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www.lookeffects.com
Los Angeles, California, USA

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Flame is simply the best compositing software to work on with clients in the room, and Maya is literally the backbone of our operation at LOOK Effects; it's a total rock star.

—Max Ivins
 Visual Effects Supervisor
 LOOK Effects

Still not easy bein' green.

LOOK Effects brings back *The Muppets* with help from Autodesk® software.

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Summary

"It's not that easy being green. / It seems you blend in with so many ordinary things. / And people tend to pass you over / cuz you're not standing out like flashy sparkles on the water, / or stars in the sky." –Kermit the Frog, 1969

When Kermit the Frog first sang his melancholy "Bein' Green" in the first season of *Sesame Street*, nobody could have predicted the song would eventually be recorded by Frank Sinatra, RayCharles, Diana Ross and Don Henley and even be featured on *Glee*. Though it has become something of an anthem for individuality, diversity, and even environmentalism, the song holds particular meaning for the visual effects team at Los Angeles–based LOOK Effects.

When LOOK visual effects supervisor Max Ivins was approached about working on *The Muppets*, the latest feature film starring the beloved puppets, he admits he was initially a bit perplexed:

"I tried to think about what we'd be doing with the legendary Muppets," he says. "Fortunately, what we ended up doing was a lot of traditional, yet challenging blue screen compositing for set extensions and digital matte paintings. Due to Mr. Frog's coloring, of course, we had to use blue screens, not green."

When it comes to compositing, "blending in with so many other ordinary things" doesn't just make one ordinary, but invisible. Kermit may be many things, but ordinary is not one of them.

The Challenge: Bein' Furry

"From the start of the project, our main directive was that nothing should look too digital or effects-like," says Ivins. "Out of respect for the old television show, we were after a look that was more like tangible, old-school stage tricks."

While the LOOK team did not replace the traditional "Muppeteers" with computer-generated versions, they had the opportunity to make the job easier. By clothing the puppeteers entirely in blue, ninja-like outfits and setting them against a traditional blue screen, LOOK gave them more freedom of movement within each scene, thereby creating more believable performances.

"We were able to put the puppets against a standard blue screen stage and, with minimal blue props, enable four puppeteers to control one Muppet," says Ivins. "In one scene, for instance, Walter–the new Muppet–climbs up on a kitchen counter and jumps for a door knob, only to be spun around and launched into a cabinet. We shot Walter and his blue-clad handlers completely against blue screen, and then shot a bunch of plates of the kitchen

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and married everything together in Flame. The puppeteers were really happy that they didn't have to lie down on their backs and hide from the camera all the time, and they were able to do things with Walter that they simply couldn't do on previous Muppet movies."

While the blue screens were better for Kermit and they presented greater challenges when it came to the famous frog's furrier cohorts:

"I never realized quite how very furry Fozzie Bear is until we had to composite him into scenes," says Ivins ruefully. "Fur and blue screens just don't mix very well. Janet Muswell, the supremely talented production supervisor, is a former compositor, so she knew what we were up against, but was also a stickler for detail. Fortunately, we had Flame and Flare, which are the quintessential tools to get that kind of work done."

Another indication of the filmmakers' intense attention to detail is evident in a scene in which the Muppets and their human co-stars drive from the United States to the south of France in Kermit's Rolls Royce. That's right, drive.

"There's a great scene in which the Rolls Royce drives out of the ocean and up onto a beach in Cannes," says Ivins with a smile. "The beach is really just up the road from us here in Los Angeles, but they literally submerged a real Rolls Royce in a lake, and then dragged it out with a cable. Meanwhile, all the extras, freezing in their Speedos, were standing around trying to look French. In Flame, we were able to create the set extensions to make the scene look like the French Riviera. We also shot the interior of the car against blue screen, and then put the main stars in perspective on a dolly system that could be pushed through the shot."

The Result: Beautiful, and That's What It Ought to Be
In addition to using Autodesk® Flame® and Autodesk® Flare™ visual effects software for compositing, LOOK Effects ventured into the 3D realm with Autodesk® Maya® software, using it to create some concluding fireworks, an enormous crowd, and a vacuum cleaner to torment Beaker, the perpetually beleaguered lab assistant to Dr. Bunsen Honeydew.

"We also built some pretty crazy rigs on the blue screen stage for Beaker," says Ivins. "At one point, Beaker gets sucked up into a vortex that shrinks him down to about four inches tall, just small enough for Dr. Honeydew to pick him up and put him in his pocket. He is always running, that Beaker. We built a blue screen rig that was like a merry-go-round that could spin Beaker and all his handlers. We were then able to use Flame to composite Beaker into the scene."

The biggest 3D challenge for the LOOK team, however, was to create a helicopter-style shot of an immense crowd of Muppet admirers. Building on a small group of actual humans who were standing around watching the movie being shot, Ivins and his team used the particle system and MEL scripting capabilities in Maya to swell the crowd to approximately 4,500 interacting humans.

"In the end, we worked on over 350 shots for *The Muppets,*" says Ivins. "The helicopter shot of the crowd was both the most ambitious and the most fun. That shot is at least 90 percent CG. We wrote our own code for a group of relatively low resolution people moving around, and with some randomness thrown in. We created a dozen or so characters and 16 movement cycles and then replicated them into this large crowd. It was awesome."

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In the end, however, Ivins gives full credit where it is due: "The greatest thing about this movie is that, well, it's the Muppets," says Ivins. "They are an institution, and it was usually just hysterical being on set. Despite all the long hours, it was so much fun to work on this project, and we couldn't have done it so successfully without Autodesk software. Flame is simply the best compositing software to work on with clients in the room, and Maya is literally the backbone of our operation at LOOK Effects; it's a total rock star."

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