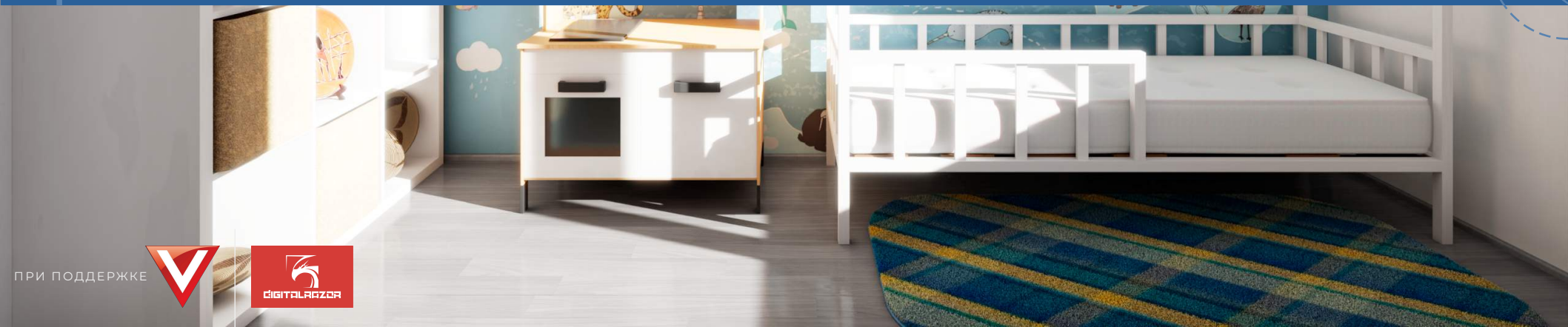




# Working with Cryptomatte pass

## Blender Cycles Workflow



ПРИ ПОДДЕРЖКЕ

# Theme



Compositing example, basic scene



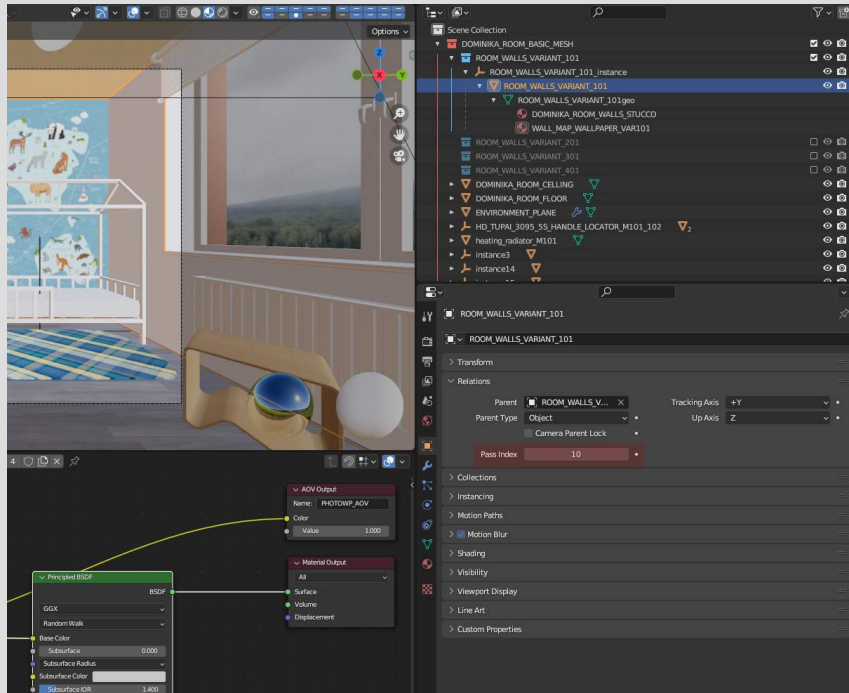
Compositing example, after corrections with cryptomatte render pass



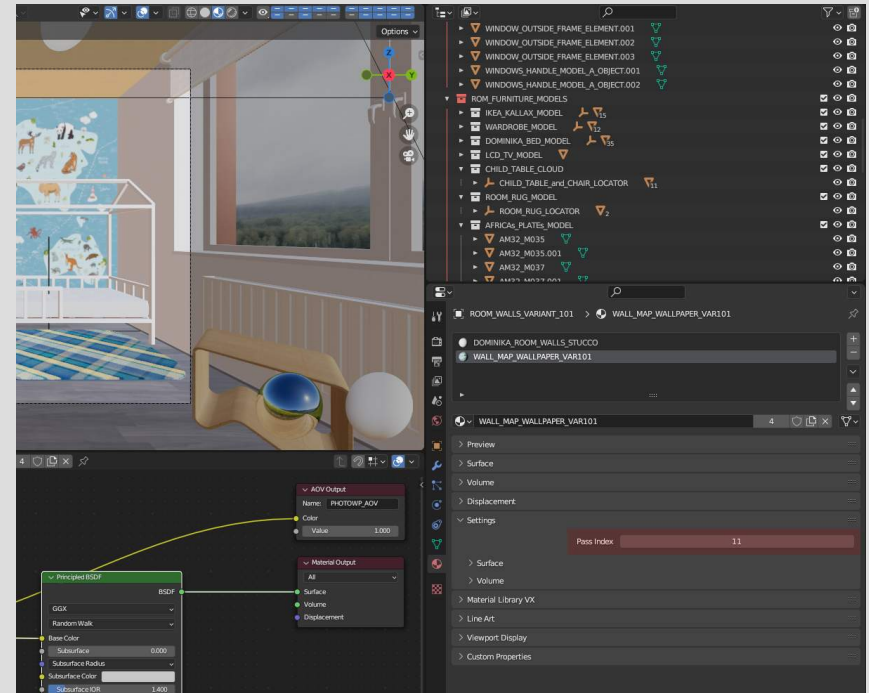
# Object and Material ID`s

In the Blender scene, you can assign individual IDs to objects or materials.

Each ID can be assigned to multiple objects or materials, creating groups of scene elements in an image.



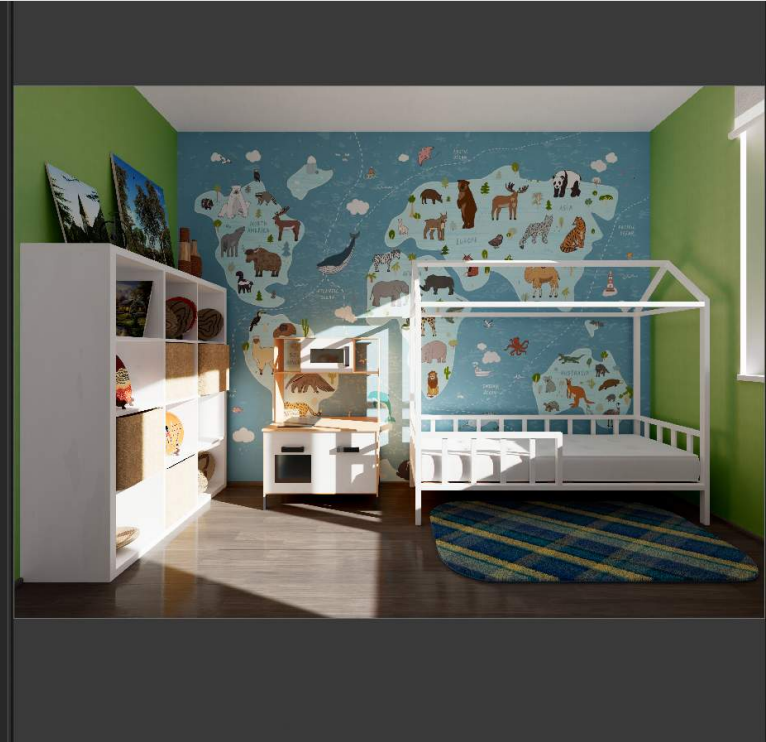
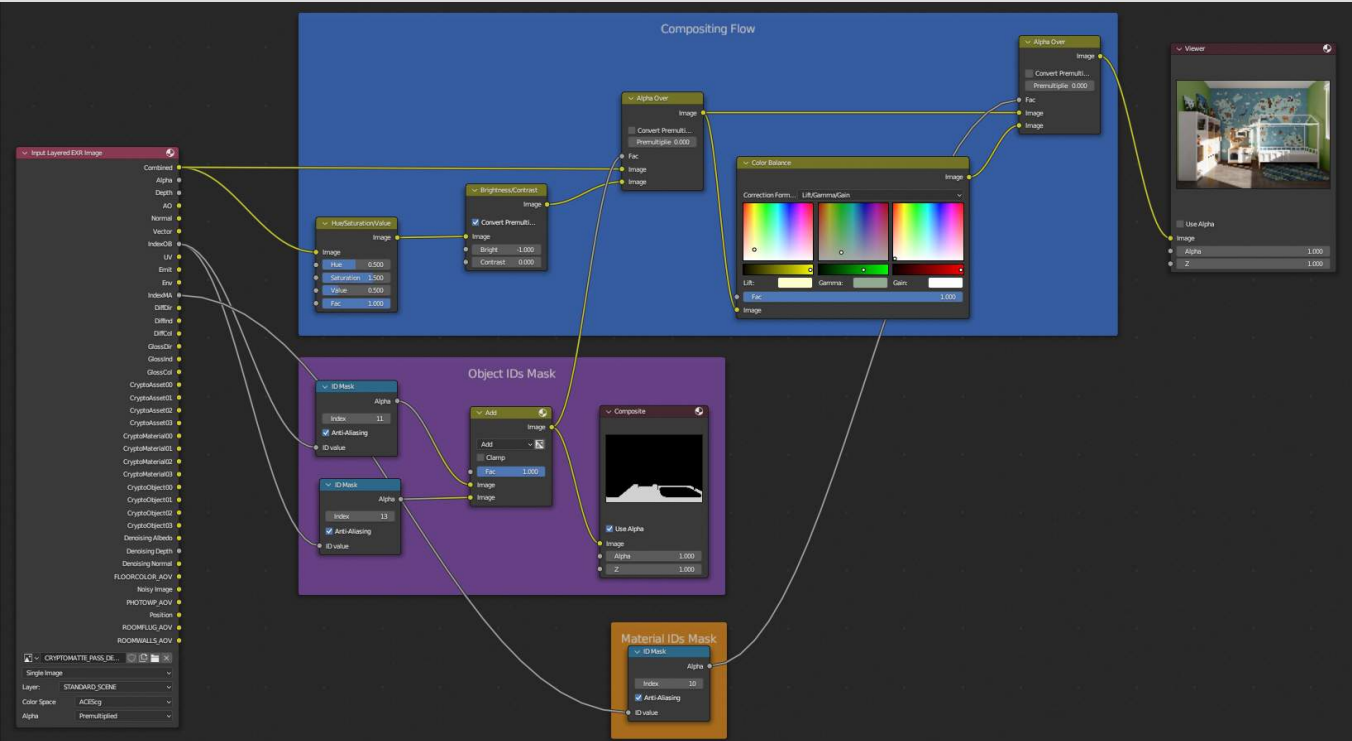
Object ID assignment in Object Properties tab.



Material ID assignment in Material Properties tab.



# Object and Material ID's

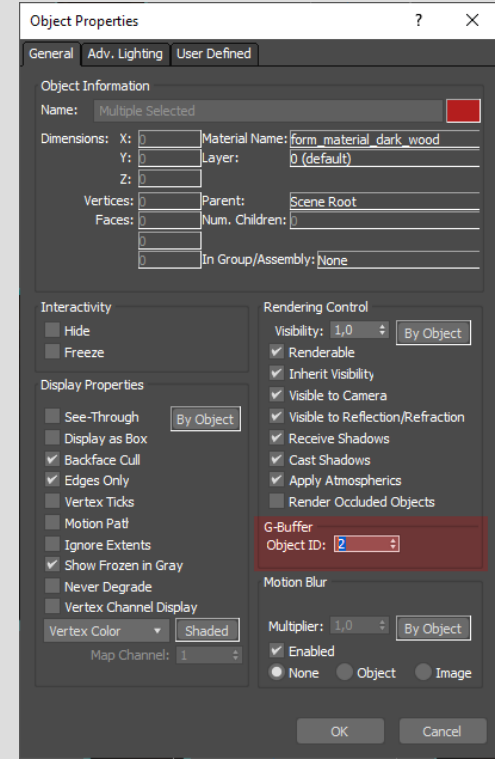
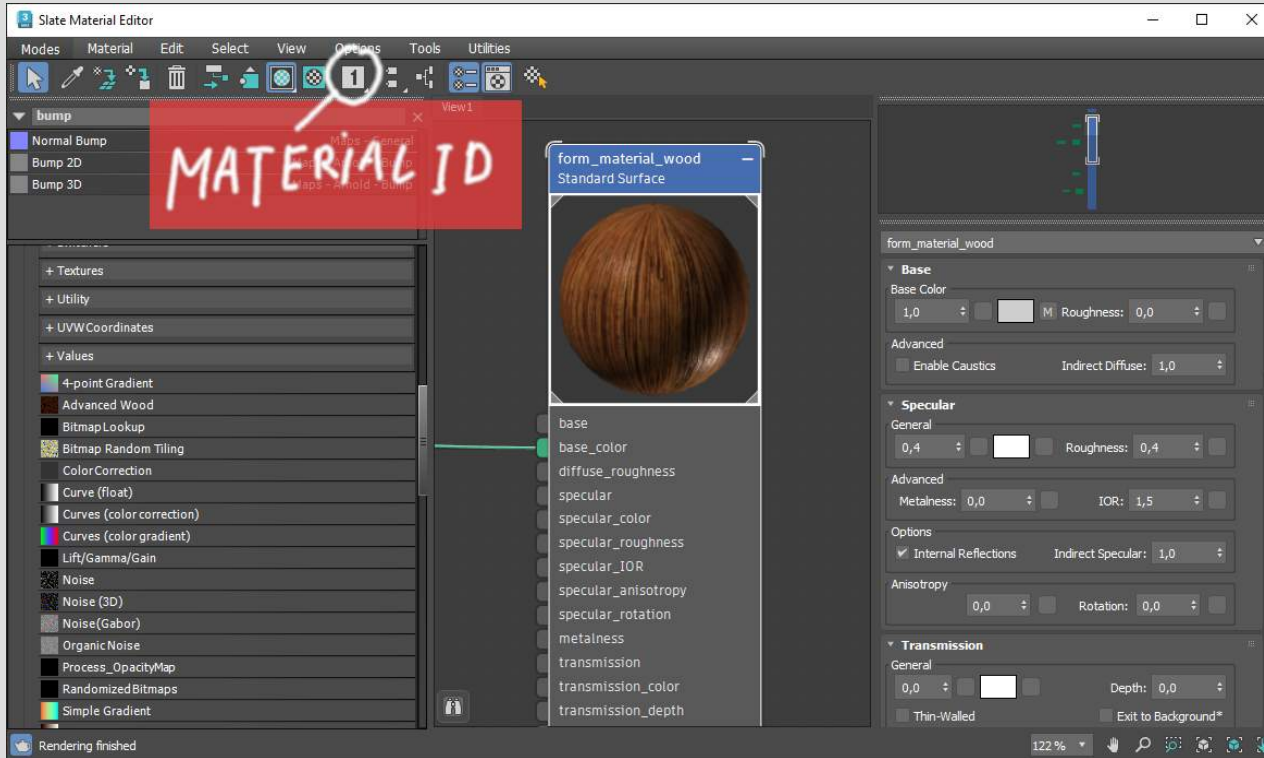


Object ID workflow example. Mask built from two different ID's, and change floor and walls color in image.



# Object and Material ID`s

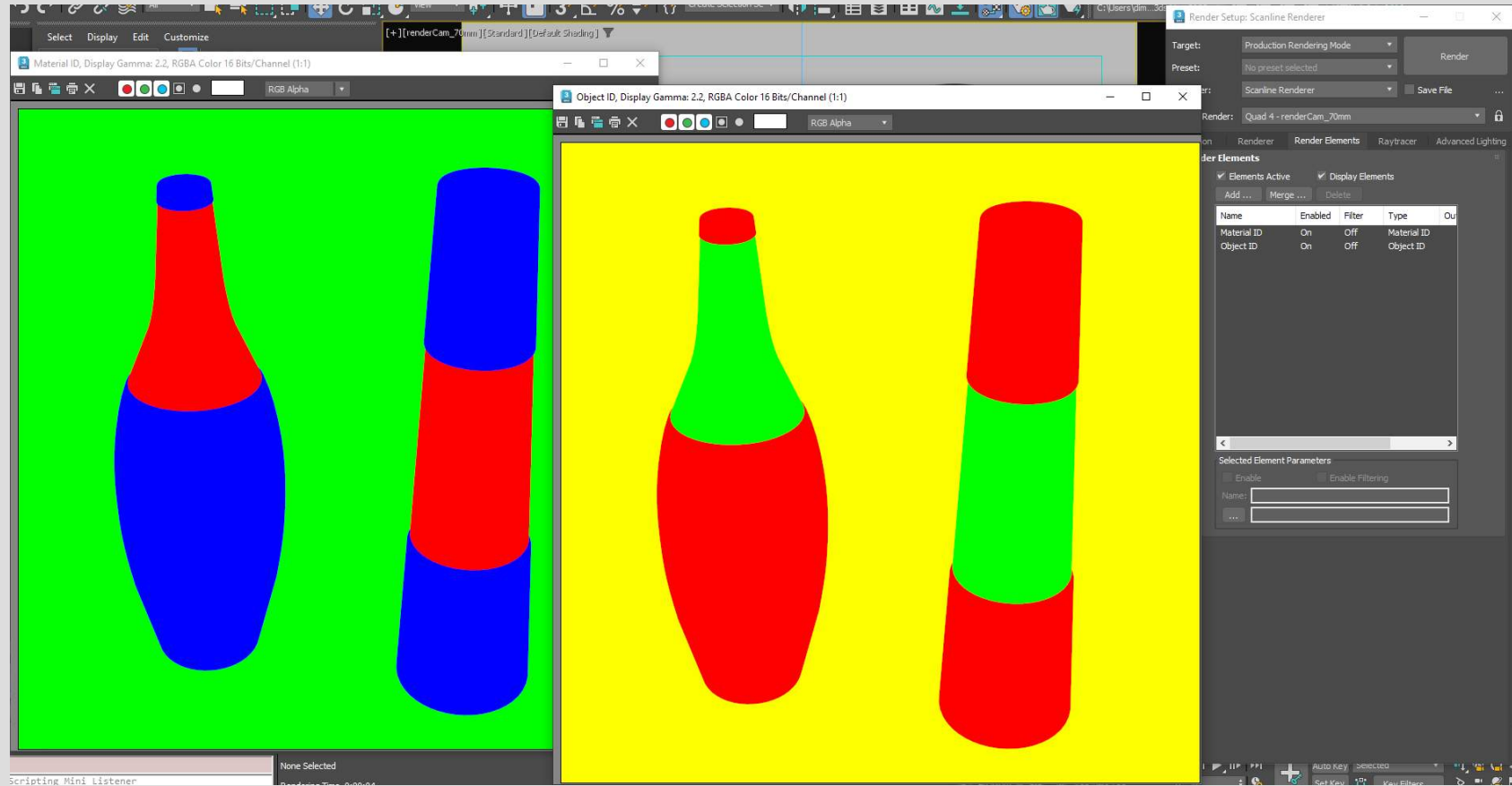
In the classic rendering and compositing workflow, artists use object and material IDs. Which are stored in passes and elements of rendered images,



Material ID and Object ID assignment in 3ds max 2024.



# Object and Material ID`s



Material ID and Object ID passes in 3ds max Scanline Renderer.



# Problems classic ID`s method

- Colored information

*Needs color keying in compositing process*

- Working with motion blur, transparency and depth of field, is challenging
- It is not possible to accurately identify the object, materials or assets from groups of parent objects

*Artist can`t select objects, assets and materials during rendering process*



# Cryptomatte pass tech



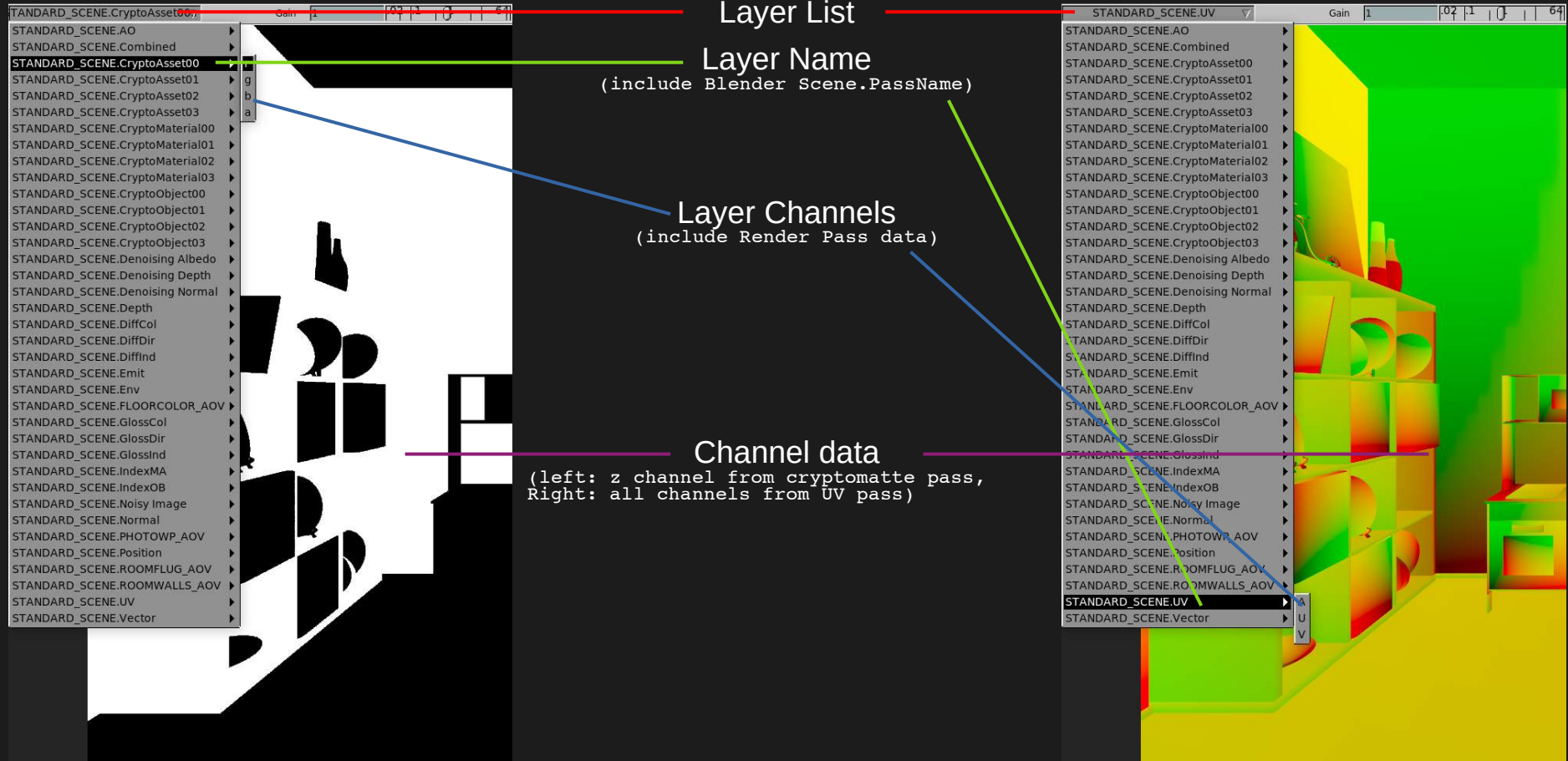
# Cryptomatte

Cryptomatte is a tool created at Psyop by Jonah Friedman and Andy Jones. It creates ID mattes automatically with support for motion blur, transparency, and depth of field, using organizational information already available at render time. This organizational information is usually names, object namespaces, and material names.

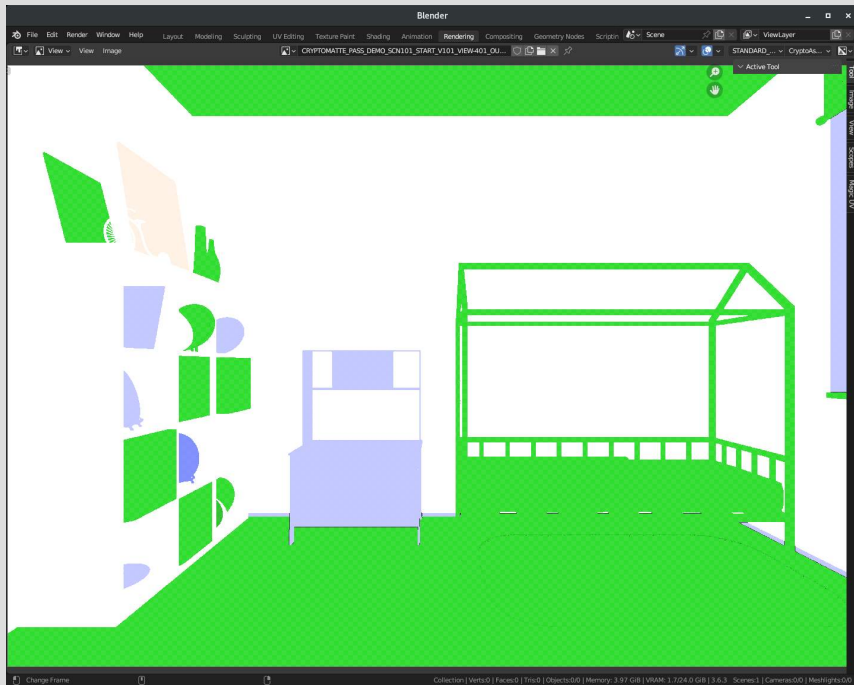




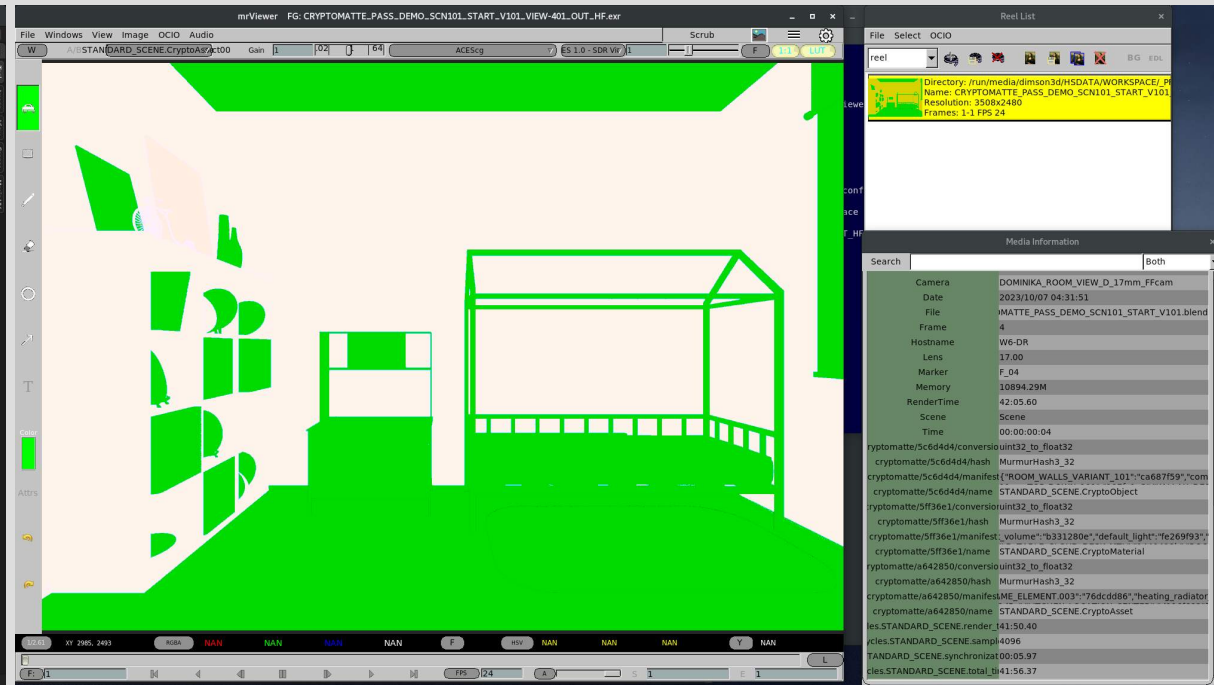
# Layers, Channels and data realisation in OpenEXR



# Cryptomatte realisation with OpenEXR



Cryptomatte render pass with CryptoAsset dataset preview.  
Image opened in Blender Image Viewer.



Cryptomatte render pass with CryptoAsset dataset preview.  
Image opened in mrViewer 6.2.3 application.  
In Media Information window you can see Cryptomatte Pass data.

# Cryptomatte in Blender

Cryptomatte is a standard to efficiently create mattes for compositing. Cycles outputs the required render passes, which can then be used in the Blender Compositor or another compositor with Cryptomatte support to create masks for specified objects.

Unlike the Material and Object Index passes, the objects to isolate are selected in compositing. The mattes will be anti-aliased and take into account effects like motion blur and transparency.

## Object

*Render cryptomatte object pass, for isolating objects in compositing.*

## Material

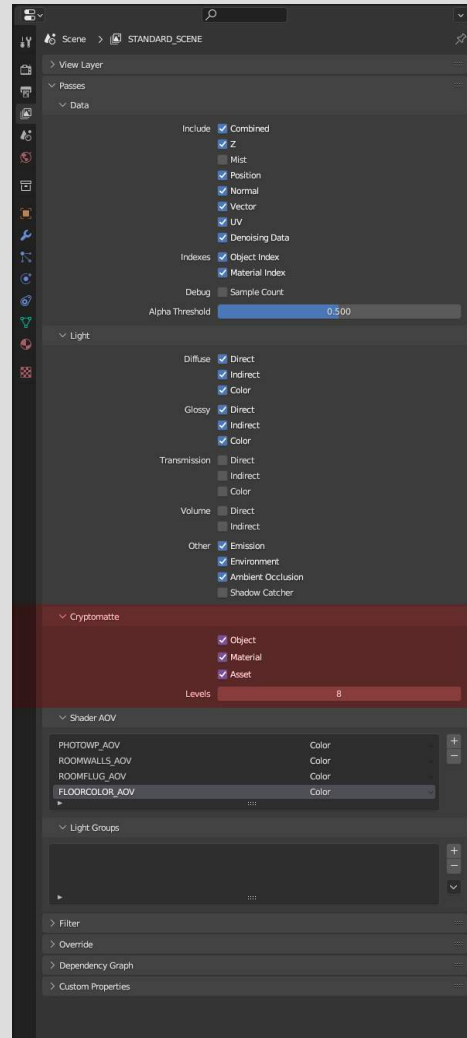
*Render cryptomatte material pass, for isolating materials in compositing.*

## Asset

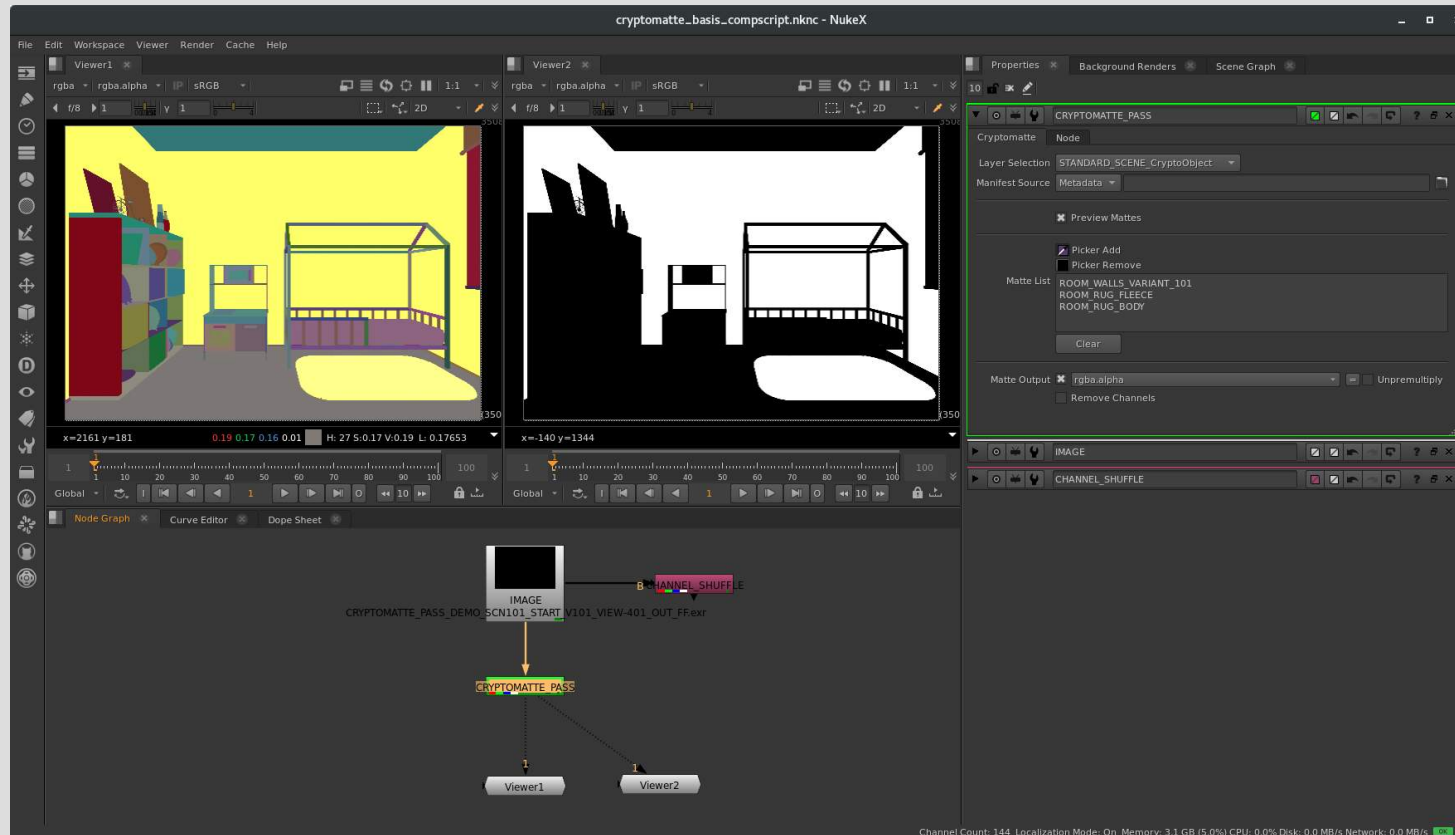
*Render cryptomatte asset pass, for isolating groups of objects with the same parent in compositing.*

## Levels

*Sets how many unique objects can be distinguished per pixel.*



# Cryptomatte in compositing software



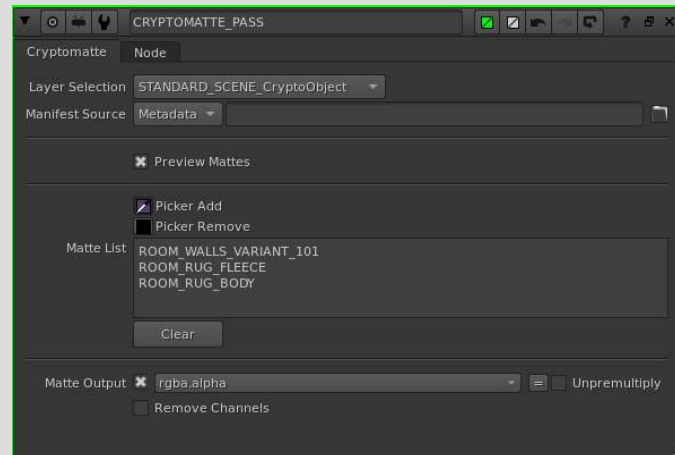
Example of matte, created with Cryptomatte pass. Pass saved in EXR image, objects selected in Cryptomatte node.



# Cryptomatte in compositing software

## Decoders:

- Nuke 8+ (by Jonah Friedman, Andy Jones)
- **Foundry Nuke 13+**
- Fusion (by Cédric Duriau and Kristof Indeherberge at Grid)
- Houdini 16.5 Compositor (By Sidefx)
- Blender 2.8.0 Compositor (By Tangent Animation and Blender Foundation)
- Autodesk Flame (Autodesk)
- Adobe After Effects (Fnordware ProEXR plugin 2.0) Ships with After Effects 2020
- Adobe Photoshop (EXR-IO 2)
- FilmLight Baselight v5
- Natron (by Fahad Hasan Pathik and Fabrice Fernandez)





# Cryptomatte in compositing software

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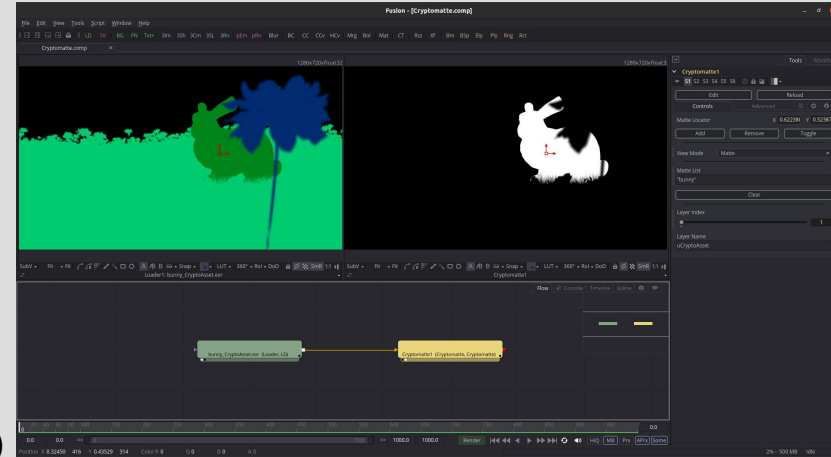


Image by Cédric Duriau and Kristof Indeherberge at Grid

# Cryptomatte in compositing software

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Image by fnord software

# Cryptomatte in compositing software

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Image by 3D-IO Games & Video Production GmbH



# ***DEMO***

