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Note: The content of this manual may change and therefore may not be applicable to every version of IE AutoSpriter. I'm also not a professional Blender user or Blender add-on developer. I learn by doing.
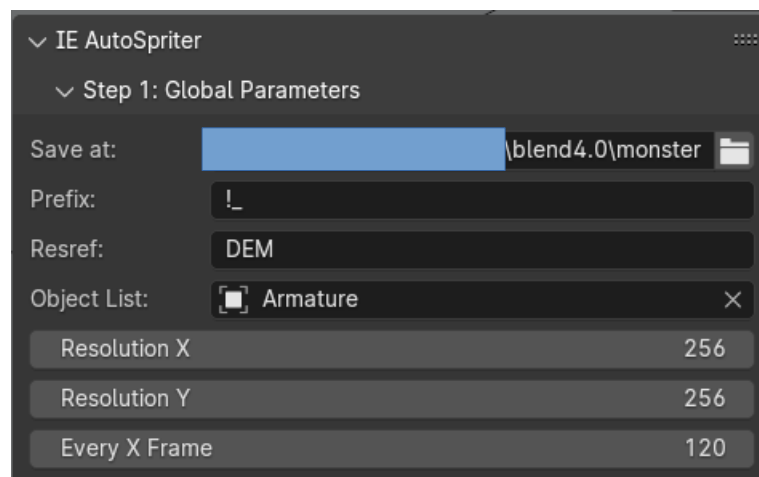
IE Autospriter Interface

This Blender add-on automates the process of rendering sprites specifically for Infinity Engine animations. The workflow is divided into logical steps to guide the user, though the sequence of the first four steps is flexible. Step 5 initiates the rendering process.

Closed form
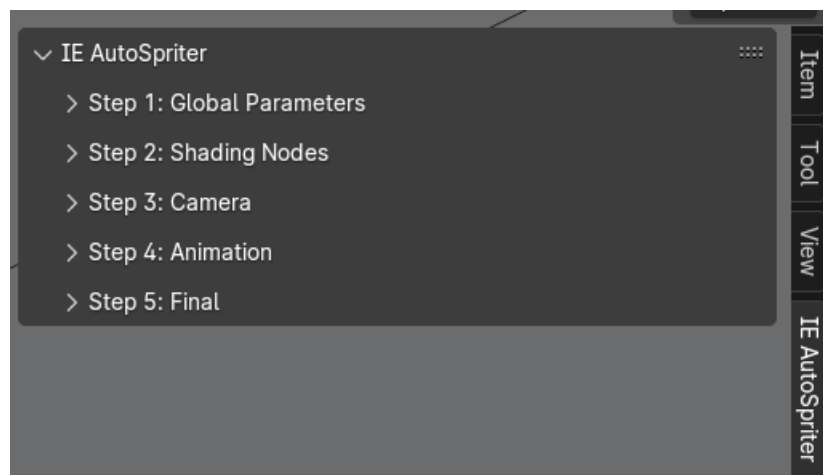
## Step 1: Global Parameters (CHANGED)

This step defines general settings that apply across the entire sprite rendering process.

- **Save at:** Defines the directory where the generated sprite files will be saved.

- **Prefix:** A user-definable modder prefix that will be added to the beginning of the sprite file names.
- **Resref (Resource Reference):** This is the freely definable part of the sprite file name. Other parts of the file names are fixed and automatically generated by the add-on.
- **Resolution X:** This refers to the image width resolution
- **Resolution Y:** This refers to the image height resolution
- **Every X frame:** Saves every xth frame as a sprite. This can be useful, for example, when there are too many frames to save as sprites.

Step 2: Shading Nodes
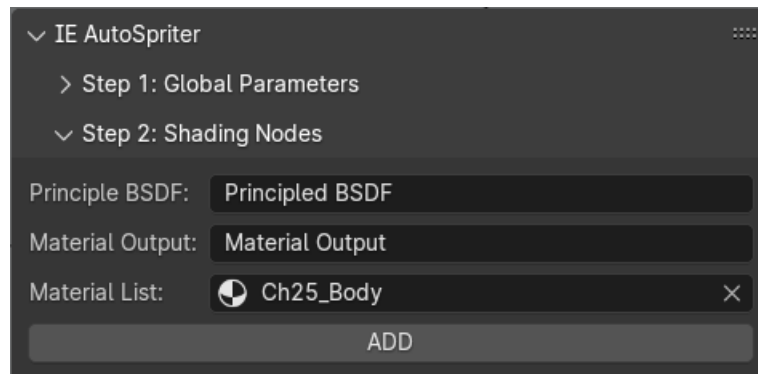
This **optional** step allows for the addition of specific shaders to the material shading setup. This is crucial for Infinity Engine sprites, which require indexed color palettes.

Shader Node String Inputs: These input fields are used to specify the names of existing shader nodes within the material. The new, automatically added shader nodes will be placed and connected between these specified nodes.

Step 3: Camera
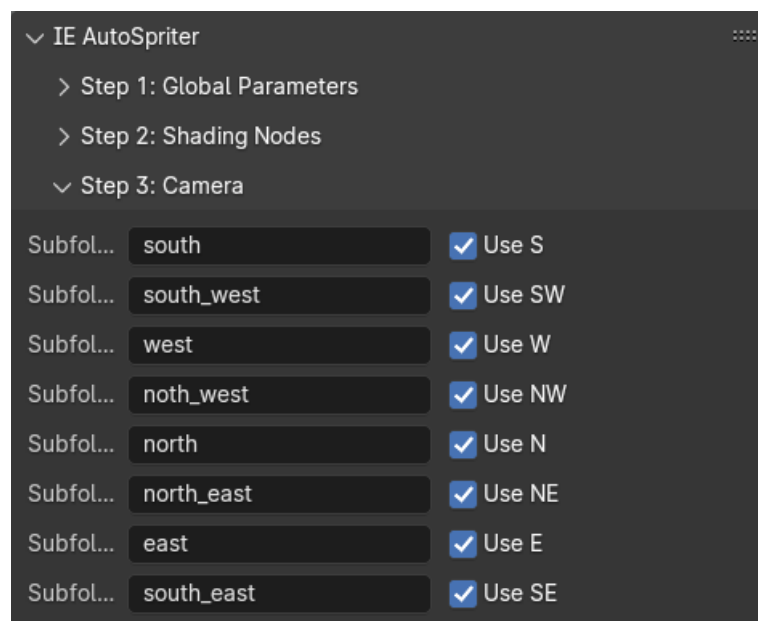
This step manages the output folders and defines which camera orientations will be rendered.

- **Orientation Folders:** These checkboxes determine whether sprites for a specific orientation will be rendered and saved into their corresponding designated folders. If a checkbox is not activated, sprites for that particular orientation will be ignored and not rendered.

Step 4: Animation

This step defines which animations (Blender Actions) should be rendered and how they are named in the output.

- **Animation(Blender Action):** This refers to the type of animation, corresponding to an "Action" in Blender (e.g., "A1" for Attack Animation 1).
- **Checkbox:** If activated, the specified animation type (e.g., "A1") will be appended to the sprite file name.
- **String Input Field:** The name entered in this input field must precisely match the name of the corresponding Action in Blender.

Step 5: Final
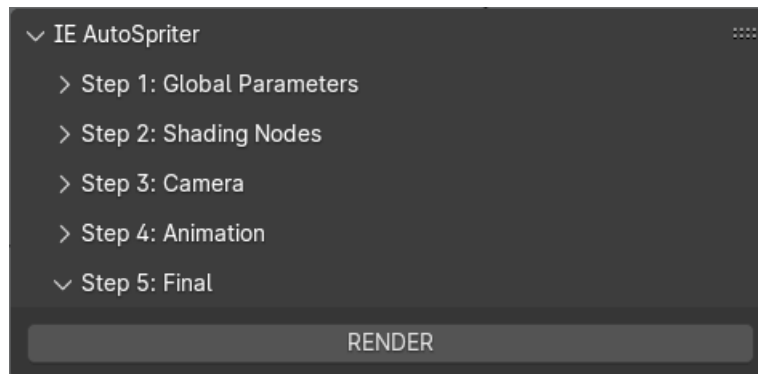
This is the concluding step that triggers the rendering process.

Render: Upon activation, this step initiates the rendering and saving of all sprites according to the settings configured in the preceding steps.

Requirements

It is necessary that the animation is listed in the **Armature** within the **Animation** object. This means that under **Animation** the actions are collected in the **NLA Tracks** (see example in the image below).
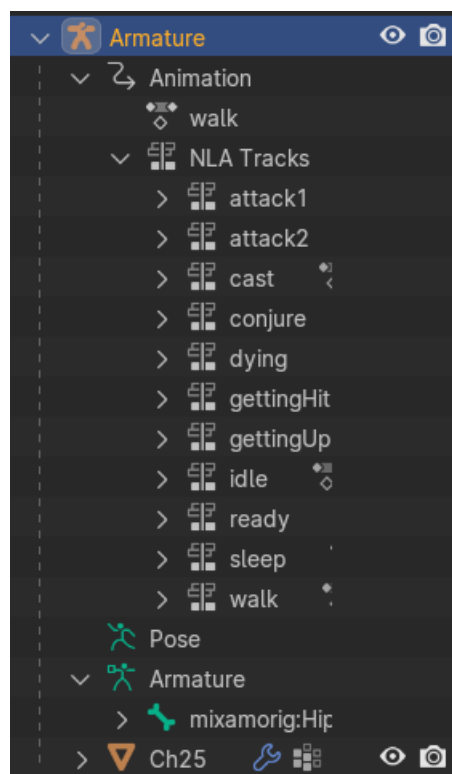
The reason for this is that **IE AutoSpriter uses this list to sequentially specify actions (type of**

animation) to render.
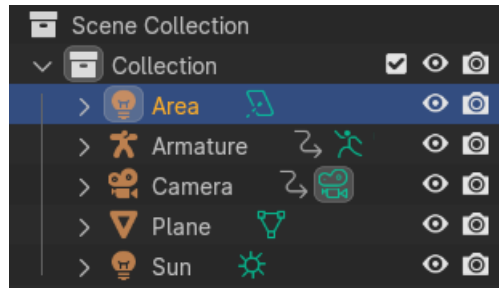
In addition, the names of the animation folders in **step 4** must exactly match the names found in the animation object (see **NLA Tracks**).

The blend file needs the following setup:

- **Camera**: This is needed to render the creature model.

- **Armature**: This has already been discussed.

- **Plane**: This is needed to create a shadow for the creature model.

- **Area**: This is a light source that should be adjusted as desired.

- **Sun**: This is needed to create a shadow on the **Plane**.

Helpful Insights

The different angles of the creature model are not created by moving the camera, but by rotating the model while the camera remains in a fixed position.
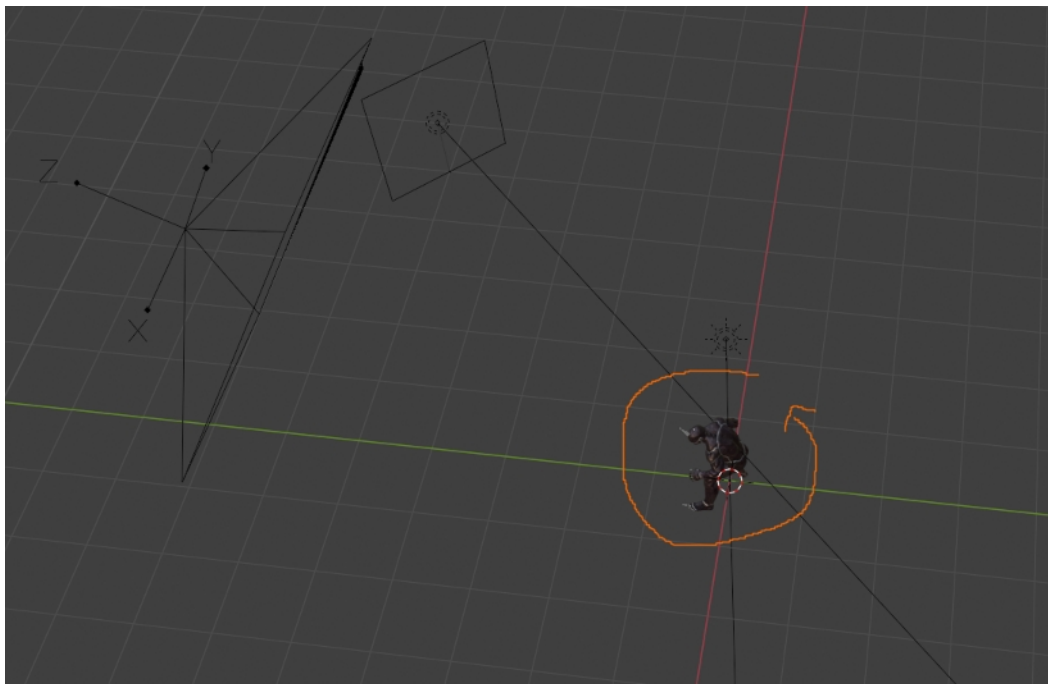
The objects in the collection have a number of specific important parameters that are not covered here, as the details can be found in the save files (these may be covered in later versions of IE AutoSpriter).
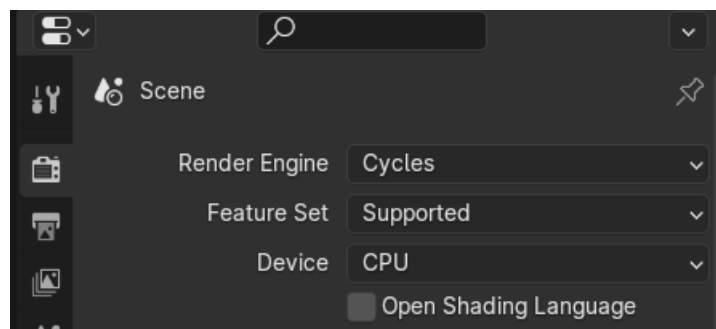
To view the rendering progress and elapsed time, go to "**Toggle System Console**" (see image below). This should be done **BEFORE** rendering, as rendering makes it impossible to interact with Blender.
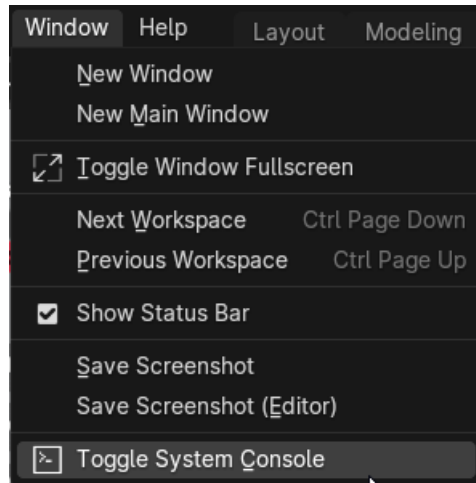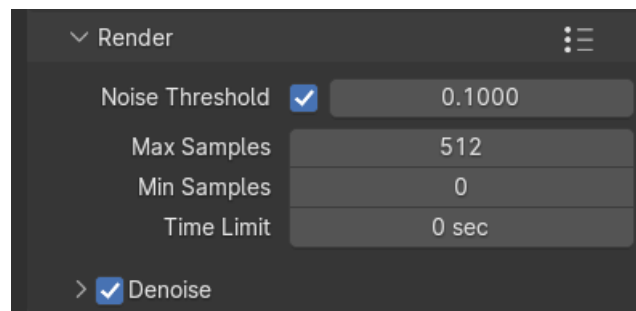

Save file 4.0

Found in „**IE-AutoSpriter**-**save files\!_Template_Blender_4.0.blend**"
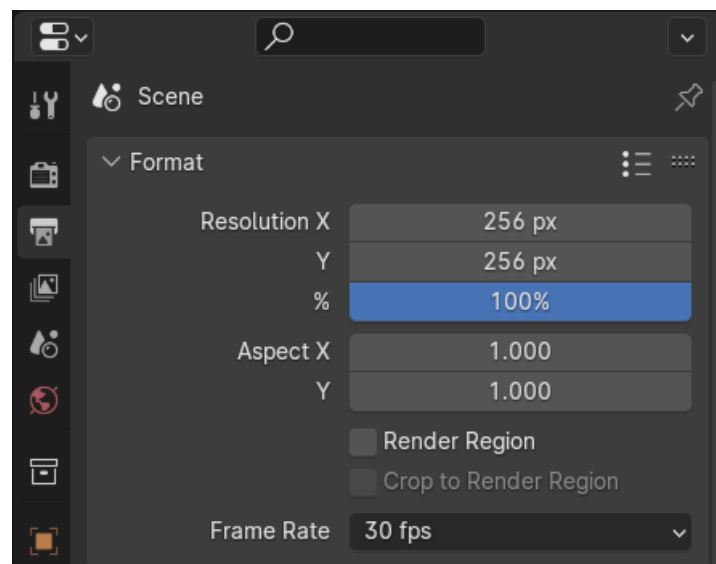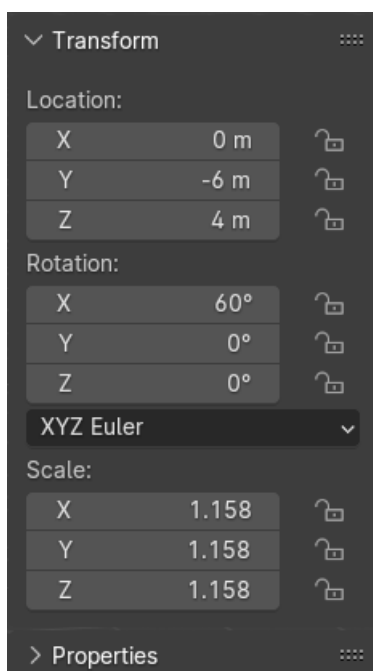
Render Engine(CHANGED)

The rendering engine is set to Cycles (instead of EEVEE). This allows the "**Plane**" object to be rendered transparently without the "**Sun**" object losing its ability to cast shadows.

The render settings for the engine is as follows(see next image below):

Camera settings

The camera settings can be adjusted to suit your personal preferences if needed. For example, the camera angle is set to 60°, although I've heard arguments for 45°. **After seeing someone else compare an image** of a custom character animation and an in-game animation at 45° and 60°, **I decided to go with 60°**. The rendering resolution is set to **256px to 256px**(px stands for pixels) and frame rate to **30fps**(frames per second).

Sun
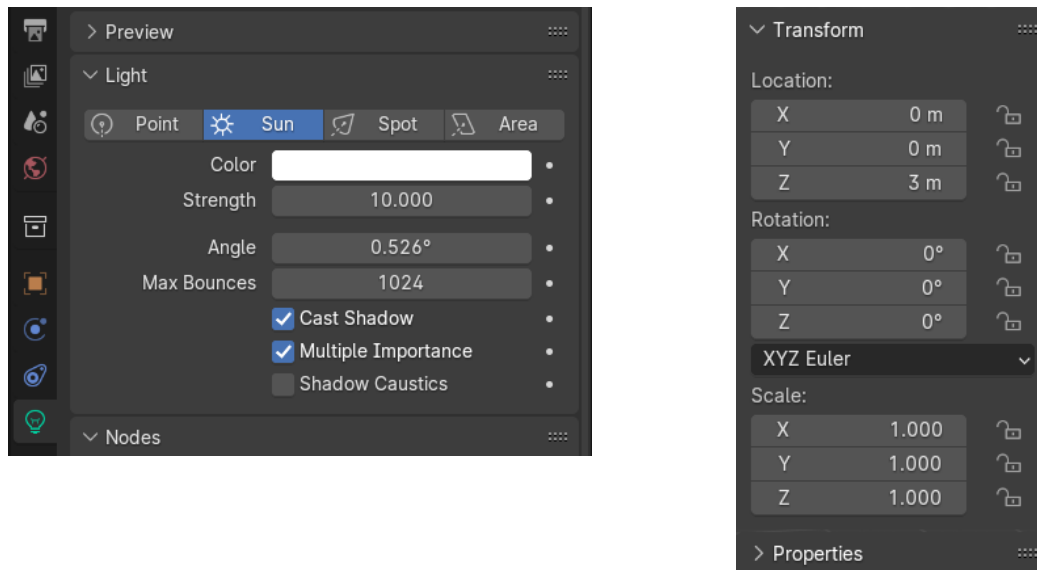
These settings are optional but worked reasonably well (**lumens 10,000 and Z-distance 3m**), but will likely need to be adjusted depending on the model that needs to be rendered.

Plane

The object „**Plane**" is used to capture the shadow cast by sunlight on an object. To prevent the plane from being included in rendering without losing the shadow, the "**Transparent**" switch is enabled under „**Rend → Film**" checked(see screenshot above).
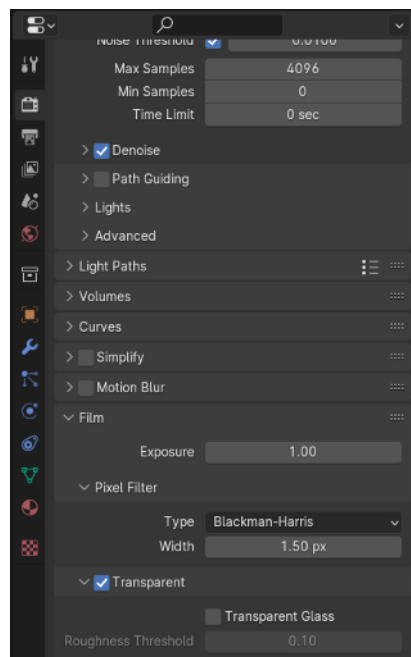
Area

The „**Area**" object is a purely optional light source. Its main purpose is to make the model's texture

more visible.

Demo file 4.0

Found in „**IE-AutoSpriter-\demos\blend4.0\!_Demo_Blender_4.0.blend**“
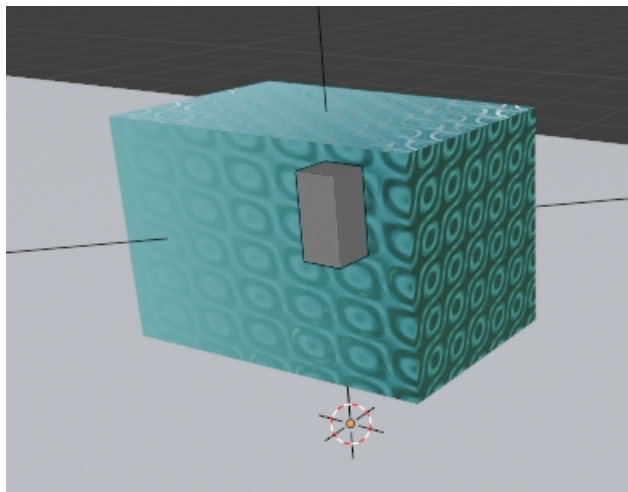
It serves as a very simple example and is used for performance testing of IE AutoSpriter.

Shape

The model is a simple cube (or cuboid, perhaps more accurately)

This doesn't mean the small one within the large one, but the large cuboid.

Shader Nodes

Here, too, the following shading nodes are activated (see image):

- Manually added "**Cube Texture**": This is a renamed "**Image Texture**" node and defines the color turquoise.

- "**Gradient Texture**": Creates the dark-to-light gradient.

- "**Magic Texture**": Creates the eye pattern on the surface.

- The "**Principled BSDF**" and "**Material Output**" nodes are created automatically when a new material is created for the cube object.

- The "**Brightness/Contrast**" and "**Mix Shader**" nodes are created connected in the optional step 2 of IE AutoSpriter. They contain selfdefined default values, which can also be seen in the next image below. It is used to prevent the model from containing the color black (rgb(0,0,0)) because this special black is used for transparency in the animation by the
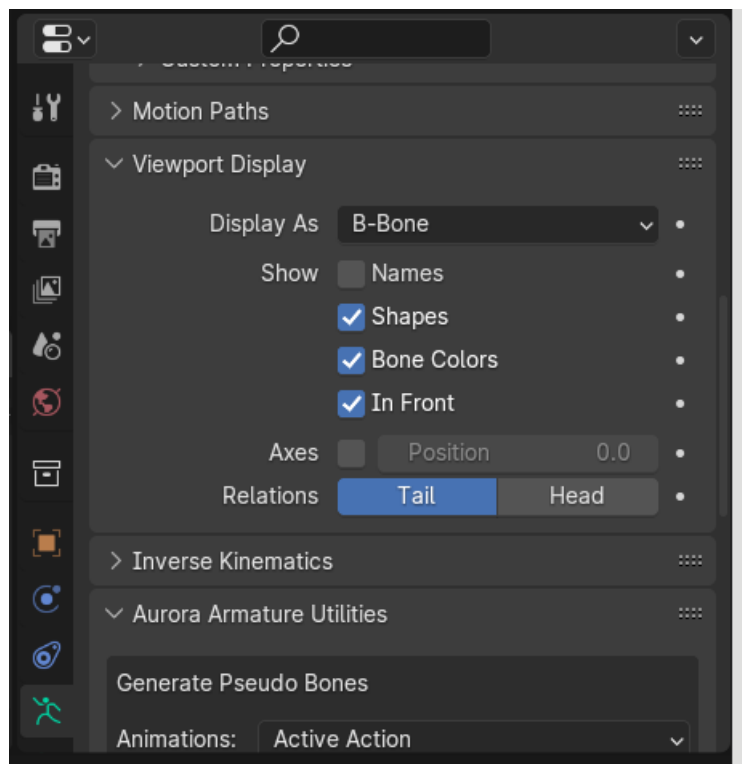
Infiniyt Engine
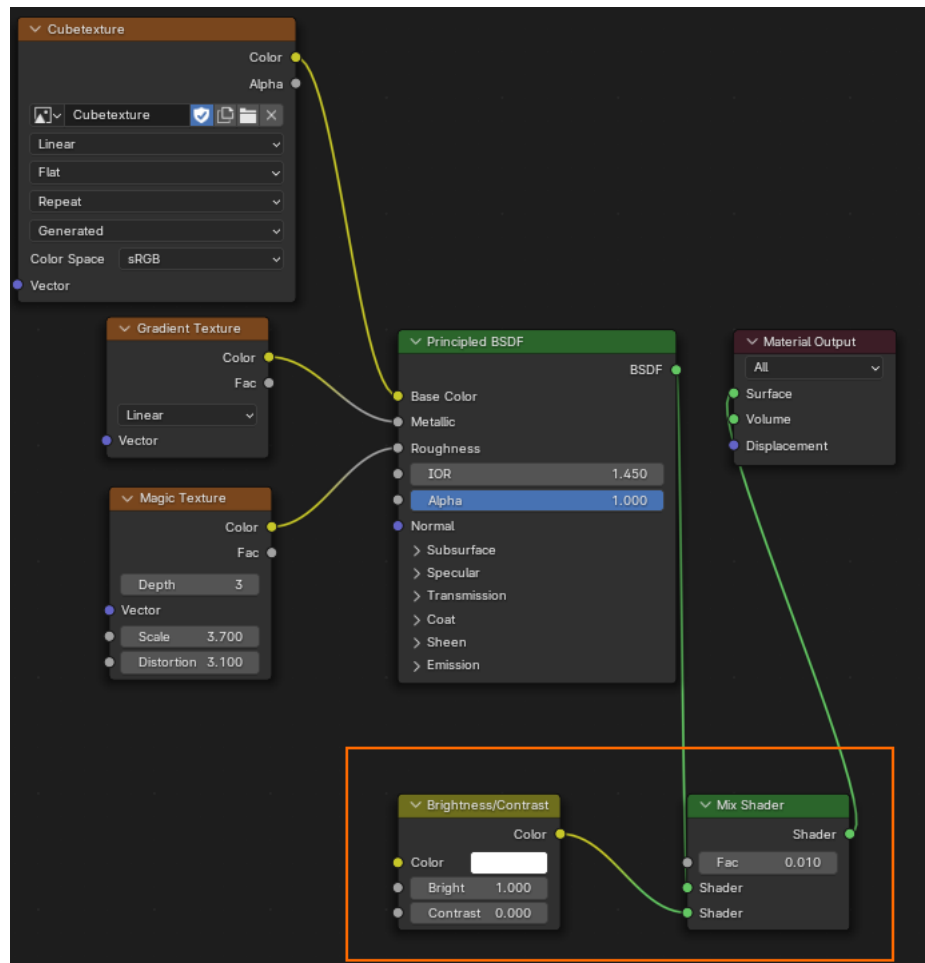
Bones

The Armature contains only one bone(see image below). It is the the grey cuboid.
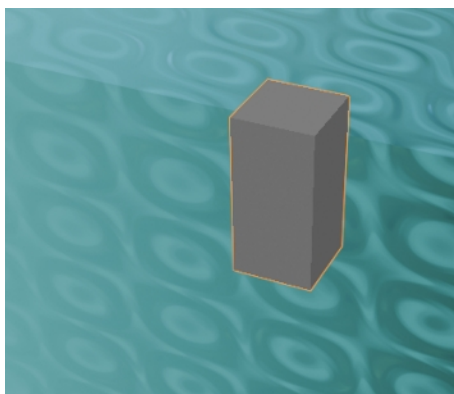
Checking the „**In Front**"checkbox sets it to always visible. And the shape is "**unusual**" because it is a B-bone (see image below).

Troubleshooting/FAQ

RuntimeError - context is incorrect

If you are experiencing an error very similar to the following after pressing „RENDER":

```
Python: Traceback (most recent call last):
  File "C:\Users\<username>\AppData\Roaming\Blender Foundation\Blender\4.0\
scripts\addons\ie_autospriter.py", line 246, in execute
    bpy.ops.object.select_all(action='DESELECT')
  File "<Drive letter>:\Blender 4.0\4.0\scripts\modules\bpy\ops.py", line 109,
in __call__
    ret = _op_call(self.idname_py(), kw)
RuntimeError: Operator bpy.ops.object.select_all.poll() failed, context is
incorrect
```

This can then be resolved by switching to the **Layout** or **Script** window. At this point, I'm not

entirely sure why the **Animation** window doesn't accept pressing the Render button in step 5, but **it seems to be related to the user's window context**.

OSError – incorrect directory (CHANGED)

This is actually **fixed and shouldn't happen anymore**. Please download the latest version!

If you are experiencing an error very similar to the following after pressing „RENDER":

```
Python: Traceback (most recent call last):

File "<Drive letter>:\Blender 4.0\4.0\python\lib\os.py", line 215, in makedirs

 makedirs(head, exist_ok=exist_ok)

File "<Drive letter>:\Blender 4.0\4.0\python\lib\os.py", line 215, in makedirs

 makedirs(head, exist_ok=exist_ok)

 File "<Drive letter>:\Blender 4.0\4.0\python\lib\os.py", line 225, in makedirs

 mkdir(name, mode)

OSError: [WinError 123] Die Syntax für den Dateinamen, Verzeichnisnamen oder die
Datenträgerbezeichnung ist falsch: '\\\\\'
```
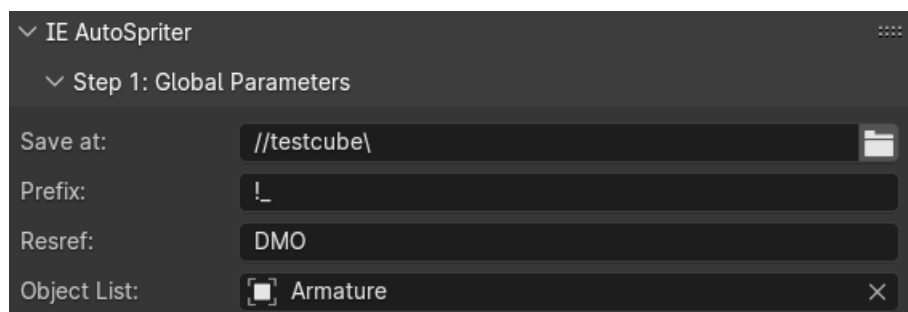
This may be due to the incorrect "Save at" path (see the next image below). This happens especially when the default directory is selected, which is available after pressing the folder icon.

This can be prevented by manually navigating from the local drive to the desired folder one by one, by typing the path manually or, which is quickest, by copying the path from your folder explorer and pasting it into IE AutoSpriter (see next image below).
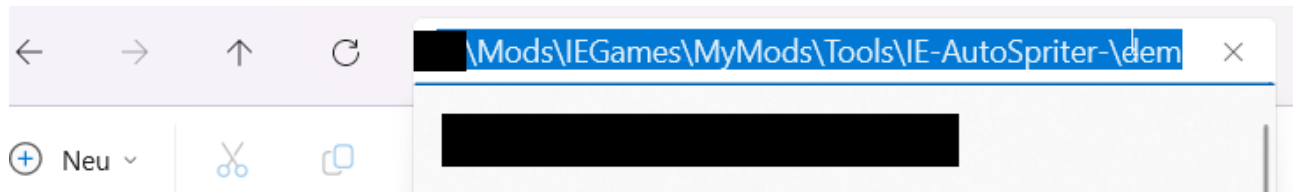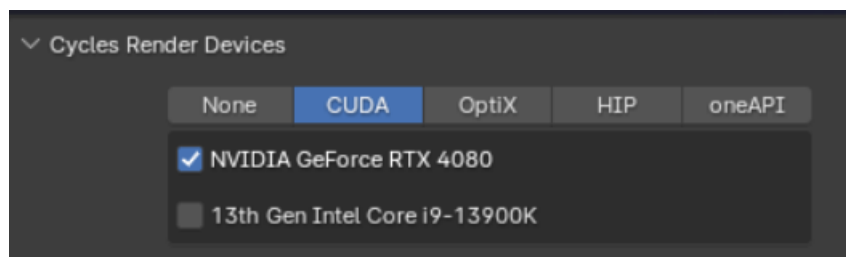
„Save at" path empty, what happens?(NEW)

This saves the animation folders and their contents directly to the Blender project path. However, it's more human-readable to include this path in the "**Save as**" option.

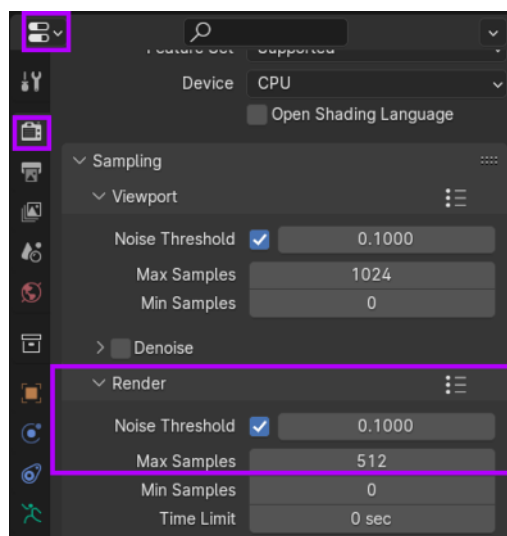## How can time performance be increased?(NEW)

Testresults can be found here.

Usage of GPU power

This option can be found under Edit→Preferences...→System. However, the change didn't result in any performance improvements on my PC.

Alter sampling parameters

You can find this in the editor window under <mark>Render (camera icon) → Sampling → Render</mark>.

Increasing the "**Noise Threshold**" and reducing the "**Max. Samples**" should improve the time performance.

Further reducing the "**Max. Samples**" (e.g., to 256) should certainly be possible without any significant loss in sprite quality, but increasing the "**Noise Threshold**" may not be as effective. Users will have to test for themselves what works best for them.
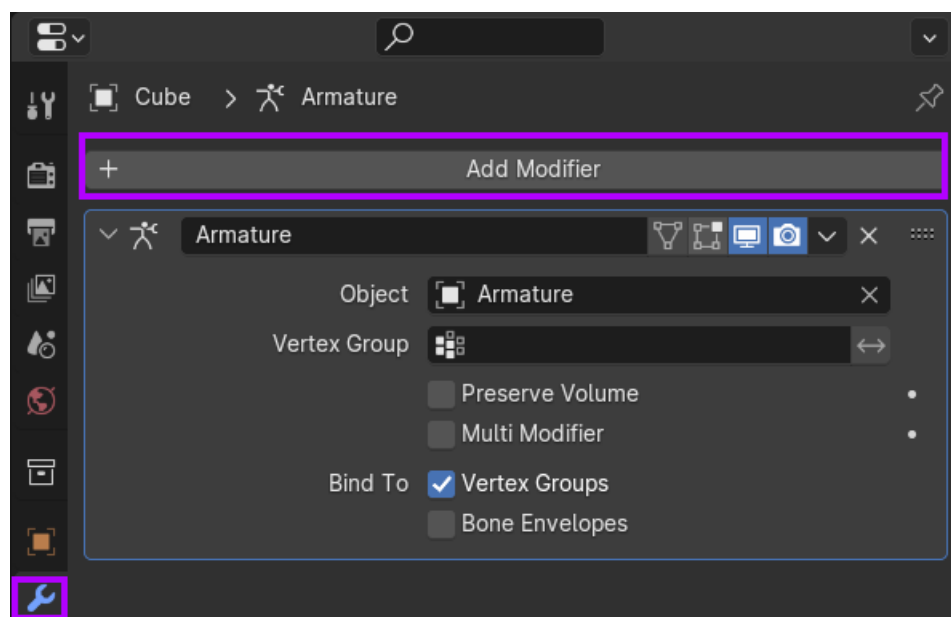
Use Decimate Modifier

<mark>**This should only be considered as a last resort**</mark> as it will definitely reduce model quality. [Decimate Modifier](#) can be used as follows:
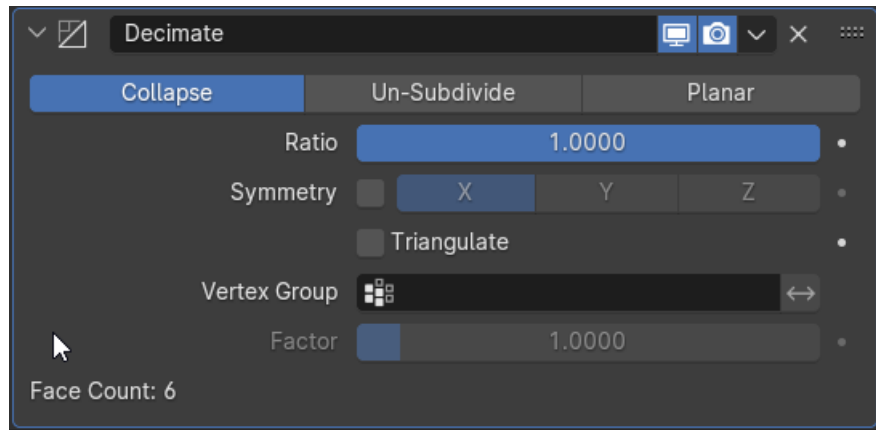
1. Choose your model in this particular case cube
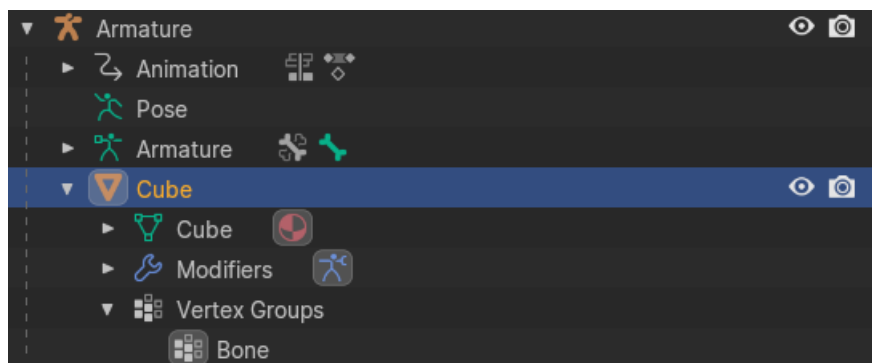
2. Press „**Add Modifier**" and select <mark>Generate → Decimate</mark>
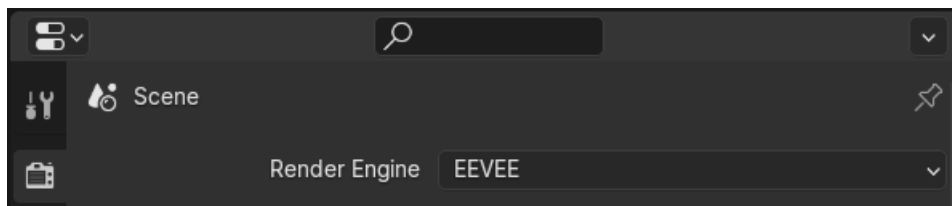
3. **Reducing Ratio** will improve performance time(see testexample), but will also reduce the number of

Change Render Engine

Switching to EEVEE will significantly reduce rendering time, but this is not currently supported by the template save files that ship with IE AutoSpriter and may be added later in the development process.

Here is the specific IE AutoSpriter test result for EEVEE