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PESSES

by *pauline rogers*

portrait by *lisa rose*

VIRTUAL REALITY / 01

EVAN PESSES STARTED HIS CAREER AS A FILM PROCESSOR AT THE UNIVERSITY OF WISCONSIN-MADISON'S MOTION PICTURE FILM LAB. HE LATER FOUND HIS FIRST LOVE - LIGHTING - AS A GAFFER, WORKING ON MORE THAN 40 FILMS AND 100 COMMERCIALS AND MUSIC VIDEOS. WHEN THE DIGITAL REVOLUTION HIT, PESSES LEARNED ABOUT SCOPES, COLOR SCIENCE, AND SENSOR TECHNOLOGY. TODAY HE SHOOTS CONTENT FOR FEATURES, COMMERCIALS, AND MUSIC VIDEOS, AND IS A PARTNER IN A COMPANY DEDICATED TO ADVANCED TECHNOLOGY FILMMAKING - THE ASTRONAUTS GUILD.

How did you get started in VR? In 2014 my business partner, Scott Connolly, told me I had to come over because the Oculus DK2 had arrived. And by 3 a.m., I had seen everything that was available to see in VR. The content was not very good, the resolution and quality were crap, but I felt those feelings of awe and wonder I had once remembered as a kid. The creative opportunities were endless. Immediately we began to build camera rigs and test workflows.

What were your first VR projects? Extreme sports (for Kawasaki, Ducati, and Formula 3) was the obvious choice. The goal of any good virtual reality project is to immerse the audience in something they have never experienced. In the early days, the tech was low resolution and it was all about putting people into extreme situations. You would shoot something, and it didn't quite work, so you'd watch your dailies and learn from them. Then, one week later, a new piece of gear would arrive. An old problem would be solved, and a new one would come up.

Describe the second iteration of VR filmmaking. Brands reaching audiences through personal stories in a documentary style approach. I shot a series of commercials for Chevy where we traveled to five countries around the world to tell the stories of five people overcoming their biggest fears. We were using cameras like the Nokia Ozo, the Jaunt One, and ZCam S1. These were unibody constructions as opposed to array rigs, and the lighting was more precise. Many times, I would put lights into the shot, make sure no

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one crossed in front of them, and then paint [the lights] out in post. We utilized motorized dollies and drones and worked with production design to solve problems. In VR, most problems generally come from proximity issues. Extensive scouting and pre-production planning became paramount. Rather than trying to fix problems in post, we invited post into the conversation so that everyone was on the same page.

What is *Elton John: Farewell Yellow Brick Road*? This is a VR film to announce Elton John's final farewell tour. It is a mash-up summing up Elton's greatest career highlights. The film played live to audiences wearing headsets in Los Angeles, London, and New York as well as streamed around the world. After the film ended, the audience in New York took off their headsets to see Elton himself play a few tunes, then, along with an interview from Anderson Cooper, announce his retirement to the world.

What was the biggest challenge? To create a photorealistic recreation of two of Elton's iconic concerts within a dream-like CGI enhanced world – Elton's first show in the U.S. at The Troubadour, in 1971, and his famous concert at Dodger Stadium in 1975. In order to achieve these recreations at this scale, we shot on a 360-degree green screen stage. Director Damian Fulton had a vision of the camera continuously floating through these spaces. In order to shoot Elton John 30 years younger, we shot with a body double, then did facial replacements by means of motion capture and VFX animation. To make matters more complicated, the film was to be shot in stereo, which makes shooting in close proximity challenging.

What tools did you use? I needed a camera with a really high-quality sensor and a high bit rate for compositing, small enough to allow for close-proximity stitching, and it had to shoot stereo. I remember seeing a prototype from ZCam at NAB 2016. I tracked down Kinson Loo, the CEO of ZCam, and with his help and that of Radiant Images we got the camera. It was the only production model in existence at that time.

How did you get the seamless camera movement? Pacific Motion Control brought their Overhead Graphlite motion-control crane – operated by Paul Maples. This is an amazing tool that is rigged from a grid overhead on a massive truss system. The most important advantage of this approach is that we build a 3D model of the camera and the crane in Maya to

build the previs. Here we were able to not only design the set to proper scale, but also, we were able to determine all the decisions with grip, lighting, and the art departments ahead of time. Once we had an approved previs, we exported the positional data and inputted it into the motion-control system. We were able to design the shot two weeks before we ever showed up to set. Then, on the day, we made adjustments.

So in this example, using motion control was key? Definitely. It allowed Damian to freely adjust the choreography of the talent while keeping a consistent camera path. It was also invaluable for lighting. My gaffer, Dustin Penrod, was able to build custom lighting cues that were all triggered by the motion control system. As the crane arm would pass in front of the lights rigged to the grid, Dustin could dim one down and another one up so as to not project shadows from the crane on the set. We used a mixture of ARRI SkyPanels and L7 LEDs for the theatrical lighting as well as traditional tungsten units all running into a lighting board. Lastly, due to the complexity of the VFX, we needed to have up to a single degree of accuracy of the camera movement for stitching and facial replacement, as well as allow for clean plates. My tech team, led by Scott Connolly, developed a custom-designed, 360-degree, live-viewing pipeline in order to send 4K live-stitched feeds to an Oculus Rift, multiple monitors, iPads and wirelessly streaming to Samsung Gear headsets. In addition to 360VRT, we did on-set stitching in MistikaVR in order to get full-resolution rough stitches for selected takes.

Why is this project so important to the VR world? The Elton John film represents the culmination of how sophisticated VR has become in such a short period of time. The project blurs the lines between reality and CGI. It is a perfect example of how important it is for the production and post-production teams to integrate seamlessly.

What is the future of VR? It's split into two worlds. On the one hand, we are going to see more narrative VR films, which will dive deeper into Volumetric and 6DOF. On the other hand, there will be a lot of super-resolution, location-based, immersive 360 content – domes, 360 projection mapping, et cetera. A trend this year at NAB was how many camera companies are utilizing depth maps to give the filmmakers more data to shoot higher quality imagery. It's a very interesting time for immersive content. 

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