Debris in the Water
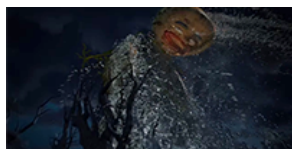
- Debris in the water simulated using nParticles with expressions

Mongo (big Gingi) Rising

- RealFlow for large water simulation
- Houdini for additional particle simulations such as spray/foam
- Maya nCloth used for animating dangling seaweed
- Seaweed nCloth rig generated with Python script
- Generated wet map for Mongo using Houdini
- Hand animated boat
- Shaded/Rendered/Composited water
- Wrote Python script to solve problem of ridiculous render times for refraction/reflection passes. Script broke up render into small tiles for distributed rendering which allowed for much less memory consumption and ray-recursion. Tiles were ultimately stitched back together. 7+ day render became 2hr render with this script
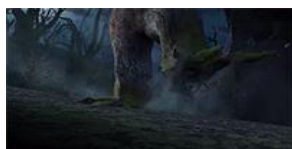
Angry Frost

- Customized Frost System using Houdini

Angry Frost (continued), Close-Up

Tree Uprooting

- Emitted/Simulated falling dirt
- Generated "stuck" particles based on a map in Houdini scripted to fall off during significant velocity changes and/or random intervals
- Volumetric dust emission using Maya
- Modeled, hand animated, and surfaced large falling dirt chunks
- Modeled root geometry for bottom of feet, animated with nCloth, and added surfacing
- Volumetric background fog generated from particles in Maya
- Lit/Rendered/Composited dust, dirt, and fog

Frozen Elf

- Altered Frost System to work with animated object (Houdini)

Tomato Plants

- Used Houdini to traverse complex tomato geometry for a mostly-automated plant rigging process
- Used Houdini wire solver for plant deformation
- Hand animated falling debris

Horse Dust

- Dust simulated as fluid in Maya. Used dynamically resizing volume based on animated bounding box to handle large distance covered
- Dirt chunks simulated in Maya using nParticles. Automated emission/simulation when running
- Lit/Rendered/Composited smoke and dirt chunks under tricky lighting conditions

Demolition Dust

- Simulated particles for dust using Maya
- Lit/Rendered/Composited dust

Pumpkin Giant Demolition

- Rigged/Simulated vines, pumpkins, and falling debris using Maya nCloth and MEL

Mega Explosion – Water Splashes

- Simulated and baked out a large amount of splashes at various heights using Maya particles
- Processed falling debris particles using Python script and exported particle data representing where and when splashes should occur
- Instanced baked out particle simulation for each piece of debris that hit the water at random rotations
- Rendered

Mega Explosion – Water Splashes (Continued)

Cold Breath
- Counter-animated upward character motion which was moving too fast for stable simulation
- Simulated cold breath as fluid using Houdini
- Re-animated fluid simulation to character animation
- Lit/Rendered/Composited cold breath

Frog King Water
- Water simulation in RealFlow
- Meshed water particles to geometry in Houdini
- Shaded/Rendered/Composited water

Snow Splat North
- Look-dev and design for Snowball Splat system in Houdini
- Output of system is geometry to be rendered by lighting dept.

Snow Debris 1
- Emitted/Simulated particles using Houdini
- Delivered using same setup as Snowball System
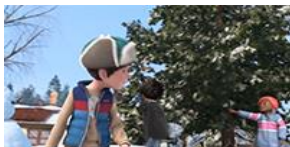
Snow Splat Bunny
- Used Snowball System

Snow Debris 2
- Simulated falling snow flakes using Snowball System

Snow Splat Kids 1
- Used Snowball System
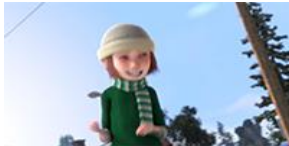- Shows some of the sticking features of the system

Snow Splat Kids 2
- Used Snowball System

Snow Splat Monty
- Used Snowball System

Snow Splat Pippa
- Used Snowball System

Snow Splat Jamie
- Used Snowball System

Snow Splat Jamie (continued)

Snow Splat Jamie (continued)

Snow Splat Cupcake
- Used Snowball System

Ribbon Cutting
- Used Maya nCloth and hand animation for ribbon animation

Van Burnout
- Used Maya simulation
- Lit/Rendered/Composited

Lake Frosting
- Used Frost System on lake (not magic coming from staff, frost only)

Foliage Frosting
- Used Frost System on trees (not magic coming from staff, frost only)
- Modified Frost System to work with plants (thin geometry)

Building Explosion
- Used explosion simulation and comp from film "Megamind", moved into place
- Simulated debris using proprietary demolition system in Maya
- Rendered/Lit/Composited explosion and debris
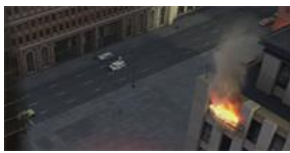
Window Fire
- Simulated fire and smoke using Maya Fluids
- Lit/Rendered/Composited window fire and smoke

Pod Sparks
- Used proprietary particle shader/emitter for sparks
- Created illumination pass on surrounding geometry
- Rendered/Composited sparks

Lawnmower Smoke
- Used proprietary fluid solver in Houdini for smoke
- Lit/Rendered/Composited

Lawnmower Smoke (continued)

Mud Writing
- Created mask for map reveal

Pitch's Globe Lights
- Created globe lights setup with controls for look
- Designed render dependency graph for lighting dept.
- Built lights into library asset for globe

North's Globe Lights
- Created globe lights setup with controls for look and flicker
- Designed render dependency graph for lighting dept.
- Built lights into library asset for globe

Globe Lights Flicker
- Look-dev for lights and light flicker
- Wrote custom procedural noise function and shader for flicker animation

Grass Wind 1
- Used Procedural noise to control grass wind
- Rendered smoke plume cards in background

Grass Wind 2
- Used Procedural noise and mask to control grass wind

Debris in the Water
- Hand animated debris in the water