

A Hunt Valley firm's new technology allows Ravens to visualize plays from many viewpoints

X's and O's become 3-D

BY STACEY HIRSH
[SUN REPORTER]

Every Thursday morning, Ravens assistant offensive line coach Greg Roman drills his players on what to expect in upcoming games - only here, this isn't about X's and O's on chalkboards.

Created with a new technology called Play Visualizer, the pictures that Roman's charges see in these strategy sessions show plays from a variety of viewpoints - behind the offense, even through the eyes of the quarterback - rather than from the limited angles available through traditional video.

The technology, developed by Hunt Valley-based sports technology company 3D MVP, will officially launch next month. But the Ravens, headed to the playoffs in January after winning 12 of their first 15 regular season games, have been testing it since inception two years ago.

"There's no question that as a teaching tool it's far superior to anything we've gotten or used," Ravens head coach Brian Billick said of Play Visualizer. "It's taken what we do to another level."

Play Visualizer allows coaches and players to watch plays from virtually any angle 3D re-creations of plays taken from video. Coaches can also use the tool to create their own computerized plays, which is the way Roman uses it.

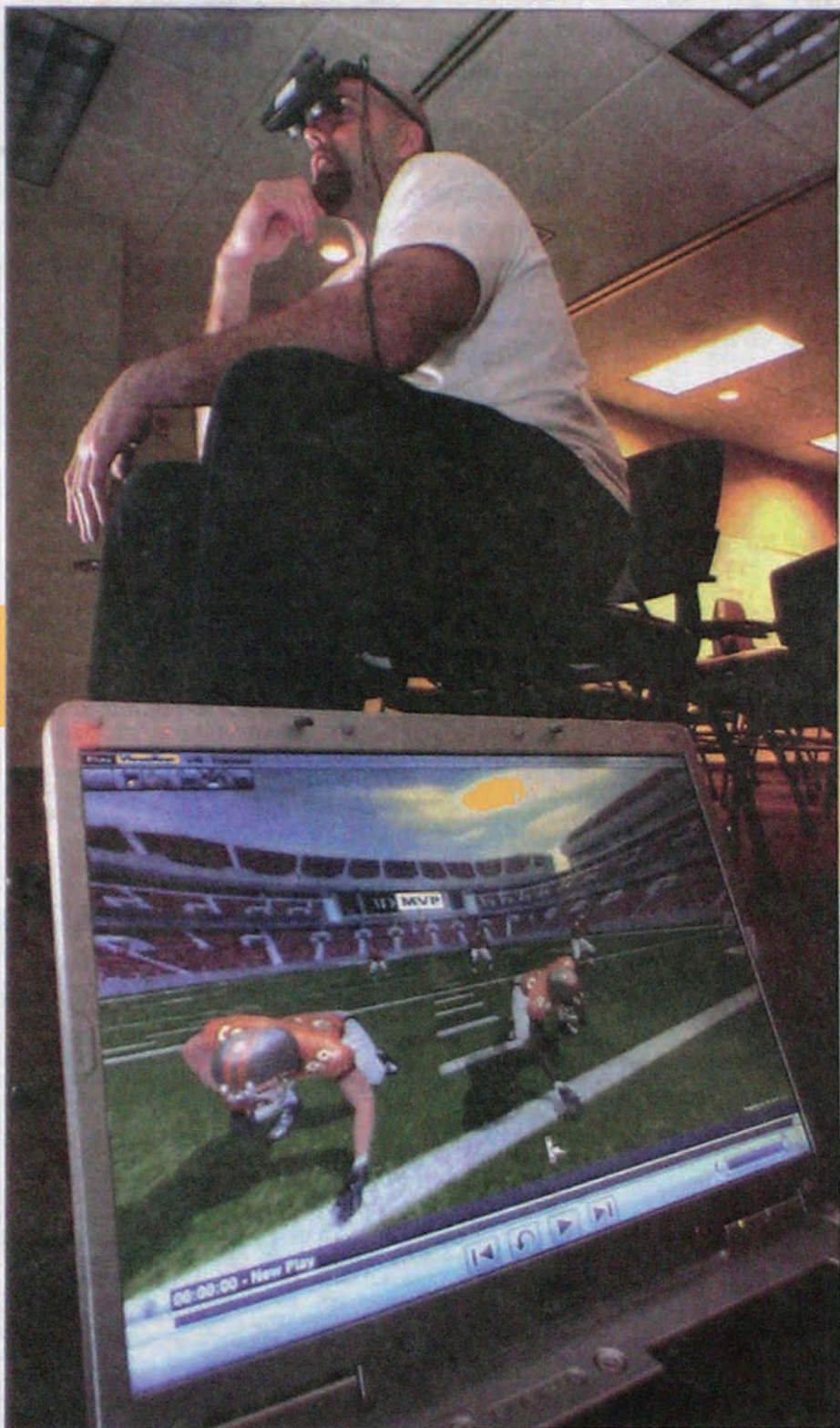
"It allows you to show the perspective you want to show all the time," Roman said.

Digital simulation is being used for training in various fields, including the military and medicine. 3D MVP is releasing its new sports tool as teams around the country embrace the digital world, said Paul Swangard, managing director of the Warsaw Sports Marketing Center at the University of Oregon's College of Business.

But the true test of any new technology isn't the gee-whiz factor, but whether it helps the team win games.

"Does this form of training actually work?" Swangard said. "Because there's always good technology to throw at problems, but it doesn't mean it solves the problem. Just because your shoe can now tell you how far you ran as an athlete doesn't mean you run better. It's just a tool, so it still comes back to how it's used, how it's implemented."

[Please see RAVENS, 5E]



At the Ravens complex in Owings Mills, offensive tackle Tony Pashos demonstrates the use of three-dimensional goggles and the Play Visualizer, which allows players and coaches to see 3-D images of game plays from different viewpoints. The Ravens have been testing the new product.

KENNETH K. LAM [SUN PHOTOGRAPHER]



Assistant offensive line coach Greg Roman uses 3D MVP software to prepare a PowerPoint presentation on blocking assignments
PHOTOS BY KENNETH K. LAM | SUN PHOTOGRAPHER

Football X's and O's in 3-D

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Being able to see actual plays is a big step up for players and coaches used to looking at abstract X's and O's, said Murray Taylor, a co-founder of 3D MVP.

Plus, the video used in most film study sessions is shot largely from sidelines, end zones and above the field.

"The problem is that's not the perspective the players play the game at," said Billik, who believes Play Visualizer will someday replace video as a coaching tool.

That Billik is testing the technology doesn't come as a surprise. He is widely considered a pioneer for the way he uses technology in his work.

But Billik isn't the only Ravens coach using the technology.

PowerPoint

Roman uses images created with Play Visualizer in PowerPoint presentations during his weekly strategy meetings with the Ravens offense. During the off-season, players wear goggles that make the pictures appear three-dimensional as they go over plays one-on-one with coaches.

"Here's a play we might run, and when you install it you can segment; you can go through [and show], 'OK, here's the play we're running, here's the blocking, here's the pattern,'" Roman said one recent afternoon, as a picture of a play was projected onto a screen at the Ravens' Owings Mills training facility. "This plus PowerPoint gives you a nice little installation, teaching progression."

Dave Nash, a video technician for the Oakland Raiders, also has access to the technology, Taylor said. Mike Working, who is quarterbacks coach and passing game coordinator for the Canadian Football League's Winnipeg Blue Bombers, owns a piece of 3D MVP and also uses the technology.

Play Visualizer is expected to cost about \$250,000 for the NFL



Mike Kracalik, an offensive tackle for the Ravens, sees the plays unfold in three-dimension through the goggles as teammate Ikechuku Ndukwe, a guard, watches them on the projection screen.

version, \$100,000 for the college version and \$50,000 for a viewer that can be used to watch 3D plays but not edit them, the company said.

While the tool is not intended as a mass-market technology, Taylor expects there eventually will be a scaled-down version that high schools can buy. (Neither Billik nor the Ravens have a financial stake in Play Visualizer or 3D MVP, the company said.)

The price tag can be justified for NFL teams whose success or failure equals millions of dollars of revenue, Swangard said.

"If it gives the team a demonstrated edge, it's probably priced well," he said.

3D MVP says that it is not trying to replace video, but to show players and coaches a different perspective on the game.

"It just gives you a bird's-eye view of what defense you're looking at," said offensive tackle Mike Kracalik, who is on the Ravens' practice squad.

Ravens guard Ikechuku Ndukwe, 24, has been playing football since the seventh grade. When he started, coaching tools included chalkboards and video-

tapes.

"To see it now in 3-D is pretty cool," said Ndukwe. "You definitely see what the defense ... is going to try and do to you. It definitely helps out a lot."

3D MVP's history can be traced to One Minute Drill, a Timonium company founded in 2002 that sought to apply techniques used in computer games and simulation to sports. Robin Matthews, a computer game industry executive and One Minute Drill co-founder, persuaded a Ravens employee who was the father of one of his daughter's soccer teammates to set up a meeting with Billik.

The company's pitch: Give coaches a tool that would help them predict the best plays to use in games, then eventually show the coaches those plays in 3-D animation. In that meeting, the idea of turning game video into 3-D recreations evolved, Matthews said.

In 2003, One Minute Drill became SportSoft, now in Middle River. Matthews contacted Digital Steamworks, a Hunt Valley technology company with a background in video games, the next year to ask if it was possible to turn

football videos into 3-D images.

The answer was yes, and Digital Steamworks agreed to convert about 20 plays to the 3-D format to prove the concept would work.

Without any existing technology to help them make the conversions, the company used the tools they knew from the video-game world to convert the plays. Each play took about 30 hours, Taylor said.

When SportSoft came back with a request for 55 more plays to be used at Ravens training camp, Digital Steamworks agreed - under the condition that it would own the tools used to convert the videos. As the company made the conversions this time, they came up with different ways to automate the system with each play. Eventually, Digital Steamworks was able to whittle the process down to about an hour a play, Taylor said.

Joining forces

The two companies came together in a joint venture this summer to form 3D MVP, with three members of each business sitting on its board.

SportSoft handles the financial and fundraising part of the business, while the technical side is taken care of by Digital Steamworks' four co-owners: Taylor, Will Gee, David Thompson and Martin DeRiso.

3D MVP has no employees, though Taylor said it could ramp up to as many as 50 in the next two months. The young company plans to launch its new technology at the American Football Coaches Association conference next month in San Antonio.

"The hope is to get a couple of early adopters and have them have success with it and then it would be pretty much word of mouth," Taylor said, adding that he hopes that other teams would feel: "If those guys are doing well with it, then we've got to have it. It must work."

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