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By George Joblove,
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DISCREET LUSTRE

A Finishing Tool for DI

Discreet's Lustre has become a major part of the digital intermediate pipeline at Sony Pictures Imageworks. As part of our digital intermediate (DI) services, we use Lustre as a component to our feature film visual effects and animation work. Our new DI pipeline at Imageworks integrates our proprietary digital-conforming software with Inferno and Flame visual effects stations with Lustre handling all of our color grading.

For more than 20 years, I've been directly involved with digital imaging as applied to the filmmaking industry. I've been very interested in being able to offer digital intermediates as soon as they were economically feasible. A couple of years ago, when the economics made sense, we inaugurated our first DI project with *Stuart Little 2*, working closely with its DP, Steven Poster, ASC. On that project, an early version of digital grading technology yielded better ways to handle the typical color challenges of feature film post.

But now we have Lustre's intuitive environment. It fits in well with our years of experience in color grading and DI technology. Its straightforward working style enables us to quickly match color across shots as well as create color-based effects on film and high-quality HD or SD video source material.

Last October, for our first full Lustre project, we did the final color grade for director Robert Zemeckis' *The Polar Express* (Warner Bros.), as well as several different versions of the trailer. On tap were senior visual effects supervisors Ken Ralston and Jerome Chen, as well as Paul McGhee, our color timer.

For *The Polar Express*, we needed to make the shots flow smoothly from one sequence to another. The enhancements ranged from simple primary color corrections to selective

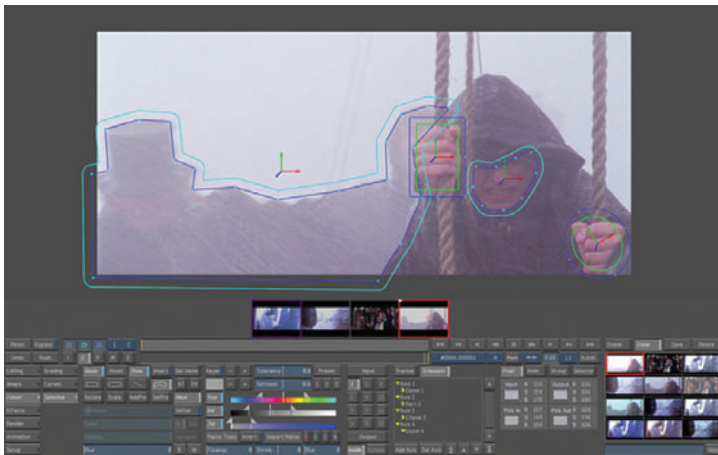
color corrections, which consisted of isolating objects and color grading them within a shot or sequence. Of the 877 cuts in the movie, we did approximately 580 selectives, including geometry tracking for various objects throughout the project. We used Lustre to do color enhancements on eyes, teeth, skin tones, hair, cloth, shadows, and highlights. In addition to the primary color corrections, we created several color ramps in some of the longer sequences throughout the movie.

In the last couple of weeks of postproduction, we also made approximately 100 additional eye enhancements that were not originally scheduled. To keep our schedule, we set up a Lustre assistant station to do the roto work on the eyes. This allowed us to concentrate on the grading of the film until the roto work was completed. Lustre is fast, enabling us to keep up with the production's needs and still make our deadline.

Lustre simply gave us the freedom to experiment on shots or sequences that would've taken much too long without it. For example, we had a sequence in *The Polar Express* that was already complete, but our client decided that he wanted a different look for this particular part of the movie.

It was actually pretty simple to do. Paul McGhee quickly redesigned the tonality of a scene, completely changing the lighting to give it a much cooler feel. Our client liked the new look, so we gave the entire sequence back to the artists, and they relit it to mimic Paul's lighting style. Lustre enabled us to take a completely different approach and accomplish those changes in a very short amount of time. Compared to how we worked before, it would have taken far too long to pull off, and would have required much more manpower.

Overall, we found that Lustre allowed us to have total control over color grading for *The Polar Express*. If a sequence



Top: At Sony Pictures Imageworks, Discreet's Lustre workstation was used for the final color grade on *The Polar Express*.
Bottom: Lustre's intuitive environment works well at Sony Pictures Imageworks for quickly matching color across shots and creating color-based effects on film.

wasn't flowing the way it was intended to, we could take the necessary time to get it just right. Paul really appreciated this extra time Lustre provided to explore creative alternatives. The additional creative control went far beyond what would be gained by using the traditional photochemical color timing process, which basically gives you just three knobs for red, green, and blue exposure.

For *The Polar Express*—a totally digital motion picture—we were able to integrate the animation production with the timing and conforming in a seamless digital pipeline. Creating this new workflow resulted in an efficient process even while it enabled visible improvement in the film we would deliver to our client. **mm**

George Joblove, senior vice president, technology, guides the development and use of digital imaging technology at Sony Pictures Imageworks. Joblove supervises all aspects of the technical infrastructure that supports the facility's productions. He also participates in a number of other technology initiatives at Sony Pictures Entertainment, including the application of advanced digital technologies to motion picture production, postproduction, and distribution.

*Sony Pictures Imageworks, the award-winning visual effects and computer animation company, has been recognized with an Oscar for its work on the CG animated short film *The Chubbchubbs*, and has been nominated for its work on *Spider-Man*, *Stuart Little*, *Hollow Man*, and *Starship Troopers*. Projects currently in production include *Bewitched*, *The Chronicles of Narnia: The Lion, the Witch & the Wardrobe*, *Monster House*, and *Open Season*, the first CG motion picture from Sony Pictures Animation. For more information, visit www.imageworks.com.*

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