After Action Review

Overview:

The Dismounted Infantry Virtual After Action Review (AAR) System is being developed by the Army Research Institute for the Behavioral and Social Sciences (ARI) and the University of Central Florida Institute for Simulation and Training (IST) as part of the Virtual Environments for Dismounted Soldier Simulation Science and Technology Objective. The AAR system features are:

- "DVD-like" replay system
- Visual aspects
  - Primarily plan view display with multiple viewpoints
  - Graphics enhancements
    - Movement tracks
    - Individual soldier IDs
    - Selection of building floors for viewing
- Temporal aspects
  - Go to *<event>*
  - Variable speed play, pause, etc.
- Digital recording & synchronization of audio communications
- Tabular & graphic data presentation

Purpose:

It is designed to meet two needs. The first is to provide trainees with a common understanding of what happened during an exercise and why it happened, so that they can identify ways to improve their performance, see Figure 1. Determining what happened during an exercise is particularly difficult in a built-up environment, where buildings and other structures break up the visual field and limit the portion of the battlefield that can be observed by any one person. The second need is to facilitate data analysis, in order to support training feedback and research and development.

Advantages:

The AAR system connects to a DIS network used by individual soldier simulators, such as the Soldier Visualization Station (SVS), and Dismounted Infantry Semi-Automated Forces (DISAF), permits observation and recording of the exercise data. The initial version of the AAR system was developed to support team training research. Among the key features of the baseline system

were the use of a top-down view, digital data recording to permit immediate jumps to any point in the exercise, and the synchronized recording in digital form of the auditory communications. A number of enhancements were added to this baseline, in part to incorporate lessons learned from AAR systems for mounted soldiers, and in part to meet the additional requirements presented by dismounted MOUT operations.

Whether in the stealth (recording) or AAR (playback) mode, an enhanced top down view is the primary view and organizing structure. In the stealth mode, the operator can mark or flag events and viewpoints, fly freely through the environment, teleport to pre-selected viewpoints, zoom in and out, capture "snapshots" for later viewing, and toggle on and off information such as movement traces and individual identifiers, see Figure 2. Individual floors of multi-story buildings can be selected for viewing. In the AAR mode, the operator can do all of those things and in addition, change viewing speed and location, and jump forward or backward to flagged events or times. A variety of exercise data can be shown in either tabular or graphic form.

The AAR System uses Virtual Environment Software Sandbox (VESS), which provides libraries for development of Virtual Environments (VE). Using VESS simplified and expedited the development of the AAR system and allows the AAR system to run on various platforms and scene graph APIs.

Figure 1 - Actual AAR Session
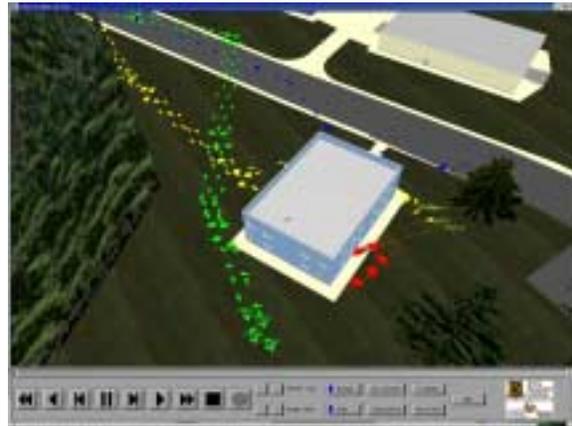Following Mission Rehearsal

Figure 2 - Movement Tracks
Individual IDs, and Firing Indicators

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