turret_UnionBoss_AC5_x2 ∨ € ₯	
Turret 6	<b>\$</b> ,	Turret_UnionBoss_MLaser_x5 ∨ € ₯	
Turret 7	<b>\$</b> ,	Turret_UnionBoss_AC5_x2 ✓ € ₯	
Turret 8	<b>1</b> 0,	Turret_UnionBoss_MLaser_x5 ∨ € ₯	

BP\_UnionBoss Turrets

Create a **SoftObjectReference** variable of type **BP\_UnionBoss**.



BP\_UnionBoss variable

From the BP\_UnionBoss variable, call **Spawn Turrets**.



Call Spawn Turrets

You can also spawn Mechs from the Union. Call Open Doors and Spawn Mechs from the BP\_UnionBoss variable.



Call Open Doors and Spawn Mechs

Assign the BP\_UnionBoss to the MissionScript.

🔀 Details 🛛 🗙 🚟	World Partition	🕽 World Se	ettings	
<u> <u> </u> BP_ModMission_MissioMissioMissioMissioMissioMissioMissioMissioMissioMissioMissioMissioMissioMissioMissioMissiMissioMissioMissioMissioMissioMissioMissioMissioMissioMissioMissioM</u>	sionScript	+ Add	i •C •	
BP_ModMission_MissionS	cript (Self)			
🋞 Sprite Component (Sp	rite)		Edit in	C++
Q Search				*
General Actor Mis	c Physics All			
<ul> <li>Mission Area Volumes</li> </ul>	1 Array element 🕒	υ		۴
Index [ 0 ]	KelMissionAreaVolume 🗸	E E	ð ~	¢
Repair Bay	MobileRepairBase	∽ €	8 🖉	÷
Bombardment Zone	BP_ArtilleryBombardmentZo	ne 🗸 🛛 🗲	8 🖉	¢
Pop Up Turret	Turret_AC2_1x1_Popup_Trigg	e v 🛛 🗲	8 🖉	¢
Turret Control Tower	UTL_GPL_Military_Industrial_	sv e	8 🖉	÷
Gate Terminal	BP_GateTerminal2	× €	8 🖉	¢
Gate	BP_Space_Station_Gate	<ul><li>✓ €</li></ul>	8 🖉	÷
Union Sequence	UnionSequence	∽ €	8 🖉	¢
Union Cinematic Sequence	UnionCinematicSequence	∽ €	8 0	¢
Union	BP_UnionBoss	~ e	8 🖉	¢

Assigned BP\_UnionBoss to the MissionScript

## Laser Fence 🖉

This will allow for triggering an alarm when a fence has been hit. Drag in a **BP\_Scannable\_TripwireBeacon** and copy that until they form the shape of the area that you want to guard. Then assign the **Connected Beacons** to them in order to form your shape. You can turn **Debug Show Connection** on to see the fence.

- Enabled (Fence is active and can trigger the alarm)
- Connected Beacons (Assign the next BP\_Scannable\_TripwireBeacon here)
- Regenerate Link (Fence stays active after it's triggered)

- Beam Color (Color that you want the fence to be)
- Debug Show Connection (Can see fence in editor)



BP\_Scannable\_TripwireBeacon



Copied BP\_Scannable\_TripwireBeacon until it forms the shape that I need

	Default		
	Enabled	<b>&gt;</b>	
	Connected Beacons	BP_Scannable_TripwireBeacor 🗸 侯 🔀 🖋	¢
	Regenerate Link		
►	Beam Color		
Į	Debug Show Connection		¢

BP\_Scannable\_TripwireBeacon settings

Put a **NavModifierVolume** around the area that's guarded, so other AI doesn't trigger it. Set Area Class to **AvoidenceArea\_VeryHighCost**.



NavModifierVolume

•	Default		
	Area Class	AvoidanceArea_VeryHighCt 🗸 侯 🍺 🕣	X 5
	Area Class to Replace	None 🗸 🗲 🍺 🟵 🗙	
►	Advanced		

NavModifier settings

KelBuildMap to make sure the navigation will use your NavModifierVolume.



Navigation after KelBuildMap

Drag a **BP\_AlarmTrigger\_Manager** into your level. Assign the **BP\_Scannable\_TripwireBeacons** and the **NavModifierVolume**.



BP\_AlarmTrigger\_Manager

•	Default						
•	Beacons	4 Array elements 🔶	Û				¢
	Index [ 0 ]	BP_Scannable_Tripwire 🗸	e	$\mathfrak{X}$	Ø	~	¢
		BP_Scannable_Tripwire 🗸	e	$\mathfrak{K}$	Ø	~	¢
	Index [2]	BP_Scannable_Tripwire 🗸	e	$\mathfrak{X}$	Ø	~	¢
	Index [3]	BP_Scannable_Tripwire 🗸	e	$\mathfrak{K}$	Ø	~	¢
	Nav Modifier Area Volume	NavModifierVolume2	~	e	R	Ø	¢

BP\_AlarmTrigger\_Manager settings

In the MissionScript, create a **SoftObjectReference** variable of type **BP\_AlarmTrigger\_Manager**.

AlarmTriggerManager 🛛 🗢 BP Alarm Trigger M: 👁

BP\_AlarmTrigger\_Manager variable

Bind an event to **On Alarm Triggered** and you can fire what logic you want happening after.



Bind event to On Alarm Triggered

Assign the BP\_AlarmTrigger\_Manager to the MissionScript.

Q Search			⊟	*
General Actor Misc	c Physics All			
		$\sim$ c.	<b>ι</b> ν	
Bombardment Zone	BP_ArtilleryBombardmentZone 🗸	e K	; 8	¢
Pop Up Turret	Turret_AC2_1x1_Popup_Trigge 🗸	e 1	; 8	¢
Turret Control Tower	UTL_GPL_Military_Industrial_S 🗸	e 1	; 8	¢
Gate Terminal	BP_GateTerminal2 V	e 1	; 8	¢
Gate	BP_Space_Station_Gate 🗸 🗸	e K	; 8	¢
Union Sequence	UnionSequence 🗸	e 14	; 8	¢
Union Cinematic Sequence	UnionCinematicSequence 🗸	e 1	; 8	¢
Union	BP_UnionBoss V	e K	; 8	¢
Alarm Trigger Manager	BP_AlarmTrigger_Manager 🗸 🗸	e 14	; 8	¢

BP\_AlarmTrigger\_Manager assigned to MissionScript

## Ammo/Treasure Crates @

## Ammo Crate 🖉

An Ammo Crate is called a **Resupply Actor**. Drag it in your level and it works. There are some settings that you can change.

- Refill Percentage (Amount of ammo to replenish)
- Uses (Amount of times this crate can be used)
- Infinite Uses (Check this box for infinite uses)



**Resupply Actor** 



#### Treasure Crate 🖉

Drag a TreasureActor in and it should work. A separate actor tells it what treasure it contains.



**Treasure Actor** 

You can create a **KelMetaRewards Asset** in your Mission folder. Inside this asset, you can add rewards for the player to receive when scanning a **TreasureActor**.

💌 Kel Meta Rewards Asset	
▼ Rewards	4 Array elements 📀 🛱
▼ Index [0]	⑦ Currency ✓ ✓
Currency. Type	Salvage_MechComponents V
Currency.Amount	100
▼ Index [1]	🕜 Currency 🗸 🗸
Currency. Type	Salvage_WeaponComponents ~
Currency.Amount	100
▼ Index [2]	🕜 Currency 🗸 🗸
Currency. Type	Salvage_EquipmentComponents V
Currency.Amount	100
✓ Index [3]	⑦ Currency ✓ ✓
Currency. Type	Kerenskies_CurrencyItem ~
Currency.Amount	10000

Reward example in KelMetaRewardsAsset

### AeroSpaceFighterSequence @

### BP\_AeroSpaceFighterAttackSequence $\mathscr{O}$

You can add some flying **Shilones** or **Jagatai** to the mission. Drag a **BP\_AeroSpaceFighterAttackSequence** into your level. Assign **Shilone** or **Jagatai Unitcards** to Slot 1,2 and 3. There's a **Box** component attached to this actor. You can size the box to the size that you need. When a player is inside, it will **Play** the sequence for the Aerospacefighters.



BP\_AeroSpaceFighterAttackSequence



Shilone Unitcards assigned

▼ SpawnSequence			
▼ Unit Spawner Slot Assignm	3 Map elements		
Slot1	ShiloneBomber_PPCx1_AC2x2, V	E 🕅 🖋	¢
Slot2	ShiloneBomber_PPCx1_AC2x2, V	E 🕅 🖋	¢
Slot3	ShiloneBomber_PPCx1_AC2x2, V	E K 🖉	¢

Each Unitcard assigned to a slot

 ${\tt BP\_AeroSpaceFighterAttackSequence\_Triggerable} \ \mathscr{O}$ 

Use this AeroSpaceFighter Actor to trigger in the MissionScript when needed. Drag a **BP\_AeroSpaceFighterAttackSequence\_Triggerable** into your level.



BP\_AeroSpaceFighterAttackSequence\_Triggerable

Assign Shilone or Jagatai Unitcards to BP\_AeroSpaceFighterAttackSequence\_Triggerable.



Assigned Unitcards to BP\_AeroSpaceFighterAttackSequence\_Triggerable

SpawnSequence		
🗢 Unit Spawner Slot Ass	ignm 3 Map elements	
Slot1	Jagatai_PPCx2_AC20x2_UnitC: 🗸 侯 🔀 🖋	۴
Slot2	Jagatai_PPCx2_AC20x2_UnitC: 🗸 🌀 🏠 🖋	¢
Slot3	Jagatai_PPCx2_AC20x2_UnitC: 🗸 侯 🏠 🖋	¢

Assigned Unitcards to a Slot

Create a **SoftObjectReference** variable of type **BP\_AeroSpaceFighterAttackSequence\_Triggerable** in the MissionScript.

AeroSpaceFighterSequence 🛛 🗢 BP Aero Space Fight 💿

BP\_AeroSpaceFighterAttackSequence\_Triggerable variable

Call **Play Looping** from the **Sequence Player** to trigger when you need it.



Call Play Looping from Sequence Player

Assign BP\_AeroSpaceFighterAttackSequence\_Triggerable to the MissionScript.

Bombardment Zone	BP_ArtilleryBombardmentZone	~	e	R	ð	¢
Pop Up Turret	Turret_AC2_1x1_Popup_Trigge	<b>~</b>	e	$\mathfrak{K}$	Ø	¢
Turret Control Tower	UTL_GPL_Military_Industrial_S	~	e	$\mathfrak{S}$	Ø	¢
Gate Terminal	BP_GateTerminal2	~	e	33	Ø	¢
Gate	BP_Space_Station_Gate	~	e	$\mathfrak{K}$	Ø	¢
Union Sequence	UnionSequence	~	e	R	Ø	¢
Union Cinematic Sequence	UnionCinematicSequence	<b>~</b>	e	R	Ø	¢
Union	BP_UnionBoss	~	e	$\mathfrak{K}$	Ø	¢
Alarm Trigger Manager	BP_AlarmTrigger_Manager	~	e	3	Ø	¢
Aero Space Fighter Sequence	BP_AeroSpaceFighterAttackSe	~	e	Ю	Ø	¢

Assigned BP\_AeroSpaceFighterAttackSequence\_Triggerable to the MissionScript

# Dialogue 🖉

Create a folder for your dialogue files. In that folder, create an **MWDialogueBook Asset**. In this file, you can add your lines. Fill in **Persona** and choose any character that you want to speak. **Caption** to fill in the line that you want the character to say. Give it a **Name**, we'll need this to tell what line we're talking about.



MWDialogu eBook Asset

▼ Default	
UpdateBinkVideoPaths	
▼ MWDialogue Book Asset	
	1 Array element 💮 🛱
▼ (Id= [Priority.MissionCritical]: None	
	ModMission_D01_L01
Persona	MWPersonaAsset:Austin 🗸 🗲 🎼 🗙
Audio Event Path	None V
Play Audio	Play Audio
Override Bink URL	
	DialogueContext.Priority.MissionCritical $ imes$ $\sim$
	Clear all objective quickly!
Duration	
Max Plays Per Mission	0
Max Plays Per Campaign	0
	0
Cooldown Time Seconds	0.0

MWDialogueBook settings

Create a **KelConversationAsset** and open it. You'll need one of these for each conversation in your mission. In sequence, tell it to **Play** and add one of the lines from the **MWDialogueBook** to the **Dialogue Line Name**. Continue adding lines to finish the conversation that you want to play.



KelConversationAsset settings

Call **PostDialogue** in the MissionScript. In **Mission Dialogue Asset**, you can choose the **KelConversationAsset** you created. Now it should play the conversation when you need it.



PostDialogue in MissionScript