

# WORLD VIZ

Santa Barbara, December 2006

## WorldViz Presents Tank Operator & Machine-Gunner Simulation

**Application:** Networked immersive interactive close quarter combat (CQC) tank operator and machine-gunner training simulation

**Equipment Used:** WorldViz PPT X4 optical precision position tracker, WorldViz Vizard 3D software toolkit, InterSense InertiaCube 2 inertial orientation tracker, NVIS nVisor SX head-mounted display, NVIS P50 passive-reflective head-mounted display.



The Interservice/Industry Training, Simulation & Education Conference 2006 (I/ITSEC), held in Orlando, Florida, promotes progressive war-fighting training equipment technology.

WorldViz, in partnership with NVIS, demonstrated a networked virtual reality solution for close quarter combat (CQC) defense training. Booth visitors were invited to experience an application allowing a tank operator and an accompanying machine-gunner to coordinate attacks on a virtual city.

The demonstration was rendered and created with the WorldViz Vizard 3D software toolkit. Vizard is a versatile virtual reality development interface

designed for building and rendering virtual worlds with minimum effort. Its high-level scripting environment enables simulation professionals to create highly interactive real-time applications with minimal scripting. Vizard natively supports most common VR peripherals, such as 3D display solutions, trackers and haptic interfaces.

In the application demonstrated at I/ITSEC, two users simultaneously collaborated within the same environment from different virtual locations and viewpoints. While the tank operator maneuvered through a high-quality graphics city environment firing the tank cannon at targets, the machine-gunner shot from atop the moving tank.

The tank operator, wearing the NVIS P50 HMD, observed the scene with a field of vision similar to the view from inside a real tank. He could maneuver the vehicle with a steering wheel, as well as aim and shoot via controls at other tanks driving around in the city streets.

Simultaneously, the machine gunner used the NVIS nVisor SX HMD for an immersed experience, or alternatively interacted with the environment via plasma screen for an impressive through-the-window effect. With two tracked PPTX X4 LED infrared targets fixed on the gun, the machine gunner experienced very precise aiming accuracy.



Robust and jitter-free optical/inertial wide-area head tracking, provided by the WorldViz PPT X4 system and the InterSense InertiaCube 2, allowed users fitted with nVisor SX HMDs to explore the virtual environment by fully immersing themselves in the simulation.