

## Bringing the past to life

Grass Valley Company digitally recreates crimes and accidents

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September 6, 2005



Vehicle accidents that trigger lawsuits are recreated by Precision Simulations Inc., of Grass Valley, which produces realistic, 3-D animated simulations that are used in court to give juries a clear understanding of the accident. Illustrations courtesy of Precision Simulations Inc

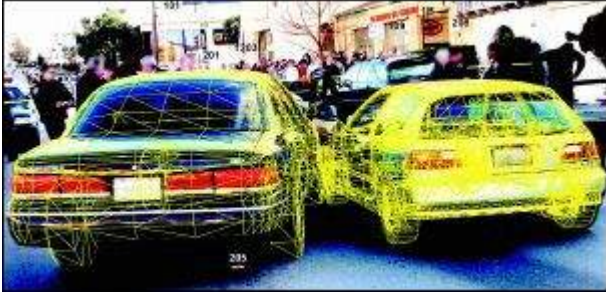
The photographs sitting on Craig Fries' work table at Precision Simulations Inc. in Grass Valley weren't suitable for the family hour on television.

A pool of blood was clearly visible in one picture, the result of a man allegedly beaten before he fell into a city bus. The question a jury will have to decide: Was the man injured by the beating or the bus?

It's Fries' job to make the jury's decision easier by creating a 3-D animated simulation of the incident that will be used as evidence in the pending trial.

"It makes (jurors) eyewitnesses to the scene," he said. "There's a single, visual perspective. Everyone is looking at the facts.

"All 12 members of the jury hear the same thing, but in their mind's eye, they all develop a different picture of what happened," Fries said. "In the courtroom, we're trying to build consensus. ... That only happens, in my view, if we're looking at pictures."



A laser scanner is used to capture everything that might be pertinent at a crash scene so that animators at Precision Simulations Inc. can create a realistic simulation of how this auto accident occurred.

### **Business is booming**

The use of forensic animation at trials has become commonplace in the past 15 years, and Precision Simulations has gained a following throughout the past decade among attorneys, government agencies and private corporations for its work.

Tom Beatty, of the Walnut Creek law firm McNamara, Houston, Dodge, McClure and Ney, gives Precision Simulations a lot of credit for the firm's victory in a complicated malpractice case.

"The five-minute animation was admitted in its entirety, withstanding fierce opposition from the opposing attorney," Beatty wrote in a testimonial. "The simulation was shown in opening statements, setting the stage for a \$5 million plaintiff recovery verdict."

Testimonials like that have made it possible for Fries to build a six-person operation (Precision Simulations also uses 12 to 15 contract animators) that will generate about \$1,250,000 in revenue this year.

Fries would like to double the business so that he can devote more resources to perfecting virtual reality presentations and other technology.

"I know that in the next five to 10 years, we'll have jurors wearing goggles and looking at a very realistic, compelling version of the event," he said. "I would like to get into the forefront of that."

"There's a lot of interesting areas I'd like to get into that I can't with the manpower I have now," Fries said. "We're all running around as busy as we can be as is."

### **A surprise career**

Precision Simulations has come a long way from its start 12 years ago, when personal computers didn't have enough memory, the software was slow, and forensic animation was outside the legal mainstream.

Fries had no interest in the subject when he graduated from Cal State Hayward with a degree in psychology with plans to pursue a Ph.D. and study artificial intelligence. He decided he needed research experience on his resume, so he took a statistics position with an expert witness who reconstructed airplane accidents.

"Every year I kept putting school off and never went back," he said.

Fries taught himself computer animation when competing firms started to use the technology, but his boss wasn't convinced it was the wave of the future. So Fries started his own company.

"When I first started doing this 12 years ago, it would take the entire weekend to make the animation, something that now takes about one hour," he said. "It was very time consuming, therefore very, very expensive to do."

"As computer power has gone up and the software has gotten better, we can do many, many

more," Fries said. "We can do 40 or 50 cases at a time now, where 10 years ago, we could hardly handle one case."

### **Staying ahead**

Several other companies are also in the business, but Fries believes Precision Simulations' expertise in accident reconstruction sets the company apart from the competition.

PSI follows a meticulous process to reconstruct an accident scene. Starting with police reports, it uses a laser scanner to capture a 3-D image of everything that might be pertinent - cracks in the ground, striping on the street, stop signs and signals.

An accident reconstructionist analyzes the data to determine the motion of the vehicles, their speed and direction, and whether anybody ran a red light.

The vehicles are animated from each driver's perspective so "the jury could see what it was like to be each driver, who had the right-of-way, who had time to avoid the accident, and hopefully come up with who is at fault," Fries said.

The final product shows the accident in real time, but can run as long as 20 minutes with explanatory material. Costs typically run \$10,000 to \$20,000.

Fries said every animation he has produced in the past 12 years has been admitted as evidence, but not without a fight.

"Every time we offer an animation, the other side fights tooth and nail to make sure the jury never sees it," he said.

"There's always a fight. They know its compelling. A lot of time the plaintiffs don't want to spend the money to create their own animation; they'd just rather keep us out."

Precision Simulations does 70 percent of its work for the defense, principally in California, Nevada and Hawaii. About 30 percent of the firm's work involves eminent domain cases, but the rest is accidents.

Even though he makes two or three presentations to attorneys' groups outside the area every month, Fries moved the business to Grass Valley from the East Bay two years ago because he and his wife, Jennifer, wanted to raise their children in the area.

"The only thing that is a little bit of a compromise," he said, "is repeated trips to the Bay Area and L.A."

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