Weaving a Tale

Sony Pictures Imageworks Takes Animated Cloth to new Heights with Maya and Alias Professional Services

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> Peter Nofz, CG Supervisor
> Sony Pictures Imageworks

Alias® and Sony Pictures Imageworks (SPI) have partnered together for over a decade with a common vision. That vision, says SPI President, Tim Sarnoff, "is to use technology to create the most spectacular onscreen imagery. We are dedicated to surprising and surpassing the expectation of our audiences, so we need to constantly push ourselves. This challenge will never end for us – and that's why our partnership with Alias will continue to be critical to the success of Imageworks."

Two recent films – Spider-Man® 2 and The Polar Express – serve as perfect examples of how SPI is achieving this goal of creating spectacular onscreen imagery with the help of Alias products and services.

According to SPI CG Supervisor, Peter Nofz the digital Doc Ock double from Spider-Man 2 was one of the most challenging characters the studio has ever produced. "I counted him as "two plus" characters," he explains. "The major challenge lay in matching the live actors' costumes. The Doc Ock costume," says Nofz, "is the most difficult one we have ever had to build. It involved four layers worth of clothing: a girdle where his tentacles came through; two western-style, suede coats; another full-length, leather coat; and a cape which he would take off from time to time. All of these layers were different fabrics that had to behave differently."

> The CDC client list reads like a 'who's who' of the global entertainment production industry. It includes, amongst others, Disney, Sony Pictures Imageworks, Japan Broadcast Corporation, EA and Weta.

At the time of production, the Maya® Cloth module did not have all of the technology necessary to create this incredibly demanding costume. For this reason, Nofz' team brought in the CDC to help. This group of highly-experienced Maya programmers were hired to create a new type of digital cloth – cloth objects as opposed to panels – that would not only allow Sony to create the Doc Ock costume, but animate it in challenging scenes such as the "train fight scene." The results? "It looks good," says Nofz, "even on the train where Doc Ock and Spider-Man are going 60 mph." This new cloth technology has since been incorporated into Maya.

This same cloth simulation technology was next applied to the characters of The Polar Express. "The enhancements that the CDC made to Maya cut more than 50% off of our costume development time," enthuses Digital Effects Supervisor, Rob Bredow. "The close working relationship between Alias and Imageworks has been key to the success of our team."

Key CDC Projects – At a Glance

Improved Cloth Object Support

While working with Sony Pictures Imageworks, the CDC added a number of features and functionality to Maya Cloth that improved overall support for cloth objects, making it as easy to work with Cloth Objects created from modeled geometry as cloth garments constructed from flat panels. These new features included constraints and Paint Cloth Properties, which allows artists to paint properties per vertex on Cloth Objects. Other Cloth Object tools they developed were Stitch Cloth Objects and multiple per vertex Property Sets that enable artists to animate Cloth properties on Cloth Objects.

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