

“Modding” – The Newest Authoring Tool

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“It feels to me like we’re moving toward a point where game development is becoming a very collaborative process between the game developers and the players.”

– Will Wright, creator, *Sim City* and *The Sims*

Although “traditional” authoring tools make it easier and faster to create online training, the truth is that they lead most frequently to “traditional,” – and often boring – solutions. This should not surprise us, since the authoring tools have standard training practices built in to their designs.

To escape from these handcuffs and provide training solutions that younger trainees especially (although not exclusively) might find more up-to-date and to their liking, you might try using the latest tools of computer gaming – “modding,” or modifying, off-the-shelf computer games.

Based on today’s young people’s (I call them Digital Natives) “participatory” philosophy – i.e. that it is more fun to create than to merely receive – commercial-off-the-shelf (COTS) games increasingly provide tools – right on the CD – that allow players, at no cost, to change the look, feel, characters and action of the games to suit their needs, even to the point of creating entirely new games in the process. The all-new games are known as “total conversions;” one company, Epic Games, is currently offering a prize of \$1 million for the best total conversion made for its “Unreal” engine.

Modding, or mod-making, provides an excellent opportunity for forward-thinking trainers to produce new types of training modules that are likely to draw the interest, and even applause, of trainees in ways that their current authoring tools don’t, and can’t.

Here are a few examples: As part of its orientation training, Shell “modded” the environment of *Quake*, a first person perspective game (i.e. a game in which you see the world as if you were looking out of your own eyes, and can run around, interact with others and take actions) into a North Sea oil rig. Trainees got to orient themselves by

walking around the accurate 3D representation of the rig, finding the snack bars, bathrooms, etc. before being paid the high premiums of actual offshore duty. To make the training even more useful, the trainee's job in the mod was finding and fighting fires – always a big danger on oil rigs – in the appropriate manner, both alone or with others. The company has since gone on to mod an entire oil field.

Another “mod” (this time based on an unpublished game found on the internet) allowed the highly-paid financial traders and marketers at Bankers Trust to virtually run around world cities and airports searching for potential clients, who tested their knowledge of rules and ethics before signing on with them.

Those examples are all mods of one type of computer game – the so-called “first person shooter (FPS)” [Note: In the mod world, “shooter” should not necessarily be taken as a negative: the Shell players shot fire-fighting foam, the BT players shot ideas out of their cell phones. Making such changes is part of what modding is about.]

But it's not just FPS games that can be modded. Among the most interesting mods today are those of “strategy” games, such as *Age of Empires*, or *Command and Conquer: Generals*. A player can mod a game, for example, to follow the career of his or her favorite general or historical figure, even if that figure is not in the original game.

Hopefully, the training possibilities of this leap out at you. What if we trained about leadership and ethics lessons by following the career of Jack Welch? Or, negatively, of Jeffrey Skilling? Or of your own CEO, hi potentials or department heads?

And there is yet a third type of game can be modded: the so-called “God Game.” God games are simulations in which the player has the entire world under his or her control at all time. These originally began with macro models such as *Sim City* and *Civilization*, where one controls things at the level of countries, cities and neighborhoods. They have now evolved to the point where the player controls things at the micro level of assigning jobs to individual workers and pleasing individual customers. Although from different developers, all the “Tycoon” games (Airline, Airport, Casino, Cruise Ship, Railroad, Roller Coaster, Start-Up, Zoo, etc.) that let you run some kind of business, are, in a figurative sense “mods” of each other. To do your own mod, pick your favorite and go from there.

An extreme case of the “God Game” is *The Sims*, a game in which you create individual characters and have them live out their lives under your guidance. Modding was considered from the beginning as an important feature of the game by its creator, Will Wright. “I was always impressed by the community that formed around [modding]. The mod authors not only made new stuff for the game but also new tools for content. [It's] a great example of the hardcore fans can totally surprise you with their creativity, given the chance,” said Wright.

Modding is a key part of *The Sims*. Players get to create (and to buy and sell on eBay) people, furniture, careers, etc. “It feels to me like we're moving toward a point where

game development is becoming a very collaborative process between the game developers and the players,” says Wright. “I can imagine a future where the mods created by the players are automatically sent between players by a central server that is ongoingly measuring what you enjoy in the game and what’s available.” Add “measuring what you need to learn,” to this statement and it becomes a very compelling training vision.

The training organization that currently recognizes the value of modding the most are found in the US military, and particularly the US Marine Corps. The military, with a training mission that is life-and-death, tends to be quietly way ahead the corporate world in its use of new techniques, and not only because they have money to spend. The Marine Corps, which was perhaps the first group to mod for training with its now-obsolete *Marine Doom*, currently has two training mods which it uses officially: *Close Combat Marines*, a mod of Atomica’s *Close Combat* games and *VBS1* (*VBS stands for virtual battle system*), a mod of Bohemia Interactive’s *Operation Flashpoint*. Before you jump to the conclusion that these are all about learning to shoot people, the principal skills that these mods are used to teach are cognitive, not physical, particularly working together well in small groups. The games are used at Marine training sites around the world, and the US military is quite positive about the mods’ ability to enhance collaborative skills. “What we are doing with these games is going beyond traditional advanced distributed learning and we are creating a world classroom,” says Dr. Michael Macedonia, chief scientist of the US Army’s Program Executive Office for Simulation, Training and Instrumentation in Orlando.

So can corporate trainers become Mod-makers? Certainly in terms of ideas they can. Do you want to simulate your company headquarters? Think about modifying a first person engine. Do you want to reproduce your own top management? Think about modifying a strategy game. Do you want to reproduce your own department? Think about modifying the Sims characters to resemble your actual people, its environment to resemble the office, and create some illustrative situations to play out or post as movies. (Note: Non-interactive “movies” made with modding tools are known as “Machinima” and could have good applicability for presenting training concepts in an interesting way. See www.machinima.com .)

Obviously, actually using modding tools such as world builders, texture mappers and scripting languages may present a problem for “Digital Immigrant” trainers who know little about either games or programming. While such tools have become both more sophisticated and easier to use in recent years, they still require a fair amount of knowledge and work. Most trainers (as well as their favorite vendors) have no competence in this area, although more and more do!

How can the average trainer take advantage of modding? Even though there is almost no cost for the tools (they come with the games), and running a mod requires only that the \$50. original game be installed, trainers do need a staff who can actually create the software. Who could this be?

I'd suggest first that a fair number of any company's latest younger hires probably have modding skills. New employees can be surveyed for these skills, and become immediately involved in improving training as part of their company orientation. A call put out on your company intranet for people with "game modding skills" will also be likely to produce some useful candidates. These strategies may, in fact, lead you to an informal "skunk works" development group that can self-organize and produce very sophisticated results for little cost – or even for the sheer fun of doing it. I would also suggest that additional help can come from the teenage children of your company's staff, many of whom would jump at a chance to show their parent's the value of their skills. So the actual development work can be off-loaded, probably at very little cost.

And the trainer's role? To think creatively about which training elements and content can be delivered in the non-traditional style of games, and to work with the development team to find ways to integrate the content to be delivered with the varying styles of the games being modded. This will likely involve new ways of thinking – i.e. much less of explicitly-stated "you will learn" objectives, and much more learning by doing and performing tasks. Really creative trainers and developers will even find ways to mesh some of the standard authoring tools with the mods, blending some of the new and traditional training approaches. And once mods are created, they can be put online and shared, both within the company and outside it.

How many mods are in use today in the corporate training world? It is very hard to say, since no one keeps count, and many corporate training executive like to keep their innovations close to the vest as "strategic" (This, by the way is almost never true, and not sharing is a very counterproductive idea.) But I would guess that the number may be around a dozen. This is, however, likely to increase as (1) game players, the majority of whom are now adults, rise to positions of authority in corporate training, and (2) successes get publicized, as they have been in the military. (See http://www.mt2-kmi.com/print_article.cfm?DocID=268, and www.dodgamecommunity.com.)

For those interested in pursuing modding as a corporate training tool, here are some things you can look at and discuss with your colleagues, your younger employees (and your teenage children):

1. To see how gaming has become a language that can be used to express all sorts of ideas, including business and business-training-related themes, you can visit www.socialimpactgames.com.

2. For more information about modding, you can go to the following sites:

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- <http://www.salon.com/tech/feature/2002/04/16/modding/> (Article on Salon.com)
- <http://www.nytimes.com/2003/12/04/technology/circuits/04modd.html?ex=1072155600&en=e93e5f0d57553486&ei=5070> (Article in New York Times)
- <http://www.fileplanet.com/section.aspx?s=174&v=90004> (GameSpy)
- <http://www.cncden.com/worldbuilder> (C&C Generals)

- <http://www.planetunreal.com/hosted/mods.shtml> (Epic)
- http://dynamic2.gamespy.com/~homeworld/site/modules.php?op=modload&name=Web_Links&file=index&req=viewlink&cid=4 (Homeworld)
- <http://www.gameheaven.nl/forum/index.php?board=16>
- <http://mods.relicnews.com>
- <http://editing.dune2k.com> (Dune)

3. Among the popular games which can be modded that you can look at are:

- *Baldur's Gate*
- *Black and White*
- *Civilization*
- *Command & Conquer, Generals*
- *Deus Ex*
- *Dune*
- *Halo*
- *Neverwinter Nights*
- *Pirates of the Caribbean*
- *Quake*
- *Rise of Nations*
- *Roller Coaster Tycoon*
- *The Sims*
- *Star Trek*
- *Star Wars*
- *Unreal Tournament*

So when should you consider adding mods to *your* training arsenal, and mod-making to your list of training competencies? Here are a few situations in which modding may be a useful tool to investigate:

- When you need to train a large number of younger, “digital native” workers, who “ho-hum” most traditional online training. Modding provides the ability to reach in their own language, rather than yours.
- When you feel like your online training is in a rut creatively, and that the online authoring tools available only provide more of the “same-old same-old.” Modding is a new and exciting approach.
- When you are considering expanding your training into areas such as communication, behavior, and teamwork. These are areas that the traditional authoring tools address not at all or only peripherally, but that games are very good at. Modding can provide a useful approach here.
- And finally, when you are interested in showcasing your and your company’s creative training capabilities. A good training mod will, without doubt, bring national attention to you and your company. In fact, when you create one, write me at marc@games2train.com and I’ll see that this happens. I’m even thinking of sponsoring a contest for the best corporate training mods and machinima.

So if you decide to go the modding route, please let me know. I’ll be looking for your email!

Marc Prensky is the author of Digital Game-Based Learning (McGraw Hill, 2001.) He is founder and CEO of Games2train, a game-based learning company; founder of The Digital Multiplier, an organization dedicated to eliminating the digital divide in learning worldwide; and creator of the site www.SocialImpactGames.com. Mr. Prensky holds an MBA from Harvard and a Masters in Teaching from Yale. More of Marc’s writings can be found at www.marcprensky.com/writing/default.asp.