STARTING COMPOSITING PROJECT

This tutorial is divided in two parts: Lighting in Maya and compositing in Nuke. Only describe basics techniques but it is your task to learn them and go beyond.

These are the outputs this tutorial will produce:

End product

Car beauty pass

Car shadow pass (displaying alpha channel)
Part 1: Maya lighting

1) Google background image
2) Create a camera in Maya and lock translation, rotation and scale
3) Select the camera and look through selected (Panels-> look through selected)
4) Import image into camera image plane
5) Import model you would like to composite into the scene. In my particular case it is a car model. It might be a good idea if you group it and center the pivot.

6) Once the model is in the scene try to place it in the position it matches with the perspective.
7) Once the model is in place, create the plane which it will be the ground, we are going to cast shadows to this plane.

8) Light the object matching the scene lighting. In my particular example, I am using HDRI lighting but this technique works for any lighting type using Mental Ray rendering engine.

9) Once the lighting is complete, assign to the ground a “Use background” shader to the ground so we can extract just the shadow pass.
The idea is to have the scene broken down in different render layers so we can composite them in nuke and adjust each one of them independently. For this initial stage we are going to have one layer with the beauty pass and one layer with the shadow pass. However, the beauty pass can be broken down in many different elements as well (reflection, specular, diffuse, occlusion, etc).

Prepare Maya scene for compositing

1) Access the Render tab in the layer editor and right click on “masterLayer” and copy it two times.
2) Name them Beauty and Shadow
3) **Beauty layer:** select the ground plane and set the visibility off from the channel box editor or using any other method. Select the 3D model (in my case the group that contains the car model geometry) and go to the attribute editor: Mental ray->Flags: Right click over “Derive from Maya” and choose: “create layer override” (see image below).
Shadow layer: In this layer we only want the shadow pass. First, select the 3D object and go to the attribute editor: Mental ray->Flags: Uncheck “Derive from Maya” and set “visible” to No. In both properties, right click and choose: “create layer override” (see image below).
If we render a preview we should have the car without shadows and in another layer just a shadow pass with no car.

Beauty and shadow respectively render layers

4) However, we need the renders without the background image so we can composite them in Nuke. To achieve this, select the camera, go to the “Attribute editor” and in the Display Mode flag, choose “None”.
5) Final step, set the render directory, final settings and render!. We should have one render with the car alone and one with the shadow pass alone.

**Part 2: Nuke**

1) We import the footage by clicking over the canvas and pressing the “r” keyboard. We select the footage we would like to import. In case we have not adjusted the gamma correction from Maya, we need to set the properly workspace in Nuke. We do this by setting the color workspace to “sRGB” in the properties panel.
2) We set the project resolution to 1920x1080. We do this by left clicking over the canvas and pressing “s”. In the “full size format” flag we select: HD_1080 1920x1080.

3) We select the read nodes and assign a “reformat node” to match the project resolution. Select the “output format” flag and select: “root.format 1920x1080.

4) Select both the car beauty and shadow reformat nodes, press the keyboard “m”. If you left click on the viewer and press the character “a” on the keyboard, you should see the shadow composed under the car node. Press “a” again to access the “rgba” channels.

5) If the shadow is on top of the car beauty node, we need to invert the inputs. You do this by selecting the Merge node and pressing “Shift + x”.

6) Once we have the car and shadow pass properly composed we select the Merge node plus the background reformat node and again, press the “m” keyboard. We should have a full composite image.
Initial composite script

This is the initial set up for starting the compositing. Now it is time iterate over and over again until you have the best possible results.