The Design Explorer

The Ashlar-Vellum User Newsletter

Fourth Quarter, 2006

v7 Service Packs Released

As of this writing Service Pack 3 for GraphiteTM v7, and Service Pack 2 for CobaltTM, XenonTM and ArgonTM v7 have *Release Candidate* status and are in the hands of our Product Manager, Greg Morgan, for final approval. All service packs should be released by the time you read this.

An email will be sent to all customers with valid email addresses in the US and Canada notifying them of the free update. A postcard will also be sent in an attempt to catch those for whom a valid email address is currently unavailable. If you do not receive an email or postcard from us, perhaps your contact information needs to be updated in our records. Please send an email to customer.service@ashlar.com with your current serial number and contact information, including your email address.

Lense Housing Tutorial and Podcast

The new lense housing tutorial is available for download. This 26-minute movie presents a general overview of how to create a semi-complex part in Ashlar-Vellum Cobalt, Xenon and Argon. Although there are some history-based operations in the tutorial that will not pertain to Argon, Argon users will still benefit from the contents of the tutorial.

The tutorial is suitable for both Mac and Windows. Because of the rich video and audio, the file size of the tutorial requires some time to download. There are two options for downloading the Lense Housing Tutorial from the Ashlar-Vellum website:

From the Modeling Tutorials Page

On http://www.ashlar.com/sections/support/tutorials/modeling_tutorials.html is the high-resolution version of this tutorial. It is 130mb so on high speed transmission, under optimal conditions it has required 20 minutes or more to download.

As a Podcast

On http://gregsashlar.podcasts.vellum.com/gp1/gregs-ashlar/gregs-ashlar.html is a lower resolution version. At only 60mb version it can be loaded on a video iPod or watched from your computer.

Graphite v8 Making Progress Toward Release

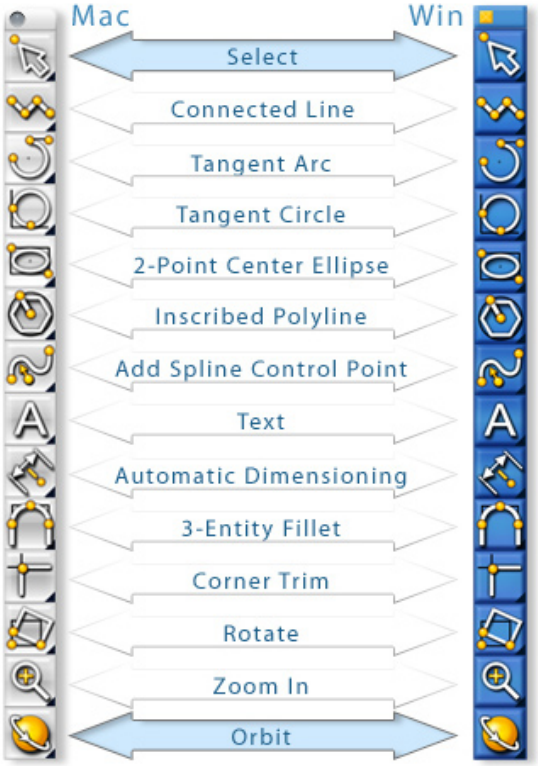
The release date of Graphite v8 has slipped slightly, mainly because of difficulties with the migration to X Code to support the Intel Mac. Robert Bou and Greg Morgan are working with the programmers to accelerate development and minimize delays.

Graphite is still scheduled to have the following features:

- Updated User Interface
- Gradient Background Color
- Resizable Dialog Boxes
- Fly-out Tool Palettes
- Dockable Tool Palettes
- Mid-point Line Tool
- Universal Binary Support for the Intel Mac
- Support for File Names Over 32 Characters Long
- AutoCAD 2007 DWG/DXF Support
- Direct, Multi-sheet PDF Creation with Optional Embedded DXF and VC6
- New Installer
- Pen Style Palette
- Eyedropper Tool

New Icon Set of Graphite v8

The new Graphite v8 icons have been completed by our design team and are now in the hands of development for implementation in the new software. Here you'll see a partial list of the new icons for both Windows and Mac.



Pen Style Palette

Graphite v8 will sport a palette for pen styles. This new palette provides quick access to the predefined pen styles found under **Pen>Style>**.

The pen styles in the palette include:

- Outline
- Visible
- Hidden
- Dashed
- Center
- Phantom
- Dimension
- Balloon
- Construction

Eyedropper Tool

An Eyedropper tool is scheduled for Graphite v8. Located in the Selection tool palette, the Eyedropper tool copies all properties from a selected entity to another entity. For text this includes font, size and color. For dimensions this includes text location, font, size, style, colors, line weight, layers and arrow head on/off. The Option key brings up the Filter dialog box to sift out unwanted prosperities for advanced settings.

Graphite Enterprise Licensing

Graphite Enterprise gives the power and precision of Graphite to your entire organization. These enterprise-based licenses are available on an annual basis. Multiple options are available to fit the size and scope of any organization. Regain the competitive edge in your market by deploying Graphite throughout your company, institution or association.

Graphite Enterprise licensing differs from the site licensing offered by other CAD companies in the following ways:

- Graphite provides all of the power and precision to match the most powerful leaders in the industry without the steep learning curve and everyday aggravations that other CAD packages have.
- With support for both Mac and Windows platforms, and soon Linux, no matter what platform a user prefers, Graphite works.
- Graphite Enterprise doesn't offer a bait and switch proposition, luring users with crippled or low-end software in hopes of them upgrading to real solutions.
- Graphite Enterprise does not lock users out of files or charge exorbitant prices for translations as some companies do to users who don't renew their annual license. Graphite Share™, the free accessory offered on Ashlar-Vellum's website, opens, views, prints and exports files to other formats.
- Ashlar-Vellum won't leave users to struggle on their own with a problem. Multiple options provide as much or as little support, orientation, consulting and training as desired.
- Multi-tier licensing is available for various sized groups at cost effective prices. Two examples include a workgroup license for up to 50 people on both Mac and Windows for as low as US$11,500 per year, or a global enterprise license of up to 25,000 users for only US$115,000 per year.

For more information contact your Ashlar-Vellum Channel Partner or go to http://www.ashlar.com/sections/products/graphite-enterprise/graphite-enterprise.html.

Ashlar-Vellum Innovation Council

The Ashlar-Vellum Innovation Council is unofficially in session. This ad hoc core of 10 to 15 power users have been active on a private forum during the service pack beta release cycle. We hope to use the same group earlier in the build cycle for v8 to give us feedback on new features. Instead of testing beta versions of the entire product, this team will be given alpha builds where we will only be looking for comments on one particular feature or module. We really appreciate the encouragement and constructive criticism of this tight group, dedicated to making our products better.

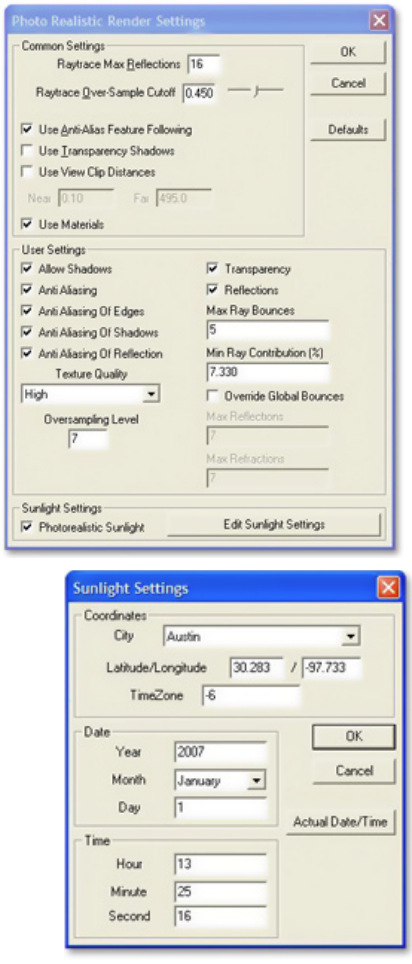
The Benefits of Cobalt, Xenon & Argon v8 Features

You've seen the list of new features for Cobalt, Xenon and Argon but do you know the benefits?

Feature	Benefit	Co	Xe	Ar
Feature arrays.	• Faster execution on large patterns.	Co		
Real-time section profiles and cutaway views in edit window.	• Facilitates design inspection and verification.	Co		
Enhanced rib tool.	• Covers more cases.	Co		
Conditional equations.	• More complete, intelligent geometric constraints.	Co		
Photo-rendered model-to-sheet views.	• Better client presentations. • Photoshop composites not necessary.	Co		
Non-photo-realistic "Sketch" rendering for stills and animations.	• Increased client interaction during design presentations.	Co	Xe	
Real-time environment maps in edit window.	• Interactive feedback on surface aesthetics.	Co	Xe	
Graphite v8.	• Compatibility with other Ashlar-Vellum Graphite users.	Co	Xe	
Real-time zebra, normal, curvature & draft check in edit window.	• Interactive feedback on surface aesthetics.	Co	Xe	Ar
Real-time display in 3D of imported scanned hand sketches or other images.	• Significantly easier trace-overs.	Co	Xe	Ar
Direct support for imprinting profile sketches onto surfaces/ solids for surface subdivisions.	• Saves five steps.	Co	Xe	Ar
Accelerated Phong and Gouraud shading options for fly-by and walk-through animations.	• Significantly faster rendering for path verification prior to final high quality rendering.	Co	Xe	Ar
Accelerated Phong and Gouraud shading options for render to file.	• Super fast render to file when photo-realism is not required.	Co	Xe	Ar
Photo-realistic environment maps for stills and animations.	• Less set-up time for renderings.	Co	Xe	Ar
Photo-realistic sunlight (from location and date/time) for stills and animations.	• Easier light and shadow studies for architectural design.	Co	Xe	Ar
Photo-realistic fluorescent lights and area lights for stills and animations.	• Improved realism of photo-realistic renderings.	Co	Xe	Ar
Directly move faces and edges in solids without using the specialized local face tools.	• More interactive modeling.	Co	Xe	Ar
Photo-realistic material changes displayed in real time in the edit window.	• Saves hours of time during photo-realistic rendering refinement.	Co	Xe	Ar
Enhance Spacemouse-device support to include Mac (previously on Windows).	• Productivity and comfort for 3D modeling with this high performance motion controller.	Co	Xe	Ar
Multiprocessor photo-realistic rendering and animation on Mac OS X.	• Dramatically decreases rendering time by dividing across all available processing cores.	Co	Xe	Ar
Direct, multi-sheet PDF creation with optionally embedded source and exported files.	• Facilitates accurate archiving, emailing and communication of CAD files.	Co	Xe	Ar
Updated interface with dockable tools/palettes.	• More comfortable, customized workspace for greater productivity.	Co	Xe	Ar
New installer.	• Easily check that latest version is installed. • Compatible with higher security of today's OSs.	Co	Xe	Ar
Universal Binary Support for Intel & Power PC Macs.	• One version natively supports all OS X Macs.	Co	Xe	Ar
Compatible with ACIS 16 & Parasolids 19 for import and export.	• Greater cross-industry file compatibility.	Co	Xe	Ar
Model to Sheet View automatically draws scale as text element.	• Reduces errors.	Co	Xe	Ar
Simplified menus for Text and Dimension fonts and size selection.	• Fewer mouse clicks.	Co	Xe	Ar
Enhanced import/export dialog box featuring target and source software by product name.	• Makes instantly obvious the best format to communicate with different software.	Co	Xe	Ar

Photo-realistic Sunlight

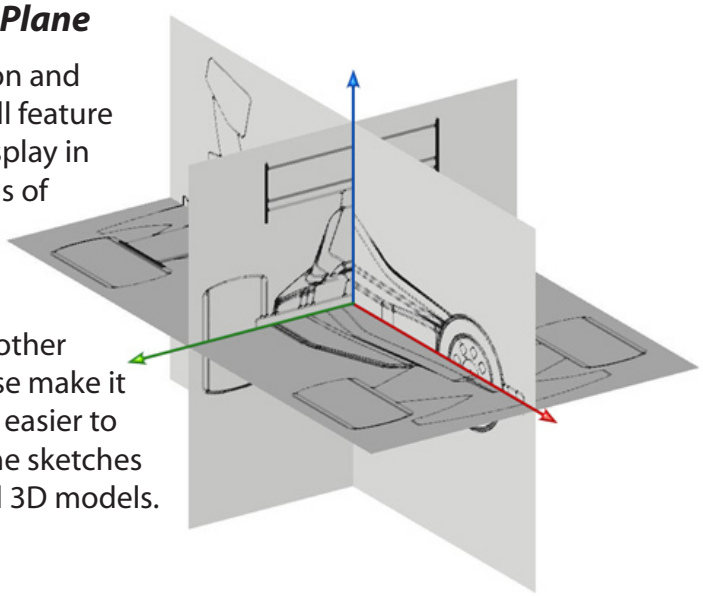
As part of v8, Cobalt, Xenon and Argon will feature photo-realistic sunlight settings for stills and animations. This makes it easy to do light and shadow studies for architectural designs. Just enter the longitude and latitude, the date, and the desired time of day as shown in this prototyped dialog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



Prototype of the dialog boxes for photo-realistic sunlight settings.

Sketch on Plane

Cobalt, Xenon and Argon v8 will feature real-time display in 3 dimensions of imported scanned hand sketches or other images. These make it significantly easier to trace over the sketches to create full 3D models.



Imported sketches displayed in 3D for easy tracing.

Conditional Equations

The parametric feature of Cobalt v8 will feature conditional equations for more complex and intelligent geometric constraints. This means you can add *if-then-else* statements to the parametric constraints bounding the upper and lower limits of geometry.

For example, in v7 a sketch could have the dimensions:

D2+D1x3

In v8, if the maximum constraint of these dimensions is 20 and the minimum constraint is 1, then a conditional equation could be written:

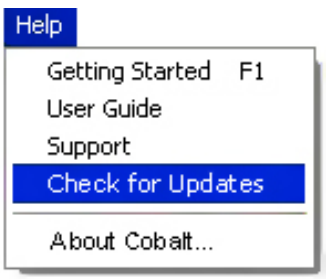
If D1x3≥20, then 20, elseif D1x3≤1, then 1, else D1x3.

This bounds the dimension at 1 and 20.

New Installer

Cobalt, Xenon and Argon v8 feature a new installation program that lets you quickly check to see if a new update is available from the website, then download and install just the update, not the entire program. This allows you to:

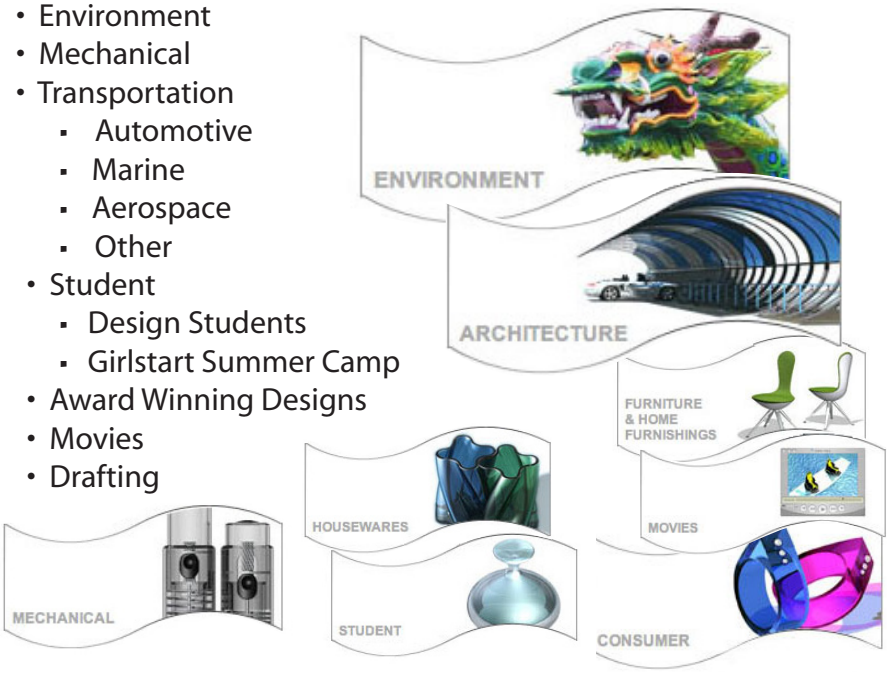
- Keep your designated Preferences.
- Keep your registration code in place.
- Quickly install patches.
- Download smaller files.
- Update your software with less effort.



New Gallery

The Gallery on the Ashlar-Vellum Website is being expanded and updated. Visit it now to see all of the great projects by our users around the world. Gallery wings have been expanded to include:

- Architecture
- Electronics
- Housewares & Home Furnishings
- Furniture
- Consumer
- Packaging
- Medical
- Business & Industry
- Environment
- Mechanical
- Transportation
  - Automotive
  - Marine
  - Aerospace
  - Other
- Student
  - Design Students
  - Girlstart Summer Camp
- Award Winning Designs
- Movies
- Drafting



NOVEDGE Newsletter Gives Xenon Four Stars

The October 2006 NOVEDGE Newsletter user review gave Xenon four stars, meaning "Great." The review touts Xenon's history tree for easy design changes, rendering capabilities, translation tools and 2D sheet tools. The weakness noted about 2D printing is already being addressed by Ashlar-Vellum in Xenon v7 sp2, v8 sp0 and v8 sp1. To read the review go to http://www.novedge.com/Newsletter.asp?AFTK=NV0910.

Ashlar-Vellum UK Ltd to Begin Operations

Ashlar-Vellum UK Ltd. is a wholly-owned subsidiary of Ashlar Incorporated in the United States. Ashlar-Vellum is currently in negotiations to being operating our office there as a joint venture with several people. More details will be coming as they unfold.

Previously Vellum UK filled this role until the retirement of founder Bob Tonks in 2004.

Then for two years Computers Unlimited tried to fulfill the roll of UK distributor, but found it difficult to provide the direct sales support that Ashlar-Vellum users required.

A new website at www.vellumuk.co.uk is now being established and should begin to be operational in the new year.

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

Flying the Beige Skies of Mars

NASA put out the request: Can anyone design a flyer to be carried to Mars in a payload capsule, then separate in two, becoming both a low flying intelligence gathering plane and a circling communications station?

This flyer must be rocketed through 48.6 million miles (77.2 million kilometers) of space and survive a year in an extreme in-transit environment from freezing cold to searing heat. Upon deployment, the plane must be able to fly in the low atmospheric pressure of Mars, roughly the Earth equivalent of flying a plane at 100,000 feet (almost 30,500 meters).

Flying a plane on Mars would make it possible for the first time to survey the Valles Marineris, a canyon as wide as the continental United States, and to search for signs of water which could help answer the question of whether life exists or once existed on the red planet.

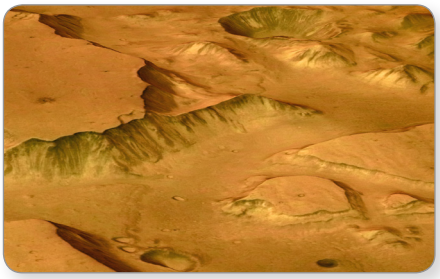
Since l996, designers have taken up the challenge and produced half a dozen designs for a flyer. Recently Bob Parks, an independent engineering consultant for Aurora Flight Sciences, created the Kitty Hawk III, the first design to be built, tested, and to set a record. The finished Kitty Hawk III was raised to over 100,000 feet via balloon then dropped to set an altitude record for unpowered flight. Parks used Ashlar-Vellum Graphite™ to design the Kitty Hawk III "because it is so effortless to use…it's no exaggeration to say that this cuts the time required in half in most cases."

After designing several unpowered versions of the plane in Graphite, Aurora started working on a new powered version using Cobalt™, integrating advanced parametrics with solid and surface modelling, and precision wireframe drafting. Parks especially likes how Cobalt continues in the Graphite tradition, anticipating your next move and allowing you to use whichever modelling mode is most appropriate, switching seamlessly from one to another.

"The great thing about Graphite and Cobalt is that they let us sketch out our ideas as easily as if we were working with a pencil, and then simply tighten them up when the time is right to produce a fully defined 3D model."

Speaking of his work, Bob says, "I find Graphite and Cobalt to be the ideal tools for consulting work because they are so simple to use I can focus nearly all of my attention at the task at hand."

The Kitty Hawk III, created in Graphite, was the first Mars Flyer design to be tested and built. It set an altitude record for unpowered flight. A new, powered version is now in design using Cobalt.



The Mars Flyer will explore the red planet's rugged terrain.

Background/Contact:

For more details on this project contact:

Aurora Flight Sciences
9950 Wakeman Dr.
Manassas, VA 20110

Phone: (703) 369-3633

Cobalt™ Delivers Speed & Savings

David Evett of Evett Design began tinkering in the woodshop as a young boy and never stopped. A few years ago, David sold his workshop and ventured into graphic design. He missed creating furniture, however, until he discovered 3D modelling in Ashlar-Vellum Cobalt. Today he is a successful, high-end custom furniture maker and product designer.

After just three days with Ashlar-Vellum software, Evett had finished his first design in 3D. "Amazing!" Everett says. "My customers thought they were looking at a photo of a physical prototype, the 3D rendering was so accurate and realistic. You can do anything with this software!"

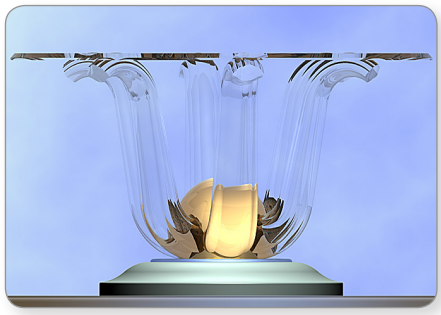
Evett estimates that a small shop can recover the initial cost of Cobalt in the first one or two sales. For larger operations, the return on investment is even faster. He believes many small shops mistakenly assume they can't afford to buy the software. They don't realize just how quickly its cost is recouped through drastically increased profit margins and customer loyalty.

"When the customer changes their mind or isn't happy with the direction of your design, simply make the changes within the software. There's no wasted materials or labour. Cobalt is really an artist's tool, but you get the CAD as a bonus!"

Today Evett is designing for several industries. Recently he took on a project that had stumped other designers, a DVD player front that just wouldn't sell. Evett redesigned the part in Cobalt, an undertaking that required an enormous amount of detail work with no room for miscalculation. Evett's artistic genius and Cobalt's precision lead to an amazing turn around. The new DVD part sales skyrocketed. David estimates that the project would have cost $30,000-$40,000 in machining costs had they gone a traditional route of design and prototyping. His digital design cost only $6,000.

Evett's customers continue to be awed by the precision, quick turn around and lower cost of his designs. He credits his success, in part, to Ashlar-Vellum software for facilitating his freedom to explore design ideas without the restrictions of physical prototyping. "Once you learn 3D design, you'll never want to go back to the method of the 2D drafting board."

Evett designed a full line of stereo amps for his client Wavelength Audio, which were a huge hit at the Consumer Electronics Show.



Evett's designs are as diverse as they are beautiful, including this elegant table above and this classic wall unit, below.

Background/Contact:

For more details on this project contact:

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Bountiful UT 84010

E-mail: davidevett@mac.com