

Lecture 11: Texture – Review Questions

- Describe conceptually how texture can be applied to a triangle in a scene.
- Explain how barycentric coordinates are used to determine the color at each pixel of this textured triangle.
- Explain why these barycentric coordinate values must be computed in world space (the 3D coordinate frame of the world) instead of screen space (the 2D coordinate frame of the screen).
- What is aliasing? Why does it occur in texture mapped images?
- Describe bilinear filtering and explain how it helps reduce the aliasing problem.
- Describe mipmaps and explain how they help reduce the aliasing problem.
- What is trilinear filtering, when used in conjunction with mipmaps?
- Describe the main idea behind anisotropic filtering.
- Texture maps can be used to modify a wide variety of different values that may vary over the surface of an object. List at least five different parameter values that may be controlled using a texture map (i.e., five different ways in which texture maps can be used to control object appearance).
- What is a bump map? a displacement map? an environment map?
- What is a procedural texture? Give an example of a 3D procedural texture. Under what circumstances would such a texture be useful?