

The MOVES Institute's America's Army Operations Game

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Abstract: America's Army

If you go strictly by the number of young adults playing it at all hours, it's a success. But how does *America's Army*, the US Army's free PC game strategic communications tool, fare in the real world of costs and benefits? The answer is gratifying and the quality is award winning.

Keywords: videogames, networked virtual environments, defense/entertainment collaboration

The game

America's Army's roots go back to 1997, when the National Research Council issued a report specifying a joint research agenda for defense and entertainment modeling and simulation [Zyda/Sheehan]. The MOVES Institute responded by realigning its research directions with the NRC's agenda.

The idea for *America's Army* originated in a discussion between MOVES directors and the US Army's Office of Economic and Manpower Assessment (OEMA). The army was concerned with falling recruitment and the need to attract digitally-sophisticated teens to today's cutting-edge army. Recruiters had noted that the dwindling availability of veterans with whom kids could talk about army life meant that a possible military career entered into few calculations. OEMA and MOVES posited that PC games might effectively attract computer-savvy teens and also convey to the uninitiated what an army career entails. Piggybacking the armed-services message onto popular entertainment was pioneered years ago in movie newsreels, radio, and TV ads. Might today's gaming technology provide an effective vehicle for the army's strategic communication? The only way to know was to try.



Marksmanship training, Ft. Benning, Georgia rifle range

The MOVES Institute's proposed project, *America's Army: Operations* was designed as a fully 3D, accurate, gaming environment well beyond any product on the market, with technological efforts vastly more complex than previous attempts. Funding was received in May 2000, and the game was built secretly for two years, until results had been obtained, approvals secured from the army, and the unveiling was made at the bellwether of

gaming conventions, Electronics Entertainment Expo, in May 2002. *Operations* garnered critical praise and industry awards out the gate, and has since won an enormous following.

What's it like?

Operations is a first-person mission experience. But the temperament of play contrasts markedly with the hormone-frenzied nuke-'ems on the shelf. The game opens with a new recruit ready to train. He embarks on basic rifle marksmanship and combat training at Fort Benning, Georgia, where, as in the army, his scores determine advancement in firearms.

Weaponry is represented precisely; for example, rifles are loaded and cleared correctly, the load is finite, and breathing affects accuracy. The army worked shoulder-to-shoulder with *Operations'* artists, engineers, and designers to provide guidance and detail, resulting in excellent verisimilitude. Fort Benning, Georgia, for example, is clearly to be recognized, its obstacle course timed and sequenced as in reality. The game's audio vastly increases the quality of immersion through minute attention to sound effects, weapons Foley, and ambiances. The *Operations* game is the first game ever shipped with Dolby 5.1 sound.

On completion of training, the player joins other gamers for networked mission play in a variety of combat settings. In *Operations*, no one ever plays a villain fighting the USA. Both teams see themselves as part of the US Army and perceive the other team as the opposition. Players abide by the rules of warfare, including the uniform code of military justice, rules of engagement, and laws of land warfare. Reprisal for violation is instant, starting with a cell at Fort Leavenworth and ending (potentially) with expulsion from the game.

Privacy note: If a player requests information about an army career, a dialog asks whether his scores may be sent to a recruiter. But no cookies are set in the game and no information gathered or shared without express permission.

Spoils of War

Besides adrenalinated reviews and features, *America's Army: Operations* continues to collect trophies, including Action Vault's *Debut Game of the Year*, *Surprise of the Year*, and honorable-mention *Multiplayer Game of the Year*; Frictionless Insight's *Best Business Model* (developer) E3; IGN Editors' *Choice Award* for first-person shooters; IGN's *Biggest Surprise of E3*; Gamespy's *Best PC Action Game* runner-up; Penny Arcade's *Best Misappropriation of Taxpayer Dollars Ever*; Wargamers *Best of Show*, first-person/tactical shooters; Well-Rounded Entertainment's *Best of E3 2002*, and Computer Gaming World's *Editors' Choice*.

How big is it?

Figures change daily, but as of January 13, 2003 (six months post-release), the following apply:

Registered users: 1.3M+
Players completing basic training: 800K+
Missions played since 4 July 02: 62M+

Average missions played weekdays: 500K
Average missions played weekends: 600K
Hours of play since 4 July 02: 5.8M+



Operations desert mission

The real cost

To understand the dividends of *America's Army*, a look at traditional recruiting is in order. The army spends \$2B (two billion) per year to attract and enlist 120,000 recruits (80,000 army, 40,000 national guard). That's \$16,666 per soldier.

Twenty percent (or 24,000) of these recruits drop out during basic combat training with the excuse that the army was not what they expected and combat training was not for them. With them goes \$400M in wasted recruiting expenditure. In addition, the army has spent \$75K each for training; thus, the army's loss per annum from this drop-out group is \$2.2 billion.

America's Army cost \$7M to build, a tag equivalent to that of 420 recruits who wash out (if we count recruiting costs alone). If the game encourages only 120 potential waverers to stick with it, it's broken even, counting recruiting and training costs. And of course, if it attracts those who would not otherwise have considered an army career, it's worth \$92K apiece.

In promotion, production and distribution, typically sizable sums in publication of any kind, the army has managed a free ride by authorizing gaming magazines to burn CDs for inclusion in issues, a cost avoidance to the government of \$2.24M. The manufacturer of a popular graphics card has bundled the game with its product, and an independent publisher stepped up to produce a guidebook. In addition, the free availability of the game over the Web has saved the army \$7M in CDs.

The army estimates *America's Army* is conserving some \$700M-\$4B per year. With respect to recruitment, actual results won't be known for four or five years, when the current raft of thirteen- and fourteen-year olds will be old enough to join. The hope is that through realistic role playing and exploration of a soldier's job, the important work of the military will be among the options that compatible young men and women will consider when planning a career.

Down the road

Having a successful online game inside the MOVES Institute is like having your own particle accelerator. Lots of proposed applications and interesting research are coming in the door.

Many related training applications using the *America's Army* code base as a starting point are being considered. We have funding from one project that's using *Operations* for treaty verification pre-planning, and an air force group is looking at funding a training level within the game that will deal with force protection.

Infantry soldiers at Fort Benning are using *Operations* before setting foot on the real range. Also, the army's Objective Force is looking at integrating prototypes of their new weapons systems into *Operations* to evaluate their potential utility.

One extraordinary possibility, raised by the undersecretary of defense's office, is massively multiplayer (MMP) gaming, and the *America's Army* project is being looked at both as a model of how such an effort could be carried out within government and as possible starting point for an MMP project. The work involved might include the procurement (or development) of a government-owned game engine capable of full-spectrum combat modeling and large-scale inter-operability integration, as well as a programming interface for modeling human and organizational behaviors and stories. An additional goal would be rapid prototyping interface to the MMP that would allow any mission to be put together nearly overnight.

Reference and Reading

[Zyda/Sheehan] M. Zyda and J. Sheehan, eds., *Modeling and Simulation: Linking Entertainment and Defense*, National Research Council, Computer Science and Telecommunications Board report, 1997.

Links concerning the America's Army project and the MOVES Institute: www.movesinstitute.org/aapres.html

Information on the development of the game: Zyda et al., "The MOVES Institute's Army Game Project: Entertainment R&D for Defense," *IEEE Computer Graphics and Applications*, January/February 2003. Also linked at www.movesinstitute.org/publications

The US Army's *America's Army* site: www.americasarmy.com

