

Computer Graphics

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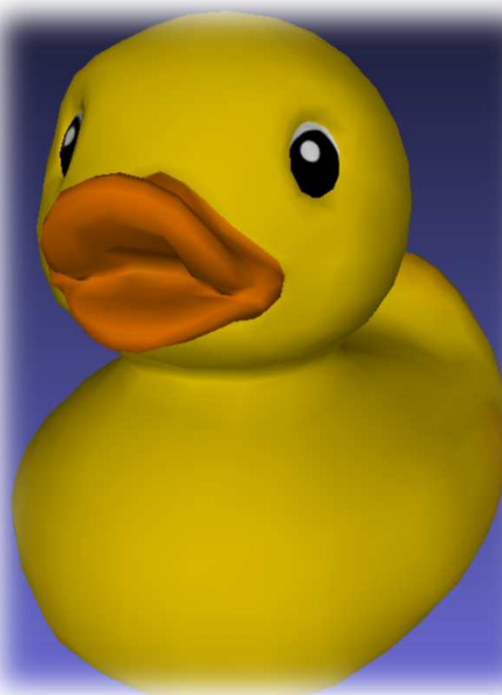
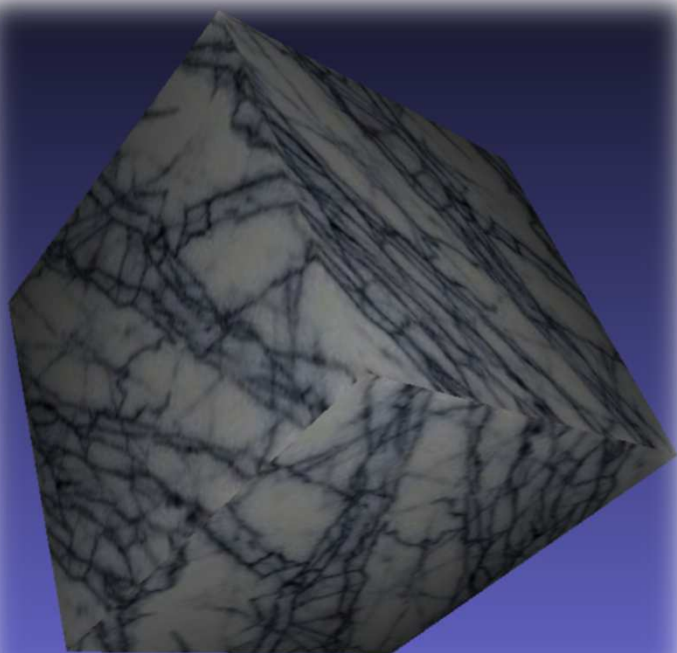


Assignment #3

Texture Mapping



What we expect to see



Requirement

- ◆ **You are required to write a program that can accept 3D test models as in previous assignments**
- ◆ **The models should be rendered with provided textures**
 - **The provided model will contain each vertex's position, normal, and **texture coordinate****



Requirement

- ◆ The texture mapping results should be combine with the lighting results from assignment #3
 - using a **modulation** function to combine texture and lighting effect
- ◆ **Texture mipmapping** is required
- ◆ Run time modification to different **texture filtering mode** is required
 - Demonstrate the filtering effects when the model size is change (zoom in or zoom out)



Requirement

- ◆ **Transformation such as model transformation and viewing transformation in assignment #2 are required to check the texture mapping effect on the 3D models**
- ◆ **Display help file, pressing key 'h', for how to control the actions of your program is required (display on console window)**



Hint

- ◆ **How to make sure the texture filtering works as expected**
 - **Use a small texture for magnification filtering check**
 - **Use a large texture for minification filtering check**
 - **Use regular patterns so that you can easily find the difference between various filtering modes**
 - ▶ **Replace the texture image by the one you would like to verified. E.g., a checkerboard texture image.**



Input Model Format

- ◆ **Wavefront 3D Graphics model description file with extension .obj**
- ◆ **The input model contains not only the vertex position information, normal information for lighting calculation, but also the texture coordinates for texture mapping**



Due Date

- ◆ **Two weeks after the assignment is announced, should be 6/12**
- ◆ **Submit your assignment, source codes, executable binary on PC, and also the documentation of your work, to iLMS**
- ◆ **Late submission is allowed for minimum score**
- ◆ **No score if you don't submit you assignment**
- ◆ **If you copy from others, your score will become zero or be down-graded**



Final Reminder

- ◆ All the late submissions should be received by iLMS no later than **11:59pm on 6/19**
- ◆ The final grade will be submitted to the grading system **no later than 6/28**
- ◆ For those graduating students, if you would like to receive your grade earlier, then you will have to submit all your homework assignments on time.
 - That is, **no later than 11:59pm on 6/12; and**
 - **Send an email (with your student ID and name) to me and TAs for requesting an early grade submission (again, no later than 11:59pm on 6/12)**
 - ▶ **I will reply you an acknowledgement to confirm your request**



Q&A

