

The Design Explorer

The Ashlar-Vellum User Newsletter

Fourth Quarter, 2007

Ashlar Incorporated to Turn 20

Next month Ashlar-Vellum celebrates 20 years of creating precision design software for inventors, designers, engineers, architects and other heroes who change our physical world with their vision and dreams.

In January 1988 Ashlar Incorporated was founded by Dr. Martin Newell in Sunnyvale, California. In the early 1980's this influential thinker worked at Xerox PARC doing groundbreaking research on

human-computer interaction that led to the graphical user interface and the mouse. Newell's vision extended to computer graphics, pioneering the revolutionary technology used for Ashlar-Vellum's unique Drafting Assistant. Since the release of Vellum®, other CAD developers have tried to capture the Vellum magic, but never succeeded.

Today, Ashlar-Vellum continues to develop 2D and 3D software

products for designers who demand the freedom to concentrate on the creative process, not on the tools. We continue to set the standards for usability and precision for both Mac and Windows platforms.

Celebrating 20 Years of
CreativeIntuition
Powered by **Vellum™**

Holiday Hours

The Ashlar-Vellum administrative offices in the U.S. will be closed December 21st through January 1st. During this time, **orders** placed through our website will be processed by our European office and registration codes sent to you via email. Shipping of physical materials will resume on January 2nd.

Requests for **demo codes** will also be monitored and fulfilled. Please send an email with complete contact information, including your address and phone number to codes@ashlar.com.

Technical support will be handled as usual through our website. To start a support ticket go to our [Support Center](#) or

send an email to support@ashlar.com.

We wish you a blessed holiday season.



Ashlar-Vellum on Mac Intel with Leopard

The universal binary will be part of the upcoming v8 for Cobalt™, Xenon™, Argon™ and Graphite™ v8 SP1. In the meantime, how do you run Ashlar-Vellum software on the new Intel Mac machines?

For many people our software works seamlessly with acceptable performance under Leopard using the Rosetta emulation and a RECENT release of Graphite, Cobalt, Xenon or Argon. Specifically, you MUST be running one of the following to work well on an Intel Mac:

- Graphite v8 sp0 (v8.18) or later
- Cobalt, Xenon or Argon v7 sp2 (v7.6.616) or later

For others, there are several interim technologies available including Boot Camp, Parallels Workstation and VMWare Fusion. You will still need to be running one or more of the versions listed above for best results.

Rosetta under Leopard

A number of the performance issues found when running Ashlar-Vellum software using the Rosetta emulator under Tiger were corrected by Apple in the Leopard release. If you have not upgraded your Mac OS

X to Leopard and downloaded one of the recent Ashlar-Vellum updates above, we highly recommend that you do so immediately.

For more details about running Cobalt, Xenon, Argon or Graphite on the Intel Mac see the recently updated article on our website at http://www.webtest.ashlar.com/sections/support/mac_on_intel/mac_on_intel.html



SAVE 30% on Ashlar-Vellum Software

Ashlar-Vellum is offering 30% off on all purchases over US\$200 from December 4th through the 18th, 2007.

This sale applies to all new licenses, upgrades, and service contracts for Ashlar-Vellum software programs over US\$200. Training or shipping charges are not included in the discount.

Order any of three ways:

- Through your Value Added Reseller
- Directly from Ashlar-Vellum at +1 800-877-2745
- Through our webstore using coupon code: 2007PROMO

But you'll have to hurry. Sale ends December 18th, 2007.

Why Can't I Read this AutoCAD File?

If you're having difficulty finding something in a file imported from AutoCAD and think Graphite v8 didn't import the entire thing, try using **View>Sheets**. A new feature in Graphite v8 is the support of what AutoCAD calls layouts and Ashlar-Vellum refers to as sheets. Using **View>Sheets** in Graphite v8 lets you select the sheet or layout with whatever you're anticipating.

Be aware that later versions of the Graphite support different versions of AutoCAD. For example:

- Graphite v7 SP1 Build 741 reads up to AutoCAD 2002 files.
- Graphite v7 SP3 Build 788 reads up to AutoCAD 2006 files.
- Graphite v8 SP0 Build 813 reads up to AutoCAD 2007 files.
- A future build of Graphite v8 SP1 will read up to AutoCAD 2008 files.

Please note that Autodesk's data content has not changed since AutoCAD 2000 for anything appropriate for data exchange, so for most purposes, using the AutoCAD 2000 format gives the widest compatibility.

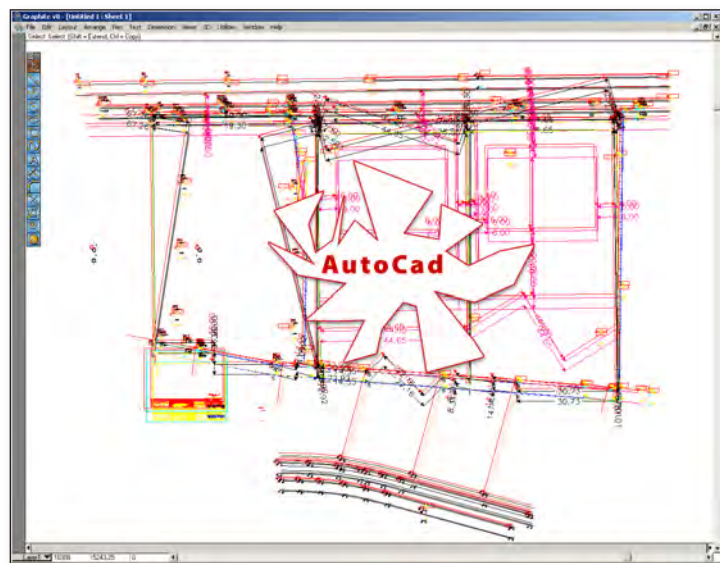
Also bear in mind that DWG and DXF are not published standards but are proprietary file formats invented and encoded by Autodesk. While the encryption on any new version is quickly broken, it always requires changes to our file structure before it can be incorporated in a future release. If you need support for AutoCAD 2008 files, and can run Windows, we recommend purchasing Any DWG DXF Converter for about \$75 from AnyDWG Software, Inc or getting DWG True View from Autodesk.

Graphite provides exact 2D/3D wireframe geometry for DXF and DWG translations. While Graphite offers high visual fidelity for dimensions and text in these formats, if your goal is to export

archive drawings, preserving the text and dimensions, we recommend using a free copy of Ashlar-Vellum Share or using PDF.

DXF/DWG files present several inherent challenges. First, they do not always specify units. Be sure to set Graphite to match the source file prior to importing it. Second, because individual users customize their systems, there is often difficulty in translating fonts, line weights and patterns, dimensioning styles, hatch patterns and custom symbols. Be sure these are also present on your destination system.

DXF and DWG are different and may provide very different results. We recommend trying them both to see which provides the best results for your file.



New Photo-realistic Rendering Features for v8

New and enhanced features are coming in version 8 of Cobalt, Xenon and Argon.

Interleaved Wireframe Geometry

In Cobalt, Xenon and Argon v8 it is possible to interleave 3D wireframe geometry in photo-renderings including all types of edges, curves, dimensions and text.

To edit and enable interleaved wireframe geometry use the Photorealistic Render Settings window. In the Interleave Wireframe Geometry dialog box it is possible to enable interleaving separately for wireframe geometry and object edges. It is also possible to override colour and line weight properties.

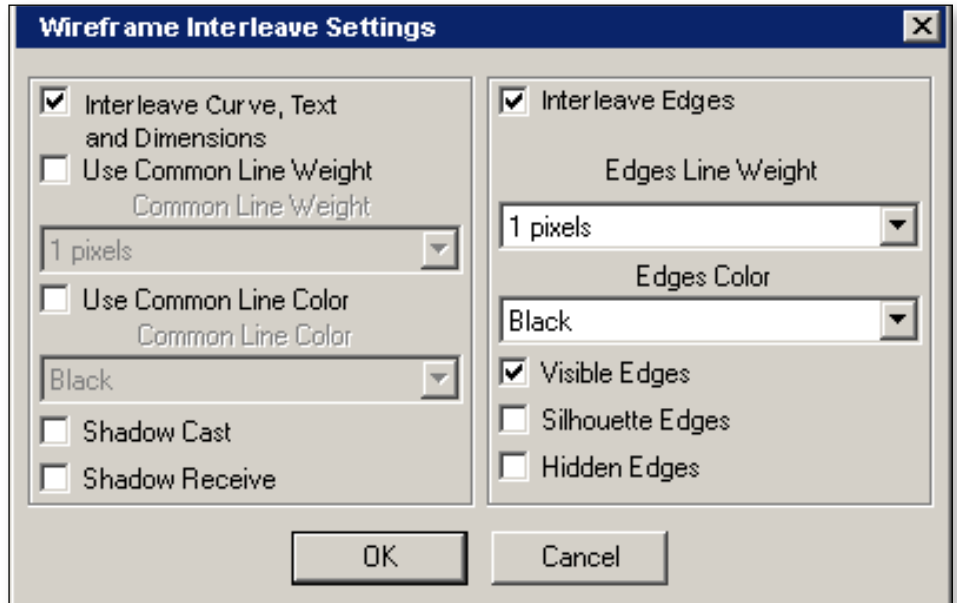


Photo-realistic Environment Map Settings

Version 8 will include photorealistic environment maps for scene rendering. Just set the type of environment map and the size. The map can also be added to the render library and used in other projects.



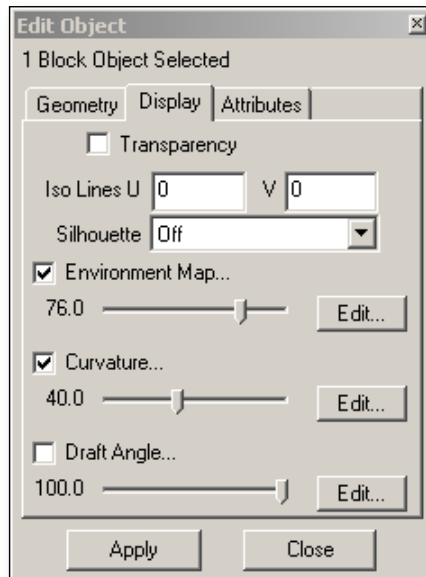
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Enhanced Surface Analysis Tools

In version 8, the surface analysis tools, such as curvature and draft angle, are now part of the Edit Object dialog box. Real-time environment maps, described above, are also part of this dialog box. These methods can be combined and applied individually to objects in a scene.

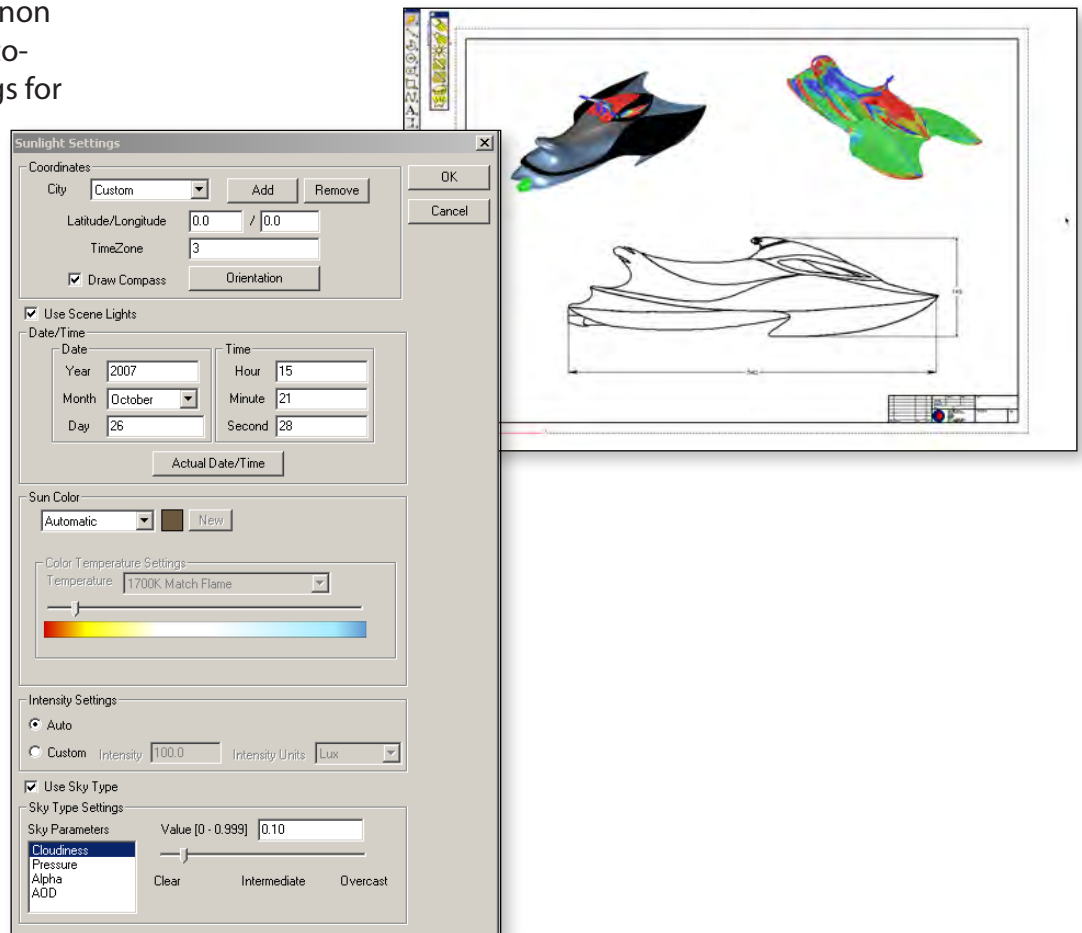
Photo-realistic Sunlight Settings

As part of v8, Cobalt, Xenon and Argon feature photo-realistic sunlight settings for stills and animations. This makes it easy to do light and shadow studies for architectural designs. Just enter the longitude and latitude, the date and the desired time of day as shown in this prototyped dialog box below. The rendering results will reflect the correct position of the sun at that time and season of the year. It is also possible to adjust for colour temperature of the sun, intensity and atmospheric conditions.



Wireframe & Rendering Styles Supported Jointly within Sheet Views

Cobalt, Xenon and Argon v8 offer enhanced views in Model to Sheet that jointly composite hidden-line wireframe with shaded and photo-rendered representations. It is also possible use to the photo-rendering options including interleaved wireframe geometry and surface analysis verification.



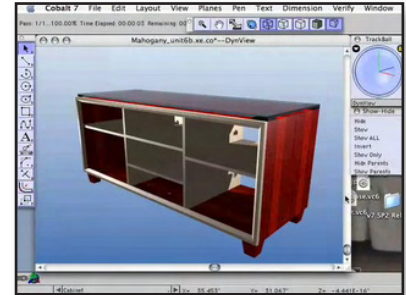
New Wood and Glass Rendering Tutorial

Greg Morgan has developed another great tutorial movie on effective rendering techniques for glass and wood using Cobalt, Xenon or Argon.

This 17-minute movie takes just a few minutes to download at:

http://ftp.ashlar.com/Movies/AV_DE3Dv7_WoodGlassRendering_20070427.mov

Special thanks to Martin Cesar Romero Fine Custom Furniture for the original furniture design.

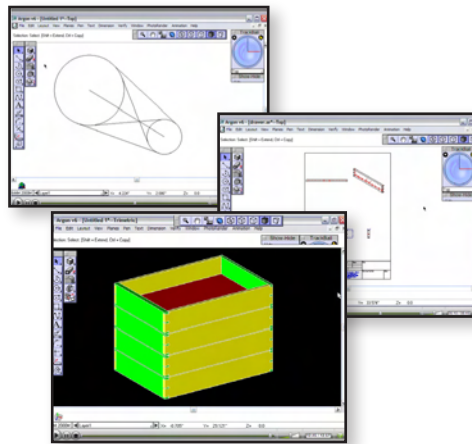


More Tutorial Movies by Economaki

If you haven't seen them before, you might want to check out the 3D modelling movies by John Economaki. They're on our website under **Support>Tutorials>Modeling**.

There's are four different movies covering:

- The Drafting Assistant and Vellum Interface



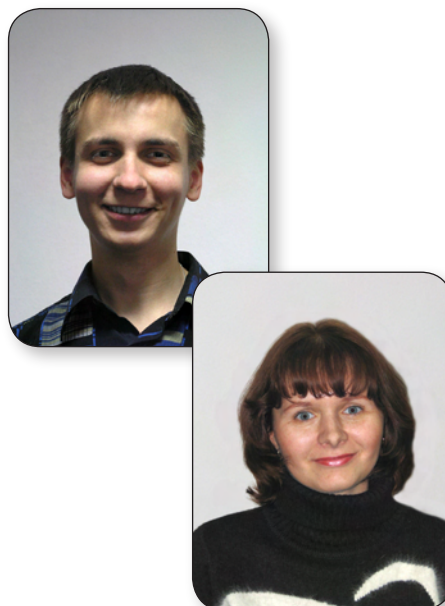
- Creating a Lathed Bowl
- Creating a 3D Model of a Dovetailed Drawer
- Creating a 2D Engineering Drawing from a 3D Model

While these movies were originally created in Argon, they are completely relevant to Cobalt, Xenon and Argon v6, v7 or 8.

Welcome to Ashlar-Vellum

Yuriy Shevchuck

Yuriy Shevchuck has joined Ashlar-Vellum as a programmer on the True-fit project for Snap-on Tools. He's an experienced C, C++, and SQL programmer and has even done some teaching at the STEP Computer Academy in Kiev. In addition to his passion for programming and love of teaching, Yuriy enjoys body building, boxing, and a good game of paintball. He particularly likes making new friends and goes out of his way do so.



Welcome Marina

Marina Rybak has joined our team this month. She's a former English teacher looking for a new challenge. Marina will be doing order processing, helping on the telephones and assisting with customer service in early mornings US time.

She loves comedy films and spending time with her young son.

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 as a necessity—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. Unlike traditional differentials, Ferrari used a special cam and pawl system developed 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 because of its intuitiveness, however, he was relatively new to Cobalt. "I had been using Cobalt for less than a year when I started this project. When I got in a jam the wealth of knowledge available from the user forum helped me power right through."

Borrowing the parts from another car in Shirley's collection, Speakes reverse engineered the differential and associated components. A coordinate measuring machine duplicated the cams' profile, then it was imported into Cobalt where Speakes used the polar duplicate and mirror tools to create 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 parts, making them completely symmetrical."

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 a parts assembly, he quickly checked tolerances, making necessary adjustments. Sketches and constraints let him simply change dimensions, automatically updating the model. He commented,

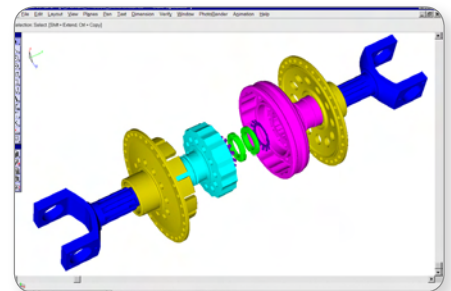
"Cobalt's intuitive interface and ease of use allow me to maximize my billable hours on any project."

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.

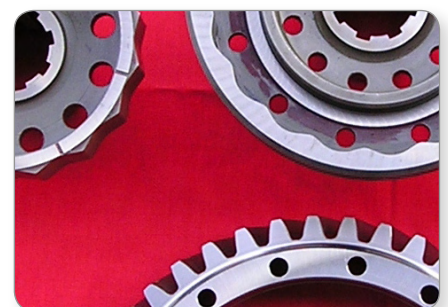


The fully restored Ferrari won Best-of-Class at the prestigious 2006 Pebble Beach Concours d'Elegance in Carmel, California.



Above: Speakes used Cobalt to reverse engineer the Ferrari's missing cam and pawl differential.

Below: the completed cams.



Background/Contact:

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Listen to the Sound of that Ferrari

The team at David Wiener Ventures was recently challenged by Italy's Ferrari SpA to design a freestanding loud speaker for their Art.Engine home audio series. The challenge included providing balanced sound channels to any location of the room. Towering 47" (199cm), the system combines two speaker arrays, wireless signal input and digital electronics in a single tower. Described as "three-dimensional," the room-filling sound field brings audio performance to a new level.

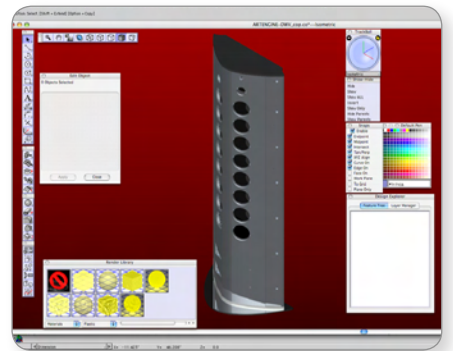
Full of organic shapes with few flat surfaces, the Art.Engine's ports are designed to simulate the racing-style NACA vents on the Ferrari automobile. Also featured in the design are carbon fiber baffles and a Ferrari-inspired paint finish in characteristic red, black, silver or gray.

Wiener's team did the entire design in Cobalt, sending the finished parts directly to their milling machine for production. This showed them the details of fit, aesthetics and finish early in the process. As Wiener describes it, "We were working within very tight tolerances. The surface had to be perfect because it was to be hand-finished for Ferrari paint."

What Wiener's team found most amazing was that everything fit the first time. There were no rejected parts. One team member commented, "Cobalt eliminates traditional prototyping so we can prototype virtually on the computer. When we like a product we can go straight into production."

Cobalt's built-in rendering capabilities not only helped the client visualize their dream completely *in situ*, but also gave them a pole position on marketing materials. Brochures and web images were done before the finished speaker rolled off the production line.

"My team and I have designed everything from fashion to furniture, from vehicles to aircraft to audio gear," said David Wiener. "We've used all kinds of production methods. The constants across all these designs have been advancing performance, advancing style and using Ashlar-Vellum software."



David Wiener (below) and his team designed the Art.Engine audio speakers for Ferrari SpA to mirror the design features of their automobile.



Background/Contact:

To learn more about this project visit:

www.DWVArtEngine.com

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