The Design Explorer
The Ashlar-Vellum User Newsletter

Third Quarter, 2011

Roar of the Lion

Version 8 of all Ashlar-Vellum CAD and 3D modeling products has been tested on Apple's new OS X 10.7 operating system, better known as Lion. Lion is compatible with Cobalt™, Xenon™, Argon™ v8 SP2 and Graphite™ v8 SP3. New features, such as Lion's Autosave, Restore, Versioning, Full Screen Mode and new Multi-touch Gestures are not currently supported but Ashlar-Vellum is considering how to implement them in version 9.

Hear that Lion Roar

V8 SP2/SP3 of Ashlar-Vellum
CAD & 3D Modeling Software
is Compatible with Mac OS X 10.7

More New 3D Modeling Features Discussed V9

In development for Argon, Xenon and Cobalt v9 are the following potential features:

- **Spline from two contours.** We're thinking about calling this the *Duel Projection Spline*. It lets you designate a spline curve on the X-Y plane and another on the Y-Z plane then project a surface along the contour where they meet.
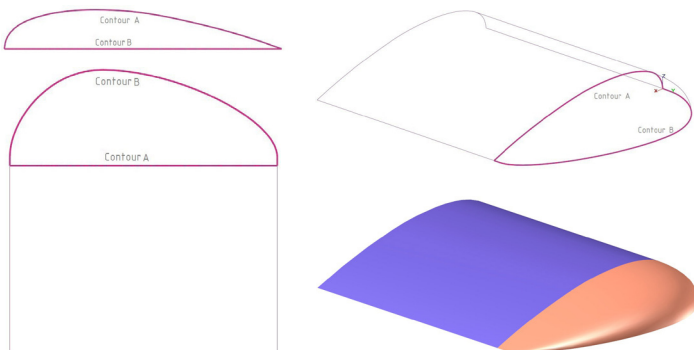
Spline created from two contours.

- **Conic surface from guides and sections.** We're looking for a snappy name for this so if you've got any good ideas, let us know. This is a convenient way to designate conic surfaces which are common in aerospace and industrial design.
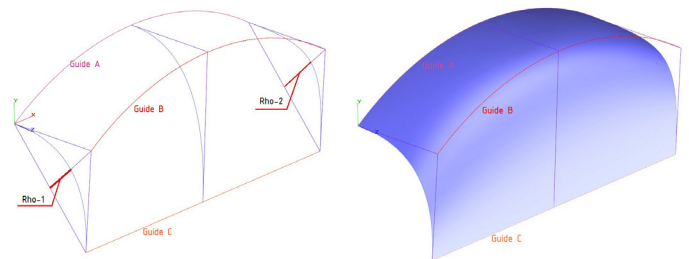
Conic surface created from guides and sections.

- **DXF/DWG 2012.** We'll be updating the DWF/DWG export to support up through 2012.
- **Object animation.** This will create animated sequences that move, rotate and scale individual parts and subassemblies within a model.
- **Animated 3D PDF.** Animated objects can be output through the built-in export for animated 3D PDFs.
- **Flattened Perspective View.** This facilitates 2D line art with perspective brought into a view for illustration purposes.

STU Renewals

Student/Teacher Unit special-use licenses will expire in November. STU licenses are for students and for instructors actively using our software to teach design. Emails will be sent out to all v7 and v8 STU license holders. Those using v8 for less than three years can renew their codes at no cost. Those who purchased v8 prior to July 1, 2008 will need to purchase a one-year maintenance agreement to renew their codes. Those using v7 will need to upgrade to v8. All must sign the Special-use Licensing Agreement and return it with proof of enrolment or faculty status.

Graphite Tessellated Text

The tessellated text technology for the upcoming Graphite v9 has been updated to support OpenType, PostScript Type 1 and TrueType fonts. This linearizes the stroke-type fonts of text for easy production using CAM software, and for the visual representation of text in vector-based exports that do not support all fonts or Unicode.
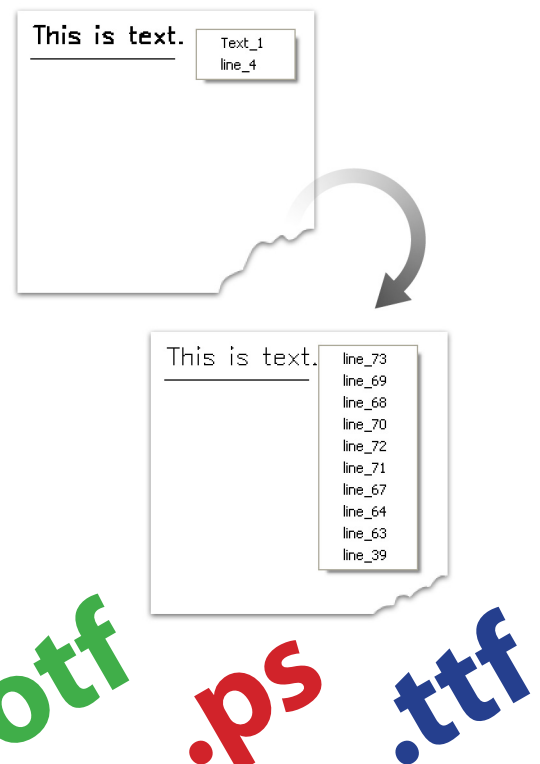
Time Out Snafu

On September 1st many customers of our 3D modeling software got an error message in their software saying the build image was too old. This was because we neglected to turn off one particular beta timer in the last build. If you received this error message simply update to the most recent release of Cobalt, Xenon or Argon by downloading it from the website. From within the software use **Help>Check for Updates** or go to www.ashlar.com/v8.

ASHLAR·VELLUM™
Software that works the way you think.

Welcome Alex Shcherbakov

We are pleased to welcome Alex Shcherbakov to our Cobalt team. Alex is a seasoned development professional with a background in computational and experimental mechanical design and experience with super-abrasives. Alex derives particular satisfaction from seeing the results of his work. He's a fan of European history and fine art from the middle ages.

Welcome Back Alexey

We are pleased to have Alexey Rezvov back again as team lead for our Aerialogics project. Alexey is an experienced 3D modeling programmer who loves computer games and puzzles. His outside interests include higher mathematics and politics.

Joining Us for Training

In July, Agostinho Martins of Estée Lauder and Yukiko Kojima of Estée Lauder Japan visited our Austin offices for three days of Cobalt training with Ashlar-Vellum trainer, Nick Slaughter. Agostinho and Yukiko both use Cobalt to create innovative packaging solutions for containing, dispensing, applying and merchandising product lines for the 29 different brands of cosmetics under the Estée Lauder name, including Clinique, MAC and Origins.

In August, Beth Davis, who recently joined her father, David Ostlie, at Energy Performance Systems, was here for Cobalt training. Beth will be drawing modifications to Energy Performance's new 45-ton tree harvester which cuts trees at the base and accumulates a full truckload as it moves along rows without stopping. The EPS harvester is designed to cut the cost of row tree harvesting compared to methods currently used in agro-forestry.

Industrial designers Agostinho Martins (left) and Yukiko Kojima design innovative packaging solutions for Estée Lauder Companies, Inc.
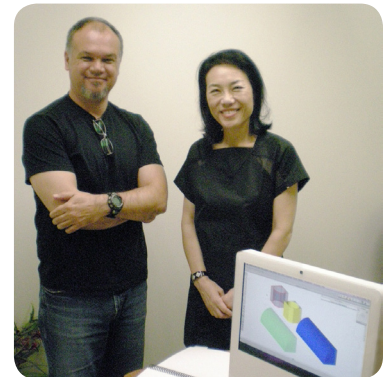
Beth Davis and Nick Slaughter discuss the features of Cobalt.

Energy Performance Systems' 45-ton tree harvester designed in Cobalt.

Cobalt Makes the Differential

Dale Speakes is a designer and prototype fabricator in the Pacific Northwest. He's spent years on the racing circuit, building cars and managing racing teams. He started using Ashlar-Vellum software with version 2.7 when he had *to learn CAD—and do it quickly.*

Recently, Speakes was confronted with a special problem. He was contracted by Dennison International to reverse engineer the differential for the 1957 Ferrari Testa Rossa prototype, owned by vintage racecar enthusiast Jon Shirley. In this unique car, Ferrari used a special cam and pawl differential to complement the 300hp, 3.0 liter, V-12 engine and 4-speed manual transmission for racing.

When Mr. Shirley first met with Speakes he immediately asked, "What software are you using?" Shirley, former president of Microsoft, knows the importance of software. Speakes originally chose Ashlar-Vellum wireframe CAD software because of its intuitiveness, however, he was relatively new to their Cobalt™ 3D modeling program. "At that time, I had been using Cobalt for less than a year."

Borrowing the parts from another car in Shirley's collection, Speakes reverse engineered the differential and associated components. A coordinate measuring machine was used to collect the profile data of the cams, which was imported into Cobalt. Using the polar duplicate and mirror tools, Speakes recreated the inner and outer cams in which the pawls ride.

Says Speakes, "In the 1950's the machining technology would not hold to today's high standard. Using Cobalt we removed the cam profiles' anomalies and optimized the symmetry of the parts."

Speakes prefers using Cobalt for all of his design work. "The software's strength is free-form design coupled with the flexibility to use sketches and constraints when desired." Creating an assembly, he quickly checked tolerances, making adjustments. Sketches and constraints let him change dimensions, automatically updating the model. He commented,

"Cobalt's intuitive interface and ease of use allow me to maximize my billable hours on any project."

Speakes appreciates Cobalt's ability to create engineering drawings directly from his model, which helps him hold his subcontractors accountable for their work. "If a great design can't be communicated with industry-standard drawings it won't get built."

Speakes holds three patents. He believes creativity, leveraged with the intuitiveness of Cobalt, breeds success, and continues using it to design and fabricate everything from aircraft parts to architectural pieces.

The fully restored Testa Rosa sold for a record-breaking $16.4 million—the highest price ever paid for a car at auction—at the annual Pebble Beach Concours d'Elegance at Monterey Car Week in August of 2011 to an unidentified buyer.
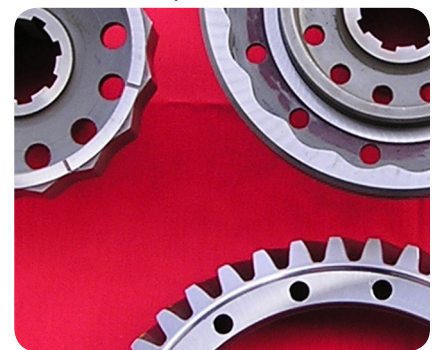

The fully restored Ferrari won Best-of-Class in 2006 and sold for a record-breaking $16.4 million in 2011 at the Pebble Beach *Concours d'Elegance* in Carmel, California.
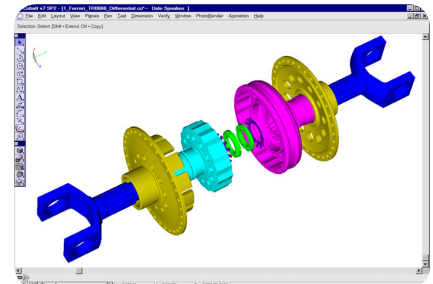
Above: Speakes used Cobalt CAD and 3D modeling software to reverse engineer the Ferrari's missing cam and pawl differential.

Below: The completed cams.

Background/Contact:

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