Creating Textures and Shaders for use in Optitex

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Hardware Requirements

It is highly recommended you have the following hardware installed on your computer to create textures and shaders correctly:

- Desktop Scanner (flatbed, above 600dpi by any reputable company. Some examples (although not endorsed by Optitex) are HP Scanjet 300, Canon CanoScan 9000F MarkII, Epson Perfection V370 Photo Scanner
- Camera + tripod
- Ruler
- Iron
- Black Matte Fabric

Software requirements

It is highly recommended you have the following software installed on your computer when creating textures and shaders (Note: These are 3rd party software products that are not supported by Optitex – they are just recommendations for usage in this process).

- Photoshop
- Illustrator
- Pixplant (http://www.pixplant.com/)
- Notepad++

Creating Textures

Perform the following steps if you want to create a texture to be used in the PDS.

1. Iron the fabric for minimal crinkles.
2. Place on a hard surface.

   There are two options for placing on a hard surface:

   1. Place the fabric on a scanner and scan the entire A4 surface in 600DPI.
   2. Take a photo of the fabric with a ruler for proportion and try to get as much of the fabric as you can in the frame.

3. Open the image in Photoshop and crop a 10X10 cm square (make sure that the image resolution is 2362).
4. Save in a PNG file format.
5. Use the Pixplant software to create a tileable image.
6. Open the images in Photoshop and make sure that the physical scale is 10X10 cm and that the resolution is 2362 in 600DPI (PDS is case sensitive to DPI and physical scale).
7. Save in a PNG file format

8. For further instructions in using these texture files within the Optitex software, please consult the Optitex Help, Support and/or your Technical Account Manager.

Creating Shaders

There are two types of rendering engines in the PDS:

HQR: High Quality Rendering

PR3D – Photo-realistic Rendering

For both types the first steps are the same:

1. Follow steps 1-3 in the Creating Textures section above (Note: If you have already scanned the fabric you can use the same 10x10 square that you used for the Texture).
2. Open the Pixplant software and extract 6 texture maps.

   You will receive the following file types:

   - <Your File name>_AO
   - <Your File name>_Diffuse
   - <Your File name>Displacement
   - <Your File name>_Normal
   - <Your File name>_Specular
   - <Your File name>Texture

3. Save them as PNG files.

Following this step, the process is slightly different so we will describe each one separately.

NOTE: The recommendations below are for creating a shader based on one of the existing shaders in the Optitex library. Therefore, it may not result in a 100% accurate representation of the actual fabric. For a fully accurate shader, it is recommended to request one to be custom created for you by the Optitex 3d team.

Creating HQR Shaders

The following process describes how to create a shader for HQR.

1. Go to the following directory *C:\Program Files\Optitex 15\App\media\textures*.
2. Create a new unique directory for the new textures you created and copy the files into this directory.
3. Go to the following directory - C:\Program Files\Optitex 15\App\media\effects here you can find the default HQR shaders in PDS.
4. Select one of the shaders that is closest visually to the one you intend to create.
5. Create a copy of this shader and rename it to your liking

6. Open this file with notepad++
7. Within the file, do a search for png files (using the search term: ".png"). You are going to get 3 hit: AO, normal and specular.
8. Replace the file names with the files you created (make sure to include the parent directory of the files).
9. Save the file with a new name of your choice. This is very important or else you will override the existing Shader in the Optitex library.
10. Open the PDS.
11. Create a piece and place in 3D, assign the new shader.
12. Select the file name_diffuse and assign it as a new layer to the shader.

    Now you should have a complete set of shaders and textures running.

13. Run HQR and test your new shader.

Creating PR3D Shaders

The following process describes how to create a shader for PR3D.

Note: PR3D shaders must have a corresponding HQR shader file in the same directory; otherwise they will not work.

1. Go to the following directory *C:\Program Files\Optitex 15\App\media\textures .*
2. Create a new unique directory for the new textures you created and copy the files into this directory.
3. Go to the following directory - *C:\Program Files\Optitex 15\App\media\IrayContent\SampleTextures\xml* here you can find the default PR3D shaders.
4. Select one of the shaders that is closest visually to the one you intend to create
5. Create a copy of this shader and rename it to your liking.
6. Open this file with notepad++
7. Do a search for a PNG file. You are going to get 3 hits: AO,normal and specular.
8. Replace the file names with the files you created (make sure you include parent directory of the files).
9. Save the file with a new name.
10. If you don't have a corresponding HQR shader and it is only for PR3D, in the HQR folder C:\Program Files\Optitex 15\App\media\effects create a shader with the same name as the PR3D shader. For example: denim.cgfx (HQR) denim.xml(PR3D).
11. Open the PDS.
12. Create a piece and place in 3D, assign the new shader.
13. Select the file name_diffuse and assign it as a new layer to the shader.

    Now you should have a complete set of shaders and textures running.

14. Run PR3D render and test your new shader.