



# MAX Behavior System

## Using Behaviors in GameGuru MAX

*Behaviors in the library are used to add logic to your game objects. Behaviors can be used either individually or in combination with each other to create required logic scenarios. The existing types of behaviors are categorised at present into functional types and uses as so.*

|                |   |  |
|----------------|---|--|
| <b>Animals</b> | - | <i>Scripts for use with animals/wildlife</i>                               |
| <b>Effects</b> | - | <i>Scripts for use in game effects</i>                                     |
| <b>Horror</b>  | - | <i>Scripts for use in horror style games</i>                               |
| <b>Huds</b>    | - | <i>Scripts for use in hud control</i>                                      |
| <b>Markers</b> | - | <i>Scripts for use with zones used in game</i>                             |
| <b>Objects</b> | - | <i>Scripts for use with your objects used in game</i>                      |
| <b>People</b>  | - | <i>Scripts for use with your characters used in game</i>                   |
| <b>Puzzle</b>  | - | <i>Scripts for use with puzzles/traps/obstacles for the player in game</i> |
| <b>Rpg</b>     | - | <i>Scripts for use with interaction with the player in game</i>            |

Behaviours are the fundamental artificial intelligence (A.I.) logic of a game. They dictate how objects behave within the game, determining when events such as sounds are triggered, and controlling various other in-game actions and events. You will find the Behavior section in the Object Tools list of an object section . If none is show then the objects attribute will have to change to be a 'dynamic' object. If a default behavior is attached, a pictorial icon showing the visual as to the existing behaviour (if any) of what this behaviour will do. Below the icon is a written description that details the behaviour. Double clicking on the pictorial it will allow you to select an alternative behavior if required.

Lights also use their own type of behaviors. Double clicking on the Light Behavior pictorial in the "Color Palatte" section it will allow you to select an alternative light behavior if required.

### Note on using behaviors

When attaching a behavior to an object, only dynamic objects can be used. To set an object from static to dynamic, just select *Physics On* or *Physics Off* in the mode drop down on the objects General Settings. There are a couple of differences between these two settings, but the primary difference is collision detection. Review the General panel to see the other settings that differ between them.

Access the Behavior panel to apply your selected behavior. Review the Behavior panel use information box as some notes on object settings may be shown. Most behaviors can be applied and activated directly; others are applied to objects which are then linked to trigger switches or zones for activation. Some behaviors are global in nature and applied to objects and run on their own effecting things globally in a game. Read the behavior use instructions carefully to understand how they are to be applied and used.

### Some common behavior settings

All behaviors settings are for that instance of the behavior only and do not share setting with other instances of the same behavior. Global behaviors in general usually only have one instance. In some behaviors you may see common options that are available and are used in the same way but are applied to that entities behavior only. Two common ones are:-

**Pickup Style** for example could be ranged for a walk over range pickup or accurate where you have to use the pointer to highlight the object for a more accurate selected pickup. Item highlighting also has some extended options below.

**Item Highlighting** for example is where you would set wether an object is highlighted either by shape shading using the *emissive color setting* or outline (*white only*) for when picking up. This would have to be set in each instance if being used this and allows for flexibility.



## Animal Behaviors



### Bird

Will animate and move this object as though a bird. (*preconfigured behavior*)



### Fish

Will animate and move this object as though a fish. (*Random Scale On/Off, Off will allow for special size scaled fish*)



### Mammal generic

Will animate and move this object as though a mammal. (*preconfigured behavior*)



### Flying Insect

Will animate and move this object as though a flying insect. The insect type eg: Butterfly, Bee, Wasp, Dragonfly sets the appropriate flying patterns and speeds. The Temperament setting can be Benign or Aggressive (if aggressive will attack if within range)



### Crawling Insect

Will animate and move this object as though a crawling insect. (*preconfigured behavior*)

## Effect Behaviors



### Ambience

When activated will change the light/ambience to the required settings or revert to the default. Add to an object then link to a switch or multi-trigger zone to activate/de-activate.



### Arcade Mode

This global behavior enables to create arcade mode gameplay. Attach to an object. Set AlwaysActive=ON. Set the Z move speed for the players forward auto-movement speed and the X movement range for the players lateral movement range. You can set the limit of the players horizontal and vertical view. You can set the option for allowing running, jumping and reversing for player movement limits. you can also turn on/off the players arms and weapon and the weapon fire effects. You can select to use a crosshair and the appropriate crosshair reticle image.



### Event Manager

This behavior enables the activation of timed delayed linked events. This behavior can be attached to any object and either logically linked to a switch or zone for activation or set activated. When activated can be set to trigger 0-9 numbered logic links in any order with timed interval delays. Additionally you can specify whether the triggering is timed or random. You can also select an IfUsed entity is activated after a set delay (*this could be used to chain another event manager for later events*).



### Emission Control

This behavior will adjust the emissive strength of the emissive texture or color value of a model object when activated by a switch or zone. Set the 'off' and 'on' emissive values plus the rgb colour values if required. You can also set the speed of the emissive 'off' change down and external activation logic.



### Fade in sound

Plays the audio file assigned to the sound slot at a volume based on the distance the player is away from the object. The sound will fade in between the minimum volume value set and the maximum volume value set and will be louder the closer the player gets the object.



### Fade out sound

Fades out the file assigned to the sound slot based on the distance the player is from the object. The sound will fade out between the minimum volume value set and the maximum volume value set and will be quieter the closer the player gets to the object.



### Fog

When activated will create incoming fog to the required settings or recede to the default fog setting in the fog panel. Add to an object then link to a switch or multi-trigger zone to activate/de-activate.



### Game Clock

This behavior provides a global game clock which is used by other behaviors that need it for in-game settings. It must be set to Always Active to function. You can choose to display the clock on the screen, adjust the text size, and position it using the X and Y screen positions, or have it operate invisibly in the background. The clock can be set to either 24 hour (i.e. 24:00) or 12 hour (i.e. am/pm) as needed. The following clocks global variables can be accessed:

`g_clock_seconds`

`g_clock_minutes`

`g_clock_hours`

`g_clock_althours`

`g_clock_timeofday`



## Effect Behaviors (continued)



### Game Monitor

Attach this behavior to an object and set Always Active ON. It will monitor a user created global for a value to trigger either Win Game or Lose Game.



### Glow

This behavior will cause a variation in the strength of any applied emissive texture on an object, ranging from the minimum value to the maximum value set. The rate of change can also be adjusted to control the effect, creating a subtle glowing appearance.



### Gibs

When attached to an object makes a global behavior that will randomly gib a weakened character in sight and in range when their health is low. Attach to an object and set Always Active=ON. For the gib objects (*some samples are provided in the GameGuru MAX\Files\entitybank\Max Collection\Misc\testmodels\gibs folder*), ensure all named gib objects are on the map (they will be hidden automatically) and set Physics=On, Gravity=ON, and Always Active=ON. You can also set how long the gibbs remain before cleanup and also set the cleanup style. You can set the global on for gibbs to be activated in the NPC controller if required



### Light Control

This behavior ramps the strength distance of a light up or down when activated by linking it to a zone or switch, or by utilizing range sensing to activate whenever the player is within range of the light. Additional settings can be used to adjust the distance the light reaches and for the speed at which the light expands across that distance. You can set the light mode to "Turn On/Off", "Minimum", "Keep On", "Change color" or "Overpower" when activated. Overpower will blow the bulb/light, and will also trigger another entity or zone if logic linked to the light. Also an option if your using the Day/Night behavior to auto turn on lights at night is available. You can set the RGB values for the color of the light desired. You can also set whether the light will flicker when it starts (similar to a neon light) or set to none. This behavior will adjust an emissive texture value if a model object (eg: a wall light) used as the light source if used in tandem with this behavior. In other words, entering the name of the entity being used as the light source and setting the emissive texture value to 0 will cause the emissive texture to change when the light is activated.



### Light Mover

This behavior allows a light to be attached to a moving object. Attach to a light and edit the settings. Enter the object entity name to attach the light to. If needed adjust the x, y, z position offset of the lights position relative to the attached object.



### Live Emitter

When attached to an object creates a global monitor for a Named Objects health and will enable to pulse its emissive texture and run any inbuilt of the objects named animation in a response to being hurt. You can set the pulse emissive strength, speed of change and speed of decay. You can also set the default idle animation name and the name of the pulse response animation.



### Loop 3D sound

This will loop the audio assigned to the sound slot at the volume based on the set range distance the player is away from the object. The sound will fade in between the minimum volume value and the maximum volume value. Ideal for running machinery/devices or any object that emits sound so you can hear them as you get closer and fade as you leave the area.



### Loop 3D sound Multiple

This will loop the audio assigned to the multiple five sound slots sound slot at the volume based on the set range distance the player is away from the object. The sound will fade in between the minimum volume value and the maximum volume value. Ideal for running machinery/devices or any object that emits sound so you can hear them as you get closer and fade as you leave the area.



### Particle Mover

This behavior allows a particle to be attached to a moving object. Attach to an object and set Always Active ON and edit the settings. Enter the unique particle entity name and the object name to attach it to. If needed adjust the x, y, z position offset of the particle position relative to the attached object. Optionally hide the object the particle is attached to.



### Pulsecontrol

This behavior modifies the emissive color or texture of an object when it is activated. If set to 'On' it will start when the game begins, otherwise it must be triggered. You can set the prompt for when activation occurs and select the processing mode to either Increase Emission, Decrease Emission or Pulse Emission. Other settings include the ability to change the level of the emission, the emission change speed, alternate r,g,b, color. Set a sound to play for activation and one for pulsing loop.



### Effect Behaviors (continued)



#### Random Sound

This zone behavior plays sound from one of up to four random audio resources assigned when the player enters the zone. The zone height refers to the vertical distance above the zone which is still triggerable by the player.



#### Remover

A global behavior that when attached to an object and is triggered by a switch or zone or any other trigger capable behavior will allow all entities (either NPC's or objects), with the designated Entity Name to be destroyed and removed from the game.



#### Save Point

Attach this behavior to an object, switch or zone to create a save point within the game. You can use an animated Object/Switch as the save point that resets for reuse after a short period, ideal for strategic save points in a game. If using a Zone as a save point, upon entering the zone the game is saved then the zone is destroyed this is similar to a checkpoint. In both instances a special "Save Point" is placed in the saved games list that is overwritten at every save point use, allowing for a progress style game. The Save Point saved game can be reloaded as any normal saved game.



#### Shake

This behavior will cause the player's camera to shake in different ways, either with a pre-set style or a custom one. The available preset styles include Tremble, Tremor, Earthquake, Explosion, Drunkard, and Manual. The Manual setting allows you to adjust the camera shake values of Trauma, Period, Fade, background Trauma, and Background Fade according to your preferences. The mode setting determines whether the shake effect occurs only once or continuously. Additionally, you can also add a sound effect to accompany the camera shake.



#### Skyflash

Will create a sky sheet lightning flash effect. Attach this behavior to an object and can be activated/deactivated by a switch, zone or any triggering behavior. You can set the Flash threshold, interval and delay to suit the effects requirements.



#### Timed Event

This behavior enables the activation of timed delayed linked events. It is useful, for example, if you want to delay an action until after you have passed a specific area and then trigger it upon your return. By linking multiple timed event behaviors, a wide range of applications can be achieved. This behavior can be attached to any object and logically linked to a switch or zone for activation. Additionally, you can specify the number of times an event will trigger and the delay between each trigger. The object to which the behavior is attached can be made visible or invisible as well.



#### Underwater

This behavior when attached to an object makes a global behavior to change the LUT to a selected LUT Group when the player goes underwater and returns the LUT to normal when exiting underwater. Attach to any object and set AlwaysActive = On.



#### Variable Light

This behavior when attached to a light will allow the strength of the light up or down to be adjusted live by a variable switch. Enter the name of the Variable Switch User Global to be used for the values from the selected Variable Switch.



#### Weather Event

This behavior when attached to an object allows to run a weather event when activated by a switch or zone to the settings designated at a required event pace and can activate/trigger linked entities or an IfUsed entity at a set event stage. Enter the required settings for the Clouds, Wind Speed, and Sun Exposure to change to and the pace for the event change. The Stages are related to each of the settings as they complete their cycle change, as these will vary in different scenarios, run this behavior with the diagnostic option on to see the stages the event is at a particular time, this will help you set the Trigger Stage to activate/trigger external entities (eg: rain or lightning etc). This behavior acts like a switch and will activate/trigger linked external entities at the required event stage such as *ape\_rain* and/or *skyflash* behaviors to emulate a rain/lightning storm for example. Use another *weather\_event* behavior to set the environment back to a different setting the same way. You can also use a user defined global text (eg: MyWeatherWarning) in the main hud for a weather warning if required that will show at the stage before the Activation/trigger stage of the event.



## Horror Behaviors



### Crawler

The Crawler behavior allows a character entity to walk/crawl, target a player or flag and climb a wall, or can ceiling jump or ceiling drop. (*ideal for spiders and crawling entities*). You can fade in a character entity when in zone or switched by control. Attach to a character and set Physics ON/OFF, Always active ON, then logic link to a switch or zone for activation. You can set how it appears, disappears, its target, its speed and climbing height plus some animations and model type.



### Jumpscare

Attached object will trigger a jump scare when activated by a trigger zone or switch. Set the number of Appearances and its time interval between and its random movement range from start position.



### Lurker

This behavior allows an entity or object to behave as a lurker, following or attacking the player character when not being looked at. You can attach it to any character or object entity and customize its behavior. The reaction text can be set for when the player character suddenly sees the lurker. You can also set the sense range, sense angle, and approach and rotation speeds of the entity. The mode can be set to either *Follow only*, *Attack in range*, *Watch Only*, *Move then Disappear*, *Move then Hide*, *Watch + Proximity Hide*. If in attack mode, you can set the attack delay and the amount of damage the entity will inflict. In addition, you can adjust the transparency of the entity to create a ghostly apparition effect or the emissiveness to make it glow. You can also set the amount of hide time and can assign audio files for sounds related to the entity's movement, lurking, and attacking.



### Phantom

This behavior causes an object or character to fade in and approach the player character when they enter a specific zone or when activated by a control switch. Attach it to an object and set it to "Always Active." Link the object to a switch or zone using logic. When the Phantom appears, the prompt text displays. Appearance mode options include 'Show-Fade/Disappear', 'Show-Approach', 'Show-Face-Approach', 'Show-Move-Fade/Disappear', and 'Character Move-Once-No Collision'. You can adjust the appearance transparency of the object or character, and the aura sets the emissive color glow. Adjust the speed of the appearance and the duration of time before it disappears. Disappearance mode can be set to either fade or disappear. If a character is used, you can set its 'idle animation name' and 'move animation name'. Additionally, the movement distance along the X and Z axes can be set for its movement range. You can assign sounds for both its appearance and movement.



### Rise and Fall

This behavior causes an object to rise and fall or be thrown randomly or at the player. Ideal for poltergeist type activity. Attach to an object and link to a zone or switch to activate.

## Hud Behaviors



### Active Hud

This allows to hide the in-game HUD at start and show only when the selected condition is met. You can select the condition eg: Home Key, Health Damage, Shooting, Gun Zoom for when the in-game HUD appears and set the show duration in seconds before hiding the hud again. You also have a condition called Scroll-Lock Toggle to toggle the in-game HUD on/off manually with the scroll lock key.



### Hot Key

This global behavior allows the creation of a hotkey and associated icon to activate a named resource (eg: a potion or powerup for example) and affect either health or a user global. Attach to an entity. Set to AlwaysActive = ON. You can set the inactive icon and activation icon and its position and scale. Icon is faded until resource is possessed in inventory. You can set the name of the resource and hot key to activate.



### Hud Control

This feature enables the player to enter a designated zone, which can either hide or show the in-game HUD (depending on the selection), and then destroy the zone. You can customize whether to hide or show the HUD, and also specify the text to be shown when the zone is activated. The zone height can be set to determine how far above the zone the player can be before it is not triggered. You can also choose to spawn the zone at the start of the game, or have it activated by another zone or switch.



### Hud Interface

This behavior will enable to use a hud screen as an interface for the attached object. You can set the use range and the Hud Screen to display. You can populate your hud control screen with buttons that can do certain tasks. Ensure your Hud Button names match the ones you put in this behavior and are set to "return id to lua". Hud Button actions available are Activate Logic Link 1 - 9, Play Audio, Destroy Object, Activate IfUsed and Exit Hud.



## Markers Behaviors



### Alert Zone

This behavior allows the player to enter a trigger zone that alerts nearby enemies within the selected range. Visual queues such as puddles, brush, and broken glass that make noise and alert nearby enemies can be used, if desired. Specify the prompt text to display when entering the zone, and set the alert range for enemies to hear the player. The zone can be set for single or multi-use mode, and you can also customize the zone height to determine how far above the zone the player can be before it is not triggered. You can choose to spawn the zone at the start of the game, or have it activated by another zone or switch. Finally, you can also set a sound to play when the player enters the zone.



### Ambience in Zone

This behavior allows you to create a zone that stops any currently playing ambience or background music/sounds in other zones that use the same script. When a player enters this zone, audio from a specified sound slot will begin to loop. If you set the "OnlyPlayInZone" option, the sound will stop playing when the player leaves the zone. You can also customize the zone height to determine how far above the zone the player can be before it is not triggered.



### Ambience once in Zone

This feature allows you to create a zone that stops any currently playing ambience or background music/sounds in other zones that use the same script. When a player enters this zone, audio from a specified sound slot will begin to play. You can customize the zone height to determine how far above the zone the player can be before it is not triggered. The audio will not repeat.



### Bounce

When a player enters this zone it will launch the player upwards at the specific height and forward at the velocity set in the behavior and will play audio specified in the sound slot.



### Checkpoint

This checkpoint behavior enables the player to save their progress in the game. When the player enters the checkpoint zone, their current progress is saved and if they die, they will respawn at this location. Once the checkpoint is used, it is destroyed.



### Constant Light

Attach this behavior to a light to cause it to remain on at all times.



### Collect Zone

When attached to a zone, if an object entity enters the zone will display a message and will remove/destroy the entity. A count using a value or weight can be used to be added or deducted from a user global variable. Logic links or IfUsed can also be triggered.



### Disarm Zone

When attached to a zone, will allow to disarm/remove all weapons player has when entering this zone.



### Drop Zone

When attached to a zone, allows the player to only receive a specified reduced percentage of fall damage when dropping/falling from within zone area and within its given height. If damage reduction is set at 101 then damage is 0.



### Electrocute

When attached to a trigger zone, will simulate electrocuting the player when they enter the zone. You can adjust a prompt text and the damage given. You can adjust the zone height for maximum distance above the zone that the player can be before it is not triggered. Also set whether the zone is spawned at the start of the level or activated by another zone or switch. A sound can also be set for the effect.



### Envirozone

When attached to a trigger zone, the player will be affected with the selected mode while in the zone. The selectable environment zone effects are: *Inhibited Walk/Run, Health Loss, Hurt, No Weapons, No Jumping, Sniper Hit, Alert Nearby Enemies, No Flashlight*. You can set the prompt text that displays when entering the zone and also can set the zone height which controls how far above the zone the player can be before the zone is not triggered. You can also set whether the zone is spawned at the start of the level or activated by another zone or switch.



## Markers Behaviors (continued)



### Fadezone

When attached to a trigger zone, this behavior provides the functionality for a fade out or fade in effect using a black image or any other image. After the fade effect, the player will be teleported to a specified destination, either a local map point or another level. If you choose the fade out option, it will smoothly transition to the selected image before initiating the teleportation. If you opt for the fade in option, the screen will gradually transition from a black or another chosen image to the game environment. For a seamless transition, it is recommended to use a combination of two fade zones: one with fade out and another with fade in. This technique allows for a smooth scene shift within the same level. If teleporting to a different level, the new level will load in without a fade effect.



### FlameLight

Attach this behavior to a light. This type of light will vary as though emitted from flame, with control over variance of intensity. Tick the Light On box if you want the light to be on when the game starts.



### Flasher

Attach this behavior to a light. This behavior flashes the light like a lightning flash. Ideal for lighting or just light flashing effects. Can be triggered by a set sense range or activated by a switch or zone. Specify how many flashes in the random flashing, the flash time and delay between the next set of flashes. You can set two sounds that can alternate randomly between for effects in time with the flashing.



### FlickerLight

Attach this behavior to a light. This type of light flickers the light as though supplied by a faulty electrical connection. Specify the fault variance in the electricity supply. Tick the Light On box if you want the light to be on when the game starts.



### FreezePlayer

When attached to a trigger zone, this behavior plays a selected sound and freezes the player. The player remains in a frozen state for the specified duration of the Freeze Time setting. The freeze time is in seconds and determines how long the player will stay immobilized before being able to move again. Two types of freeze styles can be used either Total Freeze for full immobilization or Partial Freeze for limited upper body movement. A View Angle limitation can be set for while in the Partial Freeze state.



### Get Weapon Zone

When attached to a trigger zone, this behavior will find the nearest weapon within the specified search range and give it to the player.



### Gravity Zone

When attached to a trigger zone will make it a gravity effected zone. Set the Gravity and Fall to suit. You may also set the Zone Height and set if it will Auto Gravity Lft and Trigger a specific option at a designated Trigger Height. You can also set whether the zone will Spawn At Start or be activated by another switch or zone.



### Global Affected Zone

When attached to a trigger zone allows for the increase or decrease of a set amount to a User Global over the specified time while in the zone. You can also affect the health loss/increase if selected. In addition, the zone can be set to be spawned at the start or activated by another zone or switch. (See also RPG Player State behavior)



### Heal

When attached to a zone, this behavior enables a healing effect for the player. Upon entering the zone, a selected sound will play, and the player's health will gradually regenerate over a specified duration. The healing amount and time can be set according to your preferences. The zone height can be set to determine at what height the zone stops being triggered. Additionally, you have the option to set the zone to spawn at the start of the level or activate it through another zone or switch during gameplay.



### Hostile Zone

When attached to a zone, this behavior enables a zone that is hostile and requires the player to be unarmed. If the player is unarmed they can safely pass enemy npc's. If the player is armed and within the hostile distance of an enemy they will be attacked.



### Hurt

By attaching this behavior to a zone, players will experience a selected sound and a gradual decrease in their health over time. You can also set to hurt once only then the zone is destroyed. The zone height can be customized to determine at what height the zone stops being triggered. In addition, the zone can be set to be spawned at the start or activated by another zone or switch.



### Hud Zone

When attached to a zone, this behavior will display the designated hud screen when entering this zone then destroy the zone.



## Markers Behaviors (*continued*)



### Imageinzone

When the player enters the zone, the image specified in the "image file" field is displayed on screen for the duration set. You can choose to enable the "Click To Exit" option so that the image stops displaying after a mouse click is detected. The image can be set to either full screen display or free float in your level. Additionally, you can activate another object specified in the "If Used" field found in the Developers panel, if needed. The zone also plays the selected sound upon entering, and you can set the zone height to determine how far above the zone the player can be before it is not triggered.



### Inactivezone

An inactive zone is a type of zone that starts unspawned and becomes activated when triggered. Once activated, all entities linked to the zone will be spawned or activated and the zone itself will be removed. For best effect, it is recommended to set any linked entities to hidden at the start of the level. The Inactive Zone can be triggered by another zone or switch. You can also set text to display a message when entering the zone and sound to be played when the zone is activated.



### Landing Zone

This behavior when attached to a zone monitors if an player/aircraft enters the zone. When an aircraft vehicle enters this zone a set sound will play and will activate the 'g\_LandingZone' variable to enable Auto-landing option in a capable vehicle behavior with that variable being checked allowing for an auto landing function. When activated will also activate any logic linked entities. You can set for the lowest sense level and for the highest sense level for the zone. Also whether it will spawn at start or be spawned from another entity/switch or zone. (*see Aircraft behavior for more information*)



### Level Zone

When the player enters this zone it will launch a designated level. This can be launched automatically or await a keystroke or display an image and await a keystroke before loading the designated level. Zone can be spawned at start or activated by switch. If using Spawn Markers for unique destinations then enter the Spawn Marker User Global name. If a Spawn Marker object with a *unique name* has been placed as the destination on the next loaded map and if there is a spawn locator zone under the start marker when the player starts on that map they will be instantly relocated to the *unique named* Spawn Marker's position and angle. A "Spawn Marker User Global" (eg:"MySpawnMarkers") is required for using spawn markers (*see Spawn Locator for more information*).



### LUT Zone

When the player enters this zone it will launch a designated LUT change. You can set the prompt text for when entering the zone if required. Set the LUT Name for the individual LUT or folder and name for a LUT group. (*use the LUT name without ".png" file extension*). Set the LUT Transition for either Instant, Fade for quick change of a single LUT or Incremental for slow transition from existing to a new LUT using multiple step lut files (numbered from 1 onwards). Set the number of incremental LUTS and the delay between. (*Intermediate LUTS can be generated with an external tool such as xLUT from Graphix*) Set the zoneheight and you can also set whether the zone is spawned at the start or activated by another zone or switch. The zone can be set to reset to previous LUT upon exit or also set to use once only then the zone is destroyed.



### Npc Remove

This behavior when attached to a zone monitors if an NPC enters the zone. When an npc enters the zone will remove and destroy the npc either instantly or faded out and display a set text message, plays a set sound and and can activate another linked object or zone, then destroys this zone.



### Npcinzone

This behavior when attached to a zone monitors if an NPC enters the zone. You can set it to check for an NPC of a specific allegiance type, either Enemy, Ally or Neutral, enters the zone, it will display a set text message, plays a set sound and and can activate another linked object or zone, then destroys this zone.



### Particle

Just displays the particle as seen in the editor.



### Plrinzone

This Re-triggerable zone is designed to activate events and is likely to be the most frequently used zone in your game. It can be used as is, or its default behavior can be replaced with another for use with a trigger zone. By default, it will play an assigned audio when the player enters the zone and activate any objects linked via logic links and any object named in the "If Used" field in the developers panel. The zone height can be set to control how far above the zone the player can be before it's triggered, and you can choose whether it's a single-use or multi-trigger zone. A trigger delay can also be set. You can also set whether the zone is spawned at the start or activated by another zone or switch.



## Markers Behaviors (*continued*)



### Readiness Zone

This behavior, when attached to a trigger zone, can arm or disarm the player upon entering the designated area. Its primary use case would be in preparing the player for combat as they approach a danger zone. Conversely, it could also be used to disarm the player when entering or leaving a specific area or if there is a need to disarm them for other reasons. Additionally, the zone height can be customized to determine how close the player needs to be to the trigger zone for it to be activated.



### Remover Zone

When this behavior is attached to a trigger zone, allows for when the player enters the zone, displays a notification and will remove/destroy any or all named entity/entities, activates any logic links, then destroys this zone. Removal can be instant or time delayed. You can also set the zone height to determine how far above the zone the player can be before it is not triggered. You can also set whether the zone is spawned at the start or activated by another zone or switch.



### RotateLight

Attach this behavior to a spotlight. Rotates the light around the Y axis at a specified speed set. You can also specify whether the rotation is clockwise or anticlockwise. The Light On state is used to select if the light is initially off or on.



### SendPulse

Will set 'g\_sendpulse\_live=1' when object animates frame 51 or over.



### Slip

Upon the player's entry into this zone, the zone will function as an icy or slippery surface, causing the player to slide at a set velocity. The player can reduce their speed by applying a specified counter force. Additionally, if a message is set, it will be displayed to the player while they are in the zone.



### Soundinzone

When a player enters this zone, it stops any ambient/background music/sounds currently playing in zones with the same script and starts playing audio from the assigned audio file in a loop. The zone can also activate an entity specified in the "If Used" field found in the Developers panel when entered.



### Soundrepeatingzone

Similar to Sound In Zone, except the audio for this zone will repeat while the player remains in the zone



### Spawn Locator

This behavior can be attached to a trigger zone to create a spawn locator in your game. It is designed to be placed underneath the Player Start Marker. If a Spawn Marker object with a unique name has been set as the destination from a teleport, winzone on a previous map then when the player starts on the map will be instantly relocated to the new Spawn Marker's position and angle. A text "Spawn Marker User Global" (eg:"MySpawnMarkers") is required for using spawn markers (*only one global is required*). Create the user global in the Players Hud screen and mark it as hidden is all that is needed. Spawn Marker objects can be added/placed anywhere on a map - just give them a unique name (*This unique name is used in the previous maps teleport, winzone or other behaviors that use Spawn Markers, as the spawn marker destination. A Spawn Marker object is supplied in the testmodels to use for a spawn marker placement, but you can use any object of your own choosing. Set Physics on, Always Active on and turn off Visible at Start.*) See also *Respawn\_InPlace* behavior.



### Stealthzone

This behavior can be attached to a trigger zone to create a stealth area in your game. When the player enters this zone, they will automatically enter Stealth mode and won't be detected by enemies within the zone, unless they come within a set discovery range of the player. A text message can be displayed when entering the zone. You can adjust the sense height above the zone before it can be triggered . Select an icon image for the stealthmode icon and its x,y screen position.



### StrobeLight

You can attach this behavior to a light to make it strobe. The light will oscillate between its minimum and maximum range at a specified speed setting. You can also set the initial state of the light to on/off.



## Markers Behaviors (*continued*)



### Teleport

This type of zone, known as a Teleport zone, can instantly transport the player to a linked local entity or to a designated level or storyboard level progression upon entering. The type of teleportation can be set to Instant or Delayed, with or without a countdown. The zone can be set as Single-use or Multi-use. You can opt to include a visual teleport effect and separate sounds for local or level teleports. The players teleport exit angle can also be set. Choose a small or flat object or flag to teleport to prevent the player from becoming stuck upon reappearing in the level. If teleporting to or from a level you can opt to reset the level states to their initial values. If using the RPG templates, you can also select the player's level to be able to use the teleport. An option sound can be set for entering the zone. If using Spawn Markers for unique inter-level destinations then enter the Spawn Marker User Global name. If a Spawn Marker object with a *unique name* has been placed as the destination on the next loaded map and if there is a spawn locator zone under the start marker when the player starts on that map they will be instantly relocated to the *unique named* Spawn Marker's position and angle. A "Spawn Marker User Global" (eg: "MySpawnMarkers") is required for using spawn markers (see *Spawn Locator* for more information).



### Textinzone

This behavior allows for a prompt text to be displayed on screen while the player is inside the zone. You can choose whether the text is displayed only once or every time the player enters the zone as well as the time for length of display and the text position. Also you can adjust the sense height above the zone before it can be triggered. The zone can also be set to spawn at the start of the game or be activated by another zone or switch.



### ToggleLight

This behavior toggles the light between the On and Off state when activated. Tick the Light On checkbox if you want the light to start out as on.



### Toxiczone

When attached to a trigger zone, the zone can be designated as a toxic area. Upon entering the zone, the player will experience health loss, unless they are wearing Personal Protection Equipment (PPE) such as a radiation suit or gas mask, which have their own behaviors to protect against damage in these zones. Two types of toxic zones are available: Radiation and Gas, each reducing health the set amounts. A user global can also be affected if required. You can choose whether the zone is toxic to NPCs as well. Sound can be set, including an optional pain sound when the player takes damage.



### Videoinzone

This behavior allows the player to view a video when within a specified zone. The video is played from the video slot that is set, and you can choose to either force the player to watch the entire video or allow them to skip it by clicking the mouse. Additionally, you can adjust the zone height, which controls how close the player must be to the zone before it is triggered.



### Watercontrol

This behavior, when attached to an object and linked to a switch or zone, enables the control of water height when triggered. The prompt text can be set to display a message when activated, and there is an option to raise or reduce the water level and by how much and an optional start level. If a multi-use zone is linked will raise/lower each entry into the zone. The speed of water level change can also be set, and a sound can optionally be played during the event. Optionally you can set to drown NPC's



### Winzone

This behavior creates a completion zone that triggers the designated sound and marks the level as complete when the player enters it. There is an optional developer notation for reference. You can choose if the zone is spawned at the start or activated by another zone or switch. The zone height can also be set how far above the zone the player can be before it is not triggered. Additionally, you can set an ending mode of "None, Image, Video, Video+Image" to display before loading the next map. You can specify a particular level or storyboard level progression to link the completion zone to. You also have the option to reset the level states if returning to a previous level. An optional sound can be set for when the player enters the zone. If using Spawn Markers for unique destinations then enter the Spawn Marker User Global name. If a Spawn Marker object with a *unique name* has been placed as the destination on the next loaded map and if there is a spawn locator zone under the start marker when the player starts on that map they will be instantly relocated to the *unique named* Spawn Marker's position and angle. A "Spawn Marker User Global" (eg: "MySpawnMarkers") is required for using spawn markers (see *Spawn Locator* for more information).



## Objects Behaviors



### Actionplate

Attaching this behavior to an object will enable it to function as a switch object, that the player can activate by stepping on them and can activate other entities or objects.



### Activation Sounder

Attaching this behavior to an object will enable it to play or loop a sound when this object is activated.



### Add FX

Attach to any object. Set Always active ON. It will add the selected effects in the behavior to the Named Object. You can select to have any or all of the effects eg: Hover, Spin or Glow. applied.



### Add Movement

Attach to any object. Set Always active ON. It will add the selected movement in the behavior to the Named Object. You can select the x,y,z movements, speed and delay.



### Affected

Attach to any object. Set Always active ON. When activated from a switch, zone or other behavior, player will be affected with the selected type either Drunk or Poisoned and the set time for the effect.



### Alarm

When attached and logic linked to a switch or zone will acts an alarm. Set the prompt and the length of time the alarm is sounded and set the distance enemies can hear the alarm and the alarm sound.



### Aircraft

Attaching this behavior to an object will enable it to function as controllable aircraft vehicle. Set Physics=ON, Collision to Polygon or None, and IsMobile=YES. You can set the aircraft type to Plane, Helicopter or VTOL (Vertical Take Off/ Landing) vehicle. Each fly in their own distinct way. Both the Helicopter and VTOL modes have Auto Landing function and detect and notify when flown over a set Landing Zone (*see Landing Zone in markers behaviors*). You can adjust the x,y,z position of the pilot to suit the object entity being used. Also you can set an animation (usually for propeller based vehicles) for the vehicle. Also set the vehicles speed and acceleration velocity, and the particle number of the take-off/landing particle effect.



### Airlock

This behavior is a switch object for activating a set of airlock doors. The two doors, each with a unique name such as "InnerDoor" and "OuterDoor," which you specify. Sliding doors are best for optimal functionality, and should be initially locked. The airlock can be configured Air or Water. If set to Air, activating the switch will initiate an airlock sequence, gradually decreasing the air pressure to the specified level. The player will experience health loss every 8 seconds, with the severity depending on the current air level. To re-pressurize the airlock, the switch needs to be activated again. If set to Water, activating the switch will raise the water level by the designated amount. When the airlock is re-pressurized, the water level will lower back to its original state. Other door types may be used, but they will only unlock and will not open automatically. You can set an optional delay for the pressurization and depressurization cycles. You can set sounds for the activation and processing of the airlock cycle. You can set to activate an IfUsed entity and/or a logic linked entity for end or start of the airlock cycle.



### Ammo

When this behavior is attached to an object, it functions as an ammo pickup for the player. Upon collection, the player will receive a specified quantity of ammunition. You can customize various aspects of the pickup, such as the prompt text, ammo quantity, pickup range, and pickup style (automatic or manual). You also have the option to modify the collection text and sound.



### Animated Object

When this behavior is attached to an object, allows to run a selected inbuilt animation of an object and set its speed and optionally set a Variable Switch User Global to have speed control in-game.



### Atlas Changer

When attached to an object, enables the object to dynamically change its texture using up to three atlas image textures. Each texture change can be customized with variable display times and loop delays. The texture changes can be activated through a trigger, switch, or set to always on, making it suitable for various applications such as a video sign. To configure the texture changes, you can specify the image file names and their corresponding display times. Set the rows/columns of the atlas images. You can adjust the emissive strength of the image and set a loop delay before the sequence restarts.



### Atlas Cycler

When this behavior is attached to an object, it enables one atlas image to be displayed in a repeating cycle or once only. Set to either always 'on', or 'off' if you want to activate it by a zone or switch.



### Auto Reload

Allows for the auto-reload of a weapon upon empty clip. Attach to an object set Always Active ON Set the Mode to On, Off or Ask. if set to Ask then set the start prompt (eg: Y or N for Weapon Auto-Reloading")



## Objects Behaviors (continued)



### Boat

This behavior allows an object to function as a boat. Apply the script to the desired object, ensure physics is enabled, and set it as immobile. Customize the boat's range, speed, turning, drag, player position, depth, power, braking, buoyance and sound effects.



### Border Maps

This is a global behavior to check when player is near the map edge will prompt to load the named next map. Attach to an object and set to AlwaysActive. Use the behavior diagram for map# for the borders and fill in the appropriate names of the maps to load (eg: MyMap2.fpm). This can give the impression of a really huge world map broken into segments. You can also select how far from map border edge to trigger the map change and whether its automatic or manual.



### Break Object

When this behavior is applied to an object, it allows the object to be destroyed or broken. This behavior works best with an object that has a break animation. Select a animation, and the fade delay for a destroyed object cleanup. Tick the Can Explode checkbox if it is an explodable entity. This is ideal for entities blocking a doorway for example. (see also the similar Break Open behavior)



### Buy Object

When this behavior is applied to an object, it acts as a switch to buy a linked object (*usually hidden at start*). You can set the text prompts and amount of cost and the User Global affected (eg: My Money). You can also set whether to delete this object after use.



### Carry Object

This global behavior enables any object to be carried. Place on an object and Set: Physics=ON, AlwaysActive= ON. Set the pickup message and the range for object pickup. Set the Maximum Pickup Weight between 0-99, 0 = No pickup. Only entities below a weight of 100 (default) can be carried. Adjust the weight in the developers panel. Set the Maximum Size (Width or Length). You can set the release and throw instruction text for the carried object. The player will be automatically disarmed upon pickup. To automatically re-arm the weapon, enable the "rearm weapon" option. An optional sound can be used for object pickup. The object carry height can be adjusted using the mouse wheel and rotation by pressing 'Z' while carrying. You can optionally test the settings with diagnostics.



### Change Texture

This behavior enables the attached object to change its texture when activated by another object, switch, or zone. You can specify the main texture and the alternate texture to switch between, along with their UV positional, offset, and scale values. Additionally, you can scroll a texture or for more complex animations, you can utilize an atlas animation by specifying the number of rows and columns in the atlas. You can also specify the Emissive values and an Emissive variance if required.



### Countdown

This behavior enables a countdown timer to count down to an end action. This can be used as a countdown to end of level or any countdown task in game. The end action can be set to either terminate the player or trigger/activate logic linked or IfUsed entities or Win or Lose the game. Attach the behavior to an object. Set Always Active ON. Then trigger from a zone or switch to commence the countdown. You can set the maximum time in minutes and elect to show/hide the timer display and its text. You can also set if a sound is played at the end of the countdown. You can also designate a User Global as a modifier for the timer,(eg: pick up objects to add time, using the global\_modifier behavior.) You can also set whether a pre-launch message is displayed before the countdown starts.



### Corpse Fader

When attached to an object allows a global behavior to fade entity corpses after a set delay and fade time. Attach to an object and set Always Active On.



### Decalshow

This behavior reveals a hidden decal object when activated by a trigger zone or switch. Attach the behavior to the decal object and configure its attributes. Link to a trigger zone or switch. The decal object will initially be hidden. You can customize the position (x, y, z) of the decal object and specify the duration for display. Particularly useful for displaying warning signs or introductory area messages.



### Destroy Object

When attached to any object allows it to monitor another Named Object to be destroyed when its health reaches zero or can be destroyed instantly when triggered by switch or zone. A message and a named particle can be used for an effect. You can also use a user global to add/deduct an amount when an object is destroyed which can be used via a global activator to in-turn activate other entities when that value is reached.



### Destructible

Attached object has destruction fragment limbs that can be used to destroy an object and can block navmesh. A sound can be set for when destroyed. Set IsImmobile to YES.



### Document

This behavior enables the pickup of a document and its display on the screen. When within range, a prompt text can be set to indicate the interaction. The screen position (x, y) and size can be adjusted to determine where and how the document is displayed. The document image file name can be specified to show the desired content of the document on the screen. While viewing, using the Mouse wheel will scroll the document image up or down and left and right mouse buttons will zoom in/out.

**Objects Behaviors (continued)****Door**

This behavior allows for the opening and closing of an animated door model when the player is within a specified range. When triggered, the door will open, accompanied by the sound assigned to sound slot 0, and collision will be disabled after a designated delay. When the door is closed, it will play the sound assigned to sound slot 1. You have the option to set the door as either locked or unlocked, with the ability to customize the locked door text. The behavior also includes an option to prevent the door from closing. Additionally, you can set the prompt text that appears when the door is open.

**Door Rotate**

This behavior allows for the rotation (opening and closing) of a non-animating door model when the player is within a specified range and interacts with it. You have the option to set the door as locked, requiring a key to open, or allow it to open with the E key. Customization options include setting the prompt text for opening the door, the locked text, and the close door text. The door can be set as either automatic or manual, and the activation range can be adjusted.

**Door Rotate Multi**

This behavior rotates (open and closes) a non-animating door model when the player is within the set range, and interacts with it if set to Manual door style, or activated by a zone or switch if set to Switch/Zone door style. You can change the open and close prompts and the rotation style to either left or right opening as well as the opening rotation speed. You can set the sound for opening it will play the in sound slot 0 and for closing in sound slot 1.

**Door Sliding**

This behavior enables the opening and closing of a sliding door based on the specified angle and distance. You can adjust the door's delay and speed period as desired. The unlocked and locked texts can be customized, and you have the option to set the door to be opened with a key. The door can be configured to automatically open, require manual interaction, or have a delayed closing mechanism. You can also define the door's activation range and set a close delay if needed. This type of door is particularly suitable for sci-fi style scenarios.

**Dynamite**

This behavior allows for the pickup and deployment of an explosive bomb device when applied to an object. Place the explosive object on the map for pickup and ensure that the "Explodable" option is enabled. Set the desired explosive value and adjust the pickup distance and prompt text accordingly. Specify the explosive name (e.g., Dynamite) and set the placement time, which determines how long it takes for the explosive to become primed for detonation. Additionally, you can set the delay from primed to detonation. The explosive type can be set to Manual, Timed, Remote or Switch detonation, with the option to define the player's safe distance for triggering the explosive in the case of Remote detonation. For Switch detonation a logic link to a switch is required. Adjust the enemies' hearing distance for the explosion and set the pickup sound and primed/armed sound as desired.

**Elevator**

When this behavior is applied, it creates a multi level platform entity such as a travel platform or an elevator, which facilitates the movement of the player. Set the name for this elevator and set the use text. Set the number of levels and the distance between each level and also the elevator speed. The elevator can be controlled by stepping on it and using the up/down option for single level movement or use the middle mouse wheel to select a direct level/floor number to go to and press middle mouse button to travel. You can set a sounds for elevator music, start, running and stop sounds for the elevator.

**Elevator Call Switch**

When this behavior is applied to a switch object allows for calling the elevator to the current designated switch level number. You can set the use range and prompt message, also the call message when activated. Set the level this switch is on and the identity name of the elevator. The trigger proximity setting allows for when the elevator called is within range to trigger any linked entities. Optionally, you can set a sound to accompany the activation.

**Face Object**

This behavior rotates the object to face nearest other object when within a set range.

**Fade Control**

This behavior enables the fading of an object's transparency when the player is within a designated zone or triggered by a control. Attach the behavior to the object you wish to fade and establish a logic link between a trigger zone or switch. Customize the prompt text. Select to either Increase Visibility or Decrease Visibility, and adjust the level of fade transparency and the speed of the fading effect. You can set a sound to accompany the activation of the effect. When the object's transparency reaches 0%, the object will be destroyed.

**Forcewall**

When this behavior is attached to an object, it enables it to act as a forcefield. You can change the settings to repel, hurt or kill and can trigger other linked entities when player collides.



## Objects Behaviors (continued)



### Fuse

When the player collects the attached object, they will receive a fuse. This fuse can be used to activate or switch other objects or zones, particularly in a disabled fuse box scenario. The behavior allows for setting a sound that plays upon picking up the fuse. (*also see Fusebox*)



### Fusebox

Once attached to an object will enable the functionality of a fuse box. The behavior allows for the insertion of a fuse, which in turn switches or activates other objects or zones. Customize the use range, the fuse insertion sound and switched on sound. Logic link the fuse box to the desired entity that you want to activate or add an entity name in the IfUsed field. When the player possesses a fuse and is within range of the fuse box, using the fuse box will insert the fuse, turn on the fuse box, and activate the linked object. (*also see Fuse*)



### Fuel

When the player collects the attached object, it will provide them with a fuel resource. You can specify the pickup range, prompt text and the amount of fuel that will be collected and a pickup sound can be set. The amount of fuel collected is saved in the 'g\_fuel' variable, which can be utilized by other objects or devices in a game that rely on this global variable. (*also see Generator*)



### Generator

Attach this behavior to an object to make it function as a switch for activating other objects or game elements. Set the "Always Active" option to ensure constant functionality. *The Fuel behavior* can be used with other objects to collect fuel for this device. Set the prompt text and the current status of the generator to either empty or full and if empty, set the amount of fuel required to activate the generator. Set the sound that plays when starting and while the generator is running.



### Glue Entity

When attached to an entity allows that entity to be logic linked (glued) to another moving entity. You can give up to 9 objects glued. Enter the name of the behavior (*usually lower case*) of the moving entity to be linked to. The first entity is logic linked to the moving object. Any subsequent entity is to be logic linked to the first glued entity to make them all move together in synchronization.



### Global Activator

The attached object when triggered allows for a User Global value to be an activator for other logic linked or IfUsed entities.



### Global Affected Object

When attached to an object allows for the increase or decrease of a User Global amount depending on the distance to the object over the specified time. You can also affect the health loss/increase if selected. In addition, the zone can be set to be spawned at the start or activated by another zone or switch. (*See also RPG Player State behavior*)



### Global Indicator

The attached object when set to Always Active will allow to show up to five set icons/images based on levels of set value in a global. This can be either monitoring Health global or a User Global.



### Global Modifier

The attached object when collected or triggered allows for a value to be added/deducted into a User Global that can be passed along via other behaviors for use/action.



### Global Monitor

When attached to an object allows for the increase or decrease of an amount of a User Global, once or incrementally over time when activated.



### Grow

Attach object will enable it to grow from a specified distance range or trigger zone. Ensure that the object's attributes are set to "Always Active" for continuous functionality, with physics enabled, gravity disabled, and immobility enabled. Set the prompt text that appears when the object is activated. Set the grow mode, either in all three XYZ dimensions or a specific (x, y, or z). Set the desired grow speed and scale for the object. Optionally add a sound to accompany the growth effect.



### Healthbar

This behavior will display a health bar (or text) above an enemy. To use this behavior, ensure that the health bar entity is somewhere within your level and that the healthbar behavior is attached to it. The entity will be hidden during game play. A targeted enemy within range of the player will display their health bar shown above and will turn red when their health is below the set value. You can set the health bar behavior to show either the bar or text for the health of an enemy.

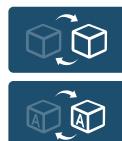


## Objects Behaviors (continued)



### Helmet

Attach this behavior to a helmet object to enable various functions when the helmet is worn. Set to "Always Active" for continuous functionality. Place the helmet object in your game map and attach the behavior. When the helmet is worn, all helmet functions become available, including Binoculars, Night Vision, and Compass. Customize the pickup prompt, range and usage text. The helmet can be set to be removable or if it is always on. Select the overlay HUD image to be displayed when the helmet is worn. You can also set the Nightvision settings and if the helmet can be protection against toxic zones.



### HideShow and HideShow Named

Attach this behavior to an object that you want to hide or show when activated from a trigger zone or switch. Ensure that the object's physics is set to either on or off, set IsMobile to yes, and logic link it to the trigger zone or switch. Customize the prompt text when the activation occurs. Set the object mode to either Hide or Show, depending on your desired use. If Show is selected, the object will be automatically hidden initially. Set a delay time before the object is hidden or shown. You can choose to play a specific sound when the object is activated. Hide Show Named allows for a named object to be the target of the hide/show effect if that object already has a behavior attached.



### Hidden

A global behavior that will hide all the same named objects in-game. Attach to an object Physics=ON. Objects get hidden at start of game, all objects to be hidden must be set Physics On, IsMobile ON (*ideal for hiding invisible boundaries in the map*).



### Hologram

Attach this behavior to an object will control a hologram. Logic link it to a zone or switch for activation. Place an object/character where you wish the displayed hologram to be. Enter the Name of the object object that you want to display as the hologram in the behavior field. If you want to include a holobeam for the hologram, add it and specify its name in the behavior field. Set the prompt text that will be displayed when the hologram is activated. Choose whether the hologram is static or will gradually grow to its full size. If the hologram has a holobeam, it will also grow to its full size. The switch mode allows you set the hologram to always displayed or can be switched on/off by another switch or zone or set on. Additionally, you can set a sound for the hologram activation.



### Hover

The attached object will hover on its Y axis by the amount of units set above the lower height point.



### Hurt NPC

A global behavior that will allow to hurt any NPC when within proximity range of a named entity



### Income Generator

When attached, will become an income generator for any User Global named in the User Global Field. It can generate timed income by range, manual pickup or automatically when activated.



### Invisible

When attached, hides the object from view during the game, the collision will still be active so you should turn physics off if collision is not needed.



### Invisibleprompt

When attached, hides the object from view during the game. The collision will still be active so you should turn physics off if not needed. A text prompt showing the "Name" from the object name field will be shown when the player is within a set range of the object.



### Jumpgate

When attached, this behavior creates a teleport jumpgate and can instantly transport the player to a linked local entity or to a designated level or storyboard level progression upon entering. The type of teleportation can be set to Instant or Delayed, with or without a countdown. The zone can be set as Single-use or Multi-use. You can opt to include a video effect and customize separate sounds for local and level teleports. If teleporting to or from a level you can opt to reset the level states to their initial values. You can also select the player level to be able to use the teleport.



### Killcount

When attached to an object and set Always Active On or triggered On will allow to set a User Global to collect the number of enemies killed per level. You can also select the Entity Allegiance, Type and optionally specify an Entity Name.



### Ladder

When attached, this behavior creates a ladder object that can be climbed. Ensure that the object has physics enabled, collision set to "box," and IsMobile enabled. You can enable or disable the use prompt and customize its text. You can set a mount key (default: 'E') and customize the mount text. Adjust the climbing speed, the grip adjustment for objects that may occasionally lose grip. You can climb while armed or automatically disarmed. When reaching the top of the ladder, an exit force can be applied to push the player away. Footstep climbing sound and exit sound can be applied.



## Objects Behaviors (continued)



### Leaderboard

When this global behavior is attached to an object will create a leaderboard of highest scores using designated UserGlobals for Current and Total point tally. Create a leaderboard HUD and populate it with five high score slot user globals (eg: `highscore1`, `highscore2` etc). In the behavior put in the name of the leaderboard Hud. You can elect to show the hud at game start if required or just use the bound HUD screen key. The total point tally global can be reset to 0 if required at start of a level.



### Life

When this behavior is attached to an object and collected by the player, it provides an extra life. You can choose between automatic or manual pickup styles, the collection text and activate any logic links or IfUsed link on pickup.



### Loop Way Point

This behavior allows the object to loop around the nearest waypoint path and play audio assigned to the specified sound slot. The volume of the audio is adjusted based on the player's maximum distance from the object. The volume ranges between the set minimum volume and the set maximum volume.



### LUT Changer

When an object with this behavior attached is activated via a switch or zone will enable a change of a LUT. Apply to a dynamic object. You can set the prompt text for when activated if required. Set the LUT Name for the individual LUT or folder and name for a LUT group. (*use the LUT name without ".png" file extension*). Set the LUT Transition for either Instant, Fade for quick change of a single LUT or Incremental for slow transition from existing to a new LUT using multiple step lut files (numbered from 1 onwards). Set the number of incremental LUTS and the delay between. (*Intermediate LUTS can be generated with an external tool such as xLUT from Graphix*)



### Mines

This behavior enables the pickup and deployment of an anti-personnel mine device. Attach this behavior to the object that represents the mine. Ensure that Physics, Always Active, and IsImmobile are turned on for the object. Set the object as Explodable and specify the explosive damage in the developer panel. Provide a name if required and set the pickup range and prompt text. Adjust the trigger detection distance. Edit the text displayed when placing and set the arming delay and the arming text. You have the option to harm the player if they are too close to the exploding mine. Set the sounds for collection and for the primed/armed state.



### Money

When this behavior is attached to an object and collected by the player, it provides a value to a user global for money. Additionally, you can specify the quantity added or deducted upon collection. The behavior allows you to choose between automatic or manual pickup styles.



### Moon

Attach this behavior to a moon object and if required enter a planet object name if you wish it to orbit. If the planet is moved the moon will follow its position. You can also set the orbit distance and speed.



### Mouse Switch

When attached to an object will be treated as a switch object for activating other objects or game elements. The switch can be activated with the set mouse button(s).



### Move Away

This behavior, when attached, pushes the object away from the player when the player moves within the set range distance of the object.



### Move Near

This behavior, when attached, pulls the object towards the player when the player moves within the set range distance of the object.



### Named Sounder

This is a global behavior that allows a named entity/object to be monitored for activation and will play or loop a set sound.



### Navblocker

A global behavior that makes a navmesh blocker for any named object(s) in-game. Any object(s) to be nav-blocked must be set dynamic eg: Physics ON, IsImmobile ON



### No Kill

This is a global behavior that will kill the player if a designated NPC allegiance type is killed by the player.



### NPC Alerter

This is a global behavior that allows a named NPC to act as an alerter to other NPC's when player is sighted and can also trigger event(s) or Lose or Win the game. Upon death of this NPC you can optionally set to trigger event(s), Lose or Win the game. Attach to an object set AlwaysActive=ON and attach any logic links to this object and/or use ActivateIfUsed field. You can set whether the alerter is active immediately or when activated by a switch or zone.



## Objects Behaviors (continued)



### NPC Flashlight

This behavior is used as a light behavior. Place a NPC on the map and give it a unique name eg: 'Tony1' Then place a spotlight nearby to the NPC and in the spotlight settings, select the NPC Flashlight behavior. You can set the flashlight range and the name of the NPC holding the flashlight eg: 'Tony1'. you can set the flashlight to either 'Hand', 'Shoulder', or 'Head' position (*not yet fully functional*).



### NPC Monitor

This is a global behavior that allows a named npc to be health monitored and trigger event(s) or Lose the game or alternatively Win the game, upon the death of the npc. Attach to an object set AlwaysActive=ON and attach any logic links to this object and/or use ActivateIfUsed field. You can also display the current heath of the monitored NPC. You can also set whether the monitor is active immediately or when activated by a switch or zone. Ideal for protecting an ally or defence mission and also good for boss levels where triggers or end game is required when the boss npc is killed.



### NPC Event

When attached this behavior allows an idle NPC to event animate or ragdoll instantly and be removed after a set time and can trigger another entity. Can be set to trigger by zone/switch or by range.



### Object Collider

The attached object will play sound and can activate logic link or IfUsed entity upon collision with the object or terrain.



### Object Randomiser

This behavior randomly scales and rotates the attached object, adding variety to each run of the game level. You can set the high and low ranges for rotation and scaling to get the desired effect. It's useful for creating landscape variation or adding diversity to objects like rocks or plants.



### Object Switch

When attached, this behavior allows any object to function as a one-time switch for activating other objects or game elements. The object should have Physics, Always Active, and IsImmobile turned on. Customize the prompt text that appears when the player is within the set range to interact with the switch. Choose the switch type from options like 'Push,' 'Pull,' 'Slide-Left,' 'Slide-Right,' 'Slide-Up,' 'Slide-Down,' 'Rotate X,' 'Rotate Y,' or 'Rotate Z.' You can also specify the switch movement distance. If desired, set any sounds to play when the switch is activated and when the movement is complete.



### One Way Door

When this behavior is attached, Rotates a non-animating door when player interacts with it. When door is opened, will close and lock permanently after a few seconds set delay or when manually closed. You can set the sound for when the door is opened and when the door is closed.



### Pipe Valve

The Pipevalve behaviour allows for a pipe valve/switch for activating other objects or zones. Set Always Active to on. Place the Pipevalve object where required and attach (if not already). Adjust the options in the behaviour for the prompt text, use range distance, and also set sounds for attaching , turning valve wheel and when valve is on/opened. Link the pipevalve with the logic connector to required entity to activate a linked or IfUsed entity. If in possession of the Valve Wheel and within range of the the Pipe Valve the Valve Wheel will auto attach. Pressing a key will then turn the valve wheel on and activate the linked object. (*See also Valve*)



### Valve

Part of the Pipe Valve Behavior. This object will give the player a valve wheel resource if collected. Place the valve wheel where required and attach the valve behavior and adjust its options in the behaviour. You can set the prompt text and the set range distance. If in possession of the Valve Wheel and within range of the the Pipe Valve the Valve Wheel will auto attach. (*See also Pipe Valve*)



### Planet

Allows for the assembly of a planet by using 3 spheres of the same size. One for the planet, one for the cloud layer and one for the atmosphere. A planetary ring object can be used if required. The behavior is attached to the planet sphere after positioning and scaling and all the settings for scaling, rotations for the other objects are available. Planets can also be pushed outside the play area for distance effect.



### Player Peek

This behaviour when added to an object allows for global use of peeking for the player. Add to an object and Set Always Active to on. You can set a instruction prompt if required and also set the amount of Left/Right and Up peek movement (*Up peek movement is only available if crouched or auto crouch is enabled.*) and also set the peeking speed. Set the Peek Style to either Toggle Key or Hold Middle Mouse Button. Set your Peek toggle key if using toggle to start peeking ability. The auto crouch forces a crouch mode when the peek ability is activated.



## Objects Behaviors (continued)



### Player Mode

This behaviour when added to an object allows for some player abilities to be turned on or off such as, Running, Jumping, Flashlight or Weapons within a game or level. Add to an object and link to a switch or zone to activate.



### Proximity Mine

This behavior is attached to a proximity mine object. A landmine that will detonate when a player or NPC is in range. The mine can be disabled with the E key when close. You can also set the proximity range and detonation time by either player or npc.



### Radio

When attached to an object it allows for it to be radio to be turned on/off and select 3 different radio channels. It can also be start on.



### Respawn Inplace

When attached to an object it allows for the player to be respawned at point of death. Use in conjunction with the Spawn Locator behavior. Place a spawn marker object wherever you want it. Give it a unique name (eg: *Player Respawn*) Set it to Not Show at start and set Always active on. Attach this behavior to an object and set to always on. In this behavior, type in the User Global name you created (eg: *MySpawnMarkers*) and type in the Spawn Marker Name you created (eg: *Player Respawn*). When the player dies it will appear at the normal player startmarker and be moved instantly to the new spawn marker destination.



### Searchlight

This behavior when attached will create a rotatable searchlight? Use a searchlight model and place a searchlight on a support or elsewhere (*Ensure the object health is above 100*). Set Static Mode = No, Physics = On, Explodable = Yes, IsMobile = Yes. Customise the prompt text for when an alarm is sounded. Set the searchlight detection range and scan radius. Set whether the detection mode triggers an alarm or not and the hearing range of the alarm by any enemy. You can set whether the searchlight is invisible or not and can set the sound for the searchlight sweep sound and alarm sound. It will activate other linked zones or entities when alarm is activated.



### Searchbeam

A Search Beam behavior is supplied for the searchlight beam if required. Place a spot light on the map near the searchlight model set its behavior in the color palette panel to Searchbeam and enter the name of the searchlight model into the Beam Object Name field, and set the Beam Range.



### Secret

When attached to an object can be activated by a switch or zone and can display a message (eg: Secret found) and increment a User Global by a set amount if required.



### Scenery

This behavior when attached to an object allows it to be used as scenery beyond the map play area. Collision and gravity is automatically turned off. Ideal for a city skyline or distant buildings or objects. Place an object on the map, attach behavior the and set its adjusted x,y,z settings to position it, you can also set its scale.



### Scroller Control

This behavior when attached creates an image scroller on an object. Attach to the required object. It can be activated by a zone or switch or set always on. You can set an image file for the scroll texture or if left blank will use the existing object texture. You can set its emissive values and the UV scroll amounts and direction. A gradual startup and stopping time can be set as well as the running time. A teleport can be enabled at the end of scrolling if required. A shudder/shake type can be enabled if required. You can set the sounds for Startup, Running and Stopping if required.



### Skysphere

This behavior when attached to an object allows it to be used as a sky sphere scenery object beyond the map play area. The skysphere object and can spin on a selected axis at the spin rate in designated direction. Ideally meant for changing to a night time sky. Place a spherical object on the map, attach behavior the and set its x,y,z size, spin and fading settings. Can also be used with the day/night cycle for effect.



### Security Camera (secamm)

This behavior when attached will create a rotatable security device? Place a security camera object on a support or elsewhere. Set Static Mode = No, Physics = On, Explodable = Yes, IsMobile = Yes. Customise the prompt text for when an alarm is sounded. Set the camera detection range and scan radius. Set the detection mode to trigger an alarm or not and the hearing range of the alarm by any enemy. Set whether the security camera is invisible or not and set the sound for the security camera sweep sound and alarm sound. When an alarm is activated, it can activate other linked zones or entities. Set also whether the camera is active at start or needs to be switched or triggered on/off.



## Objects Behaviors (continued)



### Security Monitor (*secmon*)

This behavior when attached will create a camera monitor. Place an object for the monitor in the map. Always active ON. You can set the whether the monitor is Static (as in a fixed screen on a desk) or Mobile (as in a monitor on a moving entity like a plane or ship). If set to Mobile then enter the name of the object Attached to. Set the activation text and usage text and range. The camera can have a hud either In-Built, Custom Image or a Hud Screen if one has been created (eg: Hud Screen 9). You can set the image file for the Custom Image (when using Custom Image mode). Set the Feed angle for the view point of the camera object. If you want to cycle viewpoints you can allow it to use the 'R' key. You can modify the height (Y) value of the feed if needed. Set the 'Name' of the security camera object. (*Tip: you can actually use any entity name such as a drone or zombie here for some unusual gameplay ideas*). You can also set a camera target such as a particular entity to follow with the entity name, if left blank will default to using the cameras default scan view, you can also adjust the (Z) value. Using the mouse wheel will control +-Zoom when viewing feed. Using the security monitor can also activate any linked entity or zone. Also set the sound for start/end activation sound if required.



### Sentry

This behavior is attached to any object to be used for a gun turret. If using the sample model; Place the Sentry gun base, if using it. Place the Sentry gun on the base or independent if not using it. Apply the behavior to the Sentry gun object. Place the Muzzle Flash object on the map in front of the gun muzzle, it will be hidden on startup. If you rename the Muzzle Flash object you must update the Behaviour to match. Open the Behaviour on the Sentry gun and modify settings and sounds to suit. You can change the prompt when alerted, the detection range as well as the scan radius and speed. Select if you want alarm nearby enemies and the alarm range. Change the damage inflicted to the player from the gun. Place the Muzzle Flash object Name, and its Y,Z offset to modify position. Select whether the Sentry gun is visible or invisible. Set the guns allegiance to your choice eg: Enemy will kill player, Ally will kill enemies and Neutral kills nothing. This can be changed in game by sneaking up behind it and hack (*change*) it when prompted. Set the sentry scan loop sound and sentry firing sound.



### Sense NPC

When attached, the object will be treated as a range sensor to detect whether a named npc is within the specified range and then activate any logic linked entities or IfUsed entity and then deactivate itself.



### Shrink

Attach object will enable it to shrink from a specified distance range or trigger zone. Ensure that the object's attributes are set to "Always Active" for continuous functionality, with physics enabled, gravity disabled, and immobility enabled. Set the prompt text that appears when the object is activated. Set the shrink mode, either in all three XYZ dimensions or a specific (x, y, or z). Set the desired shrink speed and scale for the object. Optionally add a sound to accompany the shrink effect.



### Sit

When attached to an object will allow the player to sit down on the object. Set the objects use range and prompt and whether to use a ranged or accurate selection of the object. If needed adjust the seated x,y,z position of the player and the seating speed as well as the standing position adjustment away from the object when standing up. You can also adjust the players horizontal and vertical view range while seated. You can also select where the prompt position will be and if the item will be highlighted.



### Sleep

When attached to an object will allow the player to sleep for a set period. Enter the prompt text, use text and select the prompt display position. When used the player will be asked for the time period to sleep. A User Global can be updated per hour also. If using the day/night behavior will alter the time of day accordingly.



### Sound Object

Will play a sound when interacted with and can activate Logic linked or IfUsed entities. Attach to an object, Set the prompt text and interaction range and the activation text. Set if the item will be highlighted. Also set if it will activate other linked or IfUsed entities. Set if it's a single or multi-use object. Set the sound to play when activated.



### Speeder

When this behavior is attached to an object allows for it to be a simple vehicle. Enter the required behavior options to suit.



### Spin

When this behavior is attached to an object will spin the object on its selected axis at the spin rate in clockwise or anticlockwise direction. Can also be live adjusted via a Variable Switch and User Global.



## Objects Behaviors (*continued*)



### Spinner

When attached to an object it can be triggered by a switch or zone and will spin the object on its selected axis. It will slowly accelerate to the maximum spin rate. It will also damage the player when within the damage range set and speed is over half of the maximum speed.



### Stop Watch

A time counter using a user global for display that when stopped can process an end action. Attach to an object. Set Always Active ON. Trigger the Start/Stop from a zone or switch. Create a Display User Global (eg: MyTime) on the Main Hud Screen or other Hud screen for the stop watch screen display. Set the End Action required when the stop watch is stopped. Options are None, Terminate Player, Hurt Player, Activate Entities, Lose Game, Win Game, Display Hud Screen). If required set the start launch warning before timer starts. And if using a Hud Screen place its name in the End Screen field.



### Swap

When attached the object will be treated as a global control for swapping other objects or elements. It must be activated by a linked switch or zone. Use an objects identity name. Set the name1 of the object(s) to swap out (hide). Set the name2 of the object(s) to swap to (show). Will re-swap if switch or zone is re-used. You can also set a sound for the swap if required.



### Swapper

When attached the object will be treated as activator for swapping other objects or elements. It is activated by a key. Use an objects identity name. Set the name1 of the object(s) to swap out (hide). Set the name2 of the object(s) to swap to (show). You can also set a sound for the swap if required.



### Switch

This object will be treated as a switch object for activating other objects or game elements. It will play the audio sound in sounds slot 0 when switched on, and sound slot 1 when switched off. Use the switched on state to decide if the switch is initially off or on, and customize the on and off . If using the RPG templates, you can also select the player's level to be able to use the switch. You can also set NPC Trigger On/Off for an npc to activate the switch when within the use range.



### Target

When this behavior is attached this object/entity allows a player entity to use it as a target for use in a target range scenarios or other uses such as a lock to be targeted and destroyed to open doors or activating other entities etc.



### Tele Switch

This object will be treated as a switch object to teleport to a linked object. Set the prompt when in set range of the switch and play audio sound in sound slot 0 when the object is switched on. Logic link to the teleport destination. If using the RPG templates, you can also select the player's level to be able to use the switch.



### Turret

When this behavior is attached this object/entity allows a player entity to use it as gun turret using a designated weapon. Attach to an object to be used as the gun turret placeholder. You can select the weapon to use and the ammo to supply. You can also limit the horizontal and vertical view range as well as using a optional crosshair.



### Vendor

When this behavior is attached this object allows a player to use it as a vending machine/dispenser of any designated object. The entity/object (eg: "bottle1") to be dispensed can be placed at the dispense mouth of the vending machine or elsewhere. This item itself can have a behavior attached (eg: health, stamina). You can set the prompt text and prompt range to use the object. You can set the amount of noise range that may alert enemies when in use. Set the vendor object animation if available and the maximum amount of vendored items and their lifespan before deletion (0=Eternal) . Enter the unique identity name of the item to be dispensed (eg: "bottle1"). You can also set the vending sound and empty sound as well as any required action to take when vendor is empty.



### Video Scene

When this behavior is attached to an object allows a set video clip to be played when activated by a switch or zone. You can choose to either force the player to watch the entire video or allow them to skip it by clicking the mouse with the AllowSkip option.



## Objects Behaviors (continued)



### Variable Switch

The attached object will be treated as a switch object to change the live value of a user global variable that can be used in a user variable capable object to effect speed or for changing the light strength or other use. Some behaviors that use a variable value are: Spin, Hover, Crusher, Conveyor, Variable\_Light. Create a unique User Global in the hud for use with this switch (eg: variable\_switch#1) then hide it from view, that User Global is the name to be used in other behaviors connected to that switch and supports the Variable Switch capability. Set that behaviors global to that same name. In this behavior options set the Prompt Text, and whether it is displayed locally near the object or on the screen, and set the use range. Set the Starting value for the connected object, set also the Minimum and Maximum value allowable to change the objects speed or light strength value.



### Win Switch

This object will be treated as a switch object to end the level. Edit the prompt text when in range and Play the audio sound in sound slot 0 when the object is switched on by the player. You can select to go to another level by Storyboard Logic or a Specific level choice after the switch is turned on. You also have the option to reset the level states if returning to a previous level. If using the RPG templates, you can also select the player's level to be able to use the switch.ct(s) to swap to (show). Will re-swap if switch or zone is re-used. You can also set a sound for the swap if required.



### Zipline

Allows the use of a zipline between 2 points either one way or two way and either Auto or Manual release. Apply this behavior to two connected zip line anchor objects with same name (eg: anchor 1). Set Physics=ON, IsImmobile=Yes and Always Active=ON. Place the zipline object anywhere on the map it will be automatically sized to fit and connect to the two anchor point objects. Set the zipline model name into the behaviors for the anchor points the default is "zipline". Set the prompt text to display when in range to access the zipline and set the zipline type either "High to Low Travel" or "Two Way Travel". (Do this for both zipline anchor points. Set the travel speed and whether it is auto release or manual release (*manual will also auto release if at end of zipline and release key has not been pressed*). You can also customise the zipline release text. You can also adjust the release distance from the end point. You can set the zipline anchor points to be visible or invisible. You can also set a loop sound for the zipline travel. You can have multiple ziplines in a level, just rename the anchor sets (eg: anchor2) and the zipline object (zipline2) for the other ziplines.



## People Behaviors



### Character Attack

When this behavior is attached to a character entity it controls how characters act as soldiers. If they are enemy soldiers, they will engage the player when they're within the set range distance. You can also have them following a path before they encounter the player to make them look like they are busy. Other options allow you to define if they can retreat when they are hurt or stand their ground, flank the player, have an altered phase before fully engaging and if the player can kill them with one head-shot. It's also possible to change the voice overs they shout out.



### Get Close And Speak

When this behavior is attached to a character entity, when the player is within view range distance of this character it will move towards the player. Once the character is within the set range distance, the audio assigned to SPEECH1 will play.



### Hostage Runs Away

When this behavior is attached to a character entity, the unarmed character is a bound hostage. Reach the character to unbind them, then they will run away and stop when they reach a set stop distance. The audio sound in sound slot 0 is for when they are hurt, and the audio sound in sound slot 1 when they are freed. You can set if they can be optionally be injured.



### Melee Attack

When this behavior is attached to a character entity it controls how characters act for melee combat, they will engage the player when they're within the set range distance. You can also have them following a path before engaging and if the player can kill them with one head-shot. It's also possible to change the voice overs they shout out.



### NPC Control

When this behavior is attached to a character entity it controls how characters can act in a different ways. Mainly this behavior is mainly meant for legacy animated creatures or non Max character creator character models but can be used with cc characters if required. *Refer to the NPC Controller guide for more information.*



### NPC In Cover

When this behavior is attached to a character entity they become character that will hide and pop out to shoot the player when within range. Set the character at the position required when shooting either behind a window/barrier for up/down or next to a wall to be used as cover. You can set the type of cover they will utilize and the appropriate animations of the character. You can also set the range they will be alerted by the player as well as the time spent exposed and shooting and hiding.



### Patrol

When this behavior is attached to a character entity the character will walk on patrol between marker flags if they are close by to where the character starts in the game.



### Patrol and speak

When this behavior is attached to a character entity the character will patrol using any flags nearby and when it reaches the end the sound file assigned will be played.



### Play Animation

When this behavior is attached to a character entity, when the player is within the set range, it will play a chosen action animation stored in the object, then loop a selected action animation. When further, it will play a chosen Idle action animation, then loop a chosen idle action animation using the default animations. It will also play the audio sound in sound slot 0 if triggered, and can optionally hold a selected melee weapon.



### Quest Giver

This behavior can be attached to a character, enabling the character to act as a quest/mission giver. When the player is within a specified range distance, a prompt text is displayed. Pressing the 'E' key allows the player to view the Quest HUD Screen with the quest information. You have the option to set the quest choice from a dropdown menu of pre-existing quests or leave it at 'none' to create a new quest. Additionally, you can set the character audio speech and a sound for when a quest is completed. *If using the Quest Giver behavior and creating a "Delivery" quest, leaving the "Receiver" at "none" in the Quest Settings Panel allows the Quest giver itself to be the "Receiver" if required. For more detailed information on quests/missions, you can refer to the Max Quest Guide. (see also Quest Poster in RPG behaviors)*



## People Behaviors (*continued*)



### Run Away If Hurt

When this behavior is attached to a character entity, when the character is hurt will run away and stop when they reach a set stop distance. They will play the audio sound in sound slot 0 when hurt.



### Stand and Speak

When this behavior is attached to a character entity, when the player is within the set range distance, the character will face the player and play the audio assigned in SPEECH1.



### Stand and Speak More

When this behavior is attached to a character entity, when the player is within the set range distance, the character will face the player and stand and speak with up to 4 SPEECH audio files. You can set the number of speaks and the volume and delay.



### Stand Idle

When this behavior is attached to a character entity the character remains idle, standing in the same location on the spot playing the idle animation.



### Sniper

When this behavior is attached to a character entity they become a sniper that will shoot when player is within range. You can set the snipers range and the delay between shots as well as the hit damage taken from a sniper bullet as well as the percentage chance of hitting the player. You can set the Idle, Aim, Shoot and Flinch animations of the character. Sound settings allow for Gunshot, Bullet miss and Bullet hit effects. You can also select the weapon the sniper will use.



### Trader

When this behavior is attached to a character entity the become a trader, traders are a character whom the player can interactively buy or sell items with when the player is within the set range distance and can show the trade prompt and when E is pressed, character will trade with display the trader screen using the shop container file play SPEECH1. You can also set the shop name.



### Walk Away

When this behavior is attached to a character entity, when the player is within the set range distance, this character will walk away from the player. The character will stop walking away when it reaches the the set stop distance away from the player.



### Wander Around

When this behavior is attached to a character entity, when the player is within the set range distance, the character will start wandering about. A range of zero will cause the character to start wandering from the moment the game starts.



### Zombie Attack

When this behavior is attached to a character entity controls an attacking Zombie with Zombie animations and can use melle weapons. It will engage in the set range, and will stop pursuit beyond the the set maximum range. The zombie starting speed can be selected randomly between minimum and maximum speeds. Sound effects are eating for audio sound in sound slot 0 , alerted in sound slot 1, attacking in sound slot 2 and dying in sound slot 3. You can start the zombie off in a Feeding state, and different types of Zombie chase modes such as Arms Out, Gammy Hand, Bad Back, Dash, Hunchback. You can also the recovery time when lunging and set the ability to hear sound within its set hearing and can be set to get winded and allow for headshots. You can also allow for brain feeding



## Puzzle Behaviors



### Arrowtrap

When this behavior is attached to the arrow object , the Arrow-trap will fire arrows when in range. Always Active ON. Physics OFF. When the player is within the set trap range distance the arrow object will fire at the set trap speed and causing the set damage to the player. You can set the trap for either a one shot or repeating type. Set the hit distance and trap reset distance. The audio sound in sound slot 0 is for the firing sound.



### Climber

Creates a climber object placeholder that can be resized, positioned and in game can be climbed. The climber object can be hidden allowing for placement on/around ropes, vines or pipes to make them climbable. Set the object Physics on, Collision to box and IsMobile on. You can set the use prompt on or off and/or edit its text. You can select to have a mount key 'E' and edit the mount text. You can change the climbing speed and if needed the grip adjustment for some objects that some object can sometimes lose grip. You can select whether to climb armed with a gun or auto disarm when climbing. Exit force is a push for when you leave the top of the climber.



### Code Switch

When this behavior is attached the object will be treated as a code switch object for activating doors or other objects or game elements. Set Always Active = On then logic link to required object(s) to activate. you can set the prompt text when set use range is reached and enter the switch code that is required to activate. You can position the code readout X, Y Screen position and spacing. Customise the Incorrect text and Correct text messages. You can set the code lock state to locked or unlocked. You can set a alarm after 3 failed attempts that will play for 15 seconds then reset. You can set the alarm range that nearby enemies can hear. You can set the sounds for entering the code and for the alarm.



### Collapsing Floor

When this behavior is attached the object will be treated as a collapsible floor tile or section object that can collapse when walked on. Set the Physics to on, Gravity to on. You can set the prompt text for when the floor collapses and whether the floor section gravity collapses or it just fades away. Also you can set the range and time for the collapse and whether the player damage is immediate or from natural falling and its damage commencement height. You can also set the collision scale of the floor section.



### Collection Control (*configuration behavior for a collection count*)

This is a global behavior, attached it to an object and set the conditions for the collection count of items in a Collection Count. You can set the number of objectives and the overall collection time and set the on completion and on failure actions. You can also set the screen position of the active count display.



### Collection Count

When this behavior is attached it identifies the object as a collectible used in the collection count. When an object with this behavior is collected, the audio assigned to sound slot 0 will play. You can set the pickup range and also if the object will have a time, health, or global bonus/penalty. You can set the name of your User Global for the global bonus/penalties to apply, for example 'MyMoney' or 'MyPoints'.

### Conveyor

When this behavior is attached it creates a conveyor object to propel the player in the conveyor direction when stepped on? It could be used as a conveyor belt or travel slope. You can use the supplied model or use your own. You can adjust the conveyor movement speed and turn on/off its visibility. You can also set the conveyor audio sound assigned to sound slot 0. The use of a Variable Switch can also be used to change the conveyor speed in-game.



### Crusher

When this behavior is attached it creates a crusher object to crush player when underneath the object. Set the Physics to ON, Gravity to OFF, Weight & Friction to 0 and IsMobile to ON. You can change the trigger range and the crusher's move speed as well as the damage range and damage amount. You can also set the crusher loop audio sound assigned to sound slot 0 and the crush sound in sound slot 1.



### Hack

When this behavior is attached it creates a hackable object. It will enable player to hack and activate a Logic Linked or Activate IfUsed Entity, If successful. You can set the amount of failed attempts before an alarm sounds before resetting the object. You can also use a user global to add an amount to for a successful hack that can be used via a global activator to in-turn activate other entities when that value is reached, this allows for successful hacking of multiple objects to open a door for example.



### Kill Switch

The Kill Switch behaviour allows for an area kill event that when all enemies have been killed will then activate another object or entity. Attach this behaviour to an object. Link to be activated by switch or zone. Link also to any other object you want to be activated at the completion of the event. You can set the event text when triggered and the enemy range. You can set whether the enemy counter is on or off and its readout text as well as the event end text and end text display duration. You can also set an event start sound in sound slot 0 and end event sound in sound slot 1.



## Puzzle Behaviors (*continued*)



### Image Panel

When this behavior is attached it to an object it creates an image panel display when activated from with a linked trigger zone a switch or a ranged object used as a useable switch. The Image panel behaviour allows for an image for possibly a panel or even bigger for full screen effects to be displayed with 8 overlays that can be timed for showing.

Images are stored in the IMAGE\_BASE folder of your naming eg: "imagebank\\user\\imagepanel\\\" plus the IMAGE\_SET sub folder of your naming eg: "set1". In this example your directory folder structure would be "imagebank\\user\\imagepanel\\set1" that would contain the images for set 1, the files in these subdirectories must be named as follows.

|              |                                |              |                           |
|--------------|--------------------------------|--------------|---------------------------|
| panel.png    | <i>is the main panel image</i> | overlay5.png | <i>is overlay image 5</i> |
| overlay1.png | <i>is overlay image 1</i>      | overlay6.png | <i>is overlay image 6</i> |
| overlay2.png | <i>is overlay image 2</i>      | overlay7.png | <i>is overlay image 7</i> |
| overlay3.png | <i>is overlay image 3</i>      | overlay8.png | <i>is overlay image 8</i> |
| overlay4.png | <i>is overlay image 4</i>      |              |                           |

You can set the range if any or set to 0 if using a trigger zone or switch. Modify the prompt text if required and set the X and Y screen position and scale for the panel and overlays. You can also set the aspect ration to suit. Set how many overlays will be displayed and the time between each display and a final display delay after the final overlay has been displayed. You can also set wether the image panel is reviewable (*only for switches and ranged object switches only*).



### Message

When this behavior is attached to an object and linked to a zone or switch will display a Message on screen when triggered. Ideal for mission briefings or area warnings or storyline use. You can set up to 5 lines of message text and the X and Y screen position for the message. You can also set the message colour to either white, green, blue, yellow, orange or red as well as the text size and style. You can set the number of lines shown and the speed of letter and line display as well as complete display time. You also have the option to lock the player while the message is being displayed. The text typing sound can be set in sound slot 0.



### Mouse control

When this behavior is attached to an object and set to Always Active on, is a global effect for the mouse display and control of game actions in gameplay. It will activate a central screen pointer that you can set to the type you require. You can also set the mouse button action and adjust the range to object activation and timer for mouse click operation.



### Platform

When this behavior is applied, it creates a platform entity such as a travel platform or a lift, which facilitates the movement of the player. Configure the physics settings of the object by enabling physics, disabling gravity, setting weight and friction to 0, and activating immobility. You have the flexibility to personalize the platform's description and choose the directions (X, Y, Z) for travel. Additionally, you can specify the distance and speed of movement along each axis (X, Y, Z). It is possible to fix the position of specific axes (X, Y, Z) and restrict the rotation of the object's orientation along those axes. You can determine whether the player is automatically pushed off the platform after reaching the destination, adjust the object's visibility, and decide whether the rider remains fixed or is allowed to move on the platform. The platform can operate in either manual or automatic mode. Sound effects associated include 'starting' (sound slot 0), 'running' (sound slot 1), and 'stopping' (sound slot 2).



### Proximity Sensor

When this behavior is attached it will be a range proximity sense detector for activating other objects or game elements when the player and/or npc of selected type is within range. Set Always Active to On. You can set the sensor's range and sense text as required as well as the option to sense the player and/or NPC's of various types. Will trigger linked or IfUsed entities when triggered. Can also be set to deal an action such as apply damage or self destruct (will explode if set).



### Range Sensor

When this behavior is attached it will be a range sense detector for activating other objects or game elements when the player is within range. Set Always Active to On. You can set the sensor's range and sense text as required as well as the trigger mode to either logic trigger linked and/or IfUsed entities or play a video and end level and go to a chosen level.



### Ring Counter

When this behavior is attached to an object such as a ring or arperature object, allows for a target ring to move through and add/deduct a value to a user global as well as player health and a vehicles health (if any) . You can also set the emissive effects and rotation speed and direction of the arperature object. You can also elect to set it to either win game, lose game or trigger a linked or IfUsed Entity.



## Puzzle Behaviors (continued)



### Rockfall

When this behavior is applied to an object shaped like a rock, it enables its usage in a rockfall or landslide scenario triggered either by range or a trigger zone. Ensure that "Always Active" is turned on. Configure the physics settings by enabling physics and gravity and set the collision to a suitable shape. Set the prompt displayed when the behavior is activated and specify the activation range. Determine the duration of the rockfall event and amount of damage a player could receive if hit by the rock, including the hit radius. Set the initial height of the rock and choose whether to include ground shaking effects. There is an option to hide or show the rock during the event. You can assign a specific sound for the rockfall event. After configuring the settings, duplicate and scale the rock several times and position them around to create a landslide or rockfall effect.



### Search Object

When this behavior is applied to an object, it enables the player to search for items within that object. The search operation can yield various contents, including Ammo, Health, Nothing, or a Named Item. The Named Item can be a valid entity name place the entity on or near the searchable object it will be automatically hidden on start appear when the search is completed. You can provide prompt text when the player is within range of the object and specify the quantity of items that can be found (*ignored for Named Item*). Set the text displayed during the search process and the resulting text. You can set the range at which the noise generated by the search can alert nearby enemies, and decide whether to trigger other linked entities or zones upon completing the search. You can set the use range and where prompts are displayed and also the search bar image. Sound effects can be assigned for the searching action and for discovering an item.



### Slider

This behavior will slide an object in 90 degree directions. This is ideal for dungeon crawler or grid style games or for moving wall panels or floor panels. It can be activated manually by player or zone/switch. Attach to an object and set Physics=ON, IsMobile=ON. It can be set to "open/close", "lock open" or "continuous". Set the direction for movement as well as the amount, speed and close delay. A set damage value can also be received if the slider speed is set to 5 or higher and the player is within range.



### Spike Trap

When this behavior is applied to a spike object, it can function as a spike trap. A sample model is provided for your use. To set up the trap, place it on the floor or wall within the game map and attach the behavior. You can specify the range at which the trap activates when the player or npc is within proximity, as well as set a delay before the trap is triggered. The amount of damage inflicted can be configured (setting it to 0 will result in death). Also set for either single-use only or multiple uses with a defined reset time and speed setting. You can set whether to hurt NPC's and/or the Player. You can also set the activation sound and reset sound.



### Switch Count

When this behavior is applied to a switch, it enables the switch to be included as part of a required count of switches that need to be activated to complete a task. The completion of this task can trigger either a level completion or the activation of another object or entity specified in the "ActivateIfUsed" field in the developer's panel. You can set the desired number of switches that need to be activated for the task, and also specify whether the initial state of the switch should be on or off. You can customize the prompt text and define the range at which the switch can be used. A switch count can be displayed for a specific duration of time once the switch is activated. Sound to play when each switch is activated, as well as when the switch count is completed.



### Switch Combo

When this behavior is applied to a switch, it enables the switch to be included as part of a required group of switches that need to be activated to complete a task. The completion of this task can trigger an entity specified in the activate" IfUsed" field in the developer's panel and/or logic linked entities. You can set the desired value of each switch to a desired value however to activate the completion mode they must add up exactly to 100. Setting Defer Links off will stop activating logic linked entities until the final completion value is reached and will activate logic linked entities at the same time as the activate "IfUsed" entity. You can also set the trigger point value (defer links value) for a the value a linked entity will activate. It will play the audio sound in sound slot 0 when the object is switched on by the player, and the audio sound in sound slot 1 when the object is switched off. Use the switched on state to decide if the switch is initially off or on, and customize the on and off text. If using the RPG templates, you can also select the player's level to be able to use the switch.



## Puzzle Behaviors (continued)



### Switch Sequence

When this behavior is applied to a switch, it enables the switch to be part of a switch sequence to activate an 'IfUsed' object or game element. Enter the Number of switches in the sequence group 1 to 5 this must be the same in all the switches in that group. Enter the switch number for the switch. Enter the time before the switch resets. Enter the Use range and Prompt. Optionally select if the switch is highlighted with outline or shape. Select a sound for the switch and for the correct completed sound. Each switch can activate logic linked entities if required. Switches must be activated in the correct order to complete the sequence before the If Used entity is activated.



### Switch Timed

This object will be treated as a switch object for activating other objects or game elements and will reset after a time delay. It will play the audio sound in slot 0 when switched on or off. Set the range to be able to use the switch and any prompt text. Set the delay for the switch to auto reset.



### Task Object

When this behavior is applied to an object or switch, it enables the activation of other linked objects or game elements based on specific conditions being met. The conditions can include the presence of a selected tool or a named object. Ensure "Always Active" is on. Set the task text to provide instructions about the task, set the use range within which the object or switch can be interacted with. Specify the required tool, select a preset tool: Crowbar, Screwdriver, Spanner, Cutter, or a Named Tool. If using a Named Tool, enter the specific name of the tool required. Define the use text and the task completion text that is displayed. Set whether the Task Object is visible or hidden. You can find the required tool either through searching for it in an object with a "search object" behavior or using a "task tool" behavior. The Task Object cannot be operated until the Task Tool is acquired. Once in possession of the Task Tool using the Task Object will activate the linked object or entity as intended.



### Task Tool

When this behavior is attached allows for that object to act as a required Task Tool to activate the Task Object. You can set the prompt text for pickup and the range. You can also set to auto pickup if required. Select from the preset tool types or Named Tool and put in the name of the Named Tool if being used. You can set a sound for pickup.



### Trapdoor

When this behavior is applied to an animated door object, it enables it to function as a trap door. You have the option to use the supplied door object or utilize your own door models. If needed, you can apply a floor texture to camouflage or disguise the trap doors. When the player is within the specified range, the trap door opens after a designated delay and plays the audio in sound slot 0. Subsequently, the trap door will close after a set closing delay and play the audio from sound slot 1. Additionally, you can adjust the visibility or invisibility of the trap doors according to your preferences.



### Trapdoor Rotate

When this behavior is applied to a non animated door object, it enables it to function as a trap door. This behavior can be applied to existing doors, even if they are rotated. If needed, you can apply a floor texture to camouflage or disguise the trap doors. When the player is detected on the door, the trap door opens and plays the audio in sound slot 0. The trap door will close after a set closing delay and play the audio from sound slot 1. The visibility/invisibility of the trap doors can also be set.



### Weight Switch

When this behavior is applied, it creates a weight-activated switch object that can be used to activate other objects or game elements. Configure the switch object with the following settings: Physics = ON, Collision = BOX, IsImmobile = ON. If necessary, you can make the switch object invisible using the AlphaClipping setting. Specify the activation text that will be displayed when the switch is triggered, and set the weight required for activation. You also have the option to include the player's weight as part of the overall weight requirement. You can determine the actual physical movement of the switch when the weight requirement is met, allowing it to visibly respond to the activation. Additionally, you can assign a sound that will play when the switch is activated.



### Puzzle Behaviors (*continued*)



#### Win Kill

When this behavior is applied to an object and the "Always Active" setting is turned on, it creates a count of all enemies required to complete the level. You have the option to enable or disable the enemy counter, and customize the text displayed by the counter and at the end of the event. Furthermore, you can set a sound to be played when the event ends, indicating the completion of the enemy count. Additionally, you can specify whether the game should proceed to the next Storyboard Level or a specific level upon reaching the end of the event. You also have the option to reset the level states if returning to a previous level.



#### Win Object

When this behavior is applied to an object, it designates the object as a switch that can be used to end the level. Attach this behavior to any object that needs to be picked up in order to complete the level and ensure that the "Always Active" setting is turned on. Customize the prompt text that appears when the player is within range, as well as the usage text that is displayed after the object is picked up. You can set the sound that plays when the object is picked up, as well as the sound when the object is switched on. You can also specify whether the game should progress to the next Storyboard Level or a specific level when the object is switched on. You also have the option to reset the level states if returning to a previous level.



## RPG Behaviors



### Area Damage Spell

When this behavior is applied to an object, it allows the object to function as a spell weapon. Once collected, it can be cast as an Area Damage effect, causing damage to anything within a specific area surrounding the player. You can customize the prompt text that appears when the player is within a designated range of the object. Additionally, you can define the usage text that is displayed when the spell is cast. The behavior utilizes a global variable called "effected" (*typically named "MyMana"*) to track the resource used for casting the spell. Set the Mana usage cost for the spell, determining the amount of resource consumed when the spell is cast. Specify the cast damage, which represents the amount of damage inflicted by the spell, and the cast radius, which determines the area around the player that is affected by the spell. You can also select the player's level to be able to use the spell. If desired, you can assign particle names to create visual effects for the spell. Furthermore, you have the option to set sounds for both a successful casting effect and an unsuccessful casting effect.



### Armour

When this behavior is applied to an object, it allows the object to provide an armor boost or deduction to the player when used. You can customize the prompt text that appears when the player is within a specified range, indicating that the object can be picked up. Additionally, you can set the collectible text if the item is collectible. Define the usage text that is displayed when the player interacts with the object. Set the quantity of armor to be granted or deducted when the object is used. You can also configure the pickup style, determining whether it is automatic or manual. In automatic pickup, the armor boost or deduction is applied as soon as the player comes in contact with the object. In manual pickup, the player needs to explicitly interact with the object to receive the armor effect. Specify whether the picked up item should add to or deduct from the armor value. The behavior utilizes a global variable called "effected" (*typically named "MyArmour"*) to track the player's armor level.



### Battery

When this behavior is applied to an object, it allows the object to provide an energy resource to the player when collected. Customize the prompt text that appears when the player is within a specified range, indicating that the object can be picked up. Define the energy level for the battery, determining the amount of energy it provides when collected. The collected energy level is saved in the 'g\_energy' variable, which can be utilized in other scripts or for powering various battery-powered devices such as flashlights, cars, or any other relevant in-game objects. You also have the option to set a sound that plays when the object is collected by the player, adding an audio cue to enhance the player's experience. A User Global Affected (eg:*MyBatteryEnergy*) is used to keep track of battery energy.



### Binoculars

When this behavior is applied to an object, it enables the object to function as a binocular device in the game. Upon picking up the object, the player will be equipped with functional binoculars that have zoom capability. Ensure that the object's "Always Active" setting is turned on. You can customize the pickup text that appears when the player is within a certain range of the object, indicating that the binoculars can be collected. Additionally, set the range distance at which the pickup prompt becomes available. Specify the usage information text that is displayed to the player after picking up the binoculars, providing instructions or details on how to use them effectively. Define the minimum and maximum zoom levels available with the binoculars, as well as the zoom speed that determines how quickly the zoom level changes. You can also set a binocular screen overlay, which adds a visual effect to simulate the binocular view.



### Bottled Item

When this behavior is attached allows for that object to give the player a health boost or loss if consumed. Set the pickup text and range distance and the bottled contents effect and the quantity value of the contents to add or reduce on the player. Set the text for consumption. If a poison set the poisoning effect on or off. This behavior can also update a set global variable of your choice (eg: *MyThirstLevel*). You can set to play a sound for a drinking and poisoning.



### Break Open

When this behavior is applied to an object, it allows the object to be destroyed or broken open and an item will be given to the player. Best used with an object that has a break animation. Set the prompt text that appears when the player is within the use range of the object. Specify the contents of the object, which can be Ammo, Health, a Named Item, Nothing, or Random. If you choose the Named Item option, you can name an Entity Name for the item to be spawned when the container is destroyed/broken open. Set the quantity value for the contents (*if Named Item, quantity is only 1*). If you choose the Random Item option you can enter names separated by a comma for the random entity choice and the random quantity range. (*Entities must exist in the world and must be set to collectable and resource if quantity is more than 1, they may be hidden at start if required*). You can set the noise range value, which determines the range at which nearby enemies can be alerted by the breaking of the object. Set the animation for the breaking of the object. You can set an open trigger to activate another entity, object, or zone when the object is broken open. Set an optional collection text that will be displayed. After a set delay, the broken object itself will fade and be destroyed.



## RPG Behaviors (continued)



### Campfire

This behavior enables the attached object to be stowed and deployed as a camp fire. It can also give a value to be added/deducted by range to a user global (such as *MyBodyTemp* for example) and set the heat range. You can set the name of a required entity resource to fuel the campfire, it must be a collectable item plus you can set the burn life in seconds of that used resource before replenishment is needed. A particle and light source can also be used for use with the campfire for when its lit.



### Chest

When this behavior is attached to an object, it allows the object to function as a storage chest for items. When a player interacts with the chest, it will activate a designated HUD screen and data container, facilitating the transfer of items between the chest and the player's inventory. For more detailed information on using chests in the HUD, refer to the HUD Guide. Customize the prompt text that appears when the player is within the specified distance from the chest, indicating that interaction is possible. Set the Chest HUD screen to be displayed using the designated data container. By default, the data container is named "*chestunique*" automatically allowing for a unique container for every chest, but you can modify the name if you want to use a common chest throughout your levels or game. For example, you can change the name to "*chestplayer*" and use that name in other chests. You have the option to set an opening and closing sound for the chest, providing audio feedback to enhance the player's interaction with the chest.



### Chest Portable

When this behavior is attached to an object, it allows the object to function as a portable storage chest for items. When the player is within the designated usage range, a prompt text will be displayed, indicating that the portable chest can be collected. Once in possession pressing the set use key will open the chest HUD screen, utilizing the specified chest data container. This HUD screen provides the interface for interacting with the chest, where players can access stored items and their inventory. For more detailed information and guidance on how to use the chest HUD screen refer to the HUD guide.



### Clone Entity

When this behavior is applied to an object and linked to a trigger zone or switch for activation, it enables the cloning of an existing Named Entity in the game. Specify the clone quantity, which determines how many copies of the entity will be created. Set the random clone spawn range from the original entity, which determines the distance within which the clones will be randomly placed around the original entity's position. Set the clones health to be cloned or randomised. Define the clones' lifespan, determining how long they will exist in the game world before being automatically removed. Select if you wish to have a respawn cycle after all clones are dead or lifespan is reached. Set the number of respawn events and the interval in seconds before respawn. Lastly, provide the name of the entity that you want to clone.



### Collect Object

When this behavior is attached to an object, it enables the object to be collected and placed in the player's inventory, provided it is marked as a collectable object. This behavior is particularly useful for objects that do not have their own pickup behavior. Customize the pickup text that will be displayed when the player is within the designated pickup range, indicating that the object can be collected. Additionally, you have the option to set a collected text that will be displayed or triggered when the object is successfully collected. This text can provide feedback or information to the player about the collected object. If desired, you can also set a collection sound to play when the object is collected, enhancing the audio feedback for the player.



### Compass

When this behavior is attached to an object, it allows the player to picks up the object, they will act as a functioning compass. Ensure that the object's "Always Active" setting is turned on to remain active throughout the game. Customize the pickup text when within the pickup range. Set if the displayed compass is a digital or magnetic analogue style. This determines the visual representation of the compass. You can set whether the compass needs to be picked up first or if it is always active from the start. You can adjust the display position (X, Y screen coordinates) of the compass on the screen and adjust the size of the analogue style radial display. If desired, you can set a sound that will play when the compass is collected, providing audio feedback to the player.



### Crafting Kit

When this behavior is attached to an object, it transforms the object into a portable crafting kit that enables players to craft items using crafting recipes and collected resources without having to use a crafting table. When the player is within the designated usage range, a prompt text will be displayed, indicating that the crafting kit can be collected. Once in possession pressing the set use key will open the craft HUD screen, utilizing the specified craft data container. This HUD screen provides the interface for crafting, where players can access crafting recipes and utilize their collected resources to create new items. For more detailed information and guidance on how to use the craft HUD screen and crafting, please refer to the HUD Guide, specifically the section dedicated to Crafting.



## RPG Behaviors (continued)



### Crafting Table

When this behavior is attached to an object, it transforms the object into a crafting table that enables players to craft items using crafting recipes and collected resources. When the player is within the designated usage range, a prompt text will be displayed, indicating that the crafting table can be interacted with to initiate crafting. Upon pressing the designated use key, the craft HUD screen will open, utilizing the specified craft data container. This HUD screen provides the interface for crafting, where players can access crafting recipes and utilize their collected resources to create new items. For more detailed information and guidance on how to use the craft HUD screen and crafting tables, please refer to the HUD Guide, specifically the section dedicated to Crafting Tables.



### Crosshair

This global behavior is attached to an object and set to Always Active ON. It facilitates an adaptive crosshair marker that highlights and a hitmarker when firing a weapon. You can set the view range of its adaptive highlighting, and select the crosshair and hitmarker images.



### Day Night

This global behavior is designed to be attached and set to Always Active ON, enabling the implementation of a day-night cycle within the game world when the sky setting is configured in 'Simulated Sky' mode. You can adjust the start day, time of day, angle of the sun. The time dilation parameter allows for control over the speed at which the day and night transition occurs. You can customize the ambient lighting during nighttime and daytime. This behavior offers the flexibility to trigger events based on specific hours. Logic-Linked Entities can be associated with designated hours, enabling the activation of particular behaviors or events. Similarly, the ActivateIfUsed Entity can be programmed to activate at a specific hour, integrating it seamlessly into the day-night cycle. You can also set a User Global to report the day and time on screen.



### Direct Damage Spell

Attaching this behavior allows an object to be used as a spell weapon. When collected, the spell can be cast as a Direct Damage effect, targeting and damaging specific entities. Targeting is enabled by placing the spell in the quick action bar and using the T key or holding the right mouse button (RMB) to select a target. Casting the spell is done by pressing the corresponding quick action key. Customize the prompt and usage text for the spell. Use the "MyMana" global variable to determine the Mana usage cost. Set the damage and cast radius of the spell, with reduced damage for entities near the target. You can also select the player's level to be able to use the spell. Add particle effects to enhance the visual representation of the spell. Assign sounds for successful and unsuccessful casting.



### Drink

This behavior allows the object to function as a fixed drinkable object, such as a fountain or water barrel. When the player interacts with the object within a specified use range, their health will be increased/decreased by a set amount per drink. Set the prompt text for the interaction and specify the quantity of health to be increased/decreased per drink. This behavior can also update a set global variable of your choice (eg: MyThirstLevel). You can set a drinking sound effect for added immersion.



### Drink From Water

When this global behavior is activated (Always Active = ON), it enables water planes such as rivers or lakes to be drinkable. When the player interacts with the water within a specified range, their health will be increased/decreased by a set amount per drink. Set the prompt text, range for the interaction and specify the quantity of health to be increased/decreased per drink. This behavior can also update a set global variable of your choice (eg: MyThirstLevel). You can add a drinking sound effect for a more immersive experience.



### Eat

When this behavior is attached allows for that object to give the player a health boost or loss if consumed. Set the pickup text and range distance and the effect and the quantity value to add or reduce on the player. Set the text for consumption. If a poison, set the poisoning effect on or off. This behavior can also update a set global variable of your choice (eg: MyHungerLevel). You can set to play a sound for a eating and poisoning.



### Examine

When this behavior is attached to an object it allows for it to be examined at every angle. Set the Prompt and range for pickup and the text for the examination and set the examination rotation speed. The mouse wheel allows adjustment of the height of the viewed object.



## RPG Behaviors (*continued*)



### Fireball Spell

When this behavior is attached to an object, it allows the object to function as a fireball weapon. Upon collection, the player can cast the fireball as a damaging effect towards a targeted entity. Targeting is enabled by placing the spell in the quick action bar, using either the T key or by holding the right mouse button until the target is selected. Pressing the corresponding quick action key number will cast the spell. Customize the prompt text that appears when the player is within the specified pickup range, as well as the usage text displayed when the spell is cast. The user global variable "MyMana" is typically used to track the resource (mana) consumed when casting the spell. Set the mana usage cost, cast damage, and cast radius of the fireball spell. Entities in close proximity to the target will receive lesser damage. You can also select the player's level to be able to use the spell. Specify particle names, if any, for the spell effects, and assign sounds for successful and unsuccessful casting effects.



### Flashlight

When this behavior is attached to an object, it allows the object to function as a flashlight device. You can customize the pickup and usage information text after pickup. Specify the flashlight's range, radius, and color RGB values, as well as flashlight beam shadows. Set the battery level and its drain rate, and optionally, the recharge rate when the flashlight is switched off. Decide whether to show a battery charge indicator and specify its display position. You have the option to activate the flashlight upon pickup or keep it off until manually switched on. You can also set if picking up the flashlight triggers any linked logic entities or zones and when the flashlight is depleted. Extra energy can also be added by picking up objects with the Battery behavior. Ultraviolet mode allows to see transparent object/enemies. A User Global Affected (eg:MyBatteryEnergy) can be used to display a variable or if another user global variable is made called (eg:MyBatteryEnergyMax) can then display a statusbar in the hud screens for the flashlights battery level. You can also set whether the light range can kill an npc.



### Food

When this behavior is attached allows for that object to give the player a health boost or loss if consumed. Set the pickup text and range distance. If the object is a collectible item, you can also set the collection text for when it is collected by the player. Specify also the quantity to be given or deducted from the players health and/or global affected variable (*i.e.* Mana, Health, etc). You can also set to play a sound for a eating and poisoning.



### Freeze Spell

When this behavior is attached to an object, it allows the object to function as a spell weapon. Upon collection, the spell can be cast as a Freeze and damage effect on a targeted entity. Targeting is enabled by placing the spell into the quick action bar and using the T key or holding the right mouse button to select the target. Pressing the corresponding quick action key will then cast the spell. Customize the prompt text to be displayed when the player is within a specified pickup range, as well as the usage text when the spell is cast. The user global variable "MyMana" is typically used to track the resource (mana) consumed by casting the spell. Set the mana usage cost, damage, and cast radius of the spell. Entities closer to the target will receive less damage. The targeted entity will also be frozen for a short period. You can also select the player's level to be able to use the spell. Specify particle names, if any, for the spell effects. Additionally, set the sounds for the successful casting effect and for an unsuccessful casting effect.



### Gas Mask

When this behavior is attached to an object, it allows the object to function as Personal Protection Equipment (PPE), specifically a gas mask. When the object is picked up, the player receives a gas mask for protection in a zone that utilizes the Toxic Zone Behavior. Ensure that the object is set to "Always Active" mode. Customize the pickup text and the range distance at which the object can be picked up. Additionally, set the usage information text that will be displayed after the object is picked up. Specify the image file for the mask overlay that will be displayed when the player is wearing the mask. This overlay helps visually indicate the use of the gas mask. Set sounds for putting on and taking off the mask, as well as for the breathing sounds while wearing the mask. These audio cues enhance the immersive experience of using the gas mask.



### Heal Spell

When this behavior is attached to an object, it allows the object to function as a spell weapon for self-healing. When the object is collected, it can be cast as a healing effect on the player. Set the prompt text to be displayed when the player is within a set pickup range, indicating that the object can be collected. Also, define the usage text that will be displayed when the spell is cast. The user global variable, typically named "MyMana," is used as the resource for casting the spell. Specify the mana usage cost for the spell, as well as the healing value and the radius of the spell's effect around the player. Entities closer to the player receive a smaller healing value. You can also select the player's level to be able to use the spell. If desired, assign particle names to the spell effects to add visual elements to the healing process. Additionally, set sounds for the successful casting effect and for an unsuccessful casting effect, providing audio feedback to the player.



## RPG Behaviors (continued)



### Investigate

When attached this behavior allows to receive information about an object either by text, image or both and a sound file.



### Health

When this behavior is attached to an object and collected by the player, it provides a health boost. You can customize the prompt text that appears when the player is within range of the object, indicating that it can be collected. Additionally, you can specify the quantity of health that will be added to the player upon collection. If the object is a collectable item, you have the option to customize the text that is displayed when the item is collected. The behavior allows you to choose between automatic or manual pickup styles. If manual pickup, the player needs to actively interact with the object to collect it. You can also determine whether the effect of the collected item adds to or deducts from the player's health and a User Global. To provide further customization, you can change the text that is displayed when the item is collected and set a specific sound for the collection event. Additionally, you have the option to specify a sound that plays when the item is used, enhancing the overall player experience.



### Key

When this behavior is attached to an object, it allows the player to collect it as a key object for unlocking linked doors. You can customize the prompt text that appears when the player is within the designated pickup range, indicating that the key can be collected. The behavior provides options for both automatic and manual pickup styles. In the case of manual pickup, the player needs to actively interact with the object to collect the key. If the key is a collectable item, you have the ability to customize the text that is displayed when the item is collected. You can assign an audio for the pickup sound and optionally set a logic trigger upon pickup to activate any linked entities.



### Lifetap Spell

When this behavior is attached to an object, it allows the object to act as a spell weapon. Once collected, the object can be cast as a Lifetap effect on a targeted entity, which transfers life from the target to the player. Targeting is enabled by placing the spell in the quick action bar, using the T key or by holding the right mouse button and selecting the target. Pressing the corresponding quick action key will then cast the spell. You can customize the prompt text that appears when the player is within the specified pickup range, as well as the usage text that is displayed when the spell is cast. The behavior utilizes a user global variable, typically named "MyMana," to track the resource (mana) used in casting the spell. You can set the mana usage cost for the spell, as well as the cast damage and cast radius around the target. Entities in close proximity to the target will not be damaged. The targeted entity will lose the specified cast damage value, which will be transferred to the player as a health increase. You can also select the player's level to be able to use the spell. You can also set particle names for the spell effects and define sounds for the successful and unsuccessful casting effects.



### Navbar

When you attach this global behavior to any object and activate the "Always Active" option, a navigation bar will appear based on the behavior's settings. You can customize the navigation bars image and on-screen size and position, as well as its range capability, icons, informational data and its compass settings.



### Navbar Objective

For use with the Navbar behavior. Attach this behavior to any object (*not on a character*) and set to Always Active to ON, it will add the selected objective icon to the navbar. Additionally, you can set to hide or destroy the objective if it's just a location marker, once in proximity, and also trigger logic linked or IfUsed entities. You can also select whether 'this entity' or a 'named entity' is used for the objective marker. If a 'named entity' (eg: character or dynamic entity) it will monitor and remove the marker upon zero health of the entity/character.



### Night Vision

When you attach this behavior to an object, it enables it to function as a Night Vision device. Make sure to turn on the "Always Active" setting for the object. When the player picks up the object, they will receive Night Vision binoculars that can zoom. Set the pickup text, range distance, and usage information text after pickup. Customize the minimum and maximum zoom level, zoom speed, and readouts. Optionally, you can enable or disable a digital compass. Additionally, you can choose a night vision screen overlay and adjust the night exposure level. Customize the sounds for putting on/off the night vision goggles and for pickup.



## RPG Behaviors (continued)



### NPC Itemdrop

When this global behavior is attached and set to Always Active = ON, it allows for a named item to be carried and dropped by a named NPC. To set up the behavior, choose an object that will be used as the named item. Set its Physics property to ON and Gravity property to ON. The object should be initially hidden when the game starts. Next, enter the name of the NPC in the NPC Itemdrop behavior's NPC NAME field. This specifies which NPC will carry the named item. Enter the name of the item itself in the ITEM NAME field. The named NPC will hold the item until it is killed, at which point the item will be dropped and can be picked up by the player or other entities as normal. This behavior is well-suited for implementing gameplay mechanics involving secret documents, codes, treasure quest items, or keys, among other possibilities.



### Oxygen

When this behavior is attached to an object, it functions as an oxygen resource. When the object is picked up, the player receives a specified amount of air, which is useful for underwater or airless areas. You can customize the pickup text and set the range distance at which the object can be picked up. Additionally, you can define the values for the amount of oxygen given and any associated health benefits provided to the player. Choose between automatic or manual pickup style, depending on how the object is collected. Furthermore, you have the option to set an image file for the mask overlay when the player is wearing the mask. Lastly, you can set sounds to play when the object is picked up, enhancing the player's audio experience.



### Parachute

When this behavior is attached to an object it will act as a parachute.

How to use:-

- Place any backpack object representing the parachute pack on the map for collection and set it to Physics off and set to Always Active = ON. Attach the parachute behaviour to this object.
- Place the parachute/glider object (*sample supplied*) anywhere on the map it will be hidden when game starts, until used
- Fill out any other options you require.

The parachute behavior offers various customization options. You can set the pickup type, deployment, and flight use text. Determine the player's position in relation to the parachute and specify the minimum altitude for deployment. Configure parameters such as drop speed, fly speed, acceleration, slowdown speed, and turning speed. Adjust the health of the parachute and the player and enable the display of current height. Choose between one-time use or reusable mode, where the parachute pack can be dropped and collected upon landing. Lastly, assign a sound for the flying effect. Lastly, ensure that the parachute object, which is invisible to the player, is added to the level and does not have any behavior attached.



### Poison Spell

When this behavior is attached to an object, it allows it to function as a spell weapon. When the object is collected, it can be cast as a Poison damage over time effect on a targeted entity. To enable targeting, the spell needs to be placed in the quick action bar with the T key or by holding the right mouse button until the target is selected. Pressing the appropriate quick action key number will cast the spell. You can customize the prompt text displayed when the player is within a set pickup range and the usage text that appears when the spell is cast. The user global variable effected, typically named "MyMana," represents the resource used for casting the spell. Set the mana usage cost for the spell, as well as the cast damage and cast radius around the target. The targeted entity will be poisoned for a short period and will take damage over time. You can also select the player's level to be able to use the spell. If desired, you can specify particle names for the spell effects to enhance the visual experience. Additionally, set sounds for successful casting effects and unsuccessful casting effects to provide audio feedback to the player.



### Potion

When this behavior is attached to an object, it allows for the object to give a potion boost or deduction when consumed by the player. The player receives an amount of a specified resource, such as magic or another attribute as configured. You can customize the pickup text prompt displayed when within a set range distance and automatic or manual pickup style,. If the object is a collectible item, you can also set the collection text for when it is collected by the player. Specify the quantity to be given or deducted from the global affected variable (*i.e. Mana, Health, etc*). Additionally, you have the option to set sounds for using the object and for collecting the object, providing audio feedback to the player.



## RPG Behaviors (*continued*)



### Quest Poster

This behavior can be attached to an object or entity, enabling the object to act as a quest/mission giver. When the player is within a specified range, a prompt text is displayed. Pressing the 'E' key allows the player to view the Quest HUD Screen. You have the option to set the quest choice from a dropdown menu of pre-existing quests or leave it at 'none' to create a new quest. Additionally, you can set the sound that plays when viewing a quest and when a quest is completed. For more detailed information on quests/missions, you can refer to the Max Quest Guide. (*see also Quest Giver in People behaviors*)



### Quest Sequencer

This behavior when activated enables the object to act as a quest/mission issuer in sequential order automatically as a quest/mission is finished. This is ideal for games that wish to have a new quest/mission objective upon completion of the current quest/mission. Attach to an object and link to a switch or trigger for activation. If you wish to start a player immediately with the first quest/mission then place the trigger zone connected to the Quest Sequencer underneath the player start marker. Set the Objects Name as the quest/mission name (*e.g.: Mission1*) and then press the add quest button to add the (*e.g.: Mission1*) quest details in. After adding a quest/mission in you can select it. To add multiple sequential quests/missions you have to select NONE as the selected quest then rename the Objects Name to the new quest/mission name (*e.g.: Mission2*) then press the add quest button (repeat this procedure for as many quest/missions required) or you can edit the *collection - quests.tsv* in a spreadsheet program such as excel or googlesheets. To end the sequence of quest/missions issued, placing "END\_SEQ" in the Quest Status field In the Quest details section of a quest, will end the sequence and deactivate the Quest Sequencer. The first description line of the Quest Details can be used in the main hud by creating a Text User Global for display and placing that user global name in the behavior.



### Quest Switch

This special switch behavior is applied to the object that will act as a Quest Switch this can be linked to any logic linked object for activation. This switch will be disabled until the corresponding quest selected for the switch is active. Once this Quest Switch is used the quest will end in the normal manner and the switch becomes disabled.



### Radar

Max possesses an integrated Map and radar system. This behavior is primarily designed for shooter-style games that desire a streamlined radar system. When you attach this global behavior to any object and activate the "Always Active" option, a radar will appear based on the behavior's settings. You can customize the radar's on-screen size and position, as well as its range capability, type of radar blips, and whether it remains fixed or rotates with the player's orientation. Additionally, you can choose from a selection of sample radar screen images or use your own custom image..



### Radar Objective

For use with the Radar behavior. When this behavior is attached to any object and set to Always Active to ON, it will add an objective blip on the radar. You can set the color of the radar blip from Red, Blue, Green, Yellow, White, Purple, Orange. Additionally, you can set to hide or destroy the objective if it's just a location marker, once reached.



### Radsuit

When attaching this behavior to an object, it enables it to function as Personal Protection Equipment (PPE), such as a Radiation Suit. When the player picks up the object, they will receive a radiation suit for protection in a zone utilizing the Toxic Zone Behavior. Make sure to set the object to "Always Active" mode. Customize the pickup text and range distance. Additionally, set the usage information text that appears after pickup. You also have the option to set an image file for the mask overlay when wearing the mask. Customize sounds for putting on/off the mask and for simulating breathing while wearing it.



### Recipe

When you attach this behavior to an object, it allows it to function as a crafting recipe. The object should be set as "Collectable." Crafting recipes contain the necessary details and requirements for crafting an item. Set the crafting recipe details in the collectables panel. In the Item Ingredients field of the collectable screen, enter all the required items for the recipe, separated by commas. For example: "Desert Plant, Dry Wood Bark." If an object or plant is to be used as a crafting resource, it should be flagged as *collectable* and *resource* and also have the *resource* behavior attached. Customize the pickup text and pickup range distance for the object. You can also set sounds for collecting the object. For more information and detailed instructions on crafting recipes and the crafting process, refer to the Max HUD Guide.



## RPG Behaviors (*continued*)



### Resource

When you attach this behavior to an object, it enables it to function as a crafting resource. To do so, make sure to set the object as both "*collectable*" and "*resource*." Crafting resources are essential components used in crafting items at a crafting table or with a crafting kit, following a crafting recipe. For more detailed information, please refer to the Max HUD Guide.



### Resource Node

When you attach this behavior to an object, it enables it to function as a resource node to create resource entities. Place an object you wish as a resource on the map nearby position set its options to be a collectable and resource and press the button to create collectable item. You can attach the Resource behavior to this object. Now place a object on the map near to the previous object to act as the resource node. In the resource node behavior set the Node Type to either "Growth" or "Extraction". Use Growth if you wish a plant for a resource. Use Extraction if you wish to mine for a resource. For "Extraction" type, set the Node Tool to a specific weapon (tool) name eg: "enhanced\pickaxe" that is required to extract any resources, or leave the setting at "Any". You can set the maximum resource quantity from this Resource Node. You can set the amount of Resource Node respawns and the spawn time for reappearance of this Resource Node when depleted. You can also set the re-spawning of the Resource Entity which is named in the Resource Entity Name (*place the name of the resource entity in here*). You can set if the Resource Node is visible or hidden, if hidden only the resources spawned will show. If the Resource Node is a Extraction type the node must be demolished to extract the all the resources before respawn.



### Root Spell

When you attach this behavior to an object, it allows it to function as a spell weapon. Once collected, the object can be cast as a Root spell effect on a targeted entity. To target an entity, place the spell in the quick action bar using the T key or by holding the right mouse button (RMB) until the target is selected. Pressing the corresponding quick action key number will cast the spell. You can customize the prompt text displayed when within the set pickup range, as well as the usage text when the spell is cast. The spell utilizes a user global variable, typically referred to as "MyMana," which represents the resource used for casting the spell. Set the Mana usage cost for the spell, as well as the cast damage and cast radius around the target. Note that entities in close proximity to the target won't receive damage; only the targeted entity will be rooted to the spot for a brief period. You can also select the player's level to be able to use the spell. Customize particle names, if any, for the spell effects. Additionally, set sounds for successful casting effects and for unsuccessful casting attempts.



### RPG Player State

A global behavior that when attached to an object and set AlwaysActive will allow the facility to incrementally add or deduct set values of the players user globals inputted over time in set seconds intervals. This is ideal for such things as increasing radioactivity or infection levels or reducing other values such as toxicity or breathing or hunger etc. It also allows for a Health Damage after a specified level is reached. (*see also GlobalAffectedZone behavior*).



### Scuba

When you attach this behavior to an object, it allows it to function as scuba diving gear. When the player picks up the object, they will receive a scuba tank of oxygen and a mask for underwater use. Set the object to "Always Active" mode. Customize the pickup text to display when the player is within range. Specify the amount of dive time in minutes and optionally include a digital HUD compass for navigation while diving. You can also set the image file for the mask overlay when wearing the scuba dive mask. The oxygen readout will display the remaining breathing time. The scuba diving gear will automatically be worn when the player is in the water and swimming underwater. Upon leaving the water, the scuba gear will be discarded. If additional oxygen tanks are found while diving, they will extend the player's breathing time.



### Shop

Similar to the trader behavior but is attached to an object it allows it to become a shop, shops are objects whom the player can interactively buy or sell items with when the player is within the set range distance and can show the shop prompt and when E is pressed, will display the shop hud screen using the shop container specified (eg: 'gunshop'). If Level Bias is set ON then the container name will change internally (eg: 'gunshop' to 'gunshop5') if a level 5 player accesses the shop and will only show items flagged as '*gunshop5*' in the starting container for that item. This useful for isolation of certain items to only show for when a player of a certain level can have buy access to them.

# HELP GUIDE

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## Stamina

When you attach this behavior to an object, it allows it to provide a stamina boost or deduction to the player when used. Set the prompt text to display when the player is within the specified range. If the item is collectible, you can also set the collectable text. Customize the usage text to provide relevant information. Set the quantity of stamina affected by the item. Additionally, configure the pickup style as automatic or manual, and determine whether the picked-up item will add to or deduct from the player's maximum stamina. Specify the global variable that will be affected, typically referred to as "MyStaminaMaximum." You can also set a sound for when the item is collected.



## Stealth Shield

When you attach this behavior to an object , it grants the player a stealth shield capability for a predetermined duration when activated. Set the object to "Always Active" mode. You have the option to determine whether the shield needs to be picked up or if it is already collected. Set the pickup range and prompt text and usage text, as well as the On text and OFF text if required. Specify the stealth mode as either timed or random, along with the corresponding time setting. Adjust the stealth sense/discovery range of enemies, which determines their ability to detect the player while in stealth mode. Also set the shield effect radius from the player that the shield is effective. Also select how many time this personal shield can be used. Select an icon image for the stealthmode icon and its x,y screen position.



## XP

When you attach this behavior to an object, it allows it to provide an XP boost or deduction to the player when used. Set the prompt text to display when the player is within the specified range. If the item is collectible, you can also set the collectable text. Customize the usage text to provide relevant information. Set the value of experience (XP) affected by the item. Additionally, configure the pickup style as automatic or manual, and determine whether the picked-up item will add to or deduct from the player's maximum stamina. Specify the global variable that will be affected, typically referred to as "MyXP." You can also set a sound for when the item is collected.