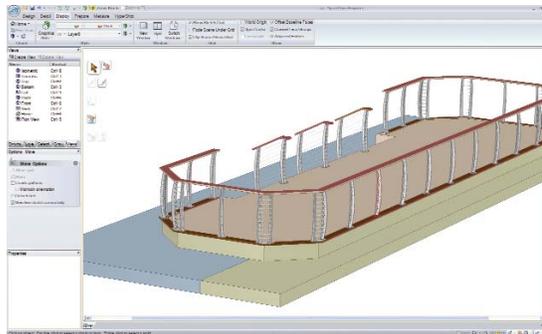# SPACECLAIM
CORPORATION

Keuka Studios Simplifies the Design Process with SpaceClaim

Each Keuka project starts with hand-drawn concept sketches followed by a 3D computer model, which is often photo-realistically rendered and inserted into a photo of the customer's site. Dan White is an experienced mechanical engineer who has worked for over 25 years with 3D CAD, animation, rendering, and finite element analysis software. Even with that depth of expertise, he felt the current CAD tools were constraining his creativity and efficiency.

Keuka Studios designed cable railings to look like those on the deck of a yacht — created in SpaceClaim.

ABOUT KEUKA STUDIOS

Keuka Studios, Inc. was founded by Dan and Jeanne White in 2002 as a fine architectural iron company, creating unique and artistic railings including stainless steel cable railings, hand-forged iron railings, fabricated aluminum railings, and architectural signage. Projects are supported by Keuka Studios professionals' experience in art and technology. Keuka's emphasis on excellent design and quality craftsmanship has earned the company a solid reputation across the U.S. and the Caribbean.

THE 3D DESIGN CHALLENGE

Enable ad hoc conceptual design without the constraints of traditional CAD system pre-planning

Dan, as founder and principal designer, does not have the luxury of time in redoing conceptual designs. Since most projects are one of a kind, his design time has to be amortized over a single project. Dan and his team needed a 3D Direct Modeling tool that would provide up-front design capabilities, combining new concepts with hand-forged, thousand-year-old production processes.

The process to create and manufacture beautiful architectural iron work typically involves:

- design in a 3D CAD system
- photo realistic renderings
- virtual fly-through with the customer over the Web

- shop drawings then fabrication utilizing CNC machining
- laser cutting
- welding, then applying hand-forged techniques to add the artistic touch

Dan was frustrated by the limitations of existing design tools. With traditional history-based CAD tools, Dan had to do a lot of conceptual work "out of the CAD system" to pre-think the design. If he did not do the upfront planning, he was penalized by the limitations of feature-based modeling. He wanted to design ad hoc and be as creative as possible with no penalties.

"I have one shot to get the design right. My goal was to find a 3D design solution that would enable me to be efficient, fast, productive, and proficient in a short time." Dan White

KEUKA STUDIOS CHOSE SPACECLAIM TO DRIVE CREATIVITY IN AN UNCONSTRAINED ENVIRONMENT

Dan White chose the 3D Direct Modeling solution from SpaceClaim to edit existing designs and create new ones. SpaceClaim works directly with Keuka models using its Pull, Move, Fill, and Combine tools. Dan is able to scale surfaces and solids to an exact value, combine multiple components, and create and edit imported sheet metal designs for downstream applications.

"I like SpaceClaim's graphical feedback. When I'm trying to create something, rather than having to push ten buttons to see whether it works or fails, with SpaceClaim's great graphic feedback, I see what is going to happen dynamically as I make changes, which makes it much easier to understand the commands." Dan White

With SpaceClaim, Dan is able to open imported data directly, regardless of where it originated, enabling him to make changes on the fly, experiment with different approaches, and see the results immediately. Previously, he found that feature-based CAD systems do not talk to each other well which made it difficult for him to integrate out-sourced design elements into his concepts.

"I have always hated the drafting part of the design/document cycle. 3D makes it easier, but until SpaceClaim, it was still not what I wanted to do. SpaceClaim is actually fun, much faster, and a pleasure to design and annotate new products." Dan White

SpaceClaim's 3D Direct Modeling tool also works in arbitrary cross-section views, drawings, and other 3D views of a part of an assembly. Dan can work in familiar 2D design views by starting a layout or rotationally symmetric design in 2D and then easily see the 3D views.

"I really like the whole non-history based aspect of SpaceClaim. Being able to slice and dice, and do whatever I want without having to 'play chess' with a CAD tool or think about how it operates allows me to focus on the design creation." Dan White

Dan and his team do not always need to make detailed drawings to produce their fine iron work. His team in the manufacturing shop is able to use the SpaceClaim Viewer and pull up the 3D file. This provides one file that has the drawings in it so they can work with the dimensions and directly plasma cut the parts.

"By not having to pre-think everything out, we've created better designs – evolving into things we never dreamed of and enabling us to be much more creative for our customers." Dan White

Spectacularly finished railings installed in the Crowne Plaza Harborside, Hampton, VA

Additionally, Dan is able to work in SpaceClaim and have the created files be compatible with his CAM software, which is ACIS based. This capability has made it much easier to share files with Keuka Studios suppliers.

SHARING DESIGNS WITH CUSTOMERS IN REAL TIME

Ninety percent of Keuka Studios customers are outside of New York State, where the business is based. Nearly 100 percent of their work is custom, although it may leverage some existing components among jobs. Keuka's work is very design intensive and very visual.

Dan is able to show his customers their design extremely effectively with SpaceClaim. By enabling his customers and prospects to link to Dan's system with GoToMyPC, he can not only share the design in SpaceClaim, but make changes on the fly as requested.

"Often, I don't meet my customers in person. Virtually, I can show the designs to my customers in SpaceClaim, and achieve all the results desired. I'm able to fly through the design and make edits real time – to the delight and satisfaction of my customers. In fact they get so enamored with the process that they often ask, 'What is the tool you are using for design? It's very fast.'" Dan White

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Dan White
Co-Founder, Keuka Studios

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