

Game Studio Helps Keep Army Outreach, Education High-Tech

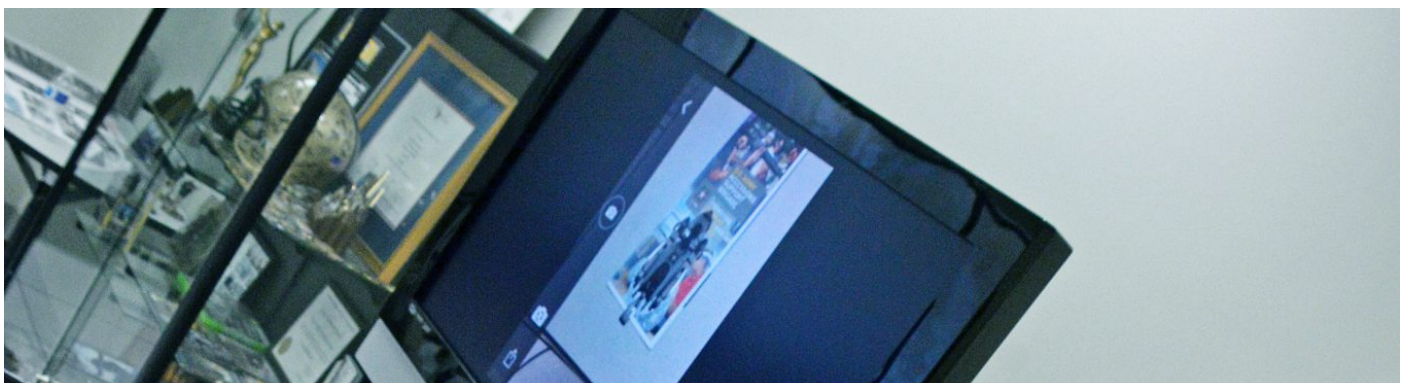
By Clifford Kyle Jones, NCO Journal

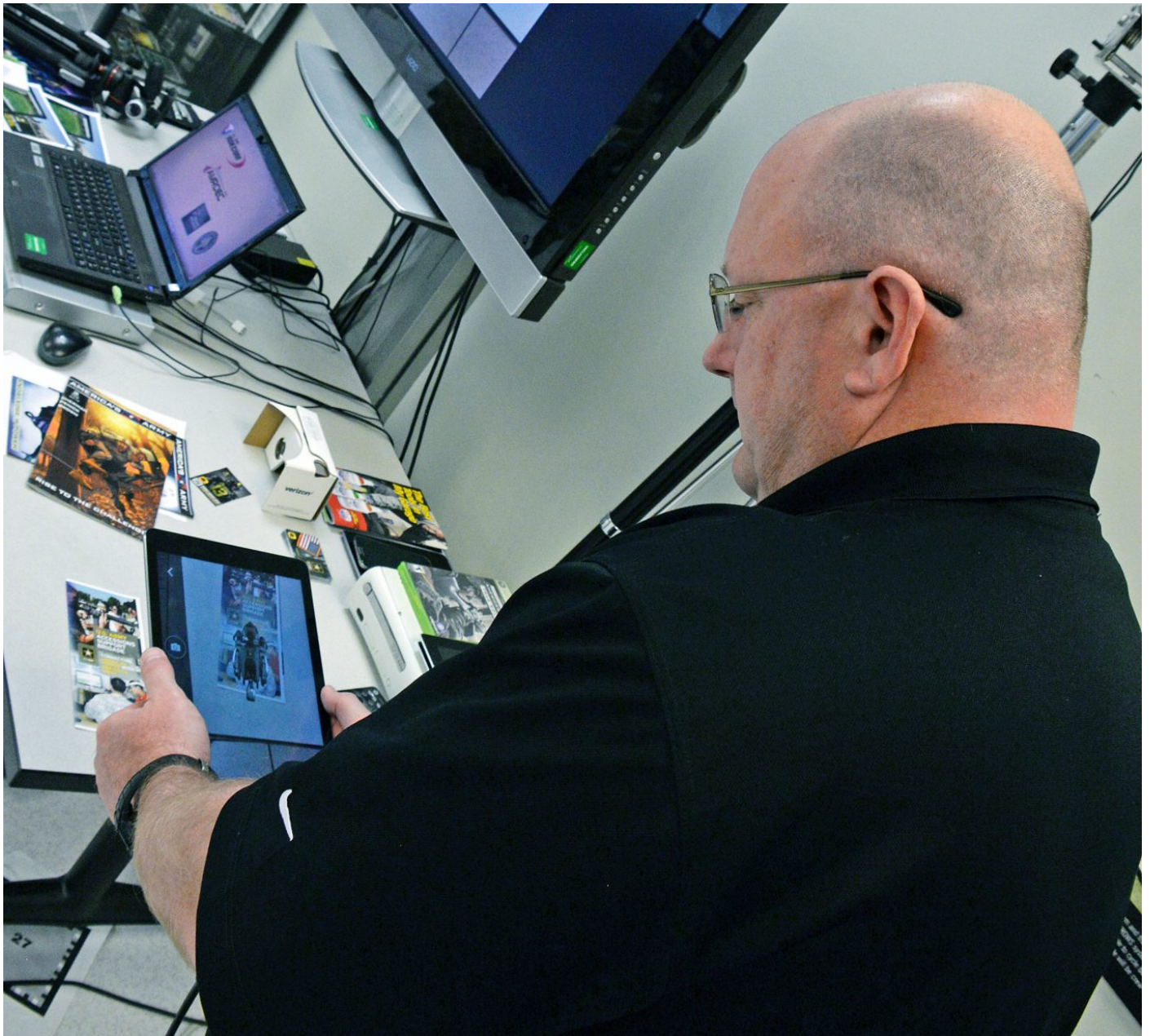
January 12, 2017



The "America's Army" video game is one of the Army Game Studio's most popular products. (Courtesy of Army Game Studio)

America's Army is a high-tech organization. "America's Army," (<https://www.americasarmy.com/>)the video game, is testament to this fact. The Army Game Studio at Redstone Arsenal, Alabama, continually works to develop and enhance its educational, outreach and training tools, including the popular combat simulator game for computer platforms that first launched in 2002. The studio may be best known for the free game, but it has developed a wide range of tools to help deliver the Army's message and help Soldiers achieve their missions. "America's Army" is regularly updated with new missions and maps and has been wildly popular with gamers since its launch. During loading screens, it plays Army marketing videos, and the studio reports that 2 million views of those messages are seen each month. "That's more than we can find anywhere else" in the Army, said Marsha Berry, the Army Game Studio's software manager. "'America's Army' is really helping to share the Army's message through those videos and through just playing the game and learning about Army values, rules of engagement, Army technology."





Jeff Sallas, software engineer test lead and support, demonstrates augmented reality technology at the Army Game Studio at Redstone Arsenal, Alabama. Augmented reality places images and effects on physical items such as brochures when they are viewed through an application. [Photo by Clifford Kyle Jones / NCO Journal]





In the latest version, called "Proving Grounds," players take on the role of an 11B infantryman in a long-range combined-arms reconnaissance unit that embarks on special operations missions behind enemy lines. Players can engage in small unit tactical maneuvers and training that echoes true-to-life Army scenarios.

Real-world simulations are a staple of many of the Army Game Studios products. In the center of the studio at Redstone Arsenal, a full-scale, fully "armed" HMMWV simulator sits on a moving platform in front of 180 degrees of large screens that allow visitors and programmers to "travel" through various scenarios and missions. The high-tech console is an outgrowth of "America's Army," and it shows off the studio's programming skills and training capabilities.

"The point of this lab is to highlight our capabilities, to show some of our products, so that when customers come through, they can see the technology, get hands on with the technology," Berry said. "And maybe it will help them come up with a solution for what they're looking for."

The Army Game Studio's customers are representatives from the Army. Berry says the Army and Congress are very careful how they spend taxpayer money and want to ensure that any investment in technology provides a significant return on the investment. The Army has funded training projects to help keep Soldiers safe, such as several full-size MRAP simulators that give Soldiers experience maneuvering the top-heavy vehicles to avoid real-world crashes and rollovers.

The simulator, called the Transportable, Reconfigurable Integrated Crew Trainer, or TRICT, "is a really good example of all of our different capabilities merged into one product," said Frank Blackwell, director of the Army Game Studio.

Originally requested by Special Operations Command, the devices required work from both the hardware and the software development teams. The Army had training devices, "like a skeleton" of the vehicle, that helped train Soldiers how to get out of a vehicle after a rollover, Blackwell said.

"It's valuable training, but it wasn't exactly like the vehicles they were using," he said. "SOCOM wanted a more accurate representation of the exact vehicle."

The studio modeled two versions of the MRAP, the RG33 and the M-ATV, set them on a motion platform, and simulated several large environments using the gaming engine from "America's Army," including settings in Afghanistan and Iraq.

"Soldiers could actually drive around in those areas," Blackwell said, "training virtually in a real place."

The windows in the TRICTs are LCD screens, so Soldiers are completely immersed during the training.

"Through the windshield, you're actually driving through the game," he said. "Then all the bumps and going up hills and everything translates to the motion platform."

The scenario is controlled at an instructor station, and the scenarios change each time.

"Instead of just a weapon trainer sitting by itself, a trainer that just teaches you egress, a trainer that only teaches you [Blue Force Tracking], it integrates all those trainings into one scenario," Berry said. "It makes it more immersive. It makes it more realistic. It makes it more efficient."

Building on previous successes and technology is a key component of the lab's work.

"That's one of the things that we do really well at Army Game Studio," Berry said. "Everything we develop goes into a depository that we can reuse and repurpose, so it makes development quicker, easier and cheaper for the customer, because once we develop it once, it's in our library and we can just grab it and use it in other applications."

That iterative improvement and development is a thread that runs throughout the lab's products. One of its first projects was the Javelin Basic Skills Trainer, which was developed almost 20 years ago. The software used in that product engendered one of the studio's latest applications, "Go Army Edge Football," which helps coaches and players at all levels with training and play development.

"A component of the Javelin Basic Skills Trainer is you would create exercises — there may be 100 or more different exercises," Blackwell said. "An exercise is a terrain, so a part of the world, and there would be target paths and different types of target paths. So part of that software that we built into it was an exercise editor. Not only would we field it with a set, but wherever it was deployed, they could even

create their own exercises. You could have a pretty much unlimited set of exercises you could train against.”

That software, Blackwell realized, could be applied to sports training, allowing coaches to set up formations themselves to incorporate into their training. The Javelin training included enemies, which had parallels to on-the-field opponents.

The “Go Army Edge Football” application has only been in widespread use a relatively short time, but it has already had a large impact on outreach and recruiting and has generated related products involving soccer, and even marching bands.

Like many of the studio’s latest projects, it also has a virtual reality component, so formations and scenarios can be seen in 3D through an Oculus Rift or other virtual reality device. The Army Game Studio is working on other ways to use virtual reality to enhance training and what’s known as augmented reality to boost outreach efforts.

Augmented reality uses technology to enhance or supplement information in the physical environment. For instance, a recruiting brochure aimed at science, technology, engineering and math (STEM) students includes a popup robot when viewed through a mobile phone.

“Right now we’re focused on video games and informational apps, but we’re starting to get a little more into the educational communities and STEM applications,” Berry said. “We’re always looking for ideas about how we can do that to benefit the Army.”

The Army Game Studio has the capacity, but Soldiers’ ideas are always welcome, she said. The studio can be contacted directly, or Soldiers can work through their commands to present ideas.

“Our customer is always looking for really great ideas,” Berry said. And it’s the Soldiers and the Army who benefit.