Final Exam Preview

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Final Exam

• **(90%) Classroom exam (12:20pm – 1:50pm, Tuesday, 05/04/2010)**
  - Include 10 – 15 multiple choice questions and 2-3 written questions.
  - For multiple choice questions, **NO** points will be subtracted for the wrong answers.

• **(10%) Take home exam**
  - Questions will be posted on Tuesday, 05/04/2010 on class website.
  - Due by 11:59pm, Friday, 05/07/2010.
  - Upload to the dropbox in Scholar website.
Transformation

- Affine Transformation and its properties
- 2D and 3D Transformation Matrix
- Transformation in Homogeneous coordinate system
Projection

- *Orthographical projection*

- *Perspective projection*
  - Perspective Projections of 3-D Objects
  - Properties of perspective projection
  - Projection of lines and vanish point
  - NOT COVERED: pseudo-depth, projection matrix
Lighting and shading

• *Phong local illumination model*
  • Specular component
  • Diffuse component
  • Ambient component
• *Gouraud and Flat Shading model*
Texture Mapping

- Texture coordinate
- OpenGL texture mapping functions and parameters
  - Warping mode: GL_REPEAT and GL_CLAMP
Curves and Surfaces

- Implicit, explicit and parametric representation
- Lines, circles and spheres
- Tangents and normals
- Cubic polynomial form
- Constraint condition equations for Interpolation and Hermite curves
Raytracing

- Basic raytracing algorithms
- Computation bottle neck and acceleration method