

UNITED STATES ARMY CUTS COURSEWARE DEVELOPMENT COSTS BY 60% AND ONGOING COURSEWARE MAINTENANCE COSTS BY 80%

BACKGROUND

The United States Army maintains the largest fleet of vehicles in the world and can be considered both the premier trainer of maintenance personnel worldwide and a leading adopter of emerging training technologies. In order to maintain operational readiness and ensure mission success the Army must respond quickly to meet new and changing training demands from the field.

CHALLENGE

A U.S. Army school, responsible for training 1,200 technicians a year, was facing both a financial and a training challenge with one of its classes. The school's brakes simulator – a hard trainer that consisted of a “brakes board” connected to a computer showing videos – was antiquated and in a state of disrepair, with 8 of the 16 systems out-of-service at any given time. According to government estimates, replacement of the brakes simulator would cost \$1.3 Million, plus an additional \$80,000 per year to maintain.

Additionally, because fifty percent of the simulators were out of service, students had to work on the simulators in teams of 2 or 3, increasing the risk of failure for students who learned at slower paces.

The high ratio of students to instructors also presented a problem: there was a lack of instant remediation or assistance when students made mistakes or questions arose.

SOLUTION

Instead of replacing the costly and ineffective brakes board simulator, the Army evaluated emerging technologies for alternative solutions, ultimately selecting NGRAIN's solution for maintenance training, which enables the rapid development and delivery of 3D virtual equipment.

“The NGRAIN 3D brakes simulations provide a learning experience that is superior to the old brake simulators,” said Ms. Nancy Santiago, M. Ed., Instructional Analysis & Design Branch Leader, Lifelong Learning Center, U.S. Army. “Students can freely explore the brakes at their own pace, as well as watch procedures,

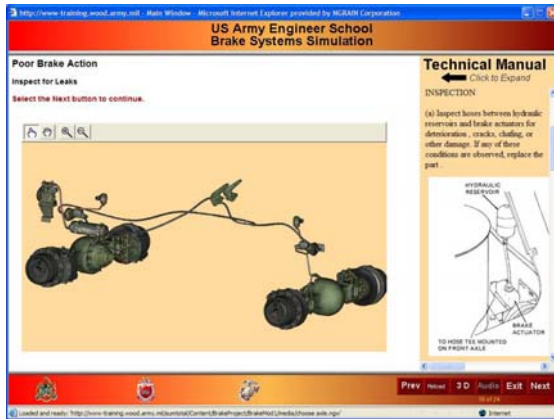
perform maintenance tasks, and receive instant feedback when they make mistakes.”

“NGRAIN offers a new way to reduce training costs, while also accelerating maintenance training. NGRAIN 3D virtual equipment enables task-based training to be rapidly produced and delivered in response to mission needs.”

- Mr. Larry Helms, Director, Lifelong Learning Center, U.S. Army



Aging simulators would have cost \$1.3 Million to replace



NGRAIN 3D Knowledge Objects enable training anytime, anywhere, at a fraction of the cost of traditional simulators

IMPLEMENTATION

NGRAIN quickly created highly accurate and detailed 3D models of three types of brake systems. Army Instructional Designers and Course Instructors then used NGRAIN software to enrich the 3D models with animations, hyperlinks to reference materials, assembly and disassembly tasks, and parts information. The resulting 3D training aids were inserted into PowerPoint slides, as well as a computer-based course, which was developed by Army staff.

“The NGRAIN software was extremely easy to learn and use, and to incorporate into lessons. With the software, I can quickly create procedural animations and specify critical tasks. Using the NGRAIN 3D Brakes in the classroom is a powerful instructional aid,” said SSG Sean Cooley, 577th Engineer Battalion, U.S. Army.



NGRAIN 3D Knowledge Objects are powerful instructional aids

RESULTS

The Army was able to replace the brakes board simulators with NGRAIN's interactive 3D training aid solution at a 60% cost savings. Replacing the brakes simulators would have cost US\$1.3 Million, plus \$80,000 in annual maintenance. Instead, implementing courseware with NGRAIN-based interactive 3D Knowledge Objects saved the Army an estimated US\$800,000.

The complete project, including NGRAIN deliverables included:

- Disposal of the antiquated simulators
- Development of a complete computer-based course that extended beyond the 3D component
- Purchase of NGRAIN software
- Use of NGRAIN's 3D modeling services
- Outfitting the classroom with PCs

And, rather than paying \$80,000 in annual maintenance, the NGRAIN-enhanced solution will cost the school a low \$10,000 in optional software maintenance for an 80% savings per year.

In addition to delivering significant cost savings, the NGRAIN solution makes it possible for students to access virtual hands-on training anywhere, anytime, allowing them to practice procedures even outside of class hours. Students are able to learn faster as they receive real-time automated feedback on mistakes from the NGRAIN training aid. Instructors also have the option to track student performance on critical tasks, by taking advantage of the NGRAIN software's capability to report all student interactions with the virtual equipment.

Contact NGRAIN at army@ngrain.com for more information about this project.

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