

TOM PUSHPATHADAM MARCH 2014 DEMO REEL BREAKDOWN

<https://vimeo.com/pushpathadam/vfx-reel-march2014>

PERCY JACKSON

01— Wave Simulation

MEN IN BLACK 3

02—Door Destruction

- Fractured doors w Houdini voronoi fracture setup.
- Animated shards w DOP sims using Houdini's RBD system.
- Animated bending w wire solver setup.

03—Shattering Glass

- Fractured w voronoi, animated w in-house Bullet tools.

04—Impact Dust and Debris

- Animated debris w in-house ODE tools. Used Maya fluids for dust.

05—Jetpack Smoke and Flames

- Simmed smoke w H12 smoke solver.
- Developed flame instancing setup w shot customization controls.

06—Jetpack Flames

- Examples of jetpacks w animated lengths, stutter speed, and shapes shot customization.

07—Aura

- Developed particle setup w plate texture lookup and multiple color modification passes.

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GREEN LANTERN

08—Energy Sphere

- Shot work and pipelining setup for hardware rendering w Sony's proprietary Splat Renderer.
- Reworked static setup for animation and smaller scales.
- Developed Katana setup to push data through renderer as 20+ slices of 30 million particles each.

09—Shaker Effect

- Example of a Katana tool I developed for lighters where each shape node in any model is transformed at the node's centroid procedurally at render time.
- Shape attributes are accessed w a python script in katana w a GUI exposed controls for size and timing of the shaking and area of maximum effect.

10—Debris Toss

- Example of a highly directed simulation where both the final and initial positions of the major debris were established in practical plates.
- Animated w a mixture of key-framed animation and the ODE solver in Houdini.

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11-Distant Asteroids

- Translated Layout Dept's Maya setups into Houdini instances w rotations added, and finessing in Katana.

12-Flight Trails

- Shot work w Flight Trail on 20+ shots.
- Example of custom shot work for unusual flight patterns like flips.

13-Parallax and Asteroids

- Example of Parallax shot work and more asteroid finessing.

HOW TO TRAIN YOUR DRAGON

Responsible for rendered element delivery and final comp integration.

14-Zippleback Fuel Emissions

- Developed POP based setup for dragon smoke.

15-Roarwind

- One-off POP based setup for very fast moving sound wave.
- Fast dolly required immense data management for handling large amount of sprites to fill the space w splat-based mist.

16-Fog

- Splat based fog using particle clustering w PDI's proprietary renderer.

MONSTERS VS ALIENS

Responsible for rendered element delivery and final comp integration.

17-Hero Asteroid Animation, Space Dust, and Asteroid Debris

- Hero Asteroid key framed animation in Maya.
- Developed space dust and debris noise fields for matte painting extension.
- Built dust clustering in Houdini for splat rendering in PDI software.

18-Lick

- Developed procedural lick residue effect in Houdini.

19-Alien Death Ray Customization and POV effect

- Animated Maya particle ring setup in first shot.
- Developed robot POV ring effect using particles setup in Houdini, PDI volume shaders and compositing tricks.
- Modified Maya particle ring setup for bounce back effect.

20-Wet Trail

- Created one-off Houdini setup for trail on moving bridge.

21-Drips and Wet Trail

- Animated wet effect w Maya based sweat system.
- Created one-off Houdini setup for animating falling drops and wet pavement residue.

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22–Trolley Jet Development

- Developed Trolley Jet Effect w proprietary candle particle shader.
- Installed it in 10+ shots sequence wide.

BEOWULF

23–Fire Tornado

- Shot td on blue fire tornado for 15+ shots on 2 sequences.
- One-offs like modification of the setup for interaction w Grendel and roof beams

24–Dragon Fire

- One-off fire for 2 dragon shots.
- Setups was done in Houdini, simulated in Maya-Fire pipeline and rendered w Svea.

SURF'S UP

25–Sand Impact, Footprints and Plant Animation

- Shot work w existing Houdini setups for ambient tree motion and footprints.
- Animated foliage character interaction and one-off sand impact particle effect in Houdini.

26–Fire

- Developed custom twirling fire using fire renders mapped on geometry trails in Houdini.

27–Fire and pepper effects

- Developed pot and torch fire and installed show-wide.
- Animated one-off popcorn and pepper in Houdini.

28–Water and Fog Shot Work

- Shot work w existing systems on wave surface foam, character splashes, and lip spray w Houdini-Prman setups,
- Shot work for fog w Houdini-Splat sprite based renderer.

GHOST RIDER

29–Fire Wipe One-Off

- Modified Old West Ghost Rider setup for fire-wipe.

30–Eye Fire

- Developed and installed Ghost Rider eye setup fire show-wide

31–Fast Fire

- Shot work on fast version of Ghost Rider, Old West Ghost Rider, motorcycle, and horse fire for entire sequence.
- Featured on Cover of Cinefex 109.
- Did not do long trailing fire or horse's footstep residue behind characters.

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STEALTH

32–Surface Wisps

- Developed plane mist interaction effect on missile bay opening and around cockpits.
- Shot-work layout and lighting 3D-2.5D clouds and animating all plane related effects.

33–Lake Fog and Clouds

- Mist Laid out 3D mist and clouds library elements
- Integrate 2.5D background & cloud volumes.

34–Jet Exhausts and Clouds

- Animated jet exhausts on plane using Houdini-Mantra setup.
- Animated wingtip vortices, jet exhausts, & lift condensation using Houdini-Voxelb setup.

SPIDER-MAN 2

35–Energy Ball

- Examples of energy ball setup and debris interaction effects in Houdini and Prman.