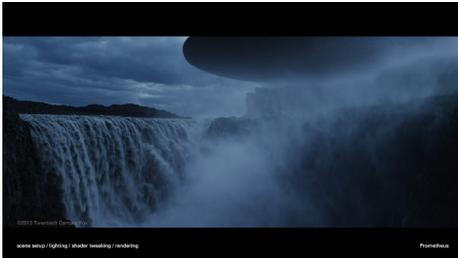


SHOT

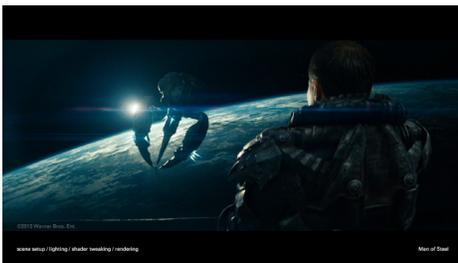
Description



One of the opening shots to Ridley Scott's Prometheus. I especially like this shot aesthetically, but also because it represents achieving the goal with a minimal of vfx. I did some shader tweaking on the ship, lit, and rendered it. Very simple, but worked well. 3D scans of the terrain were used for ground shadowing. Comp used the deep passes from my renders to lay in some 2D mist layers. The light rig was an IBL and a few area lights. A nice example of how an epic shot doesn't have to be technically advanced.



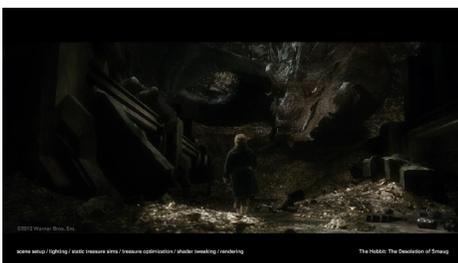
Krypton destruction sequence from Man of Steel. This was the polar opposite of the previous clip. Fully CG, lots of effects, animated shaders, and a complex render. I set up the scene, multiple atmosphere layers, their shaders, worked with look-dev on the planet shader, animated many parameters, created the pass breakout for comp, and rendering of the planet and FX. Shader animation was challenging as not all parameters would preview or even respond linearly. The FX were very heavy to render due to the scale. There were also lots of little details we all wanted to include such as volcanic plumes and atmosphere thinning.



Reveal of the world engine from Man of Steel. I did the usual scene setup, lighting, shader tweaking, and rendering. Most challenging part was the CG armor Zod was wearing, and making sure its lighting was an integration between both the exterior and interior sources. I also rendered the thrusters, their GI, and created the light rig for the world-engine based of work MPC was doing for similar shots. In the end it's a nice classic over-the-shoulder villain shot before he destroys planet earth, haha.



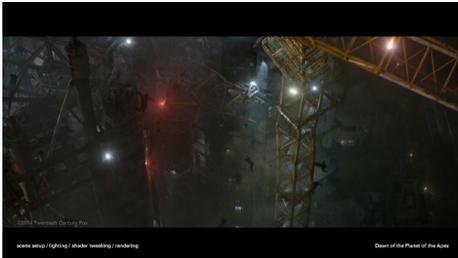
Takeoff of the Engineer's ship, Prometheus. Very similar to the previous opening shot, however initially there was no cloud interaction. I actually painted some concept frames to suggest some flow around the ship to sell scale and power. These were shown to Ridley/team and they really liked the idea. I started with using Weta's proprietary sim package Synapse. That produced very physically accurate flow, but not the artistic look we wanted. Task got handed off to the FX team, who ultimately had to write a custom solver make the clouds flow around the ship. Fun fact, if you actually fly a huge ship through clouds, they tend to evaporate, hah!



Smaug's lair from the second Hobbit film. Two biggest challenges here were rendering all the treasure, and the constant evolution of Smaug and his aesthetic throughout the production process (being such a high-visibility character, there were a lot of opinions and ideas in the mix). I also created a small asset library of pre-simulated treasure piles using Weta's proprietary ridged body sim tools. These tiles were laid around the area to fill in low-poly placeholders. I also worked extensively with PRman's LOD system to set it up for the coins on a sequence level. This was especially important for wide shots and high-motion shots. Fitting everything into ram during render time was a constant battle.

SHOT

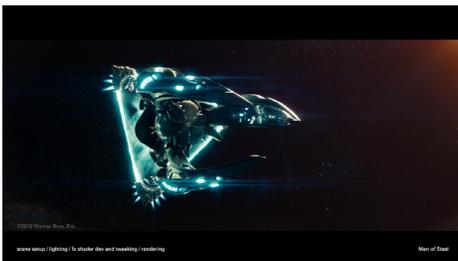
Description



'Koba Tower' Destruction sequence. I was the lead lighter on this sequence. Challenges involved rendering lots and lots and lots of all the hard things: wet fur, water, debris, smoke, fire, dust, and monkeys - so many monkeys! Everything had to be broken down into many passes to fit in ram. Extensive use of various LOD systems was in play. All the moving lights and objects meant very little could be baked. The large dust clouds were especially heavy, and at times challenging to render without artifacts.



Mountain flight. This was part of an early personal project. The process started as a concept sketch. I then blocked out some terrain in Terragen and used that as a base for paint work. The foreground elements are photos, the mid-ground mountains are renders, and the background mountains are painted in Photoshop. I made use of Nuke's projection mapping tools to get some camera motion in there. The plane and its fx were modeled, textured, and rendered in Blender. I really enjoyed combining so many techniques, and pushing the realism.



Black Zero transitioning to the phantom zone, from Man of Steel. Another fun spaceship shot (can you tell I like these?). I did all lighting and rendering, including the FX elements. I also got to do some look-dev and shader development. Originally the 'grounding tendrils' had a bone like appearance. The director wanted something more interesting and my friend in FX suggested neon. I created a new shader graph for them that used a particle system to create a flowing, glowing neon look. This was used in several shots. I also created the light rig for the Black Zero ship in this sequence.



Prometheus helmet collapse shots. The script had the character falling into acid, which then gruesomely melts his space helmet onto his face. In the first shot I re-projected the plate helmet onto the CG version, and used blend shapes to animate its collapse. I also lit and rendered the FX smoke. Comp filled in the background and integrated the elements. For the second shot, a fully CG helmet was used. Again I animated the shaders and blend shapes to create the collapse, setup the refraction of the plate through the melting plastic, lit and rendered the shot. One fun part was getting some hands-on time melting real plastic for reference.



Yashida's re-aging effects, from the Wolverine. This was a complex shot with three digi-doubles that had to be seamlessly blended to create a rapid-aging effect. Each one required me to light perfectly, animated shaders such as hair color, eye color, stubble growth, and more. Integration with the plate had to be perfect and because we were rendering a human, much care had to be given to the details in shaders and lighting for maximum realism. I made many adjustments to the shaders and created custom passes for comp to assist in the blend.

SHOT

Description



Young Dwayne Johnson from Central Intelligence. I was CG lead on this film at Weta Digital. The director wanted to use CG to make the rock look young, and do several full frame face replacements. We did extensive scanning at ICT lightstage. Much development work was put into the shaders and animation. Lighting was done with spatially projected IBLs. Some of the IBLs needed re-painting due to flickering lights found on set. Most of the work was in shader, lighting, and comp tweaking. Getting 80% of the way there was easy. The next 10% very difficult.



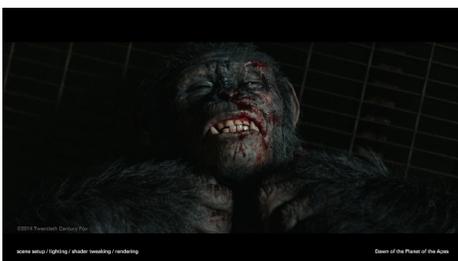
Another personal project. The plate was transformed through DMP techniques into the sunset behind the mountains. A simple 3D model and camera track were made of the plate environment, and then cards for the distant background. Paint work was done in Photoshop and the respective layers projection on to the geometry. Then comp work in Nuke was done to integrate them and add opticals on top. I really enjoy these transformation type shots.



Silver samurai from the Wolverine. This is one of many shots I lit and rendered for the Wolverine. Lighting was very challenging due to how shiny the samurai robot was. We used spatially projected IBLs, and area lights that used different image maps based on their view angle (to simulate egg crates and such). Shader tweaking was also challenging. The samurai was supposed to be made out of indestructible metal, but yet to show scale and realism, it really needed some amount of imperfection. This became a challenging balance. In addition to the character, I also rendered many FXs such as his sword smoke and damage.



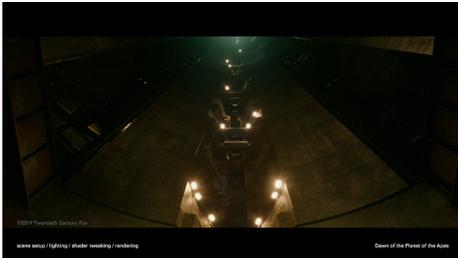
Erebor Valley DMP render support. For the last of the three hobbit films, I was in Weta's Environments department as a lighting and rendering specialist. For many of the matte shots of the Erebor valley, I lit and rendered all pre-existing CG elements in the layout to help the matte painters stay consistent with the fully CG shots. Many of these paintings were done at 8K or higher for use on large cycs. This made rendering very difficult. While the assets were optimized well for 2k, those optimizations all break down at 8k to 12k. Not everything could be split up, and typically the res was high enough not much could be culled or omitted.



Koba fight from Dawn of the planet of the Apes. This is an excerpt from a series of closeup shots of Koba, one of the main ape characters in the movies. Lighting was very simple, but much attention had to be paid to the shaders and facial detail to get as much realism as possible. Because there wasn't much else in these shots, I had the pleasure of turning on all the bells and whistles, rendering at full fur density, all the scattering lobes, and with very high settings. This really contributed to the realism and made these shots work well.

SHOT

Description



Set extension for the second planet of the Apes movie. This was a fun shot in that I got to do some modeling, lighting, shader building, rendering, and early comping. While not a spectacular shot, it's a great example of how I like to see CG used: in a less fantastical, and more practical way. Building this would have been silly, and here I think we made great use of the vfx tools at our disposal. I especially enjoyed dressing in the the lights, cables, plants, and other random bits. Adjusting the concrete texture to blend with the plate and adding the volumetrics.



Liquid geo from Man of steel. This is an example shot of many, in which I lit and rendered the liquid geo bead displays. This shot was somewhat early in the development process so there were a lot of challenges. I worked closely with FX, shaders, and other lighting TDs to get these shots going. We employed PRman's LOD system, complex volumetric culling, particle instancing, extremely simplified shaders, and deep compositing to allow us to break the sim into pieces. Later in the process, all these things became automated and it was much easier to render.



The phantom drive of the Black Zero from Man of Steel. I got to do the master light rig for this whole environment, as well as work with a friend of mine in shaders to design and develop the phantom drive effect. We used several particle and volume sims with proximity shaders to light up the tiles on the drive. There were also a number of lighting passes using animated maps I made in nuke and timed with the shot. I also placed all the 'detail lights' throughout the env and wrote scripts to control them. The model for this environment was pretty awesome, and would have made a great VR experience!



Destruction of planet Krypton pt2, Man of Steel. This is a continuation of the previous shot (clip 2 in the reel). Here we transitioned away from the static planet setup and into crazy FX land. There was a lot of FX work to render. Each element had many overlapping fx layers and making sure everything shadowed properly without shadowing unnecessarily was tricky. Memory management was key, even to just preview and set lights. The director had a very specific vision for how it was to collapse, and we put a lot of effort into the animation, fx, shader and lighting animation to make sure everything was timed just how he envisioned it.



Superman's spacecraft falls to earth, Man of Steel. This was a very pretty shot. I rendered the spacecraft and all FX. Overall very simple, and lets be honest, the matte painting is dope, awesome, and makes the shot haha! My small contribution was making the spacecraft fall through the sunset. You'll notice it starts in hot white and gradually goes through the scattering colors until it's only in the dusk blue. Wasn't asked for, but we all thought it was neat. I love adding details like that.

SHOT

Description



Three shots together covering the big explosion that damages the Koba tower. From Dawn of the planet of the Apes. I lit and rendered all set extensions, dressing, and fire. The volumetrics were very challenging. The sim was super dense, we needed dynamic indirect light, and it engulfs the camera. Lots of technical things like min dicing size and so forth came into play. Really got down into PRman's guts to get this through. We also had to do a lot of iterations to get the flow to look right. Integrating the debris was also important part.



Fifield attack, Prometheus. Lots of actor/CG interaction and integration. I rendered the creature and all FX. Contact shadows and reflections were a simple but major part. Lots of shadow and reflection objects had to be added. I also created the sequence light rig for the cargo bay. These shots in particular needed a digi-double of the actor to get the correct shadow and reflection interactions working.



Black mountain film co slate. This was a freelance project creating an intro slate for my friend's film company. To create the story boards I started with some sketches, and then built, lit, and photographed several miniatures. I shot each light separately in HDR brackets so I could adjust them in comp later. I then did a bunch of comp and projection mapping work to get different camera views and integrate CG elements. I really enjoyed the realism you get out of the box when working with photography, and shooting objects/light separately in addition to the projection mapping gave me back some of the freedom of CG. Overall a good blend.



The next 5 clips on the reel are the continuation of the Fifield fight sequence from Prometheus. These demonstrate more CG-actor integration. In some cases the plate was projected onto blocking geo I made to get the correct illumination and reflections. I also used Nuke's analysis tools to generate curve data from animated light sources and in camera effects, then use that curve data to drive CG lights in the render (gunshots, fire, etc).



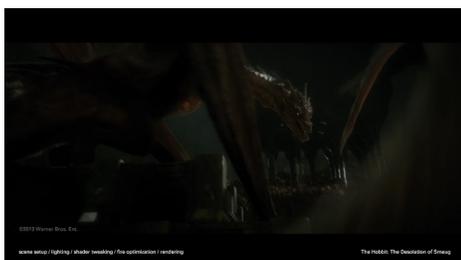
Koba Tower fight, Dawn of the Planet of the Apes. More monkeys, wet fur, rain, fire, smoke and FX fun. This was again an exercise in fitting stuff into ram. A cool fur LOD system was used for background apes. The foreground apes were rendered separately and deep-comped together. I did a lot of shader tweaking on the tower, setting up reflection passes, modeled and textured the practical lighting fixtures, rendered all FX, lit, and rendered the shot.

SHOT

Description



Smaug closeup, second Hobbit film. Example shot of several from this sequence. These shots required more attention to lighting since Smaug was basically the hero character of the film. The background treasure was pretty easy as the defocus meant I could simplify it a lot. The goal here was to really show off the great work of the model and texture departments. Two friends of mine did the shader/texture work which made lighting and rendering him special for me. It's a great feeling when it's just you and your friends doing cool work together.



Smaug rage moment, second Hobbit film. Fun fact, don't make dragons angry. They break things, including my computer when trying to render them breaking things, haha. Most of this shot was straightforward destruction FX lighting and rendering. The fire was challenging because it engulfs the camera and was a really dense sim. On top of that, I recall only having a few days to turn this around... because, deadlines. It does its job in the story very well and is a good example of knowing when to call it done under very tight deadlines.



Last is the FX on the end credits. These are from a personal project and all shot practically. The elements were then comped together and augmented with some CG bits here and there. Practical elements include: folding mirrors, bubbles, defocused reflectors of various types, practical flares, plastic, ink, and moving lights. CG elements include more flares, more bubbles, secondary reflections, 2D comp work and overlays.