



EMPLOYING VIRTUAL REALITY SIMULATION TO TRAIN FOR PREVENTION, DETERRENCE, RESPONSE, AND RECOVERY FOR CHEM BIO EVENTS

Presented by:

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SVS is a state-of-the-art, turn-key, high-fidelity, Individual Combatant (IC) virtual simulation system. Featuring real-time 3D graphics, directional audio portals and a unique user interface into the virtual battlefield, SVS enables you to realistically insert a human-in-the-loop IC into a networked simulation.



SVS Military Background

SVS has been the Army's primary virtual reality simulation training system used for individual and team dismounted infantry training for nearly 10 years.

SVS is the only fielded solution in use at the Soldier Battle Lab (SBL). SBL is the United States Army's lead agency for IC simulation and is located at Ft. Benning, Georgia, home of USA infantry.

SVS has been selected by PEO STRI as the core simulation system for dismounted infantry training for the improved Close Combat Tactical Trainer (CCTT) Dismounted Infantry Manned Module (DIMM), which is expected to become the core of the Soldier Combined Arms Tactical Trainer (Soldier CATT).





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SVS Military Firsts

- Feb. 94: First dismounted infantry virtual simulation
- Oct. 94: First 3D audio COTS simulation solution
- Feb. 97: First HLA commercial product
- Feb. 97: First sim to port an HLA RTI to Linux
- Aug. 97: First COTS and PC-based dismounted infantry system
- Dec. 97: First HLA certified compliant simulator
- Nov. 98: First Weapons Inspection / Treaty virtual simulation
- July 99: First virtual chemical/biological simulation
- Nov. 01: First Land Warrior embedded simulation system
- May 02: First wearable interface for dismounted infantry
- Sept. 04: First demonstration of VR sim with operational troops



SVS-DI

First fielded in August 1997

Human-in-the-loop Virtual Simulator
Stand-up and Desktop Configurations
Cost Effective PC-based
DIS and HLA compatible
SEDRIS Terrain Support
Reconfigurable for DI, Treaty Inspection
and Chem/Bio Training
Fully Supported COTS Product
Land Warrior support



SVS-DI

Features:

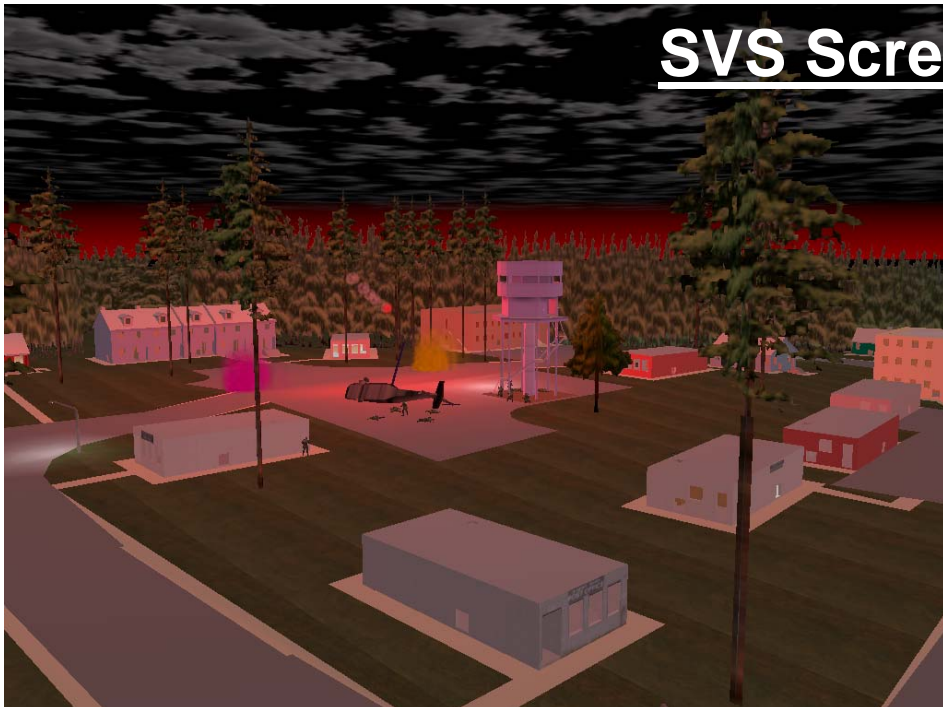
- Flares
- Tracers
- Tactical Smoke
- Flash Bang Grenades
- Multiple Weapons (7)
- Accurate Ballistics (EST)
- Flashlights
- Street and Internal Building Lights
- Dynamic Terrain

Useful for:

- ACR
- SMART
- TTP development
- Training
- Mission Rehearsal



SVS Screen Shots



VERTS Program

In 2000, Reality Response developed the Virtual Emergency Response Training System (VERTS) as a proof-of-concept for the National Guard Bureau. The purpose was to demonstrate the potential to use virtual reality simulation to train the National Guard Weapons of Mass Destruction Civil Support Teams (CSTs).



VERTS Immersive Station

The VERTS program included the development of a stand-up immersive interface to the VR simulation system.



- Human-in-the-loop moving and interacting in virtual cities
- Operating in Level A Personal Protective Equipment
- Using actual/simulated equipment
 - Analytical Detectors
 - Sampling Tools
 - ICAM
 - Multi Rae
 - M22 ACADA
 - RADIAC sets

High fidelity, low cost PC
3D computer graphics and sound

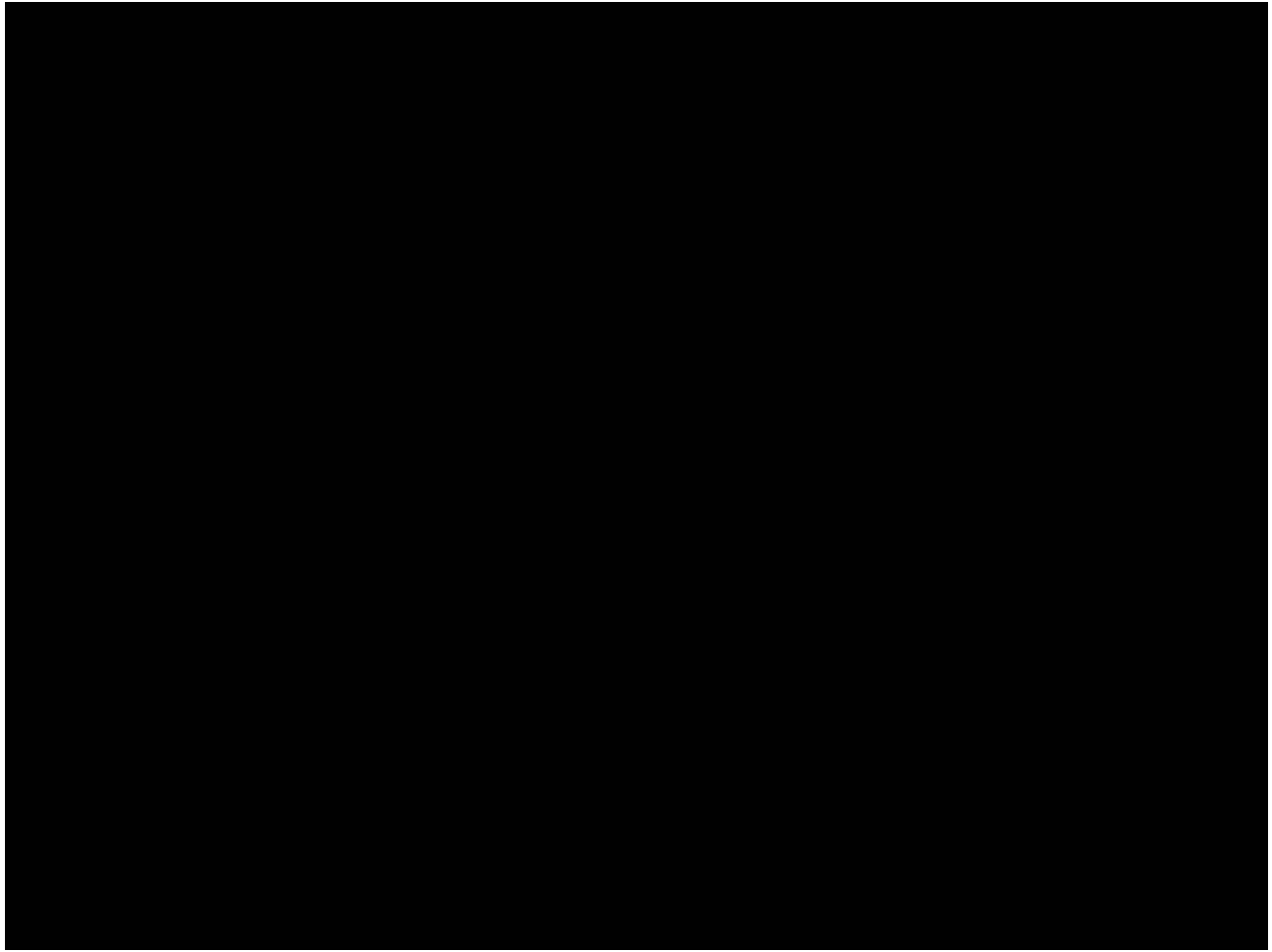


Soldier in immersive unit



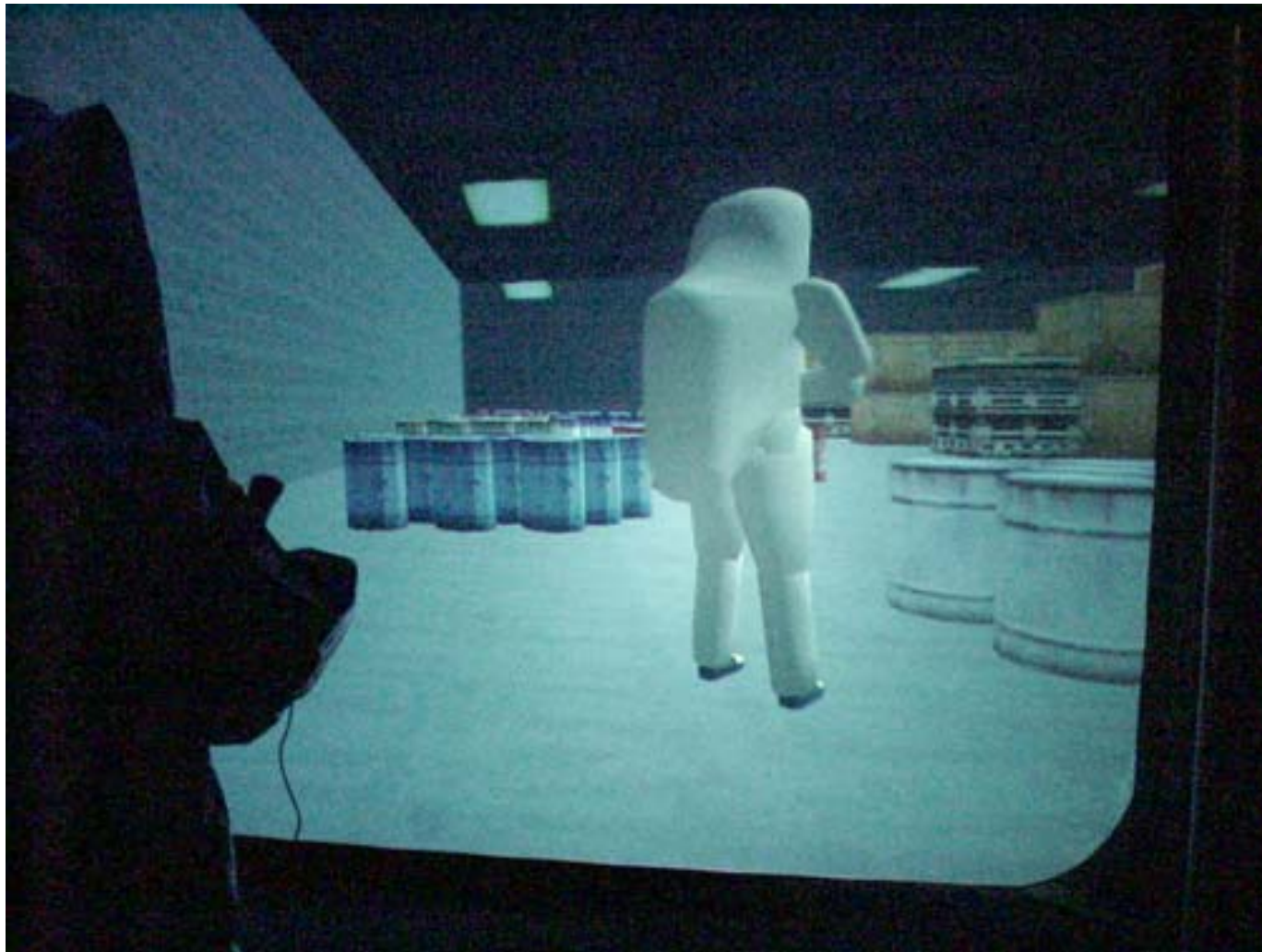
Fire team training together





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Participant (left) in immersive unit, with view of partner

Immersive Station Capabilities

- Navigate through virtual environment. In buildings, up and down stairways, into subways, etc.
- Utilize mockup sensor to detect and identify chemical (and/or biological) contaminants
- Allows trainee to wear full protective clothing
- Trainee receives simulated sensor readings on screen
- Drop flags for marking/identification
- Mark doors / walls (X for searching)
- Drop/deploy ACADA sensors
- Pick-up, carry and drop objects (briefcases, etc.)
- Open/close doors
- Record/log events for playback (AAR)



Third party/instructor view of participants



Instructor's view of scenario



Trainee's view with chemical meter

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