

Crest Animation Studios
www.crestindia.com
Mumbai, India and Burbank, California

Autodesk® Maya®

Maya is the tool of choice across India and the world. It was an obvious fit for our pipeline because of its sheer accessibility, availability, and support. When collaborating internationally on a film, especially one like *Alpha and Omega*, a global production pipeline is of the utmost importance. That's why we predominantly rely on Maya.

—A. K. Madhavan
CEO
Crest Animation Studios

Lone wolves.

Crest Animation makes *Alpha and Omega*, India's first stereoscopic 3D animated feature, with Autodesk® Maya® software.



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In the past decade or so, the Indian animation industry has matured into a vibrant and dynamic business, as well as an instrumental resource for the global production community. Shrinking studio budgets initially drove animation production work to Asia, and that highly skilled talent pool is still driving India's CG and animation boom today.

Crest Animation Studios, a leading Mumbai and Burbank, California-based facility, is taking advantage of this burgeoning market to boost India's role in the global film industry. Determined to stake a claim for original films in the competitive Hollywood market, Crest produced and delivered India's first stereoscopic 3D (S3D) animated film for global distribution. *Alpha and Omega* was created in collaboration with Lionsgate Entertainment, and has upped the ante for animated film production in India, thanks in large part to a technically savvy team of artists and solid production pipeline powered by Autodesk® Maya® software for 3D animation.

"Maya is the tool of choice across India and the world. It was an obvious fit for our pipeline because of its sheer accessibility, availability, and support," says A. K. Madhavan, CEO at Crest Animation. "When collaborating internationally on a film, especially one like *Alpha and Omega*, a global production pipeline is of the utmost importance. That's why we rely on Maya."

Crest—Paving the Way for Indian Animation

In 2008, India's National Association of Software and Services Companies (NASSCOM) estimated a net worth of \$460 million for the Indian animation industry, projecting that it would grow to \$1.16 billion in revenue by 2012. That anticipation of growth is turning the attention of the global animation community to India.

Crest Animation is a full-service studio specializing in the development and production of digital animated properties for theatrical, TV, home, and interactive

distribution across the world. More than that, Crest is driving India's animation industry to new heights. Formed in the late 1980s, the studio quickly earned a reputation as India's "go-to" television commercial (TVC) production company and quickly became one of India's leading commercial post facilities by the 1990s.

In 2000, Crest began developing its own intellectual property, specifically designed for worldwide audiences. With the team's in-depth understanding of technology and filmmaking, the company moved easily into long-form CGI, a relatively nascent art at the time. Shortly after that transition, Crest acquired Rich Animation, a creative studio located in Burbank, California. The acquisition added a Hollywood pedigree, storytelling expertise, and set design to the company's repertoire, giving it a creative competitive edge over other studios in the region.

Since then, both arms of the studio have collaborated on developing new properties, strengthening a global production pipeline and extending the reach of Indian animation. Crest's two world-class facilities are equipped with state-of-the-art technology, including 300 licenses of Maya and the creative talent to help produce more than 200 episodes of CGI-animated television and home video titles for clients including Mike Young Productions, Mark Brown, Classic Media, Nelvana, American Greetings, Marathon, Nickelodeon, and more.

Crest has been honored with a BAFTA Award, a FICCI Best Animated Frames Award, a Humanitas Prize for Children's Animation, and an Annie Award nomination for "Jakers!," the studio's long-format television animation series. The studio's work continues to enhance the credibility of the Indian animation industry and the country's role in the global market.

Autodesk®



Alpha and Omega—From Concept to Reality

After making an impact in television production, the team at Crest was ready to take animation to the next level. Diving into the creation and delivery of an S3D animated movie to compete with other Hollywood animated titles was a logical next step. Crest partnered with Lions Gate to co-produce, market, and distribute three films. *Alpha and Omega* has been released worldwide, and is the first of the three, marking Crest's first full-length animated film production and the first S3D feature to come out of Asia.

Over the course of 24 months and with a budget of under \$20 million—one-fifth the traditional budget of an average animated Hollywood film—Crest's team of 250 professionals collaborated to bring *Alpha and Omega* to life. Despite the tight budget, bonding restrictions, and technical hurdles that accompany all S3D productions, Crest's team forged ahead.

Co-directed by Anthony Bell and Ben Gluck, *Alpha and Omega* takes place in Canada's Jasper National Park, and follows two wolves from opposite ends of the western pack's social structure. Kate (the Alpha) and Humphrey (the Omega) find themselves relocated to Idaho after being captured by park rangers. On their journey home, Kate and Humphrey fall in love, complicating their return. Kate is expected to enter into an arranged marriage with another wolf of her own station.

Crest enlisted Steve Moore, writer of the hit S3D film *Open Season*, to develop a compelling script, before tapping Hollywood talents including Justin Long, Hayden Panettiere, Christina Ricci, Dennis Hopper, and Danny Glover to voice the film's characters. The studio's U.S. and India-based teams collaborated closely with Moore to create a tale capable of competing with other major studio animated blockbusters. After numerous script drafts were completed and character designs ironed out, the storyboards, voices, and animatics were created out of the Burbank office. Richard Rich, a former Disney apprentice and co-director of animated classics such as *The Black Cauldron* (1985) and *The Fox and the Hound* (1981), helped guide the aesthetic of the film, infusing a classic quality to the movie's characters and environments.

While the character designs were conceived in the Burbank studio, modeling, rigging, texturing, and effects were completed in Mumbai. The film called for the design and animation of 10 to 12 primary hero-characters, together with a plethora of crowd scenes. Artists spent many months constructing lushly detailed park scenes, crafting over 40 unique sets. Crest has experimented with a range of animation solutions since its inception, but the team has now standardized on Autodesk Maya, chosen for its flexibility, performance, reliability, and the programming team's

background and familiarity with MEL scripting. "Over the years we've tried other software, proprietary tools, and scripts, but Maya has proven to be the best tool to serve our projects across the board," says Madhavan.

All assets generated in Maya were fed into Crest's asset management system. As a result, all models, rigs, textures, and large layout animation files were available to Crest's teams in both Mumbai and Burbank from preproduction through to post.

"We've developed an entire pipeline based on Maya, and it has been a huge asset to our studio on a number of projects, including *Alpha and Omega*," says Mehul Hirani, creative director at Crest Animation. "With MEL scripts in Maya, we can simplify and automate certain features, bypassing many of the laborious and lengthy production processes."

On a film like *Alpha and Omega*, flexibility and time efficiency are essential. Crest's first step was to model, animate, and render a 30-second clip to establish how the pipeline will work and where the production bottlenecks might occur. The next step is to develop scripts and workflows to automate and simplify as many of the pieces of the production workflow as possible.

"At any given time, the director might approach us with a request for a new option or change, and we had to be prepared. The flexibility of Maya means we can customize our pipeline to work on any given asset across all departments, at any time. It would have been impossible to deliver this film in 24 months without that capability," continues Hirani.

The wolves in *Alpha and Omega* had to be carefully designed, with particular attention to geometry, rigging, and animation of the furry manes. Once the correct naming conventions were established, the team could use the Crest asset management system combined with Maya to automate the rigging process and secondary animation of the mane across multiple wolf hero characters, all of whom shared a similar gait.

Another custom MEL script called FaceLift enabled Crest's animators to access an organized library of character poses, features, and facial expressions for use across multiple scenes. The script is also an important starting point for camera layouts, enabling artists to quickly block out a sequence using banked poses, which in turn help layout artists focus more on camera moves and staging, as opposed to animating poses.

Crest's team approached set development for *Alpha and Omega* differently than in past projects. No two sets were alike in scale and volume. Since all the environments were multilayered jungle and wilderness, set development and the camera layout team built low-resolution set proxies to begin blocking out scenes.

Once the scenes were blocked out, the camera and set development teams determined how to optimize and reuse areas of a broad set, preventing unnecessary creation of high-resolution textures for sections of a set that wouldn't be featured prominently in a scene. Maya referencing was also used extensively in set development and across many other production tasks.

Each animation sequence came with its own set of scaling and range challenges—long camera movements, building of sets, and developing character effects. "In the film, there is a snow sequence where wolves are migrating from one area to the next," says Hirani. Crest deployed Maya particle effects to animate realistic interactions between fur and snow, and rain and fur. "Working with multiple layers, effects, and extravagant sets also posed huge integration and rendering challenges," continues Hirani. "With such complicated sets also came large amounts of data. We made extensive use of Mipmap, a feature in Maya, which enabled us to work out the level of detail based on camera distance with high-quality texture previews."

Crowd sequences were another hurdle for Crest to overcome. In shots where Crest had 20–40 wolves interacting simultaneously, the team was tasked with hand-animating each action as a separate layer. The team used Maya to optimize mattes and render multiple characters with geometry caching. "We used it for all of the crowd sequences with over 20 characters present," says Hirani. "Caching let us take multiple characters in a scene, light them, and manipulate them all at once."

The Result

Crest is continually pushing the boundaries of Indian animation, as evidenced by its work on *Alpha and Omega*, and is set to release two more S3D animated films with Lionsgate in the near future. With continued use of creative technology and a talented international team of technically savvy professionals, Crest will strengthen and solidify its reputation as a global animation powerhouse.

To learn more about Autodesk Maya software, visit www.autodesk.com/maya.

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—A. K. Madhavan
CEO
Crest Animation Studios



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