

Demo Reel Breakdown

1. *The Twilight Saga: New Moon* (Summer 2009)

Chasing - Loose grass and dirt kick-up animation.

Tumbling into Forest - Flying dirt and sticks animation.

Fighting - Fur animation.

2. *Rumble in the Roses* (2008-2009)

Death Character - Modeling, Unwrapping, Rigging/Controllers, Skinning

Life Character - Face Modeling, Unwrapping, Controllers, Skinning

Monster's Mouth - Modeling, Unwrapping, Shading

Stomach Environment - Modeling, Effects (fluid/wall anim), Unwrapping, Shading/Textures, Lighting, Rendering

Credits Panel - Effects (Pieces breaking/falling).

3. *Model Wireframes* (2007-2008)

Death Character - Shaded in previous clips. Full set of reference images.

Squirrel Robot - Shaded in raytracer section. No reference images.

Young Dragon - Shaded in raytracer section. Part of a week challenge: profile reference was provided.

4. *Simulations* (2009-2010)

FEM Softbody - A tetrahedral finite-element soft-body simulation. I wrote everything, including the framework/interface, in C++. Uses semi-implicit integration.

Fluid - An eulerian incompressible fluid simulation: same framework as the softbody simulator.

Cloth - An explicit cloth simulation.

5. *IK Sandbox* (2008)

IK Solver - An iterative jacobian-transpose based IK solve. It allows multiple end effectors, arbitrary bone weights, and rootless solve (allowing solutions to be relative only to user specified end effectors).

Interface - The interface allows editing and posing joint hierarchies. The user can arbitrarily pin and change the weights of bones to affect the solver behavior. There is also very simple keyframing.

6. *Interactive Raytracer* (2008)

Progressive - Can change the view at interactive rates by stepping back resolution during interaction. The renderer is multi-threaded and written in C.

Raytracing - Supports fundamental rendering features such as reflection, refraction, antialiasing, texturing.

Advanced Features - Supports photon mapping and subsurface scattering.

7. *Discombobulator* (2006)

Procedural Mesh Detailing - Shows the application of the plugin to a simple trench. The script procedurally extrudes geometry out of an existing mesh and then adds extra doodads to the protrusions.

Blender Plugin - This script is written in Blender Python and is included in Blender's distribution (up to 2.49b).