

MARSHALL PETERSEN

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VFX Demo Reel Breakdown – Oct 2010

Fireball – Houdini 9 Apprentice

Simulated particle effects, developed shaders and composite for final effects. I created fire by first instancing metaballs to a particle simulation. The metaballs were then converted to polygons, so more subtle noise could be added independent of the particle simulation. The geometry was rendered with a custom shader and finally glow was added in post.

Tron Fan Project – Houdini, Maya, Massive

Created production pipeline for a short for film, including asset management and automatic processing and assembly of complex assets. Developed a crowd simulation pipeline utilizing Massive for simulation, Maya for initial agent layout, and Houdini / PRMan for lighting and rendering.

Card Pirate Ship – Houdini 9 Apprentice

Developed several procedural animation techniques for playing cards. This animation was created as an entry to the OdForce.net Effects Challenge in spring 2008. The animation was created as both an entry and a CHOPs testing bed. The hull of the boat was animated with CHOPs. While working with CHOPs I tested a number of different techniques to animate the cards. After finding a successful technique for creating the animation I reworked several aspects in order to optimize playback in the viewport. The CHOPs animation was paired with other techniques including expressions and keyframes. This piece won the OdForce.net House of Cards (Master) competition.

Truck Skid – Maya, Mental Ray

Created lighting setup and developed materials for final look. Utilizing a prebuilt model I rigged and animated the truck. I also created an environment of cards for reflecting then lit and rendered the truck for final compositing. I composited the truck with a 2D particle simulation for smoke.

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Verizon InMessaging – Houdini 8, After Effects, Javascript

Scripted interface between Houdini and After Effects. I created a digital asset to convert 3D transform into 2D screen space. I also wrote an accompanying script for After Effects that would import the data and generate key frames. The key frames were used to match the graphics to assorted points on the blob.

Domino World – Houdini 8, Maya

Developed procedural layout and animation for dominos. I created a digital asset that would allow an artist to layout objects in the shape of a black and white map. I developed the asset further to include greyscale map for the domino rotation. The rotation map was animated in COPs to create the animation. Finally I created a script to import the domino position and rotation keys into Maya for final rendering.

Thunderstorm – After Effects, Photoshop

Simulated particle effects for rain. Created 3D composite from still photography. A single piece of stock footage was used as the basis for the entire piece. Another artist began by masking out the houses and adding in the background trees. I then imported the individual layers into After Effects and created a camera move through the layers. Particle effects were generated as additional layers for the rain. The lightning was composed of several stock videos adjusted to fit into the final piece. Finally a small flash light was added into the windows at the clients request.

Dogfight – Houdini 8, Maya, Renderman, Vmantra, Python, MEL

Developed pipeline between Maya and Houdini to transfer geometry and camera data. Created particle effects for smoke trails and heat disruptions. Developed Renderman and VMantra shaders for smoke, planes and mountains.

Cave Automatic Virtual Environment – GLSL, Open GL

Consulted on the look development for a developing CAVE virtual reality engine. Worked with engineers and developers implementing GLSL shaders for a multi-headed multi-machine stereo display system. Created artist friendly toolset for developing content for engine.

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Swimming Fish – Houdini 8, After Effects

This animation was created as a demonstration combining local and group motion. I first modeled and UV'd the fish in Maya. The model was then exported to Houdini for final. A fish was rigged and animated in Houdini. Several looping animations of the fish were exported for later use. A particle simulation was used to create the group motion of the fish. The previously exported sequences were then instanced to the particles to create the final motions. I created a custom VEX light to utilize an animation sequence that simulated caustics. The final image was then composited with a background and light rays in After Effects.