



Virtually Framed, or Animatedly Exonerated?

Perhaps it was only a matter of time before personal computers were put to work making movies for judges and juries. Today, animators use animation and computer-aided design (CAD) software to make images of auto crashes and crime scenes. Their creations try to answer questions like these:

- What was the driver's view on the foggy night of the accident?
- Where were the blood splashes located?
- What the witness could and couldn't see from the third-story window?

The goal of forensic animation, says Paul Kakert, a Davenport, Iowa, animator who produces videos for presentation in the courtroom, is to "show" eyewitness or expert testimony to the jury. It is not to create an unreal reality.

Is this good or bad? Is virtual reality **real enough** for the courts? Or will computers just make **lies** all the more credible -- and powerful?

We'll leave to the courts the burden of answering these thorny questions, and trust that their wisdom will prevent attorneys from misusing the enormous creative power of computers. Instead, let's take a computer-assisted glance at how PC animation is already being used in the legal system.

Let's look at two animations that were used in an Iowa liability suit over a 1993 collision which killed Chris Street. The University of Iowa basketball player was mowed down by a snow plow after he pulled his car in front of the truck. The truck's driver admitted he was going 55 mph -- 10 miles over the limit.



[Click the frame to see the animation \(630 K\)](#)

Here's the crash with the truck going 55 mph. The plow strikes the center of the car. Movie generated from a Forensic Media videotape.

Was the driver at fault? Was he negligent by driving 55 in a 45 mph zone? That was the allegation in the \$14-million lawsuit Street's family filed against the plow-truck driver and the county that employed him.

Kakert, who works for Forensic Media, helped the defense present its case. Kakert says that since animation is an "illustrative tool," he started by looking at reports from the police and an accident investigator hired to reconstruct the accident. From data that included the snow plow's actual braking distance, Kakert created two images of the accident -- 10 miles over the limit (seen above), and a second with the plow traveling at the speed limit.

[Click the frame to see the animation \(765 K\)](#)

Here's the crash with the truck going 45 mph. The plow strikes the rear of the car. Movie generated from a Forensic Media videotape.

It turned out that if the truck had been driving the speed limit, it would also have hit Street's car.



The defense argued that although the impact was not quite as direct at the speed limit, it would still have been fatal, and thus negligence did not contribute to the accident. The jury agreed that the accident was caused by Street's failure to look at traffic before pulling onto the roadway.

Does computer animation run the risk of "creating reality" rather than "illustrating" it? That's always a risk, Kakert acknowledges, but it's the job of the opposing attorneys to keep things honest. Thus, the other side gets to see videos before they are shown in court, giving them time to analyze them. Sometimes, Kakert says, he testifies during a frame-by-frame interrogation, explaining the factual basis for the animation. "In my experience," he says, "animations come under a lot of scrutiny. Most of the time I testify about the kind of computer I'm using, where I received my information, the expert numbers I've been given."

Animations are one form of forensic reconstruction -- the attempt to mimic conditions before a crime took place. Other forensic experts have been doing reconstructions for years, to try to figure out what a disappeared person would look like after 10 years, or what caused death in a badly degraded body. And these reconstructions "must be very carefully done," argues M. Yasar Iscan, professor of anthropology at Florida Atlantic University who uses his anthropological expertise to examine human remains found at crime scenes. "Most experts present their evidence as if it's a religious faith. When I testify, I say these are the areas I'm sure of, and these are the areas that I'm not sure of. I let the jury decide."

That kind of scrutiny is entirely proper, Kakert says. The field of computer animation is so new, "there's not a set of rules to follow regarding the admission of computer animation. Each judge is the gatekeeper. There have been companies that got into this business that have done some things that have been poor quality -- whether it was embellishment, or it just seemed that way through their incompetency, I don't know."

For some nuts-and-bolts on [computer animation](#), please. Or see our [coverage](#).

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