

Muscatatuck Urban Training Center

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Project Scope: Many emergency response units are currently faced with restrictive budgets which prohibit their use of technology both in training and in real-time situations. Our work focuses on creating an affordable, mobile, state-of-the-art emergency response test bed through the integration of low-cost, commercially available products.

Recent Progress: We have developed a command, control, communications, computer, surveillance and reconnaissance system that will allow small-unit exercises to be tracked and recorded for evaluation purposes. Our system can be used for first responder training by providing decision making tools through the use of computational models, advanced technology, risk communications, situational awareness and command. During a training session, data is streamed back to a central repository allowing commanders to evaluate their squads in a live action setting. In order to effectively analyze this data, an interactive visualization system has been designed in which commanders can track agent movement, play video and fast-forward/rewind event sequences. This system provides both 2-D and 3-D views of the environment while showing previously traveled paths, responder orientation and activity level. Both stationary and mobile camera video may be displayed, as well as the associated radio traffic. Data can be visualized in both hot wash and after-action review.

Future Plans: Our future work includes the evaluation of our training facility and visual analytics tools through planned emergency response exercises.

Relevance to Emergency Preparedness and Response: This project provides a test-bed for emerging technologies to be tested for applicability to in-field use.

Publications:

Kim, S., Jang, Y. Mellema, A., Ebert, D., Collins, T., “Visual Analytics on Mobile Devices for Emergency Response,” IEEE Symposium on Visual Analytics Science and Technology (VAST), pp. 35-42, 2007.