

Time for the Navy to Get into the Game!

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America's Army was originally a downloadable PC-based game that allowed potential recruits to experience the Army in virtual environments. It is now also being used to train real Soldiers for various duties such as operating advanced equipment like the Improved Target Acquisition System (top left) or performing Special Forces missions that require adaptive thinking and leadership.

The Army is using high-quality video games to attract recruits and train Soldiers. Why can't the Navy do the same for its Sailors?

In November 2008 the U.S. Army announced it planned to invest \$50 million over a five-year period starting in 2010 to develop video games for use in training Soldiers for combat. The announcement stated that the Army would not be competing with the commercial industry, but looking at commercially available gaming technologies that could be used for training.

This is not a new venture for the Army. The service's plan to invest in video games follows the successful development and distribution of the widely popular *America's Army*, released to the general public for free in 2002 and used in the recruiting and training of Soldiers. So where is the maritime version of *America's Army*? And why isn't the Navy embracing off-the-shelf gaming technology to train its Sailors? Before answering these questions, it is important to review the Army's endeavors in the area of video gaming and PC simulation and assess its efforts.

America's Army Marches On

America's Army is a free downloadable PC-based game that allows players to assume the role of an on-line virtual body, known as an avatar, and experience the Army in virtual environments ranging from basic training to Special Forces missions. It is an interactive game with scores of missions and scenarios that can be played in a multi-user online environment. Unlike its commercial game counterparts, *America's Army* incorporates values and consequences for the individual player in a first-person action environment. Players must follow the Rules of Engagement, adhere to the Army's seven core values, and work in a team.¹

The game was the concept of Lieutenant Colonel Casey Wardynski, director of the Office of Economic and Manpower Analysis at West Point, who was researching ways to attract computer-adept recruits. In 2002 the Army was looking to enlist almost 80,000 new recruits for an increasingly high-tech Army.² The purpose of the game was two-fold. First, as a recruiting tool it used game technology as a way to reach young adults in the environment they spend hours immersed in each week. Not a bad idea. A 2008 Pew Internet and American Life Project reported 97 percent of teens aged 12-17 play computer, Web, portable, or console games. The study also revealed that 50 percent of them played games the previous day, the majority of them play the game at least sometimes with others in the room, and 25 percent with other players over the Internet.³

The second goal for developing *America's Army* was to reduce the number of recruits who wash out during basic training by providing more information up-front to prospective Soldiers.⁴ The game features a module that walks recruits through many of the elements of basic training courses. When I went through the course in the *America's Army* program, I was able to interact with diverse Soldiers working as a team and gain accurate information about what basic training would be like as an Army recruit. The interactive game knowledge is supplemented with links to well-designed Army Web sites.

There has been a tertiary purpose as well: as a public affairs tool it allows the general public to tap into Army life, and it provides a conduit for the Army to tell its story through postings on the game's Web site and links to Army sites. For example, some scripted avatars in the game are based on real Soldiers, and players can learn more about the jobs and heroics of actual individuals.

At the time the game was released it was estimated that the break-even point for the return on the \$7.6 million initial investment and annual recurring cost of \$4 million would be 300-400 recruits per year.⁵ If there is any doubt as to the impact on recruiting and public relations one only has to visit the *America's Army* Web site (I encourage every officer from ensign to admiral to do so). In November 2008 there were 9.5 million registered players, 5 million of whom had completed basic training. There were over 5,300 new users that month. Downloaded more than 16 million times, the game has been played by 20 percent of entering cadets at West Point, and between 20 and 40 percent of new Army recruits.⁶

How the Navy Can Play

More than ever it is imperative for the Navy to adapt gaming technology for both recruiting and training. America's younger generations learn and communicate differently from their predecessors. While *America's Army* is a success story, the Navy's venture into this technology forum has not met with the same acclaim. In 2005 the Navy Recruiting Command released *Navy Training Exercise (NTE): Strike and Retrieve*. The accompanying public affairs announcement billed the game as a way to "build interest and awareness of Navy high-tech jobs."⁷ While at first it appeared that *America's Army* could have some competition brewing in the area of interactive recruitment, the results have not even been close.

Almost no follow-on articles about the Navy game have been published, and it has not enjoyed the same hype *America's Army* has in the world of PC gaming. *America's Army* has been recognized by the gaming industry as one of the top action games, ranking ninth among the top ten games, and has received more than two dozen awards from the PC industry since its inception, competing with popular games such as *Medal of Honor*. *Strike and Retrieve* has received no such accolades. *NTE* Web statistics pale in comparison with *America's Army*. *Strike and Retrieve* has been downloaded only a fraction of the millions of times *America's Army* has been downloaded. And, while a quick Web search for news articles about *America's Army* yielded over 130 results, only a few news articles could be found for *Strike and Retrieve*.

The main problem with *Strike and Retrieve* is that it is a sci-fi game involving futuristic missions that feature friendly and opposition deep submersibles (Nmechs and Omechs), "Tubefish," "Fissure Balloons," and other assorted predators and prey. The Web site for *Strike and Retrieve* looks more like an advertisement for the 1960s "Voyage to the Bottom of the Sea" television series

than for the U.S. Navy. The game is "geekish" at best and it provides no insight into Navy life or the challenging careers and opportunities different rates have to offer.

Imagine an interactive *America's Navy* that allowed prospective recruits and the American public to go through Recruit Training at Great Lakes and virtually experience events that are part the "final battle problem" on the recruit simulation training ship USS *Thayer* in Battle Stations 21. Player avatars could stand watch, fight fires, help save the ship from sinking, rescue a man overboard, or carry a shipmate to sickbay after a missile strike. Once players completed the virtual recruit training, other scenarios and missions could open up, including live firing of ship weapons to counter piracy attempts; boarding a merchant ship as part of a visit, board, search, and seizure team; working on the deck of an aircraft carrier as a spotter; sitting at the helm and planes on a fast-attack submarine; driving and navigating a surface ship; and flying a plane or helo off the deck of a carrier. The scenarios are endless. The good news is that numerous video games and professional training programs provide this type of PC-based simulation; they just are not in a single package and tied to Navy recruiting efforts like *America's Army* is tied to the Army's.

The Training Game

The Navy's use of commercial gaming and simulation technology should not stop at recruiting. Although *America's Army* started as a recruiting initiative, today it is being used to train real Soldiers. Dozens of simulations enable troops to train on Humvee gun and missile systems; nuclear, biological, and chemical reconnaissance vehicles; and explosive ordnance disposal robots.⁸ This allows Soldiers to train on sophisticated and often scarce equipment to build and maintain proficiency.

Certainly this concept could be applied to a multitude of Navy systems, ranging from basic damage-control equipment to shipboard engineering and combat systems either in a multiplayer or individual game role. Since the U.S. government owns the *America's Army* program, it could develop new modules, and existing ones can be re-tailored for other scenarios and uses. For example, many of the small-arms or first-aid modules could be changed to have the avatars in the Navy Working Uniform instead of Army BDUs. Teaching and links could be incorporated that take players to the stories of actual Sailors.

The Army is not the only organization to have success with video-gaming technology for training. PC-based simulations are being used for procedural training for emergency services, security, railways, industry, maritime companies, and even some foreign navies. A Netherlands-based company, VSTEP, has developed a PC-based virtual fire-fighting simulation for the Royal Dutch Navy's Multipurpose Frigate. Within the three-dimensional game, numerous damage-control incidents can be simulated. The target audience is the duty engineer or the scene leader. The trainee avatar moves through the ship and takes required actions by clicking a computer mouse. The program even incorporates damage-control plates and checklists that the avatar uses to direct repair-party avatars.

PC-based simulators are not a replacement for actual drills and exercises or expensive land-based simulators such as those for fire fighting, damage control, seamanship and navigation. Nor are they intended to replace current embedded on-board training systems (like those associated with combat and engineering systems). They do, however, provide several distinct advantages for training.

First, they make more effective use of costly simulator time by ensuring students have the basics before using the simulator. PC-based games use scenarios to build competency and leadership skills, thereby improving the effectiveness of drills and exercises conducted in simulators or on board a ship. Second, they have the advantage of providing realistic training for specific equipment, consoles, and platforms. They provide an opportunity to refresh skills on a periodic basis, especially when the land-based simulators are not available or it is not possible to bring up shipboard systems or take systems off-line for dedicated training (e.g. shipyard or underway operations). Last, they provide a learning platform that is more appealing to the majority of younger generations than other forms of media. They offer an additional forum for Sailors to learn and increase their professional expertise while having fun. Furthermore, with the proliferation of personal laptop computers, they permit Sailors in cases where the material is unclassified to learn at their own pace outside the life-lines of command.

A Tailored Approach

It is important that as PC-based simulations are developed they are coupled with learning systems that track individual training, progress, and periodicity (the dates specific training modules were completed and when they should be accomplished again) and are able to tailor training to individual needs. Thus, training scenarios can be target areas where knowledge has atrophied instead of areas where the knowledge has been demonstrated on almost a daily basis.

For example, a quick scenario test in a navigation and seamanship video game might reveal that an officer of the deck's knowledge of wind and closest point of approach (CPA) problems (things done routinely while under way) is strong, while intercept and maneuvering to a screen station are relatively weak. Subsequent scenario events would concentrate on intercept and screening problems instead of wind and CPA problems. A repair party member who has not reviewed how to light-off or use a particular piece of damage-control equipment in some period of time would have to demonstrate with his avatar the correct sequence for starting a piece of equipment and use it in a scenario.

Training modules and scenarios could be played or downloaded from Navy Knowledge Online (NKO), or installed via CDs and completed training certificates uploaded back to NKO or a local electronic training jacket. This concept is in keeping with the Navy's Revolution in Training which places greater emphasis on Sailors using an integrated learning environment to train, assess, and monitor the status of actual tasks they are required to perform in addition to evaluating what they know.

While some commands have attempted to use existing maritime PC-based commercial video games such as Sonalysts' *Dangerous Waters* and *Fleet Command* and VSTEP's *Ship Simulator* for training, this has for the most part been a stove-pipe approach. Efforts are abandoned over time because of the lack of well-defined requirements, resources to modify these commercial games to better address training objectives, and time required to incorporate the games into existing courses. These initiatives are a start, and training and research organizations should continue to explore how they can innovatively use existing PC-based commercial video games. But it would be much more beneficial to have a coordinated approach similar to the concept for *America's Army*.

Catching Up with the Army

The Navy has the framework for an enterprise approach to adopting video-game technology for recruiting and training. In 1995 the Navy Modeling & Simulation Office was established to serve as the Navy's single point of contact on all Navy modeling and simulation matters, and for coordination with the modeling and simulation organizations of the other services, DOD, and the Joint Staff. It also is responsible for providing leadership and guidance for modeling policy, strategy, investment, and practices.

The Naval Aviation Warfare Center Training Systems Division (NAWCTSD) is the Navy's principal research, development, testing and evaluation, acquisition, and product support for training systems. NAWCTSD is also one of the cornerstones of the National Center for Simulation, which was formed in 1993 to link the defense industry, government agencies and departments, and academia in the area of simulation, training, and modeling..In June 2008 the Chief of Naval Personnel, Vice Admiral Mark E. Ferguson III, announced the establishment of an N7 directorate at the Naval Education and Training Command (NETC) to "create a single learning and development organization" and to "improve the quality and effectiveness of Navy training."⁹ NETC is responsible for all enlisted and officer accession training with the exception of the Naval Academy.

So, although the framework exists, little fruit has been borne to date when it comes to a corporate PC video simulation for Navy recruiting and training that enjoys the success akin to that of *America's Army*. Whichever entity assumes the task of integrating commercial video gaming and simulation technology into recruiting and training, the Navy should cash in on the Army's experience and success. Toward this end the Navy should look at either using the Naval Postgraduate School, as the Army did for its initial development of *America's Army*, or consider a partnership through NAWCTSD with the Software Engineering Directorate and the Army's Aviation and Missile Research Development Engineering Center in Huntsville, Alabama. As of 2005, the center manages the commercial game development process and uses the *America's Army* game platform to create government training simulations. While the Navy needs to ensure requirements are well defined, money is wisely spent, and there is "return on investment," it also needs to move this initiative along. It took the Army less than two years to roll out its first version of *America's Army*. Surely a service that prides itself on being technology savvy can get into the game relatively quickly.

1. Carrie McLeroy, "Improving America's Army," *Soldiers Magazine* (2008-09), pp. 7-15.

2. Brian Kennedy, "Uncle Sam Wants You (To Play This Game)," *New York Times*, 11 July 2002.

3. Amanda Lenhart, et al., "Teens, Video Games, and Civics" Pew Internet & American Life Project, 16 September 2008.

4. Kennedy.

5. Ibid.

6. David Verklin and Bernice Kanner, "Games People Play." MediaPost Publications, 7 August 2007.

7. "Strike and Retrieve," Navy Recruiting Command Press Release, 20 June 2005.

8. McLeroy.

9. CNO Washington DC NAVADMIN 173/08.