Virtually Possible

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A growing number of jewelers are abandoning "live," ready-to-sell stock in favor of low-cost, instantly customizable, virtual inventory.

Many retail jewelers use CAD as a design tool. It's much less common to find retailers who use CAD to create a "virtual inventory," though it's a practice that will grow in the future.

The two processes are "similar but different," says Lisa Krikawa, owner of Krikawa Jewelry Designs in Tucson. Using CAD as a design tool to create "one-offs" requires only the technical skills demanded by the program, and all the designs come from the jeweler's imagination. However, using CAD's potential to create a virtual inventory--a library of digital renderings, ready for review by customers—requires not only skill and imagination, it requires "creating a system," says Krikawa. Jewelers who use virtual inventories most successfully categorize the designs for easy retrieval and for easy searching by customers, as they might group and display live inventory in a store. They tend to build new designs on the base of old designs rather than creating every design from scratch. In addition, they develop their inventories not only from pieces they've customized for clients or created specifically for the virtual inventory, they also incorporate inventories purchased via countertop customization systems, such as Stuller's, CounterSketch, or 3D Space Pro's Firestorm.

No matter how a jeweler uses a virtual inventory, however, it's understood that, as with a "live" inventory of precious metal jewelry, a virtual one has to be nurtured and maintained. It also must be actively shown to customers to make a sale--keeping your virtual inventory in your office computer will not result in a sale any more than will keeping live inventory in your vault. People have to see it in order to start the conversation that leads to a sale.

In fact, jewelers say there is little difference between selling virtually and selling from a case full of precious metal and stone jewelry—other than the dramatically lower costs and higher rates of closed sales they enjoy by selling virtually!

Building It

There are three ways jewelers build their virtual inventory: they buy existing virtual inventory in customizing programs such as CounterSketch or FireStorm, they spend dedicated time designing and adding pieces to their inventory, or they add designs as they create custom work for clients and use those designs as their base inventory. And some do all three. Some jewelers set goals for how many pieces they want to add a year—Krikawa shoots for 30, for instance. But most jewelers simply add what they can, when they can.

When David Nygaard, owner of David Nygaard Fine Jewelers, began the transition to virtual, he started by taking special orders using his inexpensive "brass and glass" prototype samples. (Although we're using the term "virtual inventory" in a more limited way, some jewelers pointed out that any time they were selling something they didn't have in hand, whether from a catalog page, a web page, a "brass and glass" sample, a

computer rendering, or a sketch on a napkin, they were selling virtually. For the full story on Nygaard's transition to virtual see "Critical Mass," in *MJSA Custom Jeweler* Volume 2 Number 3.) However, Nygaard recognized that using the prototype business model by itself was limiting.

"I knew that [digital libraries were] the key thing I needed to address in order to make [going virtual] work." He first learned Gemvision's Matrix software to design his own library, and then snatched up CounterSketch as soon as it became available. He now has a mix of CAD systems and libraries available to him: CounterSketch, FireStorm, Matrix, and Space Claim, a program designed primarily for engineering. "We use every library we can and also create our own," he says. Having access to a variety of libraries allows the almost exponential expansion of your inventory. New digital designs based on any piece from any library can be added to your inventory, becoming the basis for further designs. There's no need to add new, physical prototypes that require floor and counter space.

Greg Stopka of JewelSmiths in Pleasant Hill and San Ramon, California, created most of his own virtual inventory using Digital Goldsmith, FireStorm, Matrix, and AutoDesk's T-Splines (a plug-in that enables other CAD software to create more organic shapes). Although he now adds only 3 or 4 new designs a month, "at one time I was doing 10 to 15 designs a month, playing 'What if?' with Matrix. You take a top here, and a bottom there, and mirror it, and it starts to translate into a new design." He now has more than 1000 designs in his inventory. Creating that many live pieces from a handful of original designs would be a daunting task if one had to carve a new wax model from scratch each time or even re-work a wax pattern from a mold.

Bob Krug, co-owner of Imagine Designs in Helena, Montana, uses 3Design to create his substantial—1,500 designs and growing--virtual library. "I design all the time," he says. Among the jewelers we spoke to, Krug is unique in that a portion of his virtual library is devoted to elements he's created that can work as components. For example, he has a library of flower styles that can be added quickly to any base design. "Because I made all the parts and pieces," he says, "We can change the whole [design] in a few minutes to get exactly what [the customer] wants."

Because the inventory is digital, you can and should have a lot of it. "A successful retailer has to have inventory," says Stopka. "Now it's mostly physical. Virtual inventory is the same concept. People have to see the inventory to select and purchase something. The more inventory you build, the more successful you will become." Jewelers who are most successful with a virtual inventory report having between 1000 and 2500 digital designs. However, you don't need that much to get going, says Stopka. "Just start with 25 to 30. Those will give you the ability to do iterations and create more."

Jewelers have different methods of using their virtual inventory. Some rely on it exclusively for their sales and have very few, if any, "live" goods. One example is Bob Staley, of Bob Staley Jewelry Artisan in Cartersville, Georgia. Staley has studio space in a small corner of a traditional jewelry store in town. He does only custom work. His commissioned pieces, few of which are exclusive, become his virtual inventory. He exhibits his inventory on a large, wall-mounted flat screen above his work space. "I use it as a portfolio to say, 'Here's what I've done.' It's a sales tool to spark an interest and generate new customers. We can do an identical [piece] if the customer wants it, but most people want to use the elements."

Randy Dixon co-owner of A Different Facet in Harrisonburg, Virginia, was so enthusiastic about going virtual that he had a going out of business sale to get rid of his live goods. In addition to virtual images of his designs, he uses a strong inventory of "brass and glass" samples. "Some people see a picture and understand it, but a lot of

people can't," says Dixon. "They have to touch something. We usually create a small subset of our [own designs] in sterling and CZ," he says, in addition to lines purchased from suppliers.

Still other jewelers integrate their virtual inventory into a traditional business model that includes a live inventory of jewelry they make or purchase from suppliers. For example, some of the piece Krug designs end up in his cases. Shant Dakessian, co-owner and designer at Simone and Son in Huntington Beach, California, estimates they add more than 20 new pieces a month to their virtual inventory. "Most of these are for customers," he says. However, he also designs specifically for their virtual inventory as well as for live pieces that will go in the case. For example, in the weeks before the 2012 Christmas season, Dakessian added 50 new designs to their inventory—30 of which went into the case while 20 remained virtual.

Dakessian, Krug, Stopka all design "on spec"—without a customer for a specific piece. However, others like Dixon feel that designing pieces without a customer is a bit like buying jewelry you might not be able to sell. Dixon first creates a design for a customer, then, if he feels it has merit, he'll add it to his inventory. The advantage of creating a virtual inventory from customized or custom work already completed for clients, he says, is that "you're staying current with what people want because you just sold one [like it]."

Although there is no physical cost for a virtual piece of jewelry as there would be for physical jewelry, there is still the expenditure of time spent on the design. And time is something many jewelers have in short supply. "I wish I had the luxury of time [to just design]," says David Ginis of Ginis Goldsmiths in Midland, Michigan, a Rhino user. But with just he and his wife, Andra, to run the store, he values his virtual inventory of models he's developed for customers over the years, for the time it saves him—and for the number of sales it helps close. "I think about how we used to do things and wonder how I could do as much as I do now without CAD. We have some real merchandise, but, especially in the last year, CAD has taken off so much that it is 85 percent of what we wind up doing."

Organizing It

The key to having a workable virtual inventory is being able to put your hand—or mouse--on a base design when you need it. But for many jewelers whose virtual inventories have grown organically as they learned to work with CAD, the files have multiplied and organization may be elusive. When you start working with CAD software, you don't realize how many pieces you're going to save, says Dakessian.

That's why Krug says, "When I finish a design, I try to think about how I'm going to find it again easily." The directories in his laptop point to different kinds of designs—for example, one family of designs he says is a bit like the old "ribbon" rings, so he groups them under a heading of "free flowing." Beneath that, he has subcategories for three-stone, solitaire, split shank, and so on. "Because I'm the only one in there, I know my directory system. I know where things are. If someone is looking for something specific, I know how to get there quickly."

When Dixon designs a piece that he feels adds to his overall jewelry line, he makes a "brass and glass" prototype and assigns it a stock number before it goes into the case. The number helps him find the CAD model later when a customer sees something she likes. However, a system for finding previous custom or customized pieces, he says, "has proven too large a task. I get invested enough with each piece and the customer who we

made it for that I can usually find it" using the customer's name or the date the piece was made.

He's not alone. Several jewelers we talked to file designs under the customer's name and rely on memory to find it later. This system is not as unwieldy as it might seem, says Ginis. Because he has so many iterations of different models, and people tend to want to change the design anyway, it's not vital for him to be able to find the "original."

Although Staley, too, says he never forgets a piece he designs—"It's like birthing them," he says--his inventory got to be so large, he wanted a way to look through them quickly. "I'm a visual person. I created a basic folder [containing] a .jpg of the piece, with the Matrix .3dm model next to it." The model gives him all the information he needs to know about the piece: stone number and sizes, weight, and so on. "That's why I keep it with the picture."

Other jewelers--like Stopka, Krikawa, and Nygaard--have created more systematic ways of organizing their digital images so customers can browse/scroll their virtual inventory as if they were flipping through the pages of a catalog. Stopka gives his style groupings headings that may reflect a customer's taste, such as vintage, contemporary, modern, classic, and unique.

Krikawa, more traditionally, breaks hers into jewelry types: wedding rings, engagement rings, wedding bands, and so on. Each category breaks down further: there are 17 different wedding ring categories, for example. Choosing a category brings up a catalog of images that the customer and jeweler can scroll through together. Each image in Krikawa's virtual inventory also has an extended identification description. For example, in her series of claddagh engagement rings, a piece might have the initial code CLAD, followed by something like "size 7 rose bud shank."

Selling with It

There are as many ways jewelers are selling from their virtual inventory as there are jewelers using one. But one constant is the use of high-quality images. Without a physical inventory, high-quality images become vital. "I try to be very good at rendering so it looks like you can touch them," says Stopka. Although CAD programs are getting better at making good renderings automatic, he says, creating really knock-out renderings means going behind the scenes and learning to work with the rendering software itself. "The skills can be mastered, but they take a little time. The payoff is in the reactions and sales that can be made from high quality rendered images."

Almost all the jewelers we spoke with have digital renders framed or running on continuous loops on flat screens in the store. More than one jeweler has sold a custom piece to a client who watched the display while waiting to pick up a repair.

"I have more pictures than pieces," says Dixon. He has three large screens that line both walls of his store—two smaller ones that display rotating slide shows of jewelry designs and a PowerPoint presentation explaining how the process works. He also has dozens of framed images on the wall and notebooks full of images for customers to thumb through.

Jewelers vary in how they work with customers and the virtual inventory. Some, like Ginis, use their virtual inventory primarily as a conceptual aid. Bringing up images of pieces he's already finished helps Ginis' customers visualize the concept he's trying to communicate. He also uses CAD models to demonstrate stone size, shape, and placement. "I don't usually go to the extent of adding the channel or prongs [in the CAD] at this point in the design consultation process." Once the customer approves the preliminary

design, he'll save the model, finish it, and then have the client come in for final CAD approval.

Other jewelers do most or all of their virtual design work in front of the customer, building on design images they already have. For this, Stopka prefers the two-dimensional Digital Goldsmith: "You can really work very fast in Digital Goldsmith," he says. "[Working with 3D] is so technical that if you use it in front of a customer, you might bore them. It's too much information. With Digital Goldsmith, you cut and paste and, Boom!—it's there."

With the advent of cloud computing, smart phones, and tablets, jewelers can access their catalog from anywhere—and from just about every device, in or out of the store. "Everything is on Drop Box," says Dixon. "I can call up most of the pictures from any of our 10 computers, 1 iPad, and 3 android phones."

Stopka is even more mobile. His catalog of images is in Digital Goldsmith, and each is linked to the program which is stored on a server. If he's showing an image to someone on his iPad at an airport, he can access Digital Goldsmith and actually start redesigning right on his tablet.

Virtual inventory can go anywhere even when the jeweler never leaves the store. Dakessian once worked with an American soldier in Cairo who wanted to propose when he returned home to Alabama on Christmas leave. Dakessian set up an appointment via email, and then contacted the soldier via Skype and a computer conferencing service that enabled screen sharing. The soldier was able to talk to Dakessian on his computer in Cairo and watch the ring being built. He approved the ring, and the Dakessians printed, cast, finished, set, and shipped it to Alabama where it was waiting for the soldier when he returned home.

The shift to virtual inventory does not mean the store experience is dead—far from it. Krikawa, who has only virtual inventory, opened a brick and mortar store in 2008 to take advantage of the consumer trend in purchasing local and hand made. Stopka, who like Krikawa has spent many years selling virtually, also runs two gallery/studios for customers who feel more comfortable buying face to face.

In his store, Nygaard creates a relaxed, almost playful atmosphere for selling his virtual inventory. Open cases encourage customers to choose the prototypes they like, which they collect, like Easter eggs, in baskets. These prototypes are keyed to the CAD models in his virtual inventory. If a customer likes prototype A 123, for example, Nygaard can pull up the corresponding CAD model in his system and modify it to meet their requirements. This is done in a comfortable seating area in front of a fireplace with a large flat screen above it for discussing designs. There is even a bar where customers can sip wine or coffee while they scroll through the inventory on an iPad or work with Nygaard to create a new piece with CounterSketch.

While many people come in with images culled from the Internet or photos of jewelry they've seen elsewhere, some have only a vague idea of what they want. To help them get started, Nygaard uses an engaging and interactive program he designed called "Style Discovery," based on personality tests and linked to his virtual line of wedding and engagement jewelry and diamonds. The survey can be accessed in the store or from his website. The customer answers questions about her likes, dislikes, and personal characteristics, and the program opens a catalog based on the resulting "style" match: chic/trendy, classic/traditional, modern/contemporary, eclectic, or retro/antique. Each of these categories contains subgroupings of jewelry styles such as three-stone, solitaire, haloes, and so on.

As if flexibility in presentation, time savings, and cost effectiveness are not enough to pique your interest in working with a virtual inventory, working virtually also leads to a higher profit margin. "There is more profit margin in the virtual inventory," says Krikawa.

“The first time [we make something], there is a huge margin for error. When we make it the second time, there is a slim margin for error. We’ve worked out the kinks.”

Most of Stopka’s design and redesign is for customers who already have stones to use or jewelry they want to trade in against a new piece. “It’s a successful market,” he says. Because the pieces are more personal and more sentimental, the customer is “not talking discounts. The prices are always higher, because you have to build it.”

The consumer trend to personalization means customers always want something changed—a little or a lot. That level of customer involvement, often coupled with the sentimental value of the work means sell-through is much higher than on ready-made pieces from the case. “On our custom work we have a very high close rate, 80 percent,” says Dixon.

In other words, there is almost no reason not to put a virtual inventory to work for you.

A Word About Words. . . .

While interviewing jewelers for this story, we found descriptive words being used in multiple ways—particularly understandable given that the virtual inventory is still in its infancy. This is how we used terms in our story:

- **Virtual inventory:** This is a collection of digital CAD files, drawings or renderings, that jewelers use as a base for their designs and/or as a catalog. Several jewelers use the term “portfolio” rather than “virtual inventory” to describe their digital files. We use the term “virtual inventory” to refer to computer files and images.
- **Prototype:** Most of the jewelers we spoke with used this term, in this context, to refer to “brass and glass” samples, whether purchased from a vendor or cast from original designs. In other contexts, “Prototype” is used to describe the wax product of a milling machine or a resin product of a 3D printer/rapid prototyping machine/grower. All three—“brass and glass,” wax, and resin--are often also called “models.”
- **Models:** Most of the jewelers we spoke with used the terms “model” and “modeling” to refer to the product and process of using a 3D CAD program, such as Matrix, Rhino, and 3Design. These models often look more like architectural drawings than the “real thing.” We use the term this way in this article.
- **Renders and renderings:** These are the photorealistic images produced by a 3D CAD program that are displayed on web pages, as “photos” in the store, or in a virtual catalog on a laptop, tablet, or smart phone.