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USAGE INTELLIGENCE

CNC Software Dramatically Accelerates UI Redesign

Helps Modernize Mastercam in Half the Time

Mastercam®

CNC Software, Inc. provides state-of-the-art Mastercam CAD/CAM software tools and related services for manufacturers who must solve design and machining problems at all levels of complexity, in any industry.

CHALLENGE

- Quickly and cost-effectively revamp an old user interface to fully reflect the needs of today's users—and tomorrow's

- Needed detailed product usage data to accelerate development, improve focus on the customer, and innovate more effectively

SOLUTION

- Implement solution for tracking and analyzing usage data at a granular level in near real time, enabling data-driven decision making by product design, development, and marketing

BENEFITS

- Comprehensive and exceptionally successful product redesign fully executed in 18 months—half the time it would have taken without software usage analytics

- Significantly reduced cost compared to in-house solution

Industry leader needed product modernization

In industries ranging from automobile manufacturing to consumer goods to medicine, over 225,000 manufacturers rely on Mastercam CAD/CAM tools purchased from CNC Software. CNC Software pioneered affordable CAD/CAM when it introduced Mastercam in the 1980s, and has continued to innovate to anticipate the changing needs of companies from one-person shops to the Fortune® 100.

Mastercam offers CAD/CAM software tools for all types of programming, from the most basic to highly complex: 2-axis machining, multiaxis milling and turning, wire EDM, router applications, free-form artistic modeling and cutting, 3D design, drafting, surface and solid modeling. Whatever a customer's machining needs, CNC Software provides a Mastercam product for its budget and application.

Over 30 years, CNC Software has nurtured a worldwide community of Mastercam users, Resellers, and partners that extend Mastercam with specialized functionality and training. It has also built a leadership position in education, helping to train a new generation of highly skilled professionals.

CNC Software knew it needed detailed product usage data to accelerate development, improve focus on the customer, and innovate more effectively. For several years, it had attempted to capture usage data through a homebuilt software usage analytics package, but found that it took far too much time and effort to visualize, analyze, and report on the terabytes of data it was generating.

According to Director of Product Design Russ Bukowski, home-built software usage analytics "didn't just require excess work by our software developers, but also our product management, business assistance, and IT teams. We did a cost analysis and realized we were better off looking for a third-party supplier for all this functionality."

However, finding a third-party solution that met its needs seemed daunting. Mastercam, now in its 18th version, contains code built with a wide variety of programming tools. A solution would have to support the entire code base, including both .NET managed components and unmanaged C++. Based on its strict requirements, CNC Software narrowed its options down to a few products and performed a full technical and business analysis over a three month period.

"At that stage, we especially liked how responsive everyone was. Long before they knew whether we were going to buy, we felt they wanted to create a partnership, not just make a sale. They really took time to answer all our technical questions and resolve our implementation issues," said Bukowski.

In addition to assessing Usage Intelligence functionality and support, CNC Software carefully projected the cost of the Usage Intelligence solution. It found that the pricing model would significantly reduce the cost of software usage analytics compared with its in-house solution which it estimated was 4-5 times more expensive than the Usage Intelligence solution.

Choosing Usage Intelligence

CNC Software quickly discovered that Usage Intelligence was exceptionally flexible. For example, it allows event tracking for any individual feature; other products dictated what could be tracked, and their inflexibility would have significantly increased cost.

"Mastercam is a very big product," Bukowski notes. "It has about 1,200 functions, each ranging from a handful of controls to one with 24 dialogs and almost 500 user controls. With Usage Intelligence, we can easily instrument any panel on an as-needed basis and track exactly what we want."

CNC Software first implemented Usage Intelligence on a production product using a trial account. Within a month, it was capturing rapid and useful feedback. "Some competitors said it would take 72 hours or more to get data into our reports," says Bukowski. "But with Usage Intelligence, I know right away how many people used our software."

These real-time results offer significant value, especially when CNC Software releases new versions of Mastercam. "Now, we can track adoption rates every day. If we see a hiccup for any reason, we can dive into the data, figure it out, and fix it. That's working phenomenally. Even with our own package, we couldn't do that," said Bukowski.

CNC Software can now identify usage patterns for each of the 19 languages it supports, and collaborate with its global Reseller network to optimize adoption. "There's a wide range of machining technology out there, and the core feature set for someone in Germany may be very different than in the US, or Brazil. The software usage analytics data gives us solid direction for a more thorough analysis. Our market researchers can follow up, and we can ask our Resellers: 'why aren't you seeing adoption of this new feature?'" Bukowski noted. Then, sales and marketing teams can provide additional support to help Resellers educate their customers on maximizing the value of their investments in Mastercam.

With Usage Intelligence, CNC Software can track virtually anything in real time, get fast answers, and build more intuitive, user-driven products.

Complete and successful overhaul in 18 months

Usage Intelligence has helped Bukowski's team successfully track and optimize products through five years and four major releases, from Mastercam X8 through the new Mastercam 2018. Its value was demonstrated most powerfully last year, as CNC planned, developed, and delivered a radically new user interface.

"We'd had the same interface for nearly 10 years," said Bukowski, "and for Mastercam 2017 we wanted to do a complete overhaul. That's one big reason we invested in software usage analytics."

After considering several alternatives, CNC Software chose a Microsoft-style ribbon interface. That's when the hard work started. "Now it was critical to figure out how to organize our 1,200 features. How do we logically group them? Which are most used? Which should we promote? That analysis would have been virtually impossible without software usage analytics. Usage Intelligence gave us the usage data to say: these features are used most often, these go together, these are the ones to promote.

"Our entire redesign took 18 months. But it would easily have taken double that time without runtime analytics to support our decision-making. We would have been forced to spread the interface project across three releases. We'd have been stuck in a constant loop of sending out beta after beta," Bukowski said.

Feedback didn't just arrive faster: it was also better, because CNC Software could track all enrolled beta testers, enabling it to see a wider range of data than its previous solution had ever provided.

All this directly translated to a smoother, more successful release. "Our user survey feedback has been overwhelmingly positive. As a product gets more complex, it can become less intuitive, and harder to learn. We have a large piece of the education market, and the new software has made it much easier for students to learn and for teachers to teach. That drives sales by lowering barriers to entry. And because we've designed the software logically, our users needn't remember as much, it just makes sense to people. They can find what they're looking for," said Bukowski.

Saving those 18 months also freed time and resources to focus on other areas of the product, Bukowski said. That keeps paying dividends—most recently, in Mastercam 2018's powerful milling improvements, chip break controls, turning strategies, and shop floor CAD tools.
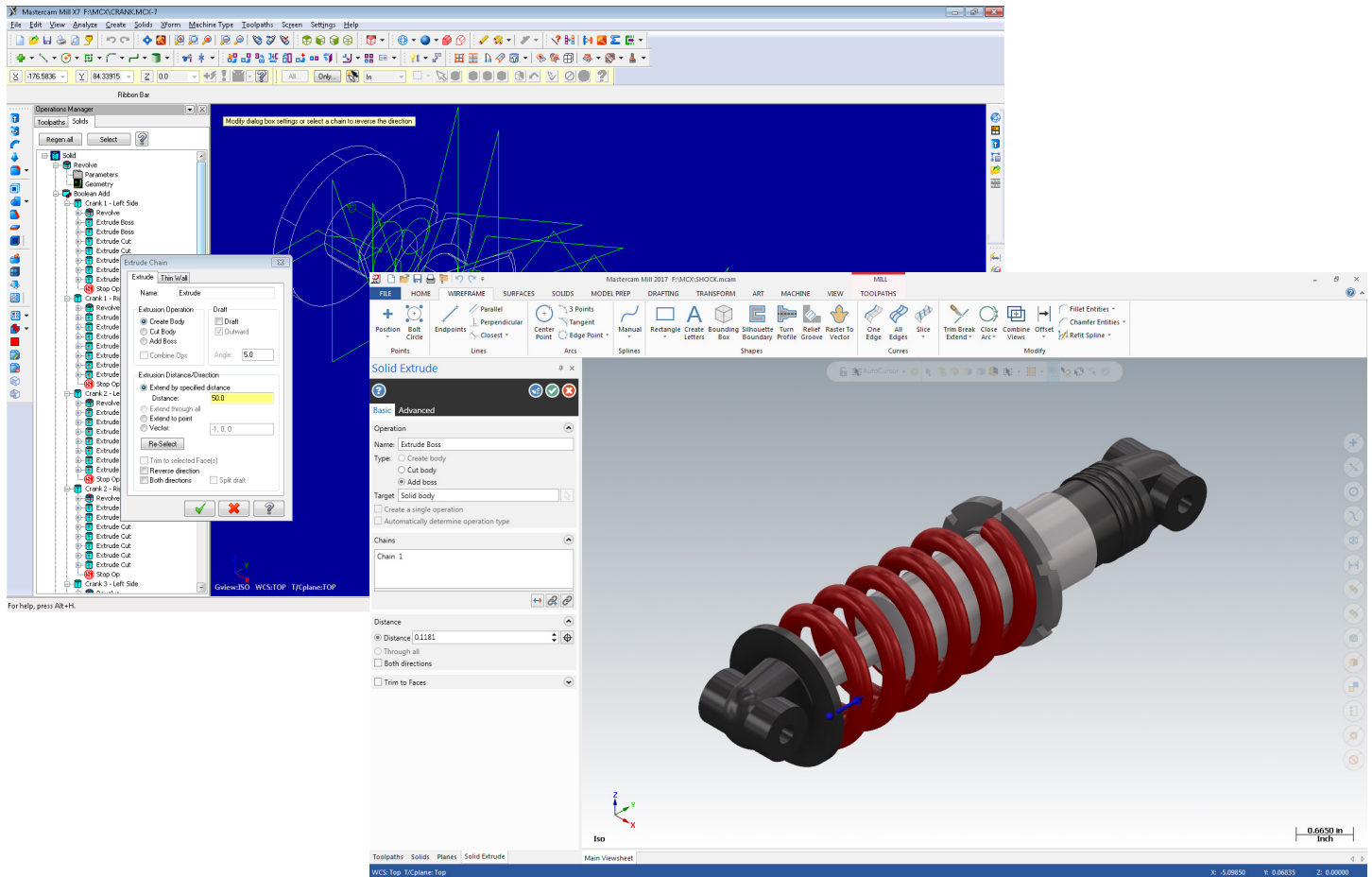
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RUSS BUKOWSKI
   —DIRECTOR OF PRODUCT DESIGN, CNC SOFTWARE
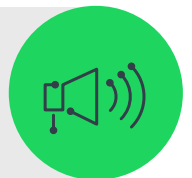
Mastercam Mill—Before (X7) and After (2017) the UI Redesign

NEXT STEPS

Learn more about Usage Intelligence.

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