Virtual training allows first responders to practice real-life skills in safe environments

Realistic training scenarios arm first responders with the skills and confidence to respond effectively and efficiently during real-life incidents. While live field exercises provide hands-on training, they are often costly and time-consuming, so are offered infrequently. Virtual training modules are an ideal alternative, providing responders with the opportunity to strategize and practice responding with multiple disciplines and jurisdictions. However, the costs to develop a virtual training tool or modify an existing modeling or simulation game are prohibitive, keeping this type of training out of the reach of most of the first responder community.

S&T is piloting virtual training scenarios with first responders

To address this need, the Department of Homeland Security Science and Technology Directorate (S&T) is working to develop a virtual environment that every jurisdiction within the country can access, train within, and modify to meet their individual needs. S&T is leveraging investments and technological advances made by the military, specifically the U.S. Army’s prototype virtual environment called Enhanced Dynamic Geo-Social Environment (EDGE) Virtual Training.

S&T is using EDGE to develop a series of realistic, first responder-identified scenarios. The scenarios will have varying levels of difficulty and will require users to successfully employ tactics, techniques, and procedures to respond. S&T worked with first responders to identify critical incidents and chose an active shooter for the first scenario.

S&T worked with the U.S. Army to create a 3-D environment for the scenario, as well as accurate avatars, equipment, and simulations of individuals and crowds. S&T is currently piloting this scenario with emergency response agencies in Sacramento, California, and collecting feedback to further refine the scenario. Eventually, S&T plans to incorporate this scenario, as well as others, into a customizable, multi-player online game that is interoperable with multiple user interfaces (e.g., joy stick, keyboard, gaming console).

Following success with the scenarios, S&T plans to build a virtual training platform

This Virtual Training platform will be:

- **Scalable**: Users will be able to train individually for single agency incidents, as well as with responders from other agencies, disciplines, and jurisdictions to prepare for a coordinated incident response.
- **Comprehensive**: Responders will have access to a repository of pre-designed, commonplace scenarios.
- **Cost-effective**: Virtual training will be offered free to any response agency. While it cannot replace the interaction involved in live training, it will significantly reduce costs by providing a comparable tool.
- **Efficient**: Training simulations will allow a large number of responders to train repeatedly, both as individuals and in teams, and simultaneously.
- **Tailored**: With programming assistance, response agencies will be able to customize the open source platform, creating geo-specific 3-D environments that accurately depict the infrastructure and resources available in their own jurisdictions.

The platform will be designed so that any responder with access to a computer and the Internet can use the platform for free.

To learn more about S&T’s Virtual Training Simulation Tool for First Responders, contact SandTFRG@dhs.gov.