The Design Explorer
The Ashlar-Vellum User Newsletter

Second Quarter, 2006

Ashlar-Vellum and Girlstart

Ashlar-Vellum supports Girlstart, an organization that empowers middle school girls in math, science and technology. Girlstart engages, educates and motivates girls to achieve the knowledge and confidence to participate in advanced math and science classes and future careers.

This month Ashlar-Vellum donated 26 seats of Argon to be used as part of their Dream Spaces summer camp program. A modeling tutorial was created especially for the girls that includes wire frame construction of a vase, application of materials, rendering, and creation of an animated movie.

We look forward to growing new users as these young women learn the joy of design. See what other great things these girls are doing at www. girlstart.org.

Cobalt 7 Reviewed in *MCAD*

Al Dean gave Cobalt 7 an excellent review in the March 21st edition of the UK's *MCAD Magazine* with the help of user Kevin Quigley. Dean writes, "In short, Cobalt is an impressively specified system and while the CAD industry at large is talking commoditisation and reducing margins, Cobalt actually delivers something still quite rare — excellent value for money." Read the entire article at http://www.mcadonline. com//index.php?option=com_c ontent&task=view&id=215&Ite mid=1.

SP1 Ahead of Schedule

With the growth of our development staff, great things are happening at Ashlar-Vellum. Cobalt, Xenon and Argon

Service Pack 1 was released May 17, 2006, over 30 days ahead of schedule.

Email notices were sent to all eligible customers. Free upgrade CDs were shipped to ASAP members with physical materials. If you would like a CD you may purchase one for $8.25 plus shipping from our online web store.

SP1 supports Windows XP and Power PC Mac OS X 10.2.x to 10.4.x. Intel Mac support is coming in v8. See "Running Ashlar-Vellum on Intel Macs" on page 4.

New Features in SP1:

- Better gaps reporting in all profile tools
- Model-to-sheet supports the layout's preset styles
- Faster file open times
- Gradient color background
- Chamfer tool now supports face selection
- Enhanced pop up menus
- Enhanced copy history function

100 Issues Fixed in SP1 including:

- Crash causing issues such as:
  - Insert Knot tool
  - Model-to-sheet
  - Importing large meshes in DXF files (Mac)
  - Revert command
  - Sweep path is a grouped curve or solid
  - Tangent circles
  - Certain draft angles
  - Change Sheet View command
- Factory setting in Preferences restores program defaults
- Overlay drawing works in print layout
- Support for primitive objects with zero height
- Print shading reflects screen view
- Render material retained with export
- Issues with DXF imports
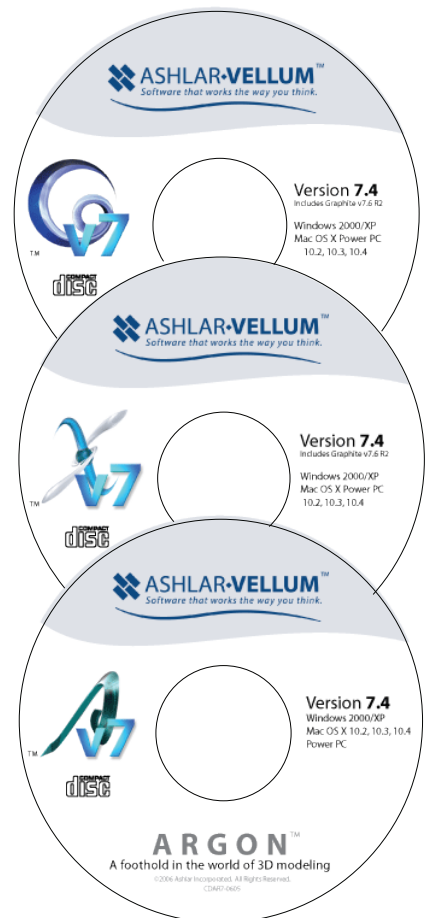- Trim arrow direction remains visible

- Deletion of decals with part
- Copy as Instance works properly with Undo
- Design Explorer shows constraint links and exploded instances

Cobalt Share v7 was released in conjunction with SP1. Look for it at www.ashlar.com/sections/products/share/share.html.

Looking ahead, SP2 is anticipated in July.

Robert Bou Awarded 5ᵗʰ Patent

In late February Robert Bou received notification of the awarding of his fifth patent from the United States Patent & Trademark Office. Among other things, this technical patent enables computer graphic systems to be certain that all appropriate patterned lines (such as those with dots and dashes) are always selected when a user clicks in an area or uses a crossing window to select everything that touches the frame, even when the pick or window border falls in a blank area of the pattern.

Pertinent specifically to AutoCAD and other applications that use a display list technology for drawing acceleration, the patent was sold to Autodesk in 1998 with Ashlar-Vellum retaining a license should we ever choose to implement this type of technology in our software.

Opening Ashlar-Vellum under OS 9

Occasionally customers like to use Graphite or one of our 3D modeling products under OS 9 to access the older Macintosh plotter drivers that provided better results for larger plots (over 4 feet or 1.3 meters), line width control through colors, and colored line conversion to black and white.
The easiest way to start Graphite v7 under "Classic" OS

9 mode is using the application wizard from MaBaSoft. This easily-installed little program can be figured out in about 15 minutes and sells for only US$16 for a single user or US$200 for a site license.

Graphite needs a permanent registration code to run well

MaBaSoft

without a registration conflict. Application Wizard requires Mac OS X 10.2 or higher and runs on PowerPC-based and Intel-based Macs. For more information or to order see http://www.mabasoft.net/products/applicationWizard.html.

Graphite Spline/Arc/Ellipse Conversion Script Available for CNC

Ashlar-Vellum has recently posted another script to the **Support>Utilities** section of our website that transforms splines, arcs, circles and ellipses created in Graphite to a series of small lines. The CNC industry continues to rely heavily on the old AutoCAD R12 DXF format for their cutting tools, which

supports only lines, not splines, arcs or circles. Installing and running this script converts curves to lines, which can then be exported to a DXF file and properly handled by cutter.

The same thing can be accomplished in Cobalt, Xenon and Argon without this script

by using the Change Object command.

To download this free utility go to http://www.ashlar.com/sections/support/utilities/utilities.html.

Running Ashlar-Vellum on Intel Macs

The Ashlar-Vellum development staff is diligently working to create native universal binary versions for the Mac to run on both the PowerPC and Intel platforms. Please be aware that this issue affects every graphics software producer in the world. It is not just Ashlar-Vellum who is wrestling with this issue.

The universal binary will be part of the upcoming v8 for Cobalt, Xenon, Argon and Graphite. To do this, all of our component technology venders must also provide a universal binary version.

For Cobalt, Xenon and Argon, as of April 12th, Spatial had not announced an anticipated release date for their universal binary code. All other component venders have either announced a release date or have provided us with beta software for testing.

Graphite's only component technology is Open DWG from Open Design Alliance, who has already provided a working X code universal binary. Version 8 of Graphite is anticipated well in advance of Cobalt, Xenon and Argon v8.

In the meantime, how do you run Ashlar-Vellum software on the new Intel Mac machines? There are several interim technologies available including Boot Camp, Parallels Workstation and Rosetta Emulation.

Boot Camp

Apple Computer has released the public beta version of Boot Camp which allows you to choose either OS X or Windows when booting your computer. This makes Ashlar-Vellum's unique hybrid license especially valuable since it lets you load both the Mac and Windows versions on your single machine.

You must purchase your own copy of the Windows operating system. We've tested it under XP Pro and other users have tried XP Home. Both work successfully, providing excellent performance for all Ashlar-Vellum software products. We have not tested older versions of Windows.

There are several issues of which you need to be aware. First, because your Mac will have a split personality, there

Boot Camp by Apple
Pros:
• Free
• Great performance for Graphite, Cobalt, Xenon and Argon
Cons:
• Requires Windows OS
• Cumbersome data transfer between Mac and Windows
• Font substitutions
More info:
• http://www.apple.com/macosx/bootcamp/

are some issues moving files back and forth between each side. When running Windows under Boot Camp, you will not be able to see your Mac hard drive. When running OS X, your Windows hard drive will be read only. You can circumnavigate this issue using a CD, a flash drive or by placing your files on a server. Also, because different fonts are available under Mac than are provided with Windows, there may be some font substitutions. Use a font, such as Arial, which is available on both platforms to avoid this issue.

The beta version of Boot Camp is available free from Apple at: http://www.apple.com/macosx/bootcamp/.

Parallels Workstation for OS X

The $49 Parallels Workstation allows Microsoft Windows to be run in a window under OS

X. You must be quite familiar with Windows to get this beta program installed and running properly, but this may get easier by release.

found cursor synchronization issues but these should be resolved by the time of release.

Finally, the same difference in fonts that are available under Mac than under Windows applies here. Again, we recommend using a font that comes standard on both platforms.

Rosetta Emulation

Cobalt, Xenon, Argon and Graphite have all been tested under the free Rosetta emulator.

Parallels Workstation for OS X
Pros:
 • Easier file sharing
Cons:
 • $49 ($39 intro offer)
 • Requires Windows OS
 • Font substitutions
 • Full complement of RAM needed for each OS
 • Performance acceptable for Graphite, not as good for Cobalt, Xenon and Argon
More info:
 • http://www.parallels.com/

Rosetta Emulation by Apple
Pros:
 • Free
 • No file sharing issues
 • No Windows OS required
 • No font substitutions
 • Performance good for Graphite
Cons:
 • Performance unacceptable for Cobalt, Xenon and Argon
*More info:*
 • http://www.apple.com/rosetta/

Like Boot Camp, you will need to own a copy of the Windows OS. But unlike Boot Camp, file sharing is somewhat easier. Simply think of it as two computers running simultaneously and use standard Apple OS X networking tools to setup a network between the two sides of the machine. There is also limited clipboard functionality between the two sides. Because you are only running one machine in the literal sense, the Ashlar-Vellum hybrid license can be installed and run on both sides as necessary.

Performance is acceptable from Graphite, but for the 3D modeling products display is hampered because all video board 3D commands are emulated in software. We also

Each operating system needs a full complement of RAM with at least 512MB. Installing the full 2GB is recommended (1GB for each side).
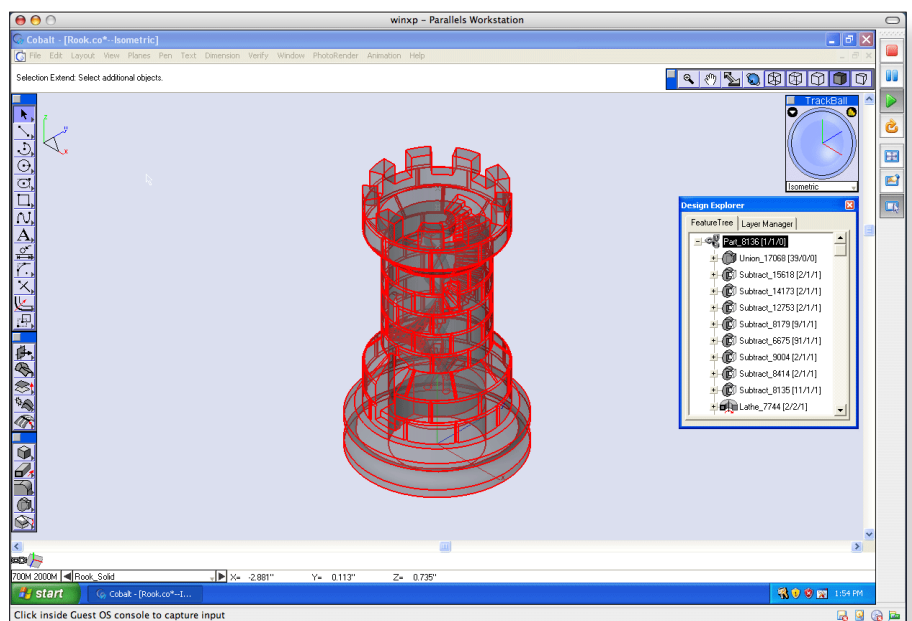
Parallels Workstation running Cobalt v7 under Windows XP on a Mac Intel Machine.
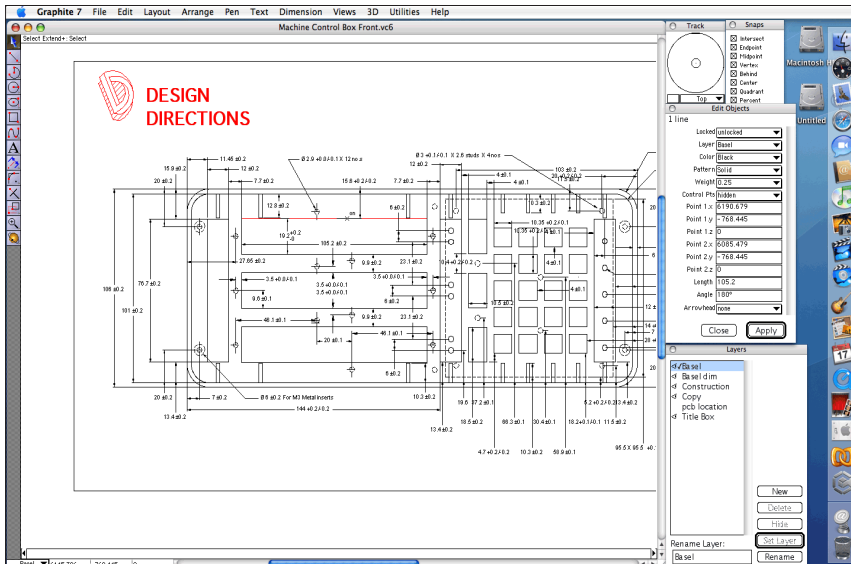
Graphite v7 runs well under the Rosetta emulator.

We have one field report of difficulties with color settings on the Mac Mini on Graphite. The problem has been reported to Apple and they are responding to the situation. We have not tested in house nor have we received additional field reports of difficulties with the MacBook Pro. We will continue further testing and are confident that Apple will be able to fix any issues in Rosetta. Performance under Rosetta is good for Graphite. For the 3D modeling products, however, it is unacceptable for anything but the simplest modeling files.

Ashlar-Vellum staff members used the 17-inch 1.83 GHz Intel Core Duo, while one of our Channel Partners tested on the 20-inch 2GHz Intel Core Duo. Any initial problems were reported to Apple and have been resolved by them.

Draw by Layer Utility Script Available

Ashlar-Vellum now has a new utility script for Graphite that causes items to draw in the order that they are placed in the layer manager. This enables appropriate obscuring of items as they are printed or drawn on the screen. To download this free utility go to http://www. ashlar.com/sections/support/ utilities/utilities.html.

Puksta Featured on Crown Point's *Wood Shavings*

Product designer and long time Cobalt user, Fred Puksta, was featured in the May 25th issue of *Wood Shavings*, Crown Point Cabinetry's online journal. As a product designer for this cabinetmaking company, Fred oversees the creation of new product lines and coordinates special projects.

Fred commented on the article to Robert Hagemeister of Paradigm Design Associates, his local Value Added Reseller in the New England area, "At the end of the part that describes my job, I could have added: 'and I do it all with Cobalt.' Love the program!"

To read about Puksta at Crown Point go to http://www.crown-point.com/journal/. If the story is not on top, click on the May 2006 to check recent entries. To see more of his exquisite work, visit his personal webpage at www.fredpuksta.com/.

Fred Puksta does it all in Cobalt for Crown Point Cabinetry.

New Knowledgebase

Have you checked out our new knowledgebase at http://support.ashlar.com ?

Click on the Knowledgebase icon and use the search field, or submit a ticket. As you start to fill in your message details, the knowledgebase suggests possible answers related to keywords in your question.

As of today, there are 60 answers under Cobalt, Xenon & Argon, with nearly as many under Graphite. There are also a number of entries for legacy products and general information. More entries are added by our team on a regular basis.
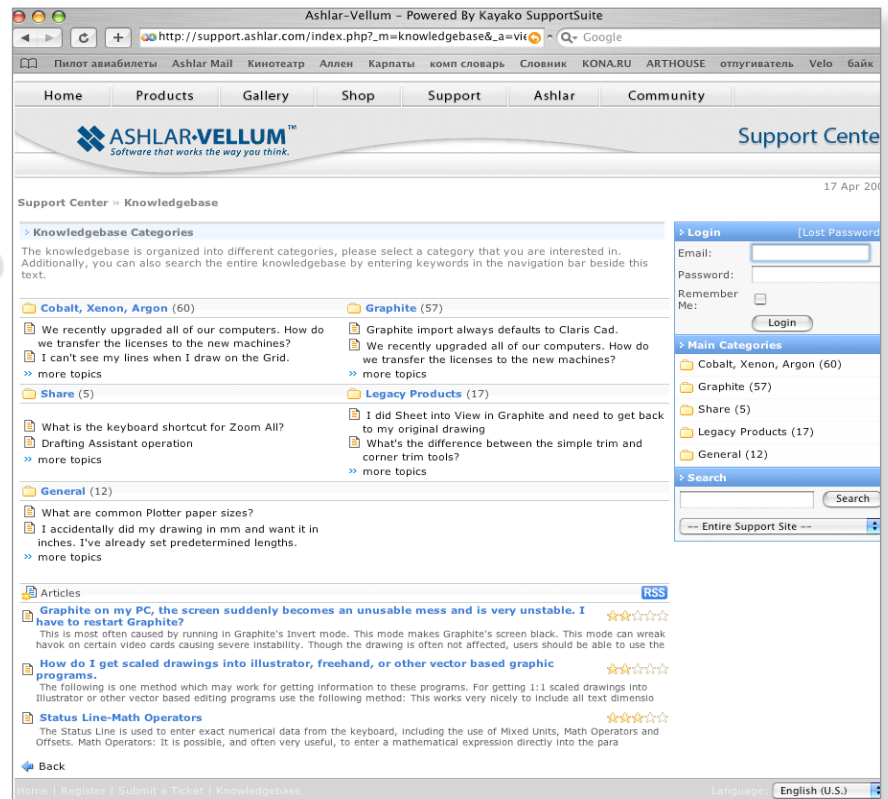
Help Spread the Word

Do you ever wonder why everyone doesn't know about Ashlar-Vellum software? Now you can help that happen. By placing a link from anywhere on your website to our website, you can help us increase our Google ranking tremendously. Show your Vellum pride. On our website, go to **Community>Spread the Word** and copy one or more of the graphics there that appeals to you. Place the image somewhere on your website (it doesn't have to be the home page) and create a hyperlink to our home page or directly to one of our product pages or success stories.

A foothold in the world of 3D Modeling.
Argon lets you enter into 3D modeling without the commitment of a high-end professional package.
ARGON
Find out more.

The ultimate design and development tool.
For flexible 3D modeling, Cobalt matches professional power with speed and ease of use. Cobalt lets creative people work without worrying about their software.
COBALT
Find out more.

CAD the way it should be.
No other drafting software is faster or easier to use than Graphite—period. Get all of the power with an interface that works the way you think.
GRAPHITE
Find out more.

Power and finesse without constraints.
Xenon offers supreme design flexibility and speed, without the high-end mechanical functions and higher price of our flagship product, Cobat.
XENON
Find out more.

How to Trace Over an Image in Graphite

Graphite users often ask how they can trace over an image. While this is a convenient technique for general shape extraction, it does not necessarily provide a precision drawing. Both parallax caused by the camera lens and perspective of the photograph greatly effect the accuracy of the drawing. A photograph taken straight on, where most things are at about the same depth, makes a fairly good candidate for tracing. It's an effective way to recreate items where precision is not an absolute factor. Use it to create theater props or to capture a style, but not for orthopedic prostheses or mechanical parts requiring an exact match.

In our example here, let's say you wanted to create a wireframe drawing of the red guitar body so you could plot the pattern and use it as a template to cut it out of wood.

The trick to this is to put the image in a Detail View Window, and then use Graphite's ability to put different views on top of each other by bringing the Sheet View to the front. With the graphic being displayed in an underlying Detail View, the new geometry created goes into the Sheet View, assuring that it stays "on top" of the graphic image.

To do this:
1. Open a new drawing.
2. Import the bitmap or pict format graphic to trace over into the new drawing.
3. Zoom All (PC=Ctrl+F, Mac=⌘+F) and then Zoom (PC=Ctrl+[, Mac=⌘+[ ) once. This centers the bitmap and gives you some room around the edge needed in the next few steps.
4. Pick the Detail View tool. The message line reads, "Enter view scale and pick first corner of Viewing Frame."
5. Be sure to leave the scale set to 1 in the Status Line.
6. Drag a Viewing Frame completely around the image. The Message Line then updates to "Drag Viewing Frame."
7. Put the cursor anywhere inside the new Viewing Frame. Press and hold the mouse button. An outline of the Viewing Frame jumps to your cursor so that the center of the new Viewing Frame is attached to the cursor.
8. Drag the Viewing Frame off to the side of the drawing area and release the mouse. If it's in a bad location you'll move it in

Drag a frame around the image.

a future step.
9. Pick the Selection Arrow tool from the Tool Palette to end the Detail View operation.
10. To move the Detail View click inside it with the Arrow Tool to activate it, and drag it by its title-bar to a new location.
11. Zoom All. You now see two copies of the bitmap image, one in the Detail View window, and one on the Sheet View. These are two identical images of the original object, which Graphite considers to be Model 1.

Continued...

Drag the View Frame off to the side.

Move the Detail View by clicking inside it and dragging.

12. Use **Views>Models** to bring up the Models dialog box.

13. Click anywhere outside the Detail View window to de-activate it (thereby activating the Sheet View). The Title Bar of the Detail View window disappears indicating that the Detail View is no longer active. This is the most important step and is often the one that causes the whole operation to fail.
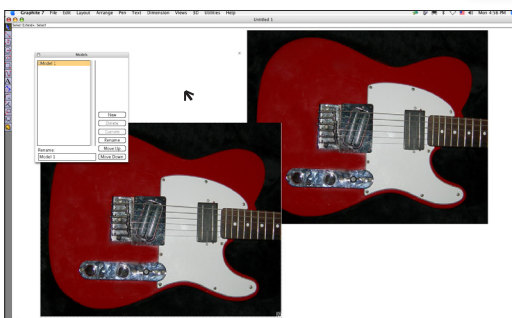
Click outside the Detail View to deactivate it.

14. In the Models dialog box click New. A new Model called Model 2 appears in the list, creating a new model space called Model 2, which has no geometry.

15. In the Models dialog box, click on Model 2 to highlight it and click the Current button. This makes Model 2 current in the active View
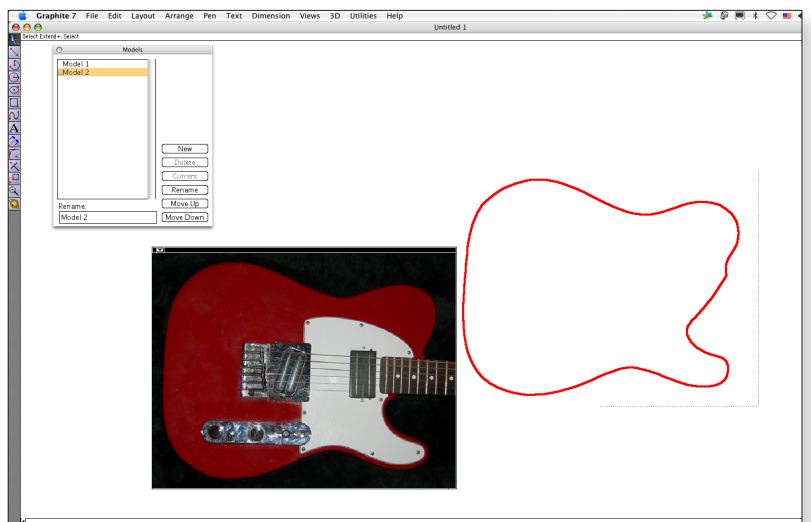
(the Sheet View).

16. In the active Sheet View go to **View>Bring to Front**. This brings the Sheet View on top of the Detail View. Now when you click inside the Detail View window, it does not activate. The Sheet View is shielding it from all the tools, enabling you to draw in the Sheet View directly on top of the bitmap image with the Graphite tools without ever having the bitmap image interfering with your new geometry.

17. When you are finished tracing, use **Menu>Send to Back** for the Detail View window to become available for selection. Delete or move the graphic as desired.

The Sheet View shields the bitmap so you can draw directly on top of it without interference.

Send the Sheet View to the back for the Detail View window to become available again.

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

DownRev DXF Convert Utility

The Ashlar-Vellum development team has just completed a new utility that converts AutoCAD 2004 or 2006 files to the AutoCAD 2000/2 format for Cobalt, Xenon, Argon and Graphite v7. There is no need to convert 2000/2 files to 2004 or 2006 because any program that can read the later file formats automatically reads the earlier one.

This utility is free to all v7 users and can be downloaded from our website by sending an email with your v7 serial number to our customer service department requesting the download link at customer.service@ashlar.com.
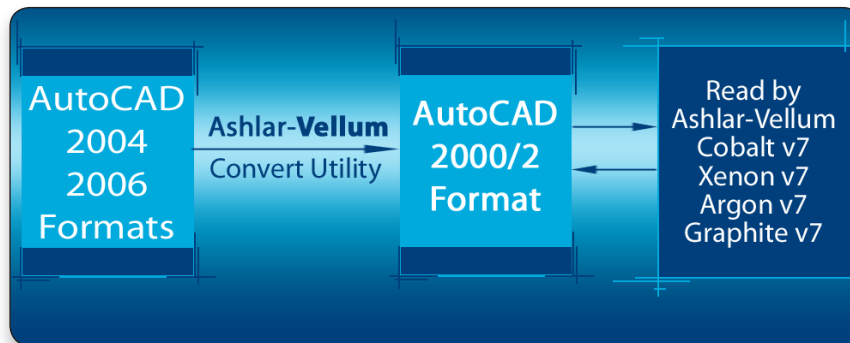
Not on v7 yet? This is a great reason to upgrade. Contact your local reseller or call Ashlar-Vellum directly today at +1 800 877 2745.

AutoCAD 2004 2006 Formats → Ashlar-**Vellum** Convert Utility → AutoCAD 2000/2 Format → Read by Ashlar-Vellum Cobalt v7 Xenon v7 Argon v7 Graphite v7

Need a Short-term Copy of Ashlar-Vellum? Try Renting

Ashlar-Vellum is introducing new yearly and monthly rental pricing through our web store. While buying a permanent license is least expensive in the long run, rentals provide a lower cost of entry without a long-term commitment. It's also a great way when you need additional seats on a temporary basis, say for summer interns or a short-term project.

One-year Rentals
One-year rentals are available with or without physical material delivery. Major upgrades are included in the rental price (electronic download only). Up to 50% of the total current continuous rental fees may be applied toward 50% of the permanent license price.

	Physical	E-only
Cobalt	$1693.69	$1596.00
Xenon	$1192.69	$1095.00
Argon	$ 492.69	$ 395.00
Graphite	$ 492.69	$ 395.00

All prices in US$

Monthly Rentals
Monthly rentals are electronic download only. No physical materials are shipped. Full physical materials may be purchased separately for $129.95, or a CD only for $8.25, plus shipping. First and last month rental is required to begin, then the monthly fee is automatically billed to your credit card. Major upgrades are included in the rental price (electronic download only). Cancel any time. No refunds. Up to 50% of the total current continuous rental fees may be applied toward 50% of the permanent license price.

Cobalt	$159.95 ($319.90 first/last months on inception)
Xenon	$109.95 ($219.90 first/last months on inception)
Argon	$ 39.00 ($ 79.90 first/last months on inception)
Graphite	$ 39.00 ($ 79.90 first/last months on inception)

FOR RENT

Champion Racing Engines

Since 1983, Kelley Roberts of Racing Engine Components has been building motorcycle engines to the max. A perfectionist by nature, Roberts doesn't let even the smallest detail go unexplored when immersed in a project.

Thankfully his CAD design solution of choice is Ashlar-Vellum's Cobalt, allowing him the freedom to think through and explore concepts almost as freely as drawing with pencil and paper, but with the trademark precision of Cobalt.

The way Roberts built engines changed by accident when he purchased a used computer with Ashlar-Vellum's 3D design software installed on it. Without realizing what he had, he began tinkering with it. With no previous CAD, or even computer experience, he began using it and would never go back. Now, after trying several other CAD programs, he remains an Ashlar-Vellum loyalist declaring, "Cobalt's ease of use and intuitive nature is amazing. It stands alone."

The exhaust system on Roberts' engine is so complex that it required complete freehand design.

> ### *"It was a real trick designing that exhaust system. I tell you, this is where Cobalt really comes into its own. Cobalt makes me better than I am."*

Kelley also appreciates Cobalt's built-in translators and ability to interface with CAM software. While most parts are manufactured by him personally, several, such as a precision sprocket, require specialty manufacturing from as far away as Hungary. For this, the file interchange worked perfectly.

Serving clients worldwide, Roberts' recently-completed engine design was shipped to its owner in Italy, where it was received with high praise. The super-powered engine had over 300 newly designed parts, all modeled in Cobalt. The engine is extremely cutting edge for the motorcycle industry, boasting the smallest possible stand-alone throttle body and maximum air intake, which equates to sheer, unbridled power.

"Without Cobalt I would have created about 2/3 fewer parts. It just wouldn't have been possible, time-wise, to achieve this level of complexity using any other CAD system. For instance, this morning I created and produced a last minute part in 10 minutes. That's not possible in another CAD system."
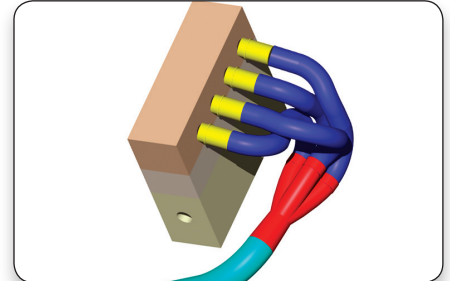
Roberts used Cobalt to design and calculate the exact amount of inconel, a highly heat-resistant alloy for high performance engines.
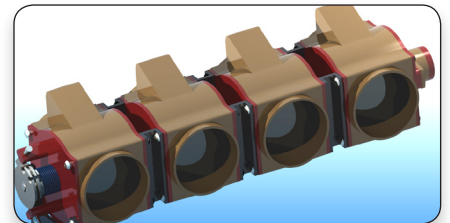
Over 300 parts were designed and constructed for this engine assembly. Cobalt assisted where CAM software could not.
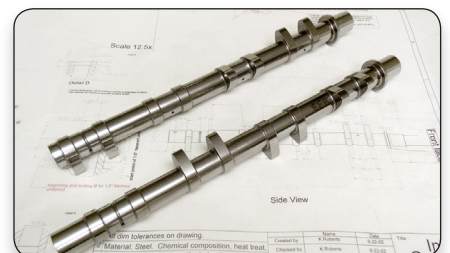
Roberts produces these 260HP inlet cam shafts, that are ground and super finished to specification.

Background/Contact:

For more details on this project contact:

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Thinking Inside the Box

How do you breathe life into something like the office cubicle, a necessary, although usually unwelcome, fixture of the contemporary work environment? Michael Golino of DesignJourney Industrial asked himself this question and found an unusual answer, the ORIDJINoffice system.

"ORIDJINoffice is a fresh approach and fundamental re-thinking of partition-based office systems. ORIDJINoffice began with basic questions: What should an office be? How should it function? What are the qualities that will make a contemporary work environment both pleasing and successful? As we thought about the state of office environments we noticed that since the middle of the 20th century offices haven't changed very much."

Inspired to create a new working environment, Michael needed the right design tools to help him communicate his vision. He chose Ashlar-Vellum's Xenon™ to conceptualize and fabricate the ORIDJINoffice system.

"Xenon is so easy, I completed the project during the demo period. I downloaded Xenon just to evaluate which CAD package to buy, and ended up completing all my design and presentation work in two weeks."

Once again, Vellum products have helped revolutionize the world around us. The ORIDJINoffice system is "an extendible system that allows for an almost limitless number of floor plan arrangements. From traditional grids to clusters to random arrangements, ORIDJINoffice allows users to easily reconfigure an entire office in minutes and hours (not days) without the need to hire specialized installers. Because every ORIDJINoffice is modular and on wheels, any individual can simply unlock the wheels, close the wings and easily push the entire unit to another location."

At the 2005 Macworld Expo, *MacCentral* writer Phillip Michaels said "I'm not sure words can do justice to the ORIDJINoffice from DesignJourney Industrial. So I'll simply say that it may have been the coolest thing I saw all week-long at Expo. And I'm including the Mac mini and the iPod shuffle in that assessment."
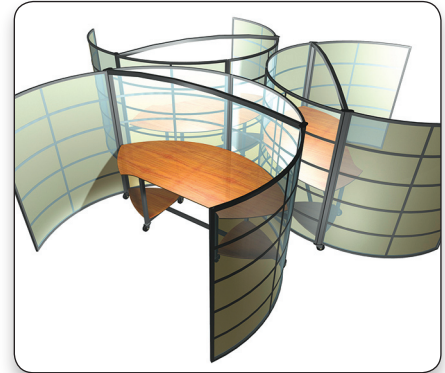
The ORIDJINoffice system can be easily reconfigured in minutes and represents a revolution in partition-based office systems.
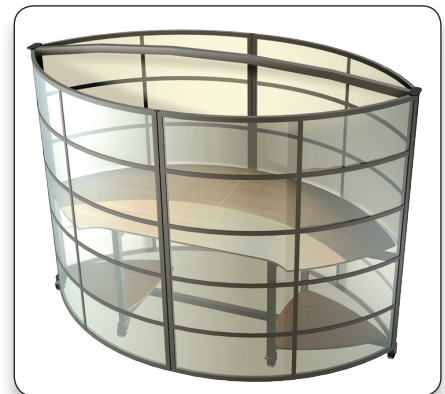
The powerful tools in Xenon helped Michael Golino envision a revolution in personal office space.

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