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Breakdown Sheet

Technical Effects Reel Fall 2009

Glass Explosion - Executed through Houdini SPH (Smoothed Particle Hydrodynamics). Settled Particles was cached out to disk and reused in DOPs. Glass Shards were also cached out to disk and reused as Rigid Bodies. Particle color was procedurally mixed at the Geometry level using custom Threshold attributes and cached out when surfaced. To improve efficiency, particles were deleted beyond the parameters of a specified bounding box. Full Breakdown Included on Reel. This piece is still a work in progress.

- SideFx Houdini

Kindred Dance - Kindred Dance is a procedural effects piece inspired by marine life and the Planet Earth documentary. Phase 1 of the project is constructed entirely from a fully customizable kelp asset with integrated wire solver and dynamic forces. Houdini's procedural workflow, as well as an extensive use of trigonometric expressions allowed me to fully capture the gracefulness and uniqueness of an underwater kelp forest. A low density volumetric smoke adds visibility to light rays and caustic map. Added falloff of color values is produced by a Houdini VEX Z-depth fog shader. For the kelp blades, In order to achieve a look that is true to my reference, I wrote a shader to produce translucency and color based on light angle and intensity.

Kindred Dance is a major experiment in effectively putting the tools I develop to use on a project that is ultimately true to life and it's representation of nature.

- SideFx Houdini

FirePlace - An experiment to produce a stable fire with Houdini. Extra attention was placed on environment detail to deliver a photorealistic look. Gas Constant attributes were fine tuned to get a natralistic behaviour for the fire.

- SideFx Houdini

RenderMan Flame - An experimentation using RenderMan Shading Language. This fire was created by animating noise on the ST Grid and Implementing gradients using specific smoothstep and sine functions. Parameters were created to control the speed, oxygen, size, incandescence and translucency of flame. The flame was then mapped onto 100 grids to create a volumetric look. Noise can be offset and randomized on each grid to add variation. Visit My RenderMan page for more information.

- RSL – Pixar RenderMan Studio
- Cutter / Text Editor