



## Naval Postgraduate School

### Modeling, Virtual Environments, and Simulation (MOVES) Institute Interservice/Industry Training, Simulation, and Education Conference Demonstrations

Booth #674

featuring partners and contributors:

**Aniviza, Yumetech, Delta 3D (D3D) Game Engine Team, Office of  
Continuous Learning (OCL) and the Web3D Consortium**

You are cordially invited to visit the MOVES Institute booth (#674) on the I/ITSEC show floor in Orlando, Florida, December 4 to December 7 2006. Students, faculty, and partners are presenting numerous project demonstrations. This year the NPS MOVES Institute (including Savage Research Group and the Delta 3D (D3D) group) and the Office of Continuous Learning (OCL) are again sharing space. Adjacent NPS MOVES booths are 675, 774 and 775.

The cornerstone of our demonstrations at the show is the Anti-Terrorism / Force Protection (AT/FP) Analysis Tool (SavageStudio) under development for the Naval Facilities Engineering Support Center (NFESC). The system provides simulation modeling and 3D visualization, and statistical analysis of harbor defense measures in support of Waterside Security (WSS) installation planning and evaluation initiatives. The objective is to deliver a tool for demonstrating and evaluating different systems (e.g., sensors, barriers, patrols) employed in various combinations against possible threats to high-value targets in friendly and foreign ports. The application features Multi-agent behaviors, Distributed Interactive Simulation (DIS) XML and web-based queries to High Performance Computing (HPC) clusters for scenario analysis and 3D visualizations.

Open standards, XML-based markup languages, internet technologies and cross-platform, cross-system web services are enabling a new generation of distributed M&S applications to emerge, develop, and interoperate. Working groups in the Simulation Interoperability Standards Organization (SISO), Web3D Consortium and Global Information Grid (GIG) M&S Community of Interest (COI) are laying a strong foundation for future growth. Our use of open standards and web services illustrates the capabilities of the new web-enabled M&S initiative called the Extensible Modeling & Simulation Framework (XMSF) to address challenging warfighting problems. For more information, see

<http://www.movesinstitute.org/xmsf/xmsf.html>

Thanks to NMSO for their sponsorship of the MOVES booth participation during this conference. Thanks also to the following project sponsors: Defense Modeling and Simulation Office (DMSO), Navy Modeling and Simulation Office (NMSO), Naval Facilities Engineering Support Center (NFESC), and the Web3D Consortium.

We are showing the following demonstrations and presentations in the MOVES booth.  
Demonstration appointments are available upon request:  
[xmsf-contact@movesinstitute.org](mailto:xmsf-contact@movesinstitute.org)

**Anti-Terrorism / Force Protection (AT/FP) Planning Tool (SavageStudio)**  
Terry D. Norbraten, Research Associate, NPS MOVES Institute

**Autonomous Unmanned Vehicle (AUV) Workbench**  
Jeffrey Weekley, MOVES Research Associate and Computer Science Masters student

**Visual Simulation Toolkit (Viskit): Graphical User Interface for Rapid Simulation Development**  
Rick Goldberg, Aniviza, Inc.

**Xj3D: Open-Source Implementation of the X3D Graphics Language**  
Alan Hudson and Justin Couch, Yumetech, Inc.

**Scenario Authoring and Visualization for Advanced Graphical Environments (SAVAGE)**  
On-Line Library of X3D Military Models and Authoring Tools  
SAVAGE Modeling and Analysis Language (SMAL) Scenario Metadata  
ENS Dennis Monroe, NPS MOVES Thesis Student

**Extensible Modeling and Simulation Framework (XMSF)**  
Jeffrey Weekley, MOVES Research Associate

**Online Mentors for Language Training and Cultural Familiarization**  
Jeffrey Weekley, MOVES Institute

**NPS Interactive Web-Based Media Elements**  
Web-based exercises and animations for NPS online course modules  
Nikki Brink, Anteon

**The Delta 3D (D3D) Game Engine**  
Delta3D is an Open Source engine which can be used for games, simulations,  
or other graphical applications.  
Erik Johnson, Senior Developer, NPS