Computer Graphics

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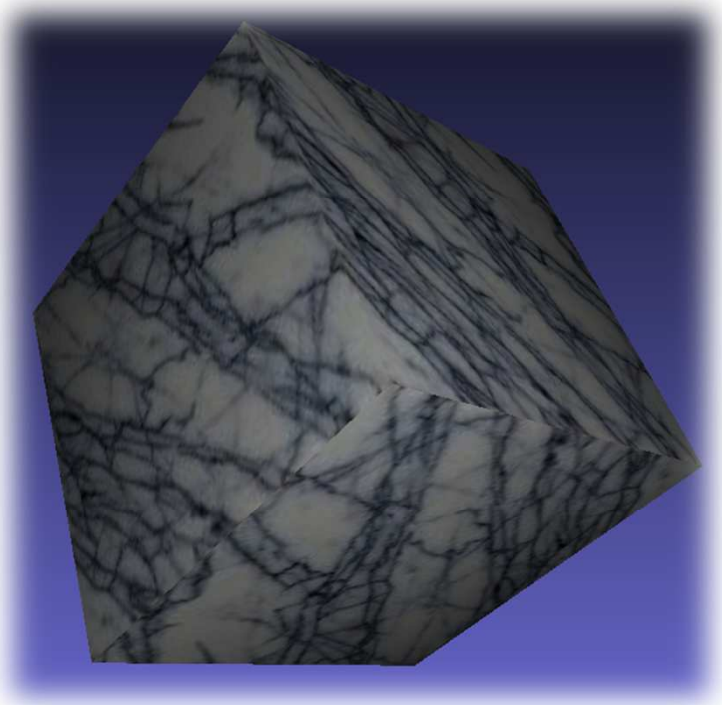
ICL/ITRI

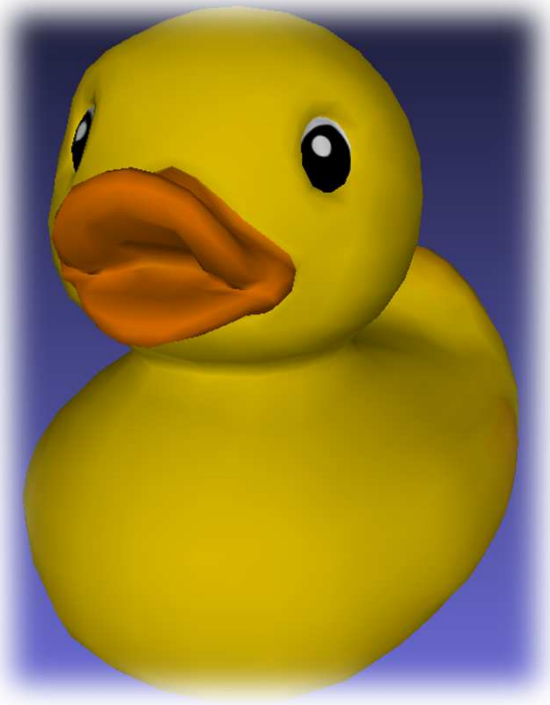
Assignment #4

Texture Mapping

What we expect to see

in .obj file, we have vertex v, normal vn, texture vt





Requirement

- **You are required to write a program that can accept 3D test models as in assignment #1, #2, and #3**
- **The models should be rendered with provided textures or the textures you provided**
- **The texture mapping results should be combine with the lighting results from assignment #3 using various texture functions**

Requirement

- Transformation such as model transformation and viewing transformation in assignment #2 are required to check the texture mapping effect on the 3D models
- Lighting effect, assignment #3, should be able to apply on 3D models with texture mapped

```
use multiply in texture function
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Requirement

- Texture mipmapping is required
- Run time modification to different texture filtering mode is required
  - You should be able to demonstrate the filtering effects when the model size is change
- Modulation (on/off) to combine texture and lighting effect is required
- 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

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 5/31
- 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
- All the late submissions should be received by iLMS no later than 11:59pm on 6/11

Q&A