



A Gallery of Mathematical Dinosaur Shaders

CS 519 ("Shaders") Class Assignment – Spring Quarter 2009

Oregon State University
Computer Graphics



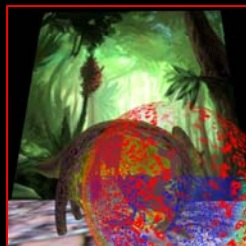
Prof. Mike Bailey, mjb@cs.oregonstate.edu



Seth Cadell

Dino Out Standing in his Field

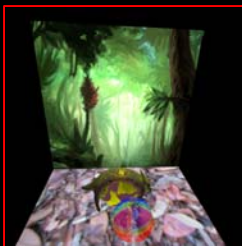
The major effect is a reflective cube map of the new OSU Kearney building. The reflection color was blended into a golden color to create the shiny effect of real gold. The granite shader overlaid a noisy pattern, sampled from a spherical position in the granite block, on to the black cubes that represent the base of the shine.



Jose Cedeno

Jungle Dino

I used 2 image as textures for the back wall and the ground. I applied lighting and used the vertex shader to morph the dino's xy into a sphere. I used a sphere that had some ChromaDepth colors to make it look like the dino's morphing was due to the sphere.



Arwen Lettkeman

Crystal Dino

This dino is being rendered translucently using cube mapping. It has had a rainbow function mapped to the surface to give it chromatic affects.



Arwen Lettkeman

Dino Melon

Stripes of multi-shades of green are perturbed with a noise function to give this dino a watermelon look.



Darrel Palke

Tiled Dino

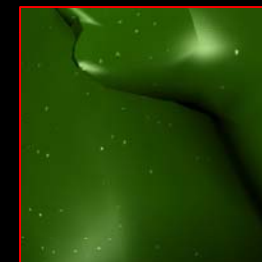
I created this tiling effect by applying a bounded noise function to each tile and then artificially applying dark colors to the boundaries of the tiles. The second image is zoomed in from the first. The third image is a change of color scheme to (scarily) resemble Barney the Dinosaur®



Nick Schultz

Sparkly Dino

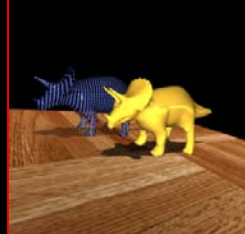
This shader makes the dino look like it has been sprinkled with glitter. I use the regular Phong shading model with an additional term of glittering. I find random points on the model to become a glitter speck by combining a noise value, model coordinate, and eye coordinates to get a number between 1. and 0. Using the eye coordinates gives the dino its glitter effect, because as you move the dino through the scene, the eye coordinates change, which will change which glitter speck shines. To create the glitter-effect, I give the pixels a low shininess constant (while the rest of the dino has a relatively high shininess constant



Shetty Sudarshanram

Textured Pyramided Dino

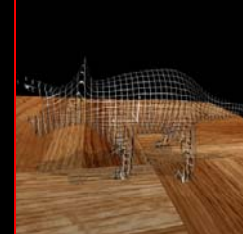
A pyramid-shaped 3D bump map is applied to the surface of the dinosaur. The image on the left shows just the bump-mapping. The image on the right combines the bump-mapping with a scaly-skin texture.



Minjie Zhu

Screen Door Dino

A fragment shader is being used to discard most pixels from the dino's surface, leaving behind a screen door effect. The dinosaur's surface model is a very irregular pattern of triangles and texture coordinates, so discarding based on these would have not looked very good. In this case, the discarding was based on model coordinates so that the distribution of the wires looks much more uniform.



Mike Bailey

Wavy Glassy Dino

This dino is meant to look like green translucent glass... rendered using refractive cube mapping. A noise function is used to perturb the surface normals to give the glass a wavy look. The background is a Smithsonian castle image, rendered using a toon shader.

