# TechTalk

*So, you still don't have a clue about authoring systems, multimedia training, and electronic performance support? You're not alone.*

I was sitting in my office doing something extremely important (my boss may read this), when I received an unusual telephone call. I picked up the phone and listened to the distressed voice of a young university student. He introduced himself. Then he launched into a plea for help.

"Like I said, I would appreciate any help you can give me. My assignment's due tomorrow, and I still don't have a clue. I've talked to maybe a hundred people about this already, and I can't get a straight answer."

"You've talked to 100 people?" I asked.

"Well, you know what I mean—a lot of people. Maybe 10."

"I see. And what was it you asked them exactly?"

"Well, for my report I was supposed to ask two questions: What's an authoring system, and do you have to be a programmer to use one? And what's the difference between multimedia training and electronic performance-support systems?"

"Isn't that three questions?" I asked.

"The first one's a two-parter," he said.

"OK. And none of the 10 people you asked could answer your questions?"

"Well, it was really more like five people that I actually got to talk to. And they all said a lot, but it didn't make much sense—you know? Something about an amalgamation of fourth-generation languages or something."

Over the next 30 minutes, I tried to answer the young man's questions in a way that made sense. What follows is a brief recap of his questions and my responses.

*What exactly is an authoring package? I hear a lot about authoring packages being used to create CBT, multimedia, and electronic performance-support systems. But don't you have to be a programmer to use them?*

An analogy may help illustrate what an authoring package is. In ancient times, when people first started building things, they had to make every tool they needed. You couldn't just go out a buy a hammer, for example. Over time, certain tools proved themselves effective and reliable, and nearly everyone who built things began to use them.

Now, pretend you're a modern-day carpenter. When you build a home, you use a set of tools that have proved useful in the past (such as a hammer, a saw, and a level). You probably don't make any of them—you just buy the ones you need. Over the years, you've acquired a nice set of tools that you use over and over again to build houses. Obviously, some carpenters are skilled enough to build tools from scratch if they want to, but that would be slow and costly. On occasion, perhaps the carpenter may run into a situation that requires a special tool that is not readily available, so she or he makes it. But that is a special case.

OK, so where is all this going? Well, for someone interested in creating multimedia training, an authoring system is much like the set of tools a carpenter uses to build a house.

Not that long ago, when programmers first started creating multimedia programs, they had to create the electronic tools (computer programs) they needed to get the job done. For example, they had to have a tool to create and edit text, another tool to make graphics, another for animation effects, another for branching, and so on. Programmers all over the world began creating these types of tools for their own individual projects.

Over time a few of those electronic tools proved themselves to be effective and reliable. Today, programmers have the knowledge and skill to go buy (or create) electronic tools they need to make multimedia programs.

At some point, some enterprising programmers and businesspeople realized that nonprogrammers may not have the knowledge to select, build, or use all the tools they need to create multimedia programs. So these entrepreneurial folks built an extensive set of easy-to-use electronic tools and offered the set for sale as an authoring package. These easy-to-use electronic tools allow nonprogrammers to integrate text, graphics, animations, audio, and video into an interactive presentation or training program.

Just as carpenters may find that they need a special tool that isn't in their tool sets, multimedia developers may find that an authoring package doesn't have an electronic tool they need for a particular project. The carpenter must buy or make that special tool. Similarly, the multimedia developer must buy or make special electronic tools on occasion.

For example, if your multimedia program needs to send data to a mainframe computer, you may need a special program written to capture and send data to the mainframe. It is a special function. Many authoring packages do not include the electronic tools that would accommodate this need.

So, do you have to be a programmer to use an authoring package? No, but it doesn't hurt either.

Many authoring packages can be operated in two modes—one mode for people who don't know anything about programming (and who don't want to), and another mode (typically in the form of a scripting language) for enthusiasts who want to get into the nitty-gritty. Anyone interested in an authoring package should definitely try it out to ensure that it matches his or her skill level and multimedia needs. Companies that sell authoring systems usually offer training classes for an additional fee.

See the box, "A Sampling of Authoring Systems," for a listing of several full-featured authoring packages.

*What is the difference between interactive multimedia programs and electronic performance-support systems?*

First of all, interactive multimedia programs and EPSSs have a lot in common. Both are collections of software programs that operate on a computer system. Both are developed with the intent of helping people perform better on the job, and both utilize multiple media (including text, graphics, and animation).

One very important difference is that an EPSS is typically designed to be used while the employee is performing her or his job. Traditional multimedia systems are designed to be used away from the job, in a training environment. In other words, the employee completes the multimedia training and then returns to the job to use what he or she has learned.

For example, with traditional multimedia training, a customer-service representative might spend a few minutes away from the job going through a course on how to handle an irate caller. The training might explain the proper steps for handling a call, use video clips to demonstrate, and even let the employee practice through simulations. The result is that the rep can use the learning back on the job at a later time.

That type of training paradigm is sometimes called the transfer model, because the information taught in class must be transferred back to the job to be of use.

An EPSS doesn't require an employee to leave the job to take training. In fact, the EPSS is integrated into the computer system that the customer-service representative uses to perform her or his job. When the representative needs help with an irate caller, for example, an EPSS might display a list of suggested steps for handling the call—right at the moment of need. The representative can follow the steps and resolve the customer's problem. This process is very different from applying information memorized in a training class.

Let's look at another example. A multimedia system might teach an employee how to complete a reservation for a customer. But an EPSS system would actually walk the employee through the process of making a reservation—when the customer requests one.

The EPSS paradigm is sometimes called the just-in-time model, because the information that is needed to perform a job function is provided just when it is needed, rather than before it is needed via off-site training. Typically, an EPSS has multiple levels of assistance that a user may access. Each successive level (for example, advice, help, coach, and tutor) provides the worker with more detailed information. The final level, the tutor, may even be a short multimedia training segment, making multimedia training a subset of the EPSS.

Even with all the benefits of EPSS, don't write off traditional classroom or multimedia training just yet. An EPSS is possible only in situations in which

## A Sampling of Authoring Systems

| AUTHORING SYSTEM | DEVELOPMENT PLATFORM | COMPANY INFORMATION |
|---|---|---|
| **Authorware** | Mac/PC | MacroMedia<br>San Francisco, CA; 415/442-2000 |
| **Gain Momentum** | PC/Unix | Sybase<br>Emeryville, CA; 510/658-9441 |
| **Icon Author** | PC/Unix | AimTech<br>Nashua, NH; 603/883-0220 |
| **Quest** | PC | Allen Communication<br>Salt Lake City, UT; 801/537-7800 |
| **TenCORE** | PC | Computer Teaching Corporation<br>Champaign, IL; 217/352-6363 |
| **ToolBook** | Mac/PC | Asymetric<br>Bellevue, WA; 206/462-0501 |

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### An EPSS Reading List

For more information on electronic performance-support systems, try the following materials.

**Books.** Order books through the publishers.

▶ Gloria Gery, *Electronic Performance Support Systems: How and Why To Remake the Workplace Through the Strategic Application of Technology*, Weingarten Press.

▶ Karen McGraw and Karen Briggs, *Knowledge Acquisition*, Prentice-Hall.

**Articles.** Order reprints of the following *Training & Development* articles by calling ASTD Customer Service at 703/683-8100. Use priority code BVM. Single photocopies are $6 per article. The package of three is $15. Orders must be prepaid.

▶ Robert C. Albright and Paul E. Post, "The Challenges of Electronic Learning," *Training & Development*, August 1993.

▶ Patricia A. Galagan, "Think Performance: A Conversation With Gloria Gery," *Training & Development*, March 1994.

▶ Carolyn Ladd, "Should Performance Support Be in Your Computer?" *Training & Development*, August 1993.

an employee works on a computer system or can use a portable computer for immediate reference—as in the case of many field maintenance personnel and salespeople.

In addition, many employees need to know a variety of important facts, processes, and procedures that will be used often. That kind of training probably needs to be completed before a new hire goes to work.

Also, teaching concepts and principles may take longer than teaching facts, process, or procedures. Such subject matter may be more suited to being taught away from the job.

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