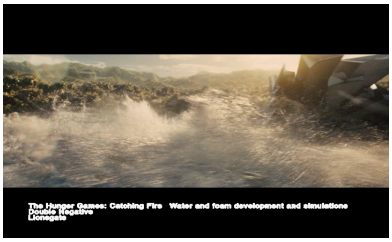
Thomas Nixon
Effects Artist

Reel Breakdown



The Hunger Games: Catching Fire
I simulated the water in a large domain. I culled the airborne and fast moving water from the surface and used those points along with high speed and turbulence particles from the particles included in the mesh. The surface was only used to shade the flip particles that were rendered to give a fast-moving white water feel. I also used a sopsolver particle system to create additional fine spray which we rendered a percentage RGB aovs for use in comp to give highlights and specular hits.

The Hunger Games: Catching Fire
I simulated the water in a large domain. I culled the airborne and fast moving water from the surface and used those points along with high speed and turbulence particles from the particles included in the mesh to generate whitewater (spray, foam and bubbles).

Man of Steel
I took the particles from the water ring and sourced them into a Houdini flip solve in DOPS. I created radial forces to tear the ring apart.

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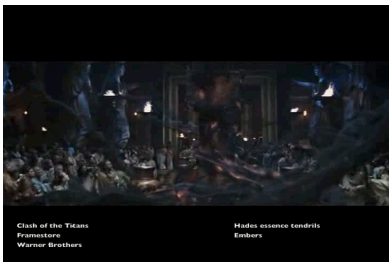
Man of Steel

I developed a white water system driven by the velocity fields and isosurface prior to Sidefx releasing their own. Look development and shot implementation for water simulations in Bora Bora sequence.

John Carter of Mars

I developed the particle system tool set for dynamic and static crowd simulations for use in John Carter of Mars. I also modified the channel network to support props and mounted characters. These tools were used extensively by the John Carter crew throughout the film production.



Clash of the Titans

I built a system for the procedural modeling of tendril particles that allowed for total control over particle motion. The system had a proxy mode that could easily be used by artists to place and animate the tendrils before simulation and render. The tool was dependent upon Framestore's "Whisper" volumetric rendering system through Mantra. I wrote the shader for the essence in Houdini's Vex Operators (VOPS). The shader takes pointclouds that were generated using the same particle system as sources of internal illumination. This shader was used for all Hades effects in the film. I used the central plume elements as particle emitters to release the embers into the air as the plume grew.

Wall-E

I created the thruster effect for the recon ship using an interior volume shader that had mach diamonds while still in the atmosphere. When the ship was in space, it transitioned to a more simple flame with a purplish halo and a hot center.

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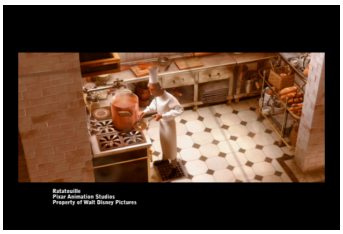
Wall-E

I modified the shader used on the recon ship thrusters for the Axiom thrusters. The core flame would extinguish outward as the shell of the flame would collapse as it extinguished.

Wall-E

I used Maya booleans to break the glass into many pieces, and then used an in-house ODE plugin to animate the rigid bodies in Maya. I wrote a mel script to convert those bodies into particle instances so that they could easily be brought into Pixar's proprietary renderer.

Ratatouille



Ratatouille

I animated the sauce in the pan using a Pixar proprietary Smooth Particle Hydrodynamic solver using the pan and spoon for collision objects.

Ratatouille

I created collision geometry for the bottle and glass, and used CFD fluid solver, Physbam to animate the wine pouring from the bottle into the glass.

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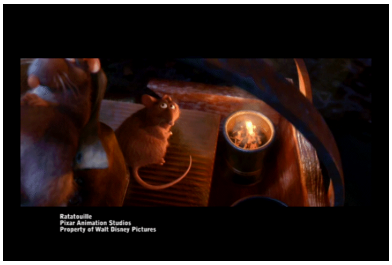

Ratatouille
I animated the fire and smoke using Maya fluids. The smoke was generated by particles which I advected using the fire fluid simulation. As the particles reached the edge of the flame, they added density and temperature to the smoke simulation to emulate smoke being emitted by the fire. I cached a long simulation so that it could be used in various shots with different offsets during the homecoming sequence in Paris.

Ratatouille
I wrote the displacement shader for the water in slim along with Maya particles rendered as blobbies for the water jets.

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