



## Visual Computing Labs Brings 'Arjun: The Warrior Prince' to Life Using Autodesk Software

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Autodesk Software Helps Shape India's Biggest Mainstream Animated Film

SAN RAFAEL, Calif.--(BUSINESS WIRE)--Aug. 8, 2012-- Indian animation and visual effects powerhouse Visual Computing Labs (VCL), a division of Tata Elxsi Ltd., leveraged [Digital Entertainment Creation](#) software from [Autodesk, Inc.](#) (NASDAQ: ADSK) to produce its second mainstream animated Bollywood film — "Arjun: The Warrior Prince". A joint collaboration between Disney and UTV Pictures, the film was directed by Arnab Chaudhuri.

[Autodesk Maya](#) and [Autodesk 3ds Max modeling, animation and rendering software](#) products played an integral role in shaping artful backdrops and character animations that contribute to the overall aesthetic of the film. [Autodesk Flame software](#) was utilized for creative finishing and color grading.

"Arjun: The Warrior Prince" is an animated mythological action film that recounts the untold story of Arjun, hero of the Mahabharata. He is a precocious child plunged from boyhood and innocence into a murky world of deceit and betrayal, coming of age to become the most powerful warrior of his time. Spanning the dusty plains of Hastinapur to the icy peaks of the Himalayas, "Arjun: The Warrior Prince" is the story of a man discovering what it takes to be a hero.

"The Indian filmmaking industry is thriving, and we're excited to see a longtime Autodesk customer like Tata Elxsi's Visual Computing Labs using our tools to create such a beautiful film. 'Arjun: The Warrior Prince' truly raises the bar for 3D animation in Bollywood," said Mark Strassman, Autodesk vice president of Media & Entertainment strategy and marketing.

"From the very beginning, our ambition with 'Arjun' was to create a work of art that would visually transcend other animated Bollywood films created to date. The nature of the story called for several challenging animated action scenes featuring breathtaking backdrops, chariot races and battle sequences. To make those appear rich and hyper-real, we relied heavily on Maya. It was our first choice and a natural fit for the job — giving us all of the tools necessary to develop and animate the lush backgrounds and dynamic characters that carry the story," said Vishal Anand, technical director, Visual Computing Labs.

He added, "With a powerful, efficient solution like Maya at the core of our pipeline, we were able to complete this rich, large-scale, action-oriented film in record time."

Over the course of 14 months, a team of more than 70 artists worked on "Arjun" in VCL's Mumbai office — from previsualization to animation, rendering, lighting and grading. Leveraging a solid pipeline that VCL initially built for its first animated feature, "Roadside Romeo," the team tapped Maya extensively to develop and render backgrounds. 15 matte painters churned out virtual sets, as the modeling team projected them onto pieces of geometry — exploring different camera angles until the desired looks were achieved. Each matte painting was broken up into various elements at different depths.

"With Maya our team was able to easily tackle even the most challenging animation sequences. The software enabled us to quickly render the backgrounds that painterly, yet hyper-real feel, while also creating accurate shadows and animations for each character. We were able to reference, using proxy geometry with very basic textures. This enabled us to block the scenes and choreograph camera moves. From there we could project our matte paintings onto pieces of more detailed geometry which our team would eventually light and add atmospheric to. This helped us deliver the perspective and depth the director was looking for," shared Anand.

VCL utilized [Autodesk FBX data interchange format](#) to exchange data between Maya and 3ds Max. 64-bit Linux-based systems were used for a number of fluid effects and dynamics in the film. The ability to use Maya Embedded Language (MEL) scripting in Maya allowed more advanced artists and technical directors to create a library of effects that could easily be plugged into shots. These presets could then be applied by any of the artists to a variety of objects by calling the script, placing it into the shot and turning around a desired effect within a short timeframe. Working in small teams, VCL had to automate as much as possible — using Maya and a library of scripted presets enabled them to do this very efficiently.

### About Autodesk

Autodesk, Inc., is a leader in [3D design](#), engineering and entertainment software. Customers across the manufacturing, architecture, building, construction, and media and entertainment industries — including the last 17 Academy Award winners for Best Visual Effects — use Autodesk software to design, visualize and simulate their ideas. Since its introduction of AutoCAD software in 1982, Autodesk continues to develop the broadest portfolio of state-of-the-art software for global markets. For additional information about Autodesk, visit [www.autodesk.com](http://www.autodesk.com).

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