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The Next Frontier for Virtual Reality: Courtrooms

By Bruce Kaufman

Twenty-five years ago, a California jury took a brave leap into the future by donning headsets to watch a virtual reality-like accident reconstruction scene.

The three-dimensional defense presentation lacked interactivity, a current hallmark of virtual reality. But, even so, the presentation helped persuade the jury that a motorcyclist had chosen to ride on dangerous terrain, and that Honda Motor Co. was not responsible for the accident.

Since then, the technology has become accepted in a broad array of industries, including gaming (Pokemon Go), architecture, property sales, and medicine.

Virtual reality has been nonexistent in U.S. courtrooms, however, burdened by logistical concerns, high costs, and legal fears it could prove unduly persuasive for impressionable jurors.

Though it can still run into six figures, the cost of virtual reality has come down and tech-savvy attorneys say the time is right for a fresh look at the technology's use during trials, especially in areas like product liability or criminal law where evidence is vital to recreating events or presenting science.

"There are incredible possibilities for using this technology in the courtroom," defense attorney Noel Edlin told Bloomberg law.

Virtual reality could be used to "transport members of a jury to a Superfund site, inside a mesothelioma patient's lungs, to the intersection where an accident occurred, or to a grisly crime scene," said Edlin, managing partner at Bassi Edlin Huie & Blum in San Francisco.

"I believe that in 10 years, most trial lawyers will be using VR just like they're using laptops today. VR will be the norm, not the exception," plaintiffs' attorney Mitch Jackson, a senior partner at Jackson & Wilson in Laguna Hills, Calif., told Bloomberg Law.

Plaintiffs' attorneys Marc Lamber and James Goodnow, with Lamber Goodnow in Phoenix, are also boosters.

Virtual reality can do more than just transport jurors to the accident scene, it can put them in the car at "impact," they told Bloomberg Law in a joint statement.

"The sense of 'presence' that VR provides has the potential to be a game changer in the practice of law," they said. The attorneys say they are experimenting with cutting-edge VR technology in several cases involving catastrophic personal injuries.

But others are careful not to raise expectations about the still evolving technology, especially the pace of its embrace by the court system.

The legal profession is not a “forward looking enterprise but an arena based on precedence,” Brice Karsh, CEO of High Impact in Centennial, Colo., which specializes in custom illustrations, animations, and 3D interactive presentations, told Bloomberg Law.

“In some places, it is still hard to use the color red in an illustration out of concern that the court will find it to be overly inflammatory,” he said. “The use of VR may be adopted in one place quickly and still take years [for adoption] in another.”

Karsch said that his company has re-engineered a severe tractor trailer crash animation for a real case into a VR experience, but only for marketing purposes. No VR presentations have been used pre-trial or in the courtroom, he said.

Personalized Experience Makes VR Unique

The most significant difference between virtual reality and other presentation forms, like animation, video and computer-generated graphics, is immersion, Frederic I. Lederer, a law professor and director of the Center for Legal and Court Technology at William & Mary Law School in Williamsburg, Va., told Bloomberg Law.

VR creates a sense of presence and personalized experience that does not exist in other mediums, he said.

“It feels like events are happening directly to the user, instead of the user being a passive onlooker. Additionally, VR is more self-directed and subjective than the more linear and constrained forms of video and graphical evidence, Lederer said.

To Jackson, the difference is between looking at an animation, video or a computer-generated graphic of a building on fire, and actually being inside, and in the middle of, the burning building.

“As you (or the jury) looks up, down, left and right, you’re viewing, absent the smell of smoke and heat, exactly what you would experience if you were standing in the building at that critical moment,” he said.

VR could potentially enable attorneys to walk witnesses, jurors, and judges through the scene, reenacting in real time the sights and sounds of what occurred, Jackson said.

As such, jurors become “virtual eye-witnesses of the accident,” he said.

Edlin agreed.

Unlike other presentation forms, virtual reality basically embeds jurors at the location where a person was struck and injured by a bus, Edlin said.

These can be depicted in exact detail, “thereby erasing the uncertainty that plagues eyewitness accounts at trial of events long past,” he said.

The interaction not only “elevates the sense of realism” but the result is a “better understanding of what actually happened,” Lamber and Goodnow said.

Use as Memory Aid

VR is seen as being particularly useful in science-based litigation, like product liability, intellectual property, and medical malpractice cases. Some even see the immersive VR experience being used as a memory aid in a broader range of cases, both civil and criminal, for witnesses unable to recall events.

“The risks of VR as a memory aid are really no greater than photos, videos or any other type of dramatic evidence that a witness may see,” Lamber and Goodnow said.

Jackson and Edlin agreed. “Distances, location descriptions and everything else can more accurately be recalled, later in time, with the use of this new technology,” Jackson said.

If VR can be used to empirically recreate an accident or a crime scene, “I don’t see why it shouldn’t be used to help present evidence in a way that can clarify what a witness experienced,” Edlin added.

But William & Mary’s Lederer pointed to a downside. He said that “reviving” memory by showing a witness materials with the substantive information clearly runs the risk of the witness testifying to the content of the materials and not an independent memory.

“Arguably, VR might not only accomplish the same thing in a more extreme form but might also implant information,” he said.

But Is It Better?

In 2002, VR evidence was used in a simulated case presided over by then U.S. District Judge Nancy Gertner at the Center for Legal and Court Technology, which provides empirical and legal research on courtroom technology.

The presentation was the first ever full deployment of virtual reality in a court and it showed that such evidence can be “highly useful in explaining facts to jurors, arguably better than alternative means in many cases,” Lederer said. In 2016, the center produced the first VR court record, he said.

Over time, virtual reality will be seen as more effective than other methods of presentation to jurors, Jackson said.

Trial counsel and courts will no longer need to spend time and money to transport jurors out of the courtroom to an incident or crime scene, he said.

In some instances, VR could absolutely become more powerful than other presentation forms, Michael Talve, chief executive CEO of The Expert Institute in New York, a leading provider of expert witnesses, told Bloomberg Law.

But it comes down to the particular evidence involved and the message that litigators and experts are trying to convey to the jury, he said.

A graphic that walks jurors through the movement of funds in a complex securities case might be done as effectively with traditional trial graphics as with virtual reality, Talve said.

In contrast, the VR reenactment of an industrial accident that could effectively transport the jurors to the scene of the accident itself would be far more compelling than a traditional rendering, he said.

In addition to accident reconstruction scenes, the use of virtual reality for visualizations of mechanical or electrical systems in product liability or intellectual property cases could be other particularly powerful tools for juror education and persuasion, Talve said.

But Karsh, the provider of courtroom illustrations and animations, said it remains to be seen whether VR proves more effective than other methods of presentation.

The use and widespread adoption of this technology will depend on whether it can be shown that no other media is as effective or “truthful” in showing the substantive aspects of the case, he said.

Creating VR

Lambert and Goodnow said the VR presentations used by their firm are made with the help of expert witnesses who 3D scan the relevant environment, transfer it to wire frame, and then build it out—basing it on the physical evidence.

Those experts also work with accident reconstructionists, biomechanical engineers and others who can scientifically explain what happened at a given incident scene.

The process is important because the VR experts need to be prepared to testify in court regarding the accuracy of the virtual reality model with the judge being the gatekeeper.

These experts will have to not only endure a cross-examination from the opposing lawyer, but they will also have to have their work validated by the judge as worthy of being shown to a jury, they said.

Lederer, sounding another cautionary note about virtual reality, said that the more comprehensive a VR simulation, the higher the probability that the designer will err in some respect. And that error could prove costly.

A quirk of human perception of virtual representations results in a phenomenon called the “Uncanny Valley,” he said. That’s “where a single error in an otherwise photorealistic simulation can cause the viewer to mentally reject the entire representation, ruining its intended effect.”

The Center for Legal and Court Technology’s experience corroborated this in the courtroom, Lederer said.

Bulky Headsets Needed ... for Now

VR currently only works using a headset, Edlin said.

But “augmented reality” applications, such as 3D-like objects rendered on an iPad, can be used without headsets, Lambert and Goodnow said.

“But that’s not the true virtual reality experience. It’s really an interactive computer animation at best,” they said.

“Without the headsets, it would be like asking jurors to look at images printed on a flip-book rather than seeing a video,” they said.

Lederer noted that courtrooms could eventually have access to a so-called cave automatic virtual environment, an expensive form of VR used by many universities and businesses that requires a large dedicated room and a variety of proprietary technologies.

Headsets are not needed with this form of VR, known as CAVE, he said.

Jackson predicted that by 2025 the VR devices will be similar to the size, weight and look of ordinary eyeglasses or sunglasses.

Karsh envisions even more rapid progress. At the current rate of technological development, a better solution will be innovated within the next five years, he said.

“it’s not a matter of if VR will be used in our lives and in the courtrooms, it’s a matter of when,” Jackson said.

Next up: Bloomberg Law explores significant issues that could derail virtual reality’s deployment in courts, including concerns about juror behavior, logistical challenges, and cost.

To contact the reporter on this story: Bruce Kaufman in Washington at bkaufman@bna.com

To contact the editor responsible for this story: Steven Patrick at spatrick@bna.com

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