

**CSC 476 – Lab 3 – May ?, 2007 <ROUGH DRAFT – posted for your interest ONLY>  
<THIS DOCUMENT WILL CHANGE>**

**Normal mapping using a shader**

Please note that this lab should be completed **individually!** You may talk to one another about the lab, but you may not look at someone's working code!

Implement an OpenGL program which includes a pixel shader to view a normal mapped model. You may look into creating the normal maps from a high res and low res mesh. Both Nvidia and ATI has normal map creater tools. Nvidia's tool can be found at:

[http://developer.nvidia.com/object/melody\\_home.html](http://developer.nvidia.com/object/melody_home.html)

Or ATI's tool can be found at:

<http://ati.amd.com/developer/tools.html>

(click on normal mapper)

You are free to create the normal map from any model. You must write your own shader to render the normal map!!!! Please use either Cg or GLSL to write your shader. Ideally, you should include your normal mapped model into your Lab 1, however, you are only required to generate a program which can load, render and rotate a normal mapped model.

**Learning Objectives**

- Learn to about **pixel shaders**
- Learn about **the power of normal mapping**

**• Grading and Due Date**

You must **demo your program in lab on May ?.**

**• Programming Design and Implementation Requirements**

1. Generate a normal map using the Nvidia or ATI developer tools.
2. Write a pixel shader to render your low resolution model with the generated normal map