Reality is virtually here

By Eric Wilson
February 1, 2005
The Australian

Catalyst Interactive's David Fallon says virtual reality for training is becoming an affordable option. Photo: Andrew Taylor

Playing out scenarios using models in virtual worlds might sound like fun but it is becoming more than a game. Serious three-dimensional online learning is starting to take off, particularly in aviation and heavy industry. David Fallon, Catalyst Interactive's defence account manager, says virtual reality for training is becoming affordable, with the simulations provided for the army's new Tiger helicopters costing about half what they would have three years ago.

"3-D modelling is also useful for teaching safety precautions," Fallon says. "One of the classic examples is on a mine site where there is a drag line of earth and ore. If you take these pieces of equipment offline for training purposes, it can be quite expensive. It reduces the time the trainee needs access to the equipment."

Catalyst Interactive makes what are known as "part-task" simulators, which don't have all the physical characteristics of full simulators. Fallon also characterises Microsoft's Flight Simulator game as a part-task simulator, because "you don't have the feeling of the aircraft turning or banking."

"Where we are going with it is being very specific and being able to customise it to specific needs," Fallon says. "No matter what people say, every 737 in the world is not alike. We have a change configuration system so there's a flow-down effect for when the procedures or hardware changes."
Catalyst Interactive says 3-D e-learning is not necessarily cheaper to buy than a full physical simulator but is more cost-effective to use. In the army's case, a full Tiger simulator might only be able to train one student at a time while others look on. But the part-task simulator built-in software can handle multiple students doing different tasks in different locations simultaneously. In the Tiger's case, Fallon says, building a set of virtual simulations was also cheaper than creating physical alternatives.

"The cost relates to the amount of engineering data available," Fallon says. "Software tools are becoming easier to use. The time frame to build these models is reducing and so the cost is reducing."

The availability of engineering data can also be an issue with Microsoft's Flight Simulator, which has a big online trade in add-ons for extra scenery, airports and assorted aircraft types - much of which is free. According to Robert Sharon, a light aircraft pilot based in Melbourne, this helps transform the game into a serious training aid.

"It didn't start out that way," Sharon says. "I recall in '89 it was a basic sort of a gimmick. But I went to my old flight school a few years ago for my logbook and they said the best thing to do was get Microsoft Flight Simulator and download the Piper Warrior from the internet. And that was the most reputable flying school."

Sharon says the current version takes the part-task simulation concept one step further, with a built-in virtual instructor able to teach people how to fly and even correcting mistakes. But even with a multitude of online enthusiasts madly creating add-ons, Sharon still laments a shortage of data.

"I reckon within four years we might have accurate houses, streets and buildings from satellite pictures," he muses. "I do emergency landings on roads and there's not a lot of stuff there. It's a good training tool. It can't beat the real thing but it can cut a lot of hours off the real thing."

Today's 3-D e-learning market is mainly driven by customers, not manufacturers wishing to differentiate themselves with the service of 3-D training. Sharon says the training experience may be subject to aircraft downloads of varying quality, while Catalyst Interactive's purpose-built 3-D courseware is the property of the Australian Government, not the helicopter's maker. But Fallon says today's trainees might not take to reading manuals as readily as yesteryear's, so the demand for 3-D e-learning may increase.

"We are looking at a new generation who are used to operating computer systems," Fallon says.

"This means it's becoming a more acceptable form of learning."