

The Design Explorer

The Ashlar-Vellum User Newsletter

Introducing **KINETICS**TM **3D Motion Simulation**

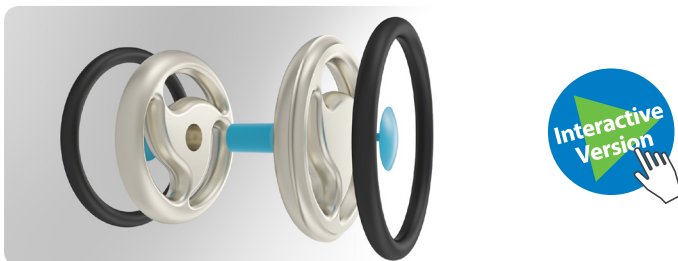
Introductory Pricing: Fourth Quarter, 2014
US \$245.00/year, US \$24.95/month
Special Bundle Deals Available.
See page 3.

*Intuitive motion simulation for 3D modeling.*TM

Ashlar-Vellum Kinetics offers an easy-to-use set of precision motion simulation tools at an affordable price point that's independent from any particular CAD or 3D modeling software. Available for both Macintosh and Windows, Kinetics enhances engineering design, optimizes product and assembly performance, and reduces the number of physical prototypes needed.

In its virtual test environment, Kinetics determines the physical movement of a model or assembly, calculates the forces and analyzes components, helping to solve common challenges through time-based motion studies.

Simply load the model, appoint the joints (connections), click the button and watch what happens as it simulates the motion and presents an analysis of your model. Unlike other motion simulation software, Kinetics follows the Ashlar-Vellum Organic WorkflowTM that allows you to test parts and assemblies at any time or from any model in your design process.



Yo-yo toy assembly exploded and rendered in Kinetics.
Model designed by Troy Starkey.

Render with realism—Apply materials from the extensive library then render in real time for high quality visualization.

Export in 3D—Share your simulation in any number of different ways including 3D PDF, 3D HTML and proprietary file formats that support tablets.

Animate components and assemblies—Show machine motion or walk through an environment.

Kinetics 3D Motion Simulation

Optimize product development and reduce costs:

- Intuitive time-based motion studies.
- Use your choice of 3D modeling program on Mac or Windows.
- Unique Organic Workflow allows testing at any point within the design.
- Animate individual components or entire assemblies.
- Simulate properties of motion.
- Photo-realistic rendering in real time.
- Export to a number of 3D formats.

Simulate motions in Kinetics—define time-based, rigid body studies using kinematics or dynamics. Determine motion optimization by evaluating actuator force and joint loads. Assess product performance through its cycle of operation. Analyze the design for range of motion, part displacements and overall performance.

Works with files from all leading modelers—Kinetics accepts precision (analytical) and approximate (polygonal) models from other leading software including:

- Ashlar-Vellum CobaltTM, XenonTM or ArgonTM
- Dassault Systems SolidWorks
- Siemen's Solid Edge
- Trimble Sketchup
- Rhinoceros and More...



Intuitive motion simulation for 3D modeling.™

Kinetics' 3D motion simulation offers a complete set of commonly used tools that are easy to understand and set up. Available on both Mac and Windows, Kinetics supports 3D models from almost any analytical or polygonal modeling software. Using Ashlar-Vellum's unique Organic Workflow™, motion testing can be applied at any point within the design process. Kinetics offers:

- 3D Animation and Motion Simulation
- Unique Working Environment featuring Organic Workflow™
- A Complete Set of Precision Import/Export Translators Including ACIS SAT, Parasolid, IGES, STEP, DXF, DWG, and More
- Photo-realistic Rendering
- 3D Scene Builder

Forces & Motion Drivers

- Revolute (hinged)
- Prismatic
- Fixed
- Spherical
- Cylindrical
- Force
- Torque
- Spring

Approximate Polygonal Modelers Supported

- Trimble Sketchup
- Strata 3D
- Blender
- Autodesk 123D

Precision Analytical Modelers Supported

- Ashlar-Vellum Cobalt™
- Ashlar-Vellum Xenon™
- Ashlar-Vellum Argon™
- Dassault Systems SolidWorks
- Siemen's Solid Edge
- Ansys Space Claim
- Form Z
- Rhinoceros
- Autodesk Inventor
- Autodesk Fusion 3D
- Kubotek Key Creator
- IMSI TurboCad



Semi-conductor Test Head Manipulator designed and modeled by Richard Somers. Rendered in Kinetics.

3D Exports

- Collada (*.dae)
- 3D PDF
- HTML 5 / Web GL
- U3D
- Wavefront (obj)
- SketchUp
- OSG
- IVE
- OSGB
- FBX
- KeyShot (*.bip)
- STL (ASCII and binary)
- DirectX (*.X)
- 3D Studio Max (*.3ds)
- DWF (Windows only)
- DWFx (Windows only)
- Indigo (*.igs)
- DWG
- DXF

3D Imports

- SketchUp 2014
- FBX (2015.0)
- Collada (*.dae)
- IGES
- STEP
- Rhino 5.0
- PDF 3D (U3D Based)
- U3D
- 3D XML (CATIA)
- Wavefront (OBJ)
- 3D Studio Max (*.3ds)
- OSG
- STL
- DWF/DWFX (Windows only)
- SolidWorks 2014 (Windows only)
- SolidEdge (ST6) (Windows only)
- Inventor (2015) (Windows only)
- ACIS (Windows only)
- Parasolid (Windows only)
- IFC
- DWG (AutoCAD 2015)
- DXF

System Requirements

- Windows / Macintosh
- Windows XP / 7 / 8.1 (x32 or x64)
- OS X 10.7 / 10.8 / 10.9 / 10.10 (Intel only)
- 32 MB Accelerated Video Card w/ Open GL
- Medium- to High-performance Workstation-class Graphics Subsystem Recommended for Real-time Rendering or Complex Files
- 1 GB RAM Required / 2+ GB Recommended / Large Projects May Require Much More
- 2 GB Free Hard Drive Space Required / 8+ GB Recommended
- High Speed Internet Connection, or USB Port, or DVD Drive Required to Install
- Internet Connection and/or Email Required for License Activation
- (Software Downloaded to USB Flash Drive, or Recorded on DVD Available at Additional Cost)

Kinetics Bundles



Ashlar-Vellum is offering specially priced subscription bundles with our CAD and 3D modeling software and Kinetics:

	Yearly Subscription	Monthly Subscription
Argon™ v8 + Kinetics	US \$ 445.00	US \$ 44.95
Xenon™ v8 Plus + Kinetics	US \$ 895.00	US \$ 89.95
Xenon v8 Solo + Kinetics	US \$ 545.00	US \$ 54.95
Cobalt™ v8 Plus + Kinetics	US \$1,095.00	US \$109.95
Cobalt v8 Solo + Kinetics	US \$ 745.00	US \$ 74.95
Graphite™ v9 + Kinetics (Includes special Graphite Surfacer until release of Graphite v10.)	US \$ 545.00	US \$ 54.95

Graphite™ Surfacer

The feature list for Graphite v10 includes the ability to hang polygonal (approximate) surfaces on a Graphite wire frame, similar to those in Trimble Sketchup. Built on our 3D modeling core, Graphite Surfacer will temporarily bridge the gap between Graphite v9 and v10, allowing Graphite users to utilize Kinetics for architectural walk-throughs or to visualize simple 3D machine models. Graphite Surfacer registration codes will be issued upon request when a Kinetics subscription is purchased by an existing Graphite v9 user or when purchased as a bundled subscription.



Graphite v9 SP1 HP1



Graphite v9 Service Pack 1 Hot Patch 1 Build 928 has been beta tested among a select user group outside the company and is ready for download. Included in this release are a number of fixes and improvements including:

- Support for an unlimited number of fonts on Mac.
- Corrected door symbol angle values.
- Retention of Object dialog box's last open position.
- Better positioning of dialog boxes.

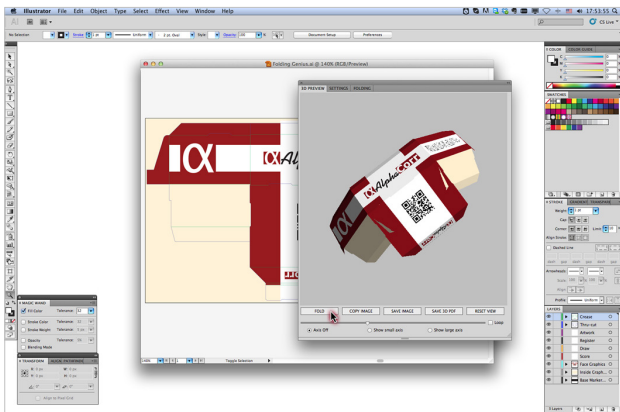
Support for Yosemite

Apple released Mac OS X 10.10, aka Yosemite, in October. Our initial testing shows no problems running Graphite™ v9 and Cobalt™, Xenon™ and Argon™ v8.



Apple, however, always reserves the right to make an unannounced change in the middle of some dark night. If that is the case, we'll immediately do a service pack for Graphite v9. Should it become an issue Cobalt, Xenon or Argon v8 we will then seriously discuss the compilation of a version 9 that will include a limited set of new features plus support for OS X 10.10 and Windows 8.

Folding Genius™



AlphaCorr™ released version 2 of Folding Genius for Adobe Illustrator in November. Intended for AI users who need folded 3D visualization, it uses their existing dieline design files for corrugated packaging and display. Dielines can be created in:

- AlphaCorr Rules™, SteelRules™ or Dieline Genius™
- Esko Artios
- Arden Impact
- Adobe Illustrator

Folding Genius for AI is available as a subscription service for US \$195/year, US \$79.95/quarter or US \$29.94/month.

Holiday Hours

All of us at Ashlar-Vellum and AlphaCorr wish you and yours the best this holiday season. The Ashlar-Vellum and AlphaCorr administrative office will be on reduced staff December 22nd through January 7th. During that time, orders placed will be processed through our European offices.



For AlphaCorr, hardware keys will be shipped directly from our supplier. Requests for demos for both companies will be monitored. Technical support will be handled as usual through our website.

AlphaCorr Turnkey Digital Production System



AlphaCorr, in cooperation with Zünd and Canon, offers a turnkey solution for short-run display and packaging production. The system features AlphaCorr software, including Rules and Folding Genius 3D AI Plug-in, working seamlessly with the Zünd G3 digital cutter and any of Canon's Océ Arizona flatbed printers. One call to AlphaCorr coordinates all of a customer's technical support needs. Contact us today for a quote to meet your specific production needs.

Pronghorn Overland Exhibition

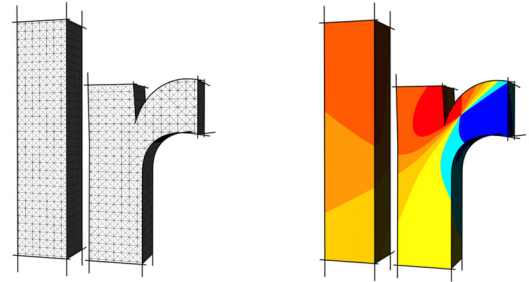
In October Trey Hermann of Pronghorn Overland notified Robert and Julie Bou that they'd be exhibiting at the Texas Avid Outdoors Fall Expo here in Austin. Robert and Julie both got to visit the expo, meet Trey in person and see first hand both of Pronghorn's new Modular Front End Systems for the Jeep Wrangler and the Toyota Takoma.



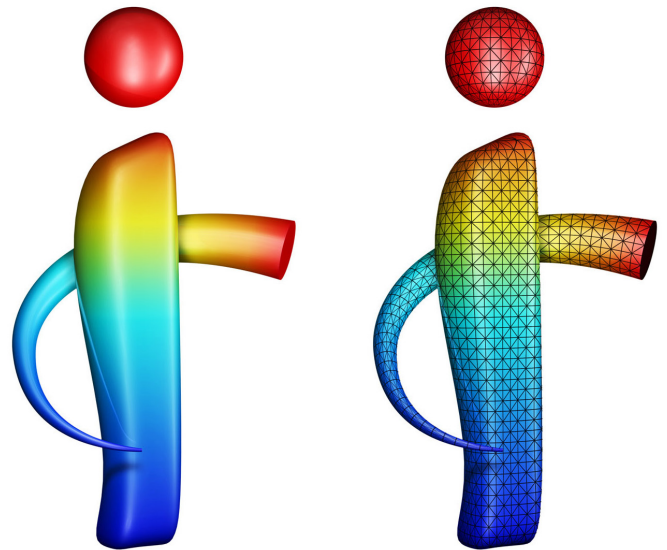
Commented Trey in a follow up email: "I particularly enjoyed having a chance to have an in depth conversation about software (Cobalt), hardware (Pronghorn), and the venn diagram overlap between the two."

Whatever Happened to IridiumTM?

If you've been wondering what happened to our idea for Iridium FEA software, don't worry. It hasn't gone away. It's just tabled for a bit, allowing Mac development tools to catch up with the market.



We've been planning for Iridium finite element analysis software since 2010. Unfortunately QT, the user interface software in which our selected partner had developed Iridium, was not robust enough on the Mac until just now. So again, we will be pursuing a new product in the near future.



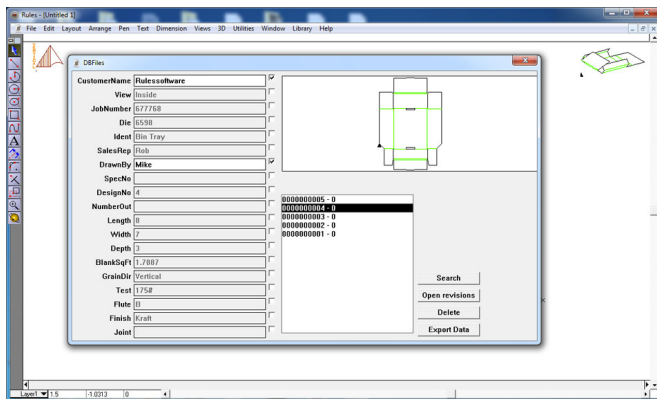
Since the market is filled with products of this type running on the Windows platform, it only makes sense to focus our resources on the Mac market where nothing like this is available and where having both Mac and Windows support with interchangeable files will be a significant factor to your success.

AlphaCorr Database Server

The new AlphaCorr Database Server is scheduled for release next month, adding expanded data organization and access management to the search facilities already in Rules and SteelRules packaging and display design software.



It provides an organized compendium of design file data across a company using Rules or SteelRules software. This allows data to be managed, searched and sorted for reports and analysis across the designers of an entire organization.



Running on qualified virtual servers using the VMware server infrastructure, this product extends the built-in file manager capabilities within Rules or SteelRules from individual desktops to an entire enterprise-wide system. Integration with most ERP/MIS systems is available at an additional cost.

Users may subscribe for:

- US \$ 349.50/month
- US \$ 975.00/quarter
- US \$2,495.00/year

All products require the one-time purchase of a Wibu CodeMeter USB stick (sold separately for \$100.00 + shipping and handling). No permanent license is available.

A version of the Database Server is under consideration for Graphite. Contact us if this customized enterprise application might benefit your company.

Dieline Genius™ 2D Online

AlphaCorr introduces the pay-as-you-go online design center for customized packaging and point-of-purchase displays. Use it as often or as infrequently as needed without the investment in an expensive design package. Dieline Genius 2D Online allows easy customization of packaging displays from the library of over 500 resizable designs. Even those with little or no box design experience can quickly create corrugated and folding carton material structures.



Now any salesperson, graphic artist, machine operator or draftsman can log in, select a design, set the parameters such as length, width, depth and material thickness, use a credit card or PayPal to export the design, and have the box cut on the sample table in just minutes. No need to interrupt the workflow of busy structural packaging designers just for a sample.

Prices start as low as US \$1.50 per custom-sized design.

This technology is available for a variety of custom manufacturing applications of which AlphaCorr was only the first of many. If you have a system which could benefit from a custom solution using online parametrics, contact Ashlar-Vellum to discuss the specifics.

Squaring the Circles: Creating Art in Graphite™



Artist and designer Al Plyley uses Graphite CAD software to create the precision geometry needed for designing complex, thought provoking mandalas and labyrinths.

When the engineering company that Al worked for in the late 1980's went to computers, Al was not impressed. In watching his colleagues work with AutoCAD he found too many drafting errors and didn't like how they had to memorize all the commands. Then one day a video crossed his desk showing Burt Rutan using Vellum® to design experimental aircraft. He loved the program's intuitive interface and ease of use. Now in retirement, Al has been using Vellum and now Graphite ever since.

After some work with Jungian analysis, Al started exploring the creation of mandalas, the circular designs that according to Dr. Carl Jung psychologically express "the totality of the self," or "the central point within the psyche." As Dr. Carl Jung put it, "Mandalas are based on the squaring of a circle."

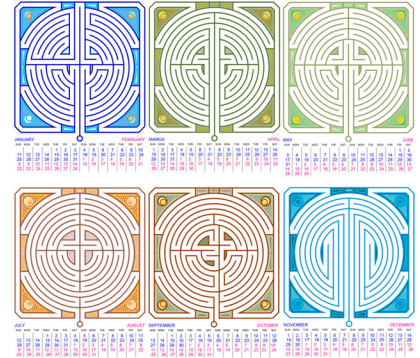
Later, Al started making labyrinths, a traditional tool of meditation. In both cases he starts with a vague idea of what he wants to accomplish and an idea of how to start. He describes the creative process as a conversation, where what he's done speaks back to him, telling him whether or not what he's designed is successful.

Al works the design in Graphite until he's satisfied with the geometry. Graphite's accessible user interface make creating the geometry easy. He tells us:

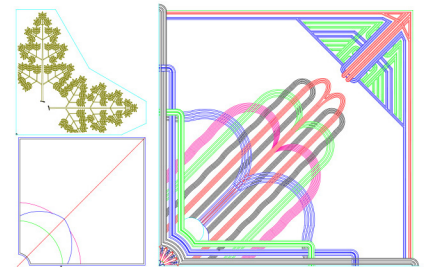
"Quite often in a design I would have a couple of circles to which I need to draw another circle of unknown radius that would be tangent to the first two circles. In Graphite all I had to do was pick the tangent tool and do it. I wouldn't want to attempt it in AutoCAD."

When he's satisfied with the pattern he uses a translation program to convert Graphite's vector file to a raster image. He then uses Corel PaintShop to fill in the colors, producing the finished product.

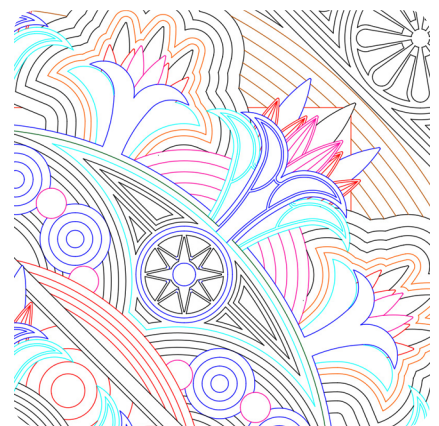
Al, like artists everywhere, designs because of his own deep inner need. "There's a satisfaction" in creating art, he says. "There's a void if I don't create."



Labyrinths for all seasons designed for a calendar Al sends as his seasonal card.



Sections of the mandala as designed in Graphite precision drafting software.



Mandala No. 8, upper right corner detail.

Background/Contact

For more details on this project contact:

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Keeping the Ball in the Air



Celso Santos and Christian Albanese of Rio 21 Design have done it again. Once more the Brazilian designers have created an award-winning product directly inspired by the beaches of their beautiful city. This time it's an innovative design for a Frescobol racquet. In the formation they used

Cobalt™ CAD and 3D modeling software for every aspect of the design process. Santos tells us:

"I use Cobalt to do everything, from product development to the final drawings for the tooling. I also use it for packaging and point-of-sales displays."

Frescobol, or beach racquetball, was developed in the Copacabana area of Rio de Janeiro in the middle of the last century. A uniquely cooperative game, *Frescobol* is played with a partner not an opponent, with the object being to keep the ball in the air as long as possible.

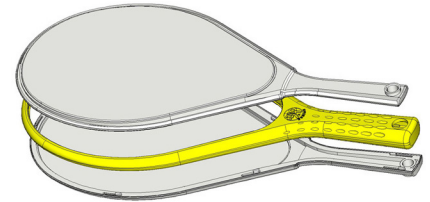
Traditionally, wood or fiberglass racquets were used. But Rio 21's innovative plastic racquet uses a head and edges injected with soft rubber. The result is stylish, lightweight, tough and can return the ball with a sting. Not only can the racquet withstand the impact of energetic play, but unlike wood, is not subject to warping or weight change from the beach's inherent damp environment. Traditional wooden racquets can absorb up to 20% of their weight in water over time. Textures in the grip allow perfect handling even when wet.

Rio 21 Design's model uses an internal grid structure that includes a series of pins and holes that are part of a body injection moulded in polypropylene. As the two mirrored parts are snapped together, the pins and holes form a solid paddle that is then finished with injected thermoplastic rubber. Using soft thermoplastic rubber for the handle and rim protect the racquet and the players against undesired impact, making the ball easier to control and the game safer and more fun to play. Injection molding fabrication insures high quality production of the finished product.

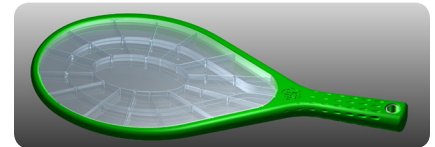
Santos particularly likes Cobalt's ease of use, not only in its user interface and but also in its Organic Workflow which allows him to create a 3D model with history then make changes as needed all the way through production. He says:

"You take any other software in this 3D world, and I've tried the majority of them, and I have never found something better than the Ashlar way to do things."

Congratulations to Rio 21 Design whose efforts won them a bronze IDEA award from IDEA Brazil, a division of IDSA.



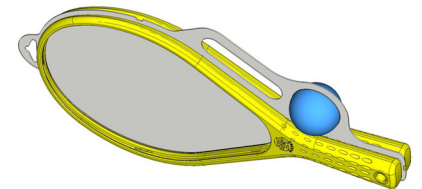
An exploded 3D model, one of many views done by Santos and Albanese in Cobalt of the beach racquet.



Cobalt's photorealistic rendering shows the internal grid structure of the racquet.



The racquet's injection-molded thermoplastic includes a textured handle and snap together structure.



The product's packing designed in Cobalt above, and ready for market below.



Background/Contact

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