

Dream Quest Images

Special Effects Design Firm Creates Superior Composites and Keeps Competitive Edge Using Adobe After Effects

Adobe™ After Effects™ in Special Effects Creation

Spaceships burning in crash re-entry... superhero trucks...futuristic explosions... machines to freeze a planet...even an alien alphabet. These are but a few of the special effects that Dream Quest Images provides for movies, television shows, CD-ROMs, and the films that enhance amusement park rides.

In fact, the special effects firm's melding of artistry and technology has won it two Academy Awards for visual effects in the movies *Total Recall* and *The Abyss*. A number of futuristic television series also benefit from Dream Quest's magic touch, including "The Adventures of Brisco County Jr.," "Earth 2," "Alien Nation" and the upcoming "JAG."

According to Tim Sassoon, a visual effects supervisor for Dream Quest Images, Adobe After Effects 3.0 software running on Apple® Power Macintosh® computers enables the company to produce extremely complex effects in record time, and at considerably lower cost than many of its competitors.

"Special effects are critical to many of these shows," says Sassoon. "For example, the vehicles in the upcoming "Rolling Thunder" TV pilot would look pretty ordinary without the mass of animated displays on their dashboards."

Souped-Up Smart Cars

Sassoon uses Adobe Illustrator, Adobe Photoshop, and Adobe After Effects software to create the dashboard displays for

the souped-up "smart" Hummers and monster trucks that are central to "Rolling Thunder's" plot. These high-tech wonders track everything from stock market reports to biostats to satellite positioning.

Sassoon typically begins by using the Adobe Illustrator program to design the basic shapes of his elements. From there, he'll either move them into Adobe Photoshop for further painting or directly into After Effects for compositing with a motion-tracked background. "The Motion Tracking is probably the best available at any price," says Sassoon. "And that feature, combined with the program's ability to automatically remove 3:2 pulldown from film transferred to video, enables us to work with almost any footage, saving everyone considerable time and money."

After Effects Provides a Competitive Edge

Timely and cost-effective delivery, along with high-resolution output, helps Dream Quest Images win projects that might otherwise go to companies using more traditional, dedicated, hardware-based video systems like the Quantel Harry. The "Earth 2" project offers a good example.

Dream Quest Images was contracted to produce all the effects for the show's pilot episode at film resolution, but when it came to the weekly episodes, the effects work was slated to go to the show's video-editing facility. As the season progressed, however, more and more shots were directed to Dream Quest Images.

Key Benefits Summary

- Complex timing effects can be created more easily with After Effects 3.0 features such as Time Remapping and roving keyframes.
- The ability to directly import Adobe Illustrator™ and multilayered Adobe Photoshop™ files streamlines the design and compositing process.
- The quality and flexibility of Adobe After Effects™ software has been instrumental in helping Dream Quest Images expand its reputation as a major special effects facility.



“We could produce better and more complex effects and deliver them faster than our competitors,” says Sassoon. “After Effects enabled us to deliver as many as 55 special effects shots a week! I don’t think we could have made that kind of schedule with either traditional video hardware or any of the workstation-based products. With the ease of use of After Effects and the Power Macintosh computer, you spend your time working on the shots, not fighting the machine.”

A Typical Week on “Earth 2”

The composites for “Earth 2” covered a broad range of elements and objects, and often required up to 100 layers. Source files included still shots, 3D renderings, video, PICT files, and Adobe Photoshop and Adobe Illustrator files.

Every week during “Earth 2,” Dream Quest Images received several Exabyte 8mm data tapes, each containing as many as 3,000 frames of video footage requiring effects work. Using Knoll Software’s Missing Link™ program, the tapes were transferred to a Macintosh® system and made into a full-resolution QuickTime® movie as well as lower-resolution proxy movies. Then, using QuickTime MoviePlayer™, Sassoon broke out individual shots and distributed them among four or five artists.

These artists worked with various tools, including Adobe Photoshop and Adobe Illustrator, to create the elements required. The results were imported into Adobe After Effects, where they were composited with the background video. In every case, Dream Quest Images met the one-week deadline for broadcast.

Several features of Adobe After Effects facilitated meeting this hectic production schedule. Unlimited numbers of elements could be animated and composited simply by dragging them into a composition window and applying motion keyframes and effects. “In After Effects, you can take one

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composition and nest it into any other one,” says Sassoon. “Each nested composition becomes ‘virtual footage’ in the next composition, giving you tremendous flexibility.”

New features in Adobe After Effects 3.0 also proved invaluable, such as the new motion controls, which allow a position keyframe to become a “rover,” slipping in time to make the smoothest possible overall motion. Sassoon also used the Time Remapping function to good effect. “It’s really good,” says Sassoon. “Only machines in the million-dollar range—and After Effects—have this capability.”

Another area in which Adobe After Effects shines is the handling of transparency. Dream Quest Images also uses Wavefront Composer™ software running on Silicon Graphics® UNIX® workstations and servers, mainly for feature film jobs requiring greater than 24-bit color images, which the Macintosh currently doesn’t handle. Compared to Adobe After Effects, which can automatically matte an element based on an alpha channel or other property, assigning transparency in Composer is a tedious three-step process.

In Adobe After Effects, elements with transparency flow perfectly through any number of intermediate compositions to the final render. “The artists working with other programs are always envious of the things we can easily do in After Effects,” laughs Sassoon, “like real motion blur, Bézier masking, and the incredible range of creative effects available in After Effects and programs such as Adobe Gallery Effects™ and Adobe TextureMaker™.”

The wide variety of keying effects is another plus, particularly when working with blue screens. According to Sassoon, perfectly shot blue screens are few and far between. More often than not, they’re too dark, uneven, and grainy. To correct problems with the originals, he might first use the Median filter to smooth out the grain and the Change Color filter to boost the blue without affecting other colors. Then he can use the Keying Effects filter to create a clean composite.

Alien ABC's

In addition to the more common effects, Dream Quest Images often produced highly complex and unusual scenes for "Earth 2." One of the more difficult sequences involved creating an animated alien alphabet that floated, rotating in perspective. Generating the effect required creating five spinning rectangles, each containing nine translucent beveled panels, within which the alphabet created in Adobe Illustrator constantly changed.

"This was a virtual reality sequence and it had to look futuristic, yet very organic, in keeping with the look of the show," says Sassoon. He created the entire scene using absolutely no film or video source files. Everything was generated within After Effects—from solids, type, and effects like the Numbers and Basic 3D filters.

"The shot required almost 200 layers and compositions," says Sassoon. "After Effects allowed me to composite them all in a single pass with no prebuilds, saving me an enormous amount of time."

After Effects Handles Explosive Situations

In another instance, Dream Quest Images created a nuclear explosion. An initial attempt to photograph a simulated atomic blast had not worked. Once again, Sassoon created the explosion with virtually no source materials. "I wanted to capture the ghostly blast shell, which you can see in photographs of nuclear tests taken microseconds after detonation."

Beginning in Adobe Photoshop, he created some smoke with the Render Clouds filter and made mattes to separate foreground trees from the background in the source footage. After creating the PICT files and importing them into After Effects, the compositing process began by panning a noise pattern within a small composition. In the next composition, Sassoon ramped the Levels filter from crushed white to crushed black, creating a "crawling" effect on the surface of the blast shell.

Next, he applied the Bulge filter, then converted the shell into a spherical shape and applied the Glow filter, which made it shine brightly in an unearthly green. Finally, the finished explosion composition was positioned and rapidly scaled from small to large, while foreground people were rotoscoped in using an animated mask.

"The coup de grace was then shaking the entire scene with Motion Blur," says Sassoon. "The final result looked really photographic."

After Effects 3.0 Promises New Power

Adobe After Effects 3.0 gives Sassoon other powerful capabilities as well. Perhaps the greatest improvement, from Sassoon's perspective, is the ability to import both Adobe Photoshop and Adobe Illustrator files directly.

"I do most of my design work in Adobe Illustrator," Sassoon says. "Now I can import the files directly into After Effects and manipulate them there. I recently used the Composition Collapsing feature to do a spot for an international telephone company. We zoomed from Earth orbit down to the

street in front of their headquarters—a scale change of 450,000 percent! After Effects handled it all in one move, and it stayed sharp the whole way."

Native Adobe Photoshop 3.0 files with layers can also be imported into Adobe After Effects, enabling artists to go directly from painting to layer-by-layer animation. The import capabilities of version 3.0 may well be the program's most valuable attributes, Sassoon says. "The seamless integration of these three best-of-breed Adobe programs gives us a production solution with virtually endless creative possibilities."

"I consider After Effects to be the most powerful professional compositing, editing, and special effects software available," says Sassoon. "As graphic artists, the program makes our lives a lot easier. As a company, the program enables us to do the high-quality professional work that our clients expect at the same price or less than it would otherwise cost them. With more and more video post houses claiming expertise in visual effects, Adobe After Effects and the Power Macintosh computer really help Dream Quest Images maintain that creative edge."

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