

ZenBlink

UnrealEngine Setup (v2.2.3 – v2.2.4)

Important:

ZenBlink is a standalone product and is animation blueprint based. In order for it to function correctly, it **changes your Metahumans default Face animation blueprint at runtime**. This can create conflicts with other components attached to your **Metahuman** such as **ZenDyn**, that also set their own facial animation Blueprint. It is advised to use **ZenBlink** independently from these other products, as integration requires skills and experience that are beyond the scope of these setup instructions.

Setup Instructions

- **Prepare the Project:**
 - Add a MetaHuman to your scene.
 - Add a Cine Camera to the scene.

- **Enable the Plugin:**
 - Go to Edit > Plugins.
 - Search for ZenBlink and enable it.
 - Restart Unreal Engine to activate the plugin.

- **Access ZenBlink Content:**
 - Enable Engine Content and Plugin Content in the Content Browser settings.
 - Search for 'ZenBlink' in the Content Browser to view all plugin-related content.

- **Option 1: Add ZenBlink World Actor:**
 - Drag the included Example BP_ZenBlink blueprint into the scene. (The blueprint is located in the plugin Content

folder, you may need to enable “show plugin content” in the content browser)

- Zero out its transform.
 - Alternatively, use Quick Add to add the blueprint by typing and searching for ‘ZenBlink.’
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- **Option 2: Add ZenBlink Actor Component:**

- Select your Metahuman Actor in the Outliner
 - In the Details Panel click the “Add” button
 - Search for “ZenBlink” to attach the included Actor Component.
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ZenBlink Defaults

ZenBlink default properties

Metahuman

Metahuman: Assign the Metahuman actor that will be animated in the scene.

CameraFocus

Auto Focus: Turn camera autofocus on or off.

Camera Focus Target: Actor that the camera should focus on. Must be a blank actor.

Auto Focus Adjustment: Adjust the focus point manually with a 3D vector.

Target Following

Target To Follow: The actor that the system should follow during animation.

Live Link

Use Face Head: Enable LiveLink face tracking integration.

Face Subject: Subject (eg: iPhone)

This section is removed for UnrealEngine 5.5 and above in ZenBlink version 2.2.4+.

Please Use Live Link settings and properties included with your Metahuman Actor.

Blinks

Auto Blink: Enable or disable procedural blinking behaviour.

Emotion

Emotion: Set the facial emotion pose of the character.

Emotion Blend Speed: Speed of transitioning between emotions (in seconds).

Movement Mode

Movement Type: Determines how the eyes and head move (e.g., random, targeted, etc.).

Head

Use Head Movement: Enables procedural head motion during animation.

Head Movement Strength: Controls the intensity of head movement (0–1).

Head Movement Blend: Blends between existing and ZenBlink

movement (0–1).

Head Movement Random Speed: Speed at which the head moves when using random motion (1–10).

Head Movement Interpolation Speed: Smoothing speed for head movement (0–50).

Use Baked Head Movement: Use baked animation curves for head motion.

Face

Face Animation: Toggle facial animation system on or off.

Face Emotion Strength: Controls the emotional intensity in facial expressions (0–1).

Face Animation Blend: Blend between default slot and ZenBlink animation system (0–1).

Eyes

Micro Saccadic Enable: Enable small, realistic eye jitter for realism.

Micro Saccadic Speed: Speed of left–right and up–down micro saccadic motion (0–10).

Micro Saccadic Strength: Strength of micro saccadic movement (0–50).

Eye Movement Interpolation Speed: Speed of eye rotation smoothing (0–50).

Eye Aim Adjustment: Manual offset adjustment to tweak where the eyes focus.

Global

Custom Emotion Map: Data asset for defining custom emotion–to–blink mappings.

ZenBlink Strength: Master strength value controlling all ZenBlink

procedural effects (0–1).

Use ZenBlink PostProcess: *Enable/Disable ZenBlink’s custom post-processing (UE 5.5+ only).

***Warning: Advance Usage Only – ZenBlink requires this post process** in v2.2.4+

Debug: Enable advanced debug logging for the animation instance.

ZenBlink Internals (Advanced)

Is Updating: Internal flag used during runtime updates.

Body Mesh Name: Name used to identify the body mesh (default: “Body”).

Face Mesh Name: Name used to identify the face mesh (default: “Face”).

Is Setup Completed: Internal setup flag indicating whether initialization is done.

Metahuman Animation Blueprint: Pointer to the Metahuman animation blueprint class.

ZenBlink Animation BP: ZenBlink–specific animation blueprint used for procedural behavior.

Internal Face Anim Class: Internal reference to the face animation class.

Focus Target 1: First bone name used for eye targeting (e.g., FACIAL_L_Pupil).

Focus Target 2: Second bone name used for eye targeting (e.g., FACIAL_R_Pupil).

Current Actor: Runtime reference to the actor currently being controlled.

Face Mesh: Reference to the face mesh component (skeletal mesh).

Body Mesh: Reference to the body mesh component (skeletal mesh).

Blink Params: Advanced blink parameters for animation tuning.

Settings BP: ZenBlink system settings defined in Blueprint.

LookAt Settings BP: Look-at control settings for eye targeting.

ZenBlink Post Process BP: Animation blueprint class for post-process animation.

Zen Interface Class: Interface used by ZenBlink to communicate with external systems.

Using ZenBlink Features:

- **Simulate ZenBlink:**
 - Hit simulate to observe automatic blinking, eye movement, pupil constriction, and head movement.
 - Example: Set the emotion to 'Childish' for faster movements.
 - Be aware that due to limitations of UnrealEngine, the actor component version of ZenBlink **can not have default properties changed** from the details panel during P.I.E.

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- **Auto Focus with Camera:**
 - Open your Cine Camera settings.
 - In Focus Settings, Enable Tracking and assign the 'FocusForCamera' actor or the actor you created.
 - Adjust "Auto Focus Adjustment" for precise results.

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- **Use ZenBlink with Sequencer:**
 - Create a Level Sequence (e.g., 'ZenBlinkSequence') and set frames (e.g., 500).
 - Add your camera and ZenBlink World Actor (or ZenBlink Actor Component) to the sequence.
 - Keyframe properties such as Emotion, Eye Movement Type, and Weight.
 - Add movement to the camera and simulate to make the MetaHuman track the camera with its eyes and head.

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- **Combine with Existing Animations:**
 - ZenBlink integrates with face and body animations.
 - Note: Enabling Use Head Movement may override head animations in your sequence.

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- **Record ZenBlink Animations:**
 - Use the record button in Sequencer or Take Recorder to capture ZenBlink animations.
 - Locate the recorded animation in the Content Browser and adjust its properties as needed.
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