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## Demo Reel Shot List

Oreo

Overview: Lead TD, fur, nCloth simulations, lighting, rendering, compositing pre-comps for Flame artist, pipeline development, R & D. Used Maya, Mental Ray, Air and Shake.

Details: For this commercial, I was the lead TD in charge of setting up the pipeline, simulating and rendering all effects work (hair, fur and nCloth simulations), and general troubleshooting. The udders were initially keyframed by an animator. Because the udders on our CG cow were not in an anatomically correct position, in order to get the motion we needed I added secondary movements, jiggles, and collisions around the legs using nCloth simulations. I was also responsible for all the Maya fur and Maya hair simulations, including styling, shading and rendering the fur and hair. The geometry, fur and hair were primarily rendered with Air, although some fur was also rendered with Mental Ray.
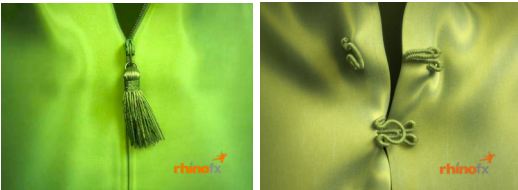
Garnier

Overview: R & D, shader development, nCloth simulations, hair simulations for zipper-pull, fur styling and rendering on the ends of the hook-and-eye geometry. Used Maya, Mental Ray and Shake.

Details: As lead TD for this set of commercials (zipper-pull and hook-and-eye), I was in charge of setting up the pipeline and creating nCloth and hair simulations. I also set up the geometry of the zipper parts, for which I wrote a MEL script placing hundreds of Maya hair follicles along the length of the "fabric," and placing the zipper teeth geometry on the follicles at intervals so they would "lock" when closed. The zipper could be moved up and down in real time to join the two surfaces. The adjoining surfaces were nCloth objects, driven by the action of the zipper. The zipper-pull geometry was parented to a follicle that could be animated along its u-value. That u-value drove a ramp controlling a constraint between the two adjoining surfaces allowing the surfaces to close at the appropriate place. I made the zipper tassel with Maya hair. For the hook-and-eye spot, an animator keyframe-animated the clasps, and I ran nCloth simulations on the fabric using surface constraints from the nCloth objects to "close" them.
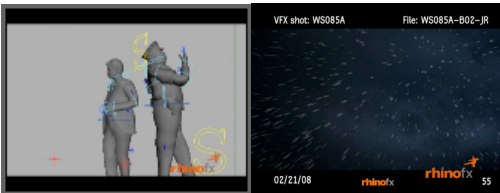
Ghost Town (DreamWorks SKG)

Overview: R & D, shader development, ghost pass through dust and hail particle effects. Lighting and rendering TD. Used Maya, Mental Ray, Air.

Details: In the film, when living people pass through ghosts, a small cloud of dustlike particles results (making the people sneeze). The director (David Koepp) wanted the dust in these shots, of which there were several, to carry a hint of the ghost's color, so if would feel like part of their essence. Animators matched the characters actions using roto-mation, and I projected the film's background plate onto the geometry of that animation, baking the textures out. At the point of contact, particles with a very short lifespan and the ghost's color information (Greg Kinnear, in this shot) were emitted. This allowed the particles to follow his actions. When the particles collided with the geometry of the living person (the policeman), they would die and emit a new one, maintaining color and positional information. Various fields, including maya fluids would affect this new set of particles before dissipating. I simulated the particles using Maya Particles and rendered with Air.

The hail shot needed to feel like a sudden storm, and the director envisioned a "millennium falcon" effect, with large streaks of motion blur. The hail was rendered with Mental Ray's rasterizer for speed and control over the motion blur streaks.

Verizon FioS

Overview: Lead TD, support and supervision, R & D, dynamic effects, lighting and rendering. Break-up effects, feather system, hair system, modeling, texturing, lighting and dynamics tools for artists, pipeline development. Used Maya, Mental Ray, Air, Blast Code (for some explosions) and Shake.

Details: For the first two shots (eagle), I created a feather system using Maya hair and nurbs curves with lofted nurbs surfaces. The eagle feathers needed to look like movie tickets and movie filmstrips flying into their location. To achieve this effect, I used the point lock attribute of the hair follicle, which allows the individual hair curve to detach from its follicle but respond to forces applied to it. Reversing the animation, I wrote a script that applied random release values to all the follicles. When played forward, it gave the impression that the tickets were flying toward the eagle and they attach to the body. The rest of the filmstrips on the eagle were also dynamic, and reacted to the animation of the main wings. The first shot on the reel is a render of just the eagle, the tickets and the boy; it dissolves into the final shots as they aired.

In the second shot (dancers), I created the filmstrip skirt and stagecoach curtains using nCloth, and supervised rendering of the scene in Air, which was very challenging.

I created the fourth shot (breakdancer) using particles emitted from painted texture maps on the dancer's legs, and instanced geometry.

For the fifth shot (football player) I used rigid body dynamics. First, I used Rhino's proprietary tools to dice up the football player at the moment of impact. I turned the pieces into rigid bodies and wrote a MEL script to assign unique collision layers, random initial spins, random initial velocity, random masses and damp values to each piece. The script could be run repeatedly with different values to quickly see how far the pieces would travel, how much they rotated, etc.

For the final shot (action hero), I worked on the helicopter. First, I diced up the helicopter with proprietary tools, then used Blast Code's detonation plugin for Maya to create the explosion. I attached the diced-up pieces as "glue geometry" to the Blast Code detonation simulation. The outer parts belonged to the diced helicopter, while the bits and debris were generated by the Blast Code engine. A compositor applied the light and internal explosion volumetrics in Digital Fusion.

Mercedes 'Engine'

Overview: R & D, shader development, lighting, rendering and simulation TD. Slow-motion leaf simulations, engine sprays, intake air, and chamber explosions. Used Maya for spray and Maya Fluids for intake air and chamber explosions, Air for rendering spray effects, and Houdini/Mantra for leaves.

Details: For all eight slow-motion shots, I used Houdini to simulate and render the leaves in the background, from a setup created by Tom Allen of Digital Domain (the CG supervisor for this spot). I rendered using Mantra and its incredibly useful velocity blur. I animated the scenes in Maya, and brought them into Houdini using the Collada importer.

For the fuel injection spray, I used Maya particle simulations at 120 fps, and rendered using Air. I made the exhaust gases and valve chamber explosions with with Maya Fluids; for the latter, I used animated point lights to light the fluid and mimic the colors of small valve explosions. I rendered the fluids with Maya's software renderer.

Subway 'Sweepstakes'

Overview: R & D, fur pipeline, lighting and rendering pipeline, troubleshooting. Used Maya and Mental Ray.

Details: I created the fur pipeline we used to render the grass (and rendered it in both these shots). I also provided support and supervision to the TDs and lighters on this nine-shot HD spot, which was created and delivered in two weeks. I generated the grass with Maya fur and rendered it with Mental Ray.

Kmart

Overview: R & D, fur and cloth pipeline, lighting, rendering, effects simulations. Used Maya, Air, Mental Ray and Shake.

Details: For the Halloween ghost, I simulated the ghost sheet using SyFlex cloth. For the Dracula spot, I provided support to the lighting TD, created an nCloth simulation for his cape (along with textures and shaders), and used Maya fluids to simulate the fog effects. I rendered the character and the Kmart sign in Air, and rendered the fluid simulations with Mental Ray (another TD did the character lighting and Kmart sign). I also did some cleanup work on the cape simulation in Shake.

The last "spot" was created as a holiday "gift" for the agency that works with us on the Kmart spots, so it never aired (you can probably see why). I blew up the light bulb using the Blast Code plug-in, created the smoke with Maya particle simulations, and rendered the particles in Air. I created the furry Santa hat for all 12 of the holiday spots we did with this character using Maya fur, and rendered it with the Maya software renderer.

Kleenex

Overview:
R & D, fluid simulations, animation, shader development, lighting, rendering, compositing. Used Maya, Mental Ray and Shake.

Detail: For this smoke in this shot, I created several fluid simulations in Maya for the tire smoke, animated the bus (another artist tracked the camera using Boujou), rendered the fluids using Mental Ray, and composited the final shot using Shake.

R & D

Ghost Town: I did a cloth simulation, using the original Maya Cloth and Maya Fluids to affect the behavior of the cloth. I textured, lit and rendered using Mental Ray, and composited with Shake.

Soroka Hospital: I did all the sand particle simulations, using nParticles, traditional Maya particles, and Maya Fluids. I rendered with Mental Ray, and composited pre-comp with Shake. The final shot was composited in Flame by another artist.
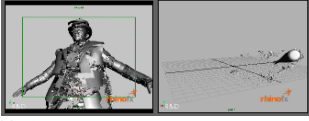

Verizon

I did these "Break-up" tests using Blast Code and custom Rhino shatter scripts for the man breaking up; I also tested the nCloth tear constraints for a baseball shot (the ball was pre-shattered with custom Rhino shatter scripts). I ran both simulations in Maya.

Advil Pain and Pressure

I created a SyFlex cloth/skin simulation of word "pressure" in Maya. I lit and rendered using Mental Ray.
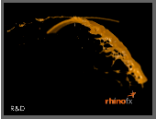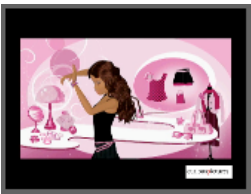

Rhino FX branding tests

I created these liquid collision tests using RealFlow. I brought the meshes into Maya, shaded them and rendered with Mental Ray.

The Barbie Diaries:

I was testing the Maya hair system to create ribbon simulations and study their reactions to motion-capture data. I lit the scene, rendered with Mental Ray and composited with Shake.

The Barbie Diaries (Lions Gate)

Overview: Lead hair and rendering TD, overseas supervisor, motion capture, pipeline development. Used Maya, SyFlex cloth, Motion Builder, Mental Ray and Shake.

Details: For these shots, I simulated the hair and clothing using Maya hair and SyFlex cloth, and lit and rendered the characters using the Maya software renderer. Compositors created the backgrounds.