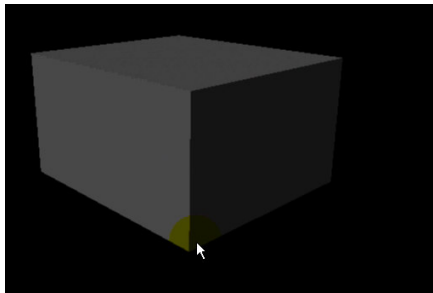


Mia Round Corners Node

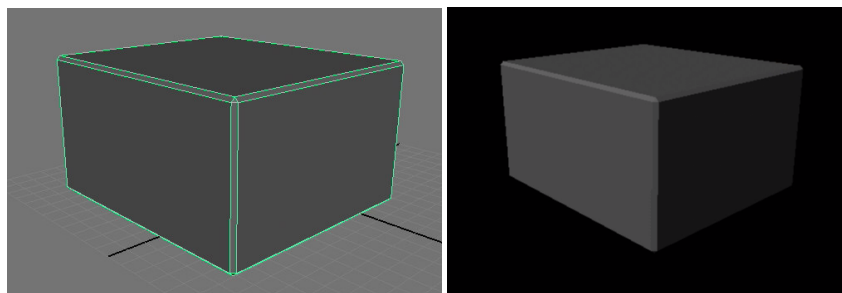
NAKHLE Georges - july 2007

This tutorial describes how to use the mental ray MIA Round Corners node.

- 1) Create a polygonal cube, and make sure that mental ray plug-in is loaded.
- 2) Set your renderer to mental ray.
- 3) When rendering, the cube appears to have hard, cutting edges; such edges prevents your scenes from looking realistic.



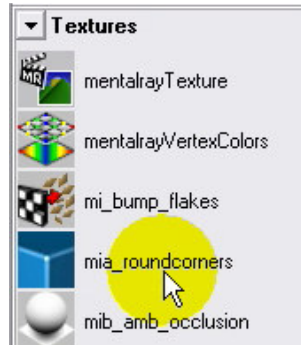
- 4) One of this problem's solutions consists of using Bevel. Under the polygons menu, choose Edit mesh -> Bevel, and set the offset to a value that fits your model.




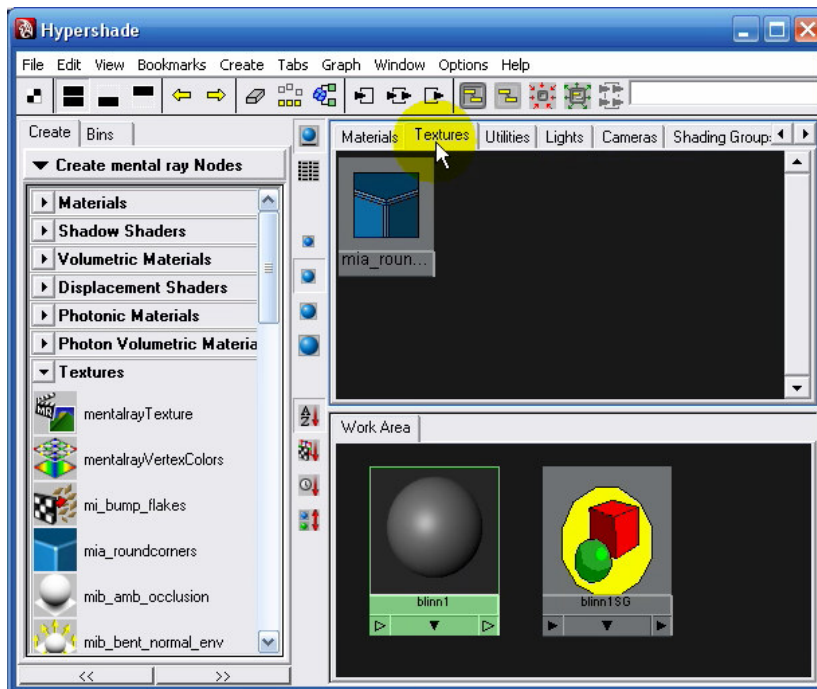
- 5) Another solution is by using the MIA Round Corners node. The MIA Round Corners node can be used on Maya, as well as on mental ray materials.

With Maya Materials

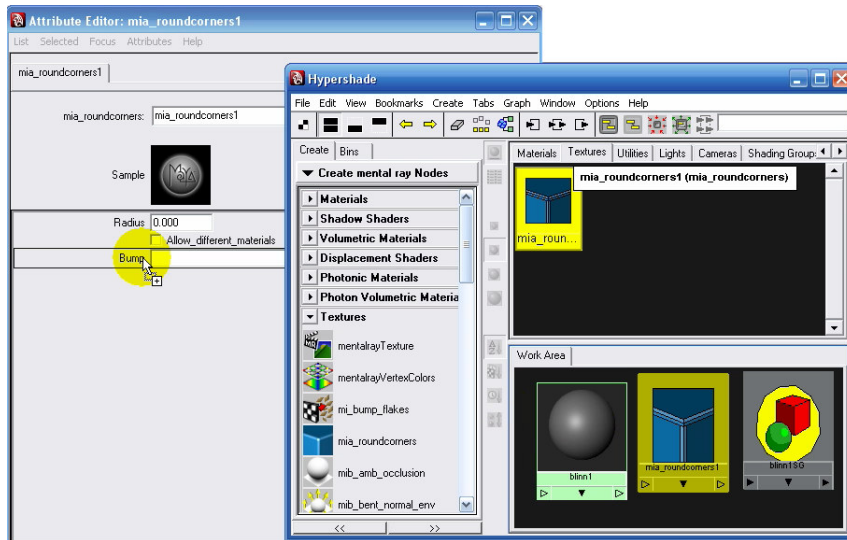
- 6) Let's begin by using it on Maya materials. Choose a blinn material and apply it to the cube. Go to Create mental ray Nodes, and from the textures tab, choose mia_roundcorners.



- 7) Now, you will have to connect the mia_roundcorners node to your cube. For this, click on the blinn material, then on input-output connections . The blinn shading group appears. Break the connection between the two nodes, so drag-select the connection, and press on delete. Once the connection broken, go to the textures tab and using the middle mouse button, click and drag the mia_roundcorners node to your work area.

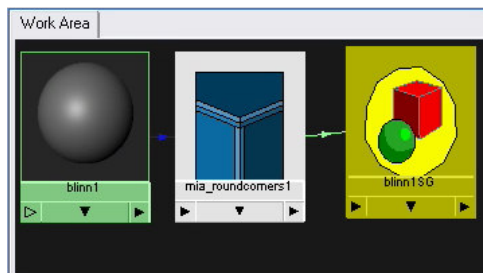


- 8) Double click on the mia_roundcorners to open the attribute editor. Using the middle mouse button, click and drag the blinn node, to the bump slot of the mia_roundcorners node.

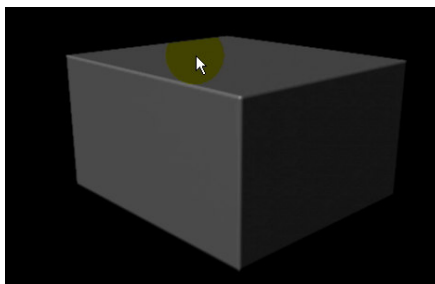


That establishes the connection between the 2 nodes. Set the radius in the mia_roundcorners node attributes to a value that fits the dimensions of your model.

- 9) Connect the mia_roundcorners node to the blinn shading group. For this, double click on the blinn shading group node, and using the middle mouse button, drag the mia_roundcorners node to the Surface material slot(the maya surface material slot or the mental ray material shader slot, both work fine in this case).
- 10) All the connections done, take a render of the scene, and compare the cube with and without the mia_roundcorners1 node. Smooth edges appear on the cube.

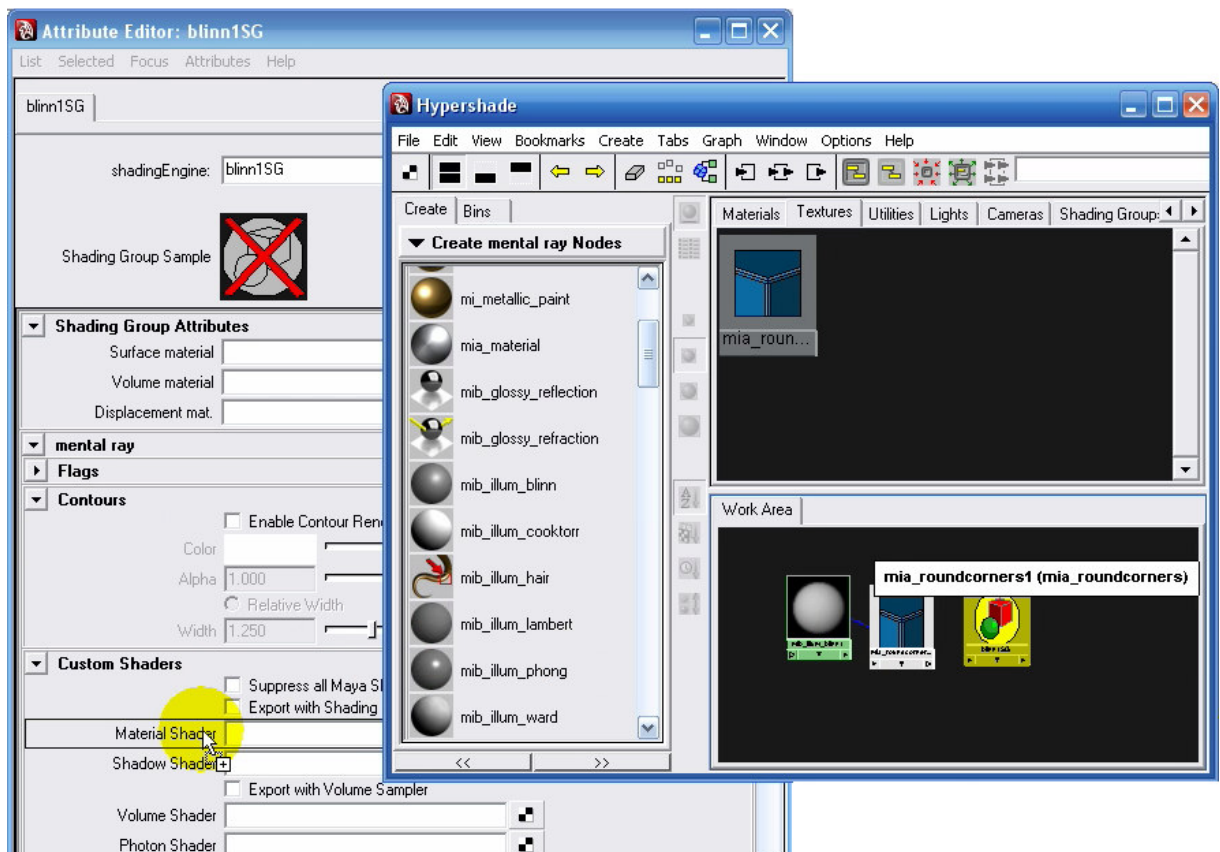
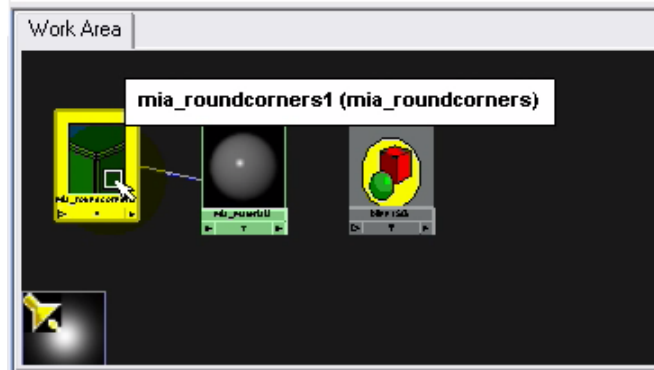


It is important to point out that the mia_roundcorners node, unlike the displacement map, doesn't change the geometry of the object. It affects the normals of the geometry, like the bump maps do, so it affects the way the light interacts with the object.

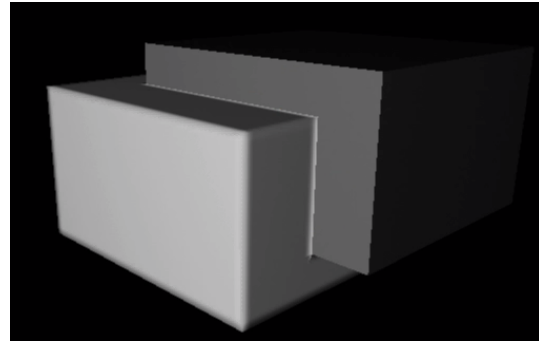
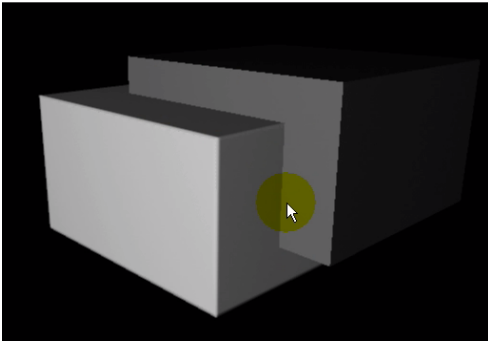


With Mental Images Materials

- 11) Now let's work with the mental images materials. Create a new mia_roundcorners node, and create a mental ray blinn material. In the mia_roundcorners attributes, using the middle mouse button, drag the blinn material node to the bump slot. Set the radius to a proper value. Assign any material to your object, in order to create a shading group for it, open the attribute editor for this shading group, and under the mental ray tab, drag the mia_roundcorners node into the Material Shader slot. Create a light in the scene, and hit render. The smooth round corners appear on the cube.



- 12) Let's try smoothing the intersection between 2 objects with different materials using mia round corners. Duplicate the cube, and move it a little bit away from the first one, so they still touch. Assign a different material to it, for example a lambert material. In the mia_roundcorners dialog assigned to the first cube, check Allow_different_materials. By checking this parameter, the intersection of the 2 cubes will be rendered as smooth. The radius parameter may need tuning for it to appear.



- 13) Using the mia_roundcorners node with the mia_material is a bit different from previous materials. Create a mia_material node, and assign it to the cube. Create a mia_roundcorners node. Open the mia_material dialog box, and using the middle mouse button, drag the mia_roundcorners node to the texture slot under the bump tab. Set the radius to a proper value, and take a render of the scene. Smooth edges appear on the cube.

For a video version of this tutorial:

http://www.geonak.com/wp-content/uploads/2007/06/mia_roundcorners_Maya.zip

For any questions or suggestions don't hesitate to contact me at georges.nakhle@geonak.com

Visit my website: www.geonak.com

Regards

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