

Material Style Transfer: User study instructions

Thank you for participating in our study!

Your task will be to assign materials to objects in a 3D scene such that the mood, look, style and feeling of a 2D guide image are reproduced as well as you can.



Besides **diffuse colors**, we are particularly interested in the reproduction of **specularity**, **glossiness** and **texture**.

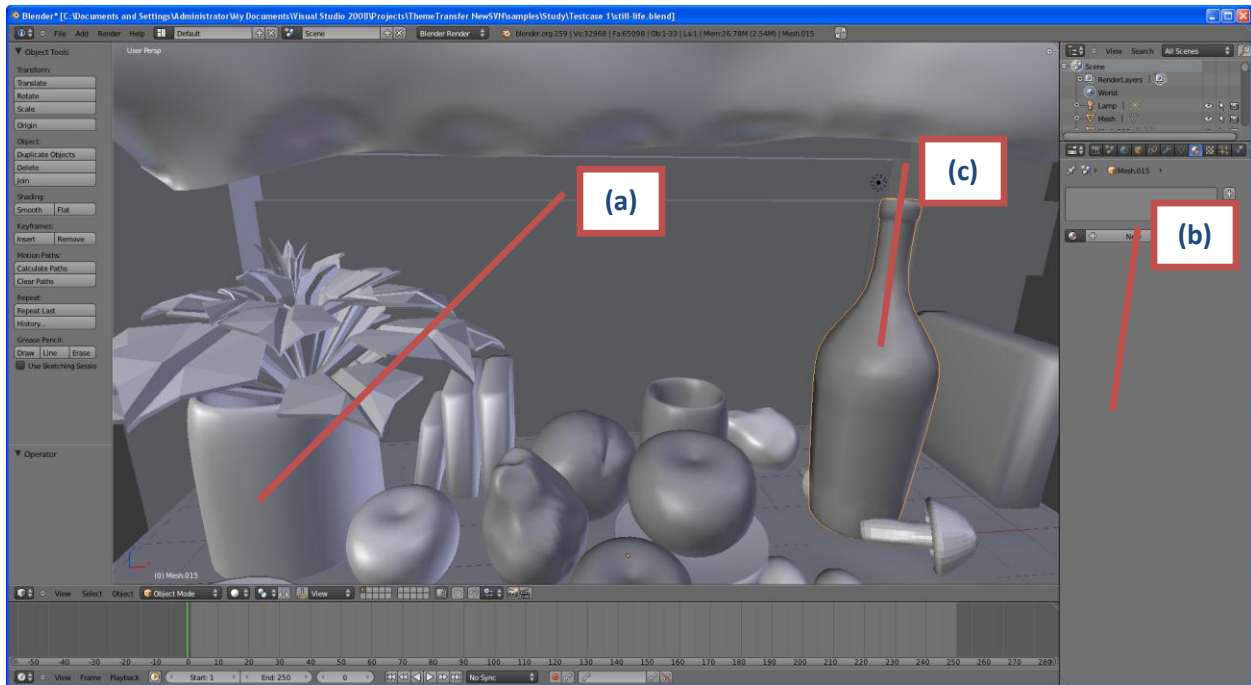
We already **partitioned** the 3D scene into a fixed set of objects for you. An apple can receive one, and only one material. A back wall might consist of multiple objects. You may freely choose the number of materials.

We will capture the intermediate result after **5** minutes, as well as the **final** result. Please try to achieve a good intermediate result as well as a good final result.

We will use the free software "**Blender**" for the task. Please read the following document for the instructions how to perform material assignments in Blender.

Assigning materials using Blender

The main window of Blender looks like this:

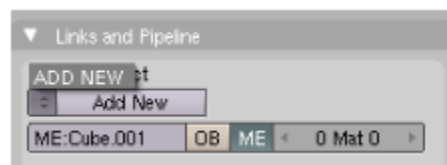


The objects are found in the center of the UI (a), the materials are found to the right (b).

Right- click on an object to assign change its material assignment. The selected object 's boundary pixels will be highlighted, e.g., the bottle (c).

We fixed the camera and lighting position of the scenes. Please don't change them.

A new material is added using the following dialog:



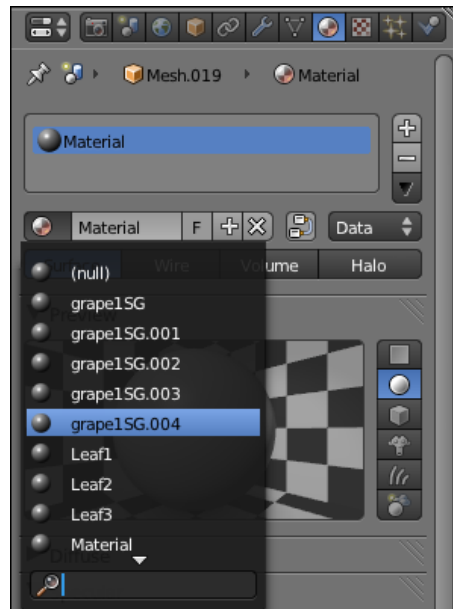
Initially, all objects do not have materials. By pressing F5, you switch to the "Shading Context" and the "Material" window appears. This window should be almost empty at this point.

Adding a new material is done by clicking "Add new". The following options are available:

- "Add New"
Adds a new material and links it to the selected object. Blender will automatically set its name to "Material.001". If you find it helpful, you can give your materials clear names so you can keep track of them, especially when they're linked to multiple objects.

- "Select an existing material"

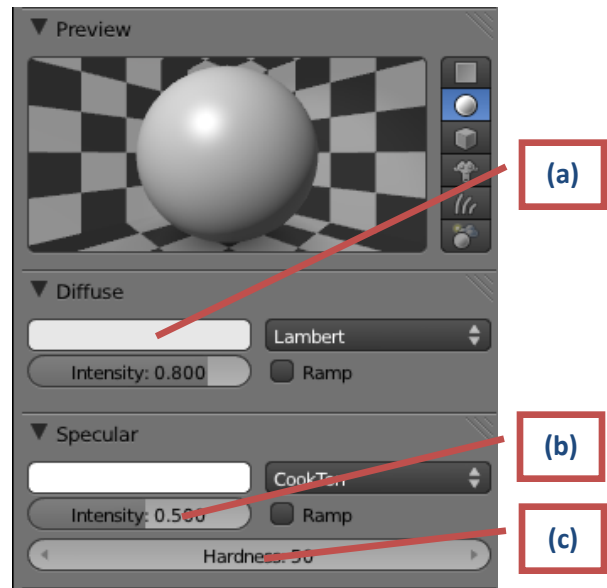
Choose an existing material from a list. If there are many materials, you will see a choice "Data Select". Clicking this, one of your windows will change to a "Data Browser" window that lists all of the materials for you to choose from.



Diffuse/Specular/Glossiness

Blender allows to create complex material settings, but we ask you to only use the following three basic parameter:

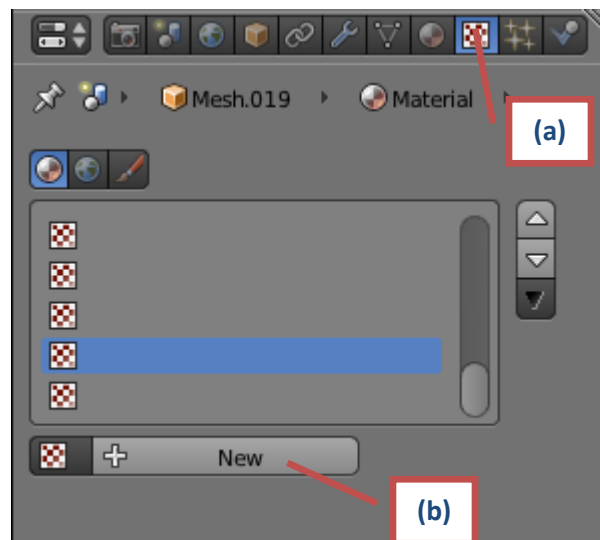
- **Diffuse (a)**
The basic color of the material.
- **Specular (b)**
The strength of the highlight.
- **Glossiness (c)**
The shape of the highlight. Low values result in small, high values in large highlights.



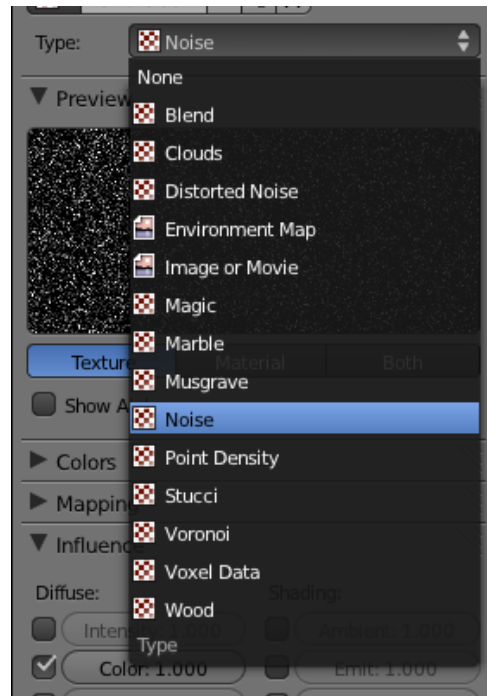
Texture

If the diffuse color inside an object varies (such as found in stone or wood) you can achieve this appearance using textures.

- To add new texture to the material, choose the texture bar (a).
- Press "New" (b) to create new texture



2. Choose 'Noise' as texture type



3. As new texture is created. You can use the following three parameters to control the properties of texture

- **Brightness** (a)
Adjust brightness of texture
- **Frequency** (b)
Adjust contrast of texture
- **Saturation** (c)
Adjust the saturation of colors in the texture

