



Virtual Reality Can Be a Great Value or Merely a Vice



Living in a virtual world may have its advantages. Like the pilot who practiced landing an aircraft in extreme conditions only to discover within a month that he has to do it for real. His practice in the virtual world allowed him to accomplish a seemingly impossible feat in the real world, and lives were saved.

Practice makes perfect and practicing in adverse conditions enables us to find the right solution through trial and error and away from danger.

For the Air Force, modeling and simulation reduces cost and enhances warfighter capability through training. While the general public also has access today to simulations through video games, I wonder if the potential for the same positive results in people's daily lives is manifested. Video games can be focused on unproductive themes like sex, violence, and the occult. Why would we want to get more practice with our vices? Do we really need any help to improve our animal cravings? Will violence help us to solve problems in the real world? If we hone our automatic system to blow away our virtual opponent, will our initial instinctive response be to blow them away in the real world?

I can think of better things to simulate like maintaining an effective budget, developing problem solving skills, composing music, learning languages, and improving comprehension to mention only a few. Surely there is a way to use simulation technology to help us to improve ourselves instead of indulge our vices. The question is, are we intelligent enough to choose self-improvement over self-indulgence? Can we recognize the difference between pleasure and fulfillment?

Then again, why stop with the simulation of physical objects? I can think of some human relationships that could use some practice. For those of you who have teenagers, I wonder if a simulation of parent-teen relationship would help. We spend a lot of time getting educated in technical subjects and leave to chance the most challenging aspects of our lives—human relationships.

Meanwhile, the Air Force forges ahead with modeling and simulation advancements to provide the maximum warfighter training potential within budget. Dave Cook gives a wonderful introduction to this technology. The benefits are enumerated along with a cautionary note: Verify and validate the simulation. While military flight simulation provided fertile ground for computer graphics, the demands of commercial civil airlines pushed its development. So we interviewed top management at Evans & Sutherland because of their expertise in this technology. Their large R&D investment indicates a high level of commitment, but it is backed by their customer focus.

We also feature an article from Col. Wm. Forrest Crain in the Defense Modeling and Simulation Office, which serves as the executive secretariat for the DoD Executive Council on Modeling and Simulation, and acts as a full-time focal point for modeling and simulation. Ioana Rus, Fraunhofer Center for Experimental Software Engineering, and James Collorello, Arizona State University, contribute to this month's theme by proposing a software process simulator for estimating the impact of different software reliability engineering practices.

May you enjoy this issue of *CROSSTALK* and gain a renewed enthusiasm for modeling and simulation possibilities. We hope that your simulations are anchored in reality.

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