Cognition-Based Simulation Training System

Realistic Training Solutions Better Prepare Military Personnel for Combat

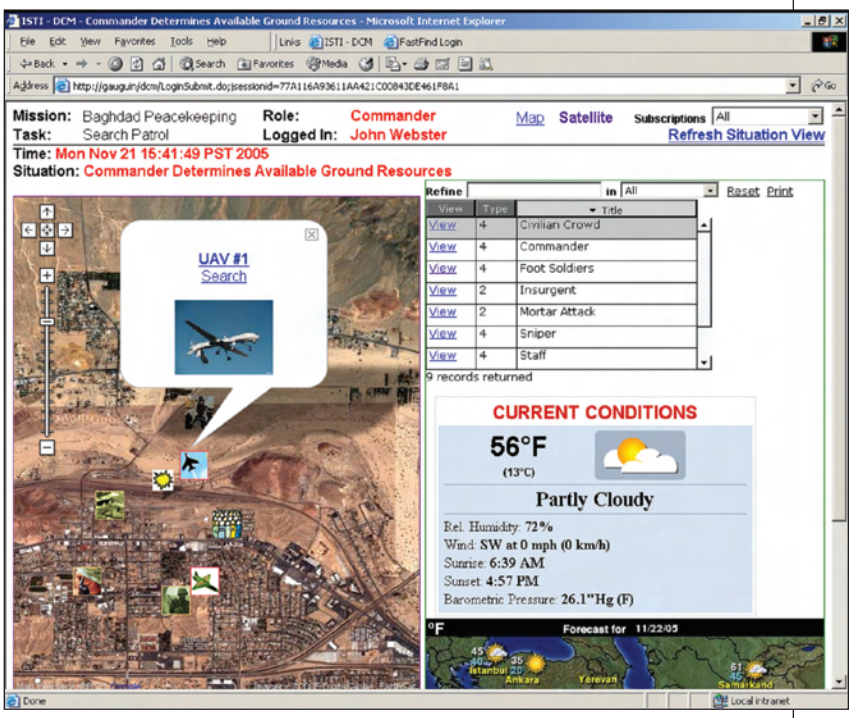
Intelligent Systems Technology Incorporated

Technology and Innovation

Training teams of warfighters is an expensive proposition, considering the costs of labor, travel, equipment, and related costs. Consequently, much training has migrated to computer modeling and simulation, which cost far less than training using real equipment in the field. Until recently, however, computer-based team training—using synthetic role players—has suffered from a distinct lack of realism, with characters appearing robotic and obviously simulated.

Under this DARPA SBIR, Intelligent Systems Technology, Inc. has made great strides in overcoming this long-standing problem by developing a next-generation unified agent architecture (NGUAA) for use in distributed simulation environments for mission rehearsal and team training. Using innovative combinations of cognitive science for realistic human behavior representation and advanced computing for team behavior evolution, the company developed a NGUAA to provide cost-effective and realistic human behavior simulation models for use in distributed simulation and game environments.

Intelligent Systems Technology serves the Department of Defense, Homeland Security, aerospace, and state organizations engaged in emergency preparedness and disaster response planning.



A set of complementary views based on contextual knowledge

Joint Collaborations

Development of the technology under this SBIR involved collaboration with a number of organizations, including George Mason University's Krasnow Institute for Advanced Study and the University of Central Florida's Institute for Simulation and Training. In addition, Intelligent Systems Technology has shared its research findings with a variety of major aerospace prime contractors with the expectation of bringing one or more on board as an SBIR Phase III commercialization partner when the technology has reached the appropriate level of maturity.

Lessons Learned

- Bid on a focused set of SBIRs that fit the company's business plan and vision of becoming a viable commercial enterprise.
- Keep open lines of communication with the sponsor, end user and collaborators.
- Persuade investors and evaluators of the company's ability to execute from a business perspective by defining and clearly communicating the technology's commercial potential and positioning, and the company's commercialization strategy.
- To get the technology into the hands of the warfighter:

  (1) Actively pursue its insertion into an acquisition program, advanced concept technology demonstration (ACTD) or advanced technology demonstration (ATD),

  (2) Secure a role as a subcontractor to primes to find a home for the technology on a nationally significant initiative, and

  (3) Work with project managers and project engineering offices to identify relevant transitions to pursue in Phase III with non-SBIR funds.

Economic Impact

Approximately 80 percent of Intelligent Systems Technology's annual revenues derive from SBIR programs, and 20 percent from commercial product and service sales. The DARPA SBIR project was instrumental in the company's ability to obtain several million dollars of funding from other sources, including additional SBIRs and non-SBIR funds from the Navy and prime contractors on Distance Support and Engineering Planning Operator's Course programs. Having this DARPA SBIR enabled the company to hire a game designer and man-machine interface expert, and added 15 percent to the company's sales growth. Intelligent Systems Technology is in the process of filing for provisional patents on technology developed under this SBIR.

About the Company

Intelligent Systems Technology, Inc.—founded in 1994—is headquartered in Santa Monica, California. The company currently employs more than 20 people.

The company is a two-time winner of the Developer of the Year Award from the Software Council of Southern California, was the recipient of the SBA's 1999 National Tibbetts Award in California for excellence in technology, research, and innovation, and was selected as one of *Computerworld* magazine's 100 Top Emerging Companies to Watch in 2000. ■

Insurgent engaged in eluding capture

Company Information

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