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LUCASFILM AND SONY PICTURES IMAGEWORKS RELEASE ALEMBIC 1.0

Open source exchange format provides standard for exchanging animated computer graphics scenes between content creation software packages.

VANCOUVER, B.C. – August 9, 2011 – *Alembic 1.0*, the open source project jointly developed by Sony Pictures Imageworks and Lucasfilm Ltd. was released to the public today, it was announced at ACM SIGGRAPH conference in Vancouver, British Columbia.

Alembic is the computer graphics interchange format developed by the two entertainment giants last year and focused on efficiently storing and sharing animation and visual effects scenes across multiple software applications. It was designed to handle massive animation data sets often required in high-end visual effects and animation, which are routinely developed and produced by companies such as Lucasfilm's Industrial Light & Magic and Lucasfilm Animation Ltd and Sony Pictures Imageworks. The studios each saw the need for a tool like *Alembic*, something that would fit within existing pipelines and allow for customization at the facility level without impeding the ability to share work.

In addition to the features announced at last year's SIGGRAPH, *Alembic 1.0* includes automatic data deduplication. The software automatically recognizes repeated shapes in complicated geometry and only writes a single instance to disk. This makes *Alembic 1.0* use dramatically less disk space than promised without requiring any extra steps on the part of the user and can improve both write and read performance as well. In the case of hero deforming humanoid characters, including hair, shot caches have been reduced by more than 70%. For complex, deeply hierarchical and mostly rigid assets like the Transformers characters, tests have shown cache reduction in the order of 98%.

The code base for *Alembic* is available for download on the project's Google Code site and more information can be found online at: <http://www.alembic.io>

Joint development of *Alembic* was first announced at last year's Siggraph by Lucasfilm's visual effects company Industrial Light & Magic and Sony Pictures Imageworks. The companies joined forces when it became apparent that they were independently developing software designed to solve a problem universally faced by the visual effects and animation production community: how to easily share complex animated scenes across a variety of disciplines and facilities regardless of what software was being used.

Alembic includes tools that allow collaboration while working with a generic, extensible, data representation scheme. In essence, it distills complex and often proprietary, animated scenes into application-independent files with baked geometric results. These baked results can be fully re-importable across the range of supporting software.

“Alembic addresses a fundamental issue in a world where assets are shared across many companies. Alembic’s production-ready ability to seamlessly translate shapes across a wide variety of applications saves time and resources,” said Rob Bredow, CTO of Sony Pictures Imageworks. “By releasing *Alembic* as an Open Source project, users have the opportunity to improve the software based on their needs and experience. We're really starting to feel the positive effects of Open Source, as a community of visual effects and animation professionals come together to solve problems more effectively today than ever before.”

“Alembic is giving us space efficiencies beyond our most optimistic expectations and at effectively the same time cost as before. This is sure to have a significant impact for anyone who uses the format and we are excited to be able to share this with the Open Source community,” said Tommy Burnette, Head of Global Pipeline at Lucasfilm Ltd. “Previously each facility had to produce their own unique solutions to the problem of efficient caching and scene handoff, but the beauty of Open Source is that with strong collaborative efforts we can effectively provide solutions for everyone.”

Both studios have made strides with open source software and recognize the importance of such initiatives, ILM with the industry standard OpenEXR format and Imageworks with OSL, Open Color I/O, Maya Reticle, Field3D, Scala Migrations and the newly release PyP.

Here’s what some of the leading solution providers have to say about Alembic:

"The visual effects industry continually strives to reduce production complexity and improve collaboration throughout the pipeline. Autodesk is excited to support the implementation of production-tested technology, like Alembic, which enables digital entertainment artists to spend less time on internal custom software development and more time on creative storytelling. And that's a win-win, not just for the industry, but for the audience." ,

Stig Gruman, *Vice President, Autodesk Digital Entertainment*

“The way that ILM and Sony Pictures Imageworks have collaborated on this initiative has been truly impressive. Alembic is clearly born from real production experience of the demands of scalable asset driven production, which is vital to give it the robust foundation to become a major new industry standard. At The Foundry we wholeheartedly support Alembic.”

Bill Collis - *CEO, The Foundry*

"Multi-application pipelines offer maximum flexibility for modern digital content production, and the Alembic format offers a reliable and open path to exchange data between modo and other leading 3D applications. Luxology is excited to demonstrate today what we have been able to achieve with the initial implementation of Alembic in modo."

Brad Peebler - *CEO/Co-Founder, Luxology*

“With Alembic, ILM and Sony Imageworks have created an invaluable interoperability tool that fits perfectly into Houdini’s procedural philosophy. Our tests have shown how efficient Alembic can be and we know our customers will be thrilled.”

Kim Davidson - *President and CEO, Side Effects Software*

Alembic is being offered via the New BSD License and is written in C++ and Python, leveraging the boost and HDF5 C/C++ libraries heavily, as well as OpenEXR.

For more information visit: opensource.imageworks.com or www.alembic.io

Pictured below, the Alembic logo:



ABOUT SONY PICTURES IMAGEWORKS

Sony Pictures Imageworks is the Academy Award[®] winning visual effects and animation unit of Sony Pictures Digital Productions known for live-action visual effects and character animation, all-CG animation, and stereoscopic 3D imagery. The company is currently in production on OZ: THE GREAT AND POWERFUL, THE AMAZING SPIDER-MAN, MEN IN BLACK III, and the animated features ARTHUR CHRISTMAS (3D) and HOTEL TRANSYLVANIA. Other recent credits include the hybrid live-action/animation film THE SMURFS (3D), THE GREEN LANTERN (3D), ZOOKEEPER, ALICE IN WONDERLAND (3D), and CLOUDY WITH A CHANCE OF MEATBALLS (3D).

For more information, please visit www.imageworks.com.

ABOUT LUCASFILM LTD.

Lucasfilm Ltd. is one of the world's leading film and entertainment companies. Founded by George Lucas in 1971, it is a privately held, fully-integrated entertainment company. In addition to its motion-picture and television production operations, the company's global activities include Industrial Light & Magic and Skywalker Sound, serving the digital needs of the entertainment industry for visual-effects and audio post-production; LucasArts, a leading developer and publisher of interactive entertainment software worldwide; Lucas Licensing, which manages the global merchandising activities for Lucasfilm's entertainment properties; Lucasfilm Animation, which is currently producing content for film and television, including *Star Wars: The Clone Wars*, a CG-animated half-hour television series; and Lucas Online creates Internet-based content for Lucasfilm's entertainment properties and businesses. Additionally, Lucasfilm Singapore, produces digital animated content for film and television, as well as visual effects for feature films and multi-platform games. Lucasfilm's motion-picture productions include three of the 20 biggest box-office hits of all time and have received 19 Oscars and more than 60 Academy Award nominations. Lucasfilm's television projects have won 12 Emmy Awards. Lucasfilm Ltd. is headquartered in San Francisco, Calif.

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