With VISIT 3D, trainees interact in a 3D rendered environment with items of interest to access descriptive or instructional media including: interactive courseware, workstation simulations, reference documents, quizzes, and common media files. Trainees can practice and execute procedures to facilitate basic shipboard and warfare qualifications.

VISIT 3D is built using a cross-platform game engine that can run on inexpensive, Commercial-Off-The-Shelf (COTS) hardware, including many mobile devices. Trainees navigate the 3D space using a COTS video game controller with stick, directional pad, and button interactions programmed to mimic the most popular, industry proven control schemes present in modern games. Drawing on decades of human-machine interface design in video games, these controls make VISIT 3D highly intuitive for first time users.

Trainees can practice critical ship operating procedures that could previously only be performed on the actual equipment.
VISIT 3D™

The VISIT 3D demonstration offers platform familiarization and equipment location training, scavenger hunts, for the forward compartment lower level of a Virginia-class submarine. These scavenger hunts are timed, scored, and can be tailored to task users with finding important items, such as specific valves or damage control equipment. Trainees can practice critical ship operating procedures that could previously only be performed on the actual equipment. The VISIT 3D rig for dive exercise guides users through a critical procedure which must be performed before a submarine submerges. Due to the consequences of incorrect component operation, this procedure is rarely able to be practiced on board the ship. Each step in the VISIT 3D simulated procedure is tracked and scored by the software, and feedback is provided upon completion. Multiple difficulty levels, assisted or unassisted, are also provided to challenge the trainee, enabling effective training in a safe environment with no potential for negative outcomes.

VISIT 3D is built to maximize reutilization and minimize cost. VISIT 3D and Multipurpose Reconfigurable Training System 3D® (MRTS 3D®) share a common software architecture and graphics library. Graphics assets and scripts created for VISIT 3D can be reused in MRTS 3D at a low cost. Similarly, MRTS 3D assets can be reused by VISIT 3D with minimal modification.

VISIT 3D has adapted to rapid advances in consumer Virtual Reality (VR) technologies

- A fully immersive, room-scale VR enabled prototype of VISIT 3D is in development, building from the VISIT 3D software baseline and utilizing consumer VR systems.
- Hand and finger tracking capabilities have been prototyped and are implemented using InfraRed (IR)-based controllers and haptic gloves. This allows trainees to more intuitively interact with objects in the virtual environment.
- VISIT VR™ relies on a one-to-one movement ratio to avoid the common motion sickness problems present in other VR systems.

Like the MRTS 3D program, all computer models and application code in the VISIT 3D and VISIT VR systems are owned by the U.S. Navy, enabling wide distribution without incurring licensing costs or proprietary restrictions.

FUTURE ENHANCEMENTS TO VISIT 3D AND VISIT VR INCLUDE:

- Multiple software instances that can be linked to provide multiplayer experiences, allowing instructor or peer-led interactions.
- An instructor authoring tool that will facilitate creating custom hotspots, linking instructional content, and designing unique scavenger hunts that can be imported and exported across VISIT 3D systems. This authoring tool will allow instructors to link new content on demand without the need to request changes from the developer. This flexibility will ensure that the most current training materials and courseware can be integrated into VISIT 3D and VISIT VR as soon as they are available to the training facility.

For further information on this exhibit, or on business opportunities with NAWCTSD, please contact our Business Support Team by telephone at (407) 380-4903, by e-mail at orlo_businesssupportteam@navy.mil, or by mail at Business Support Team, NAWCTSD, 12211 Science Drive, Orlando, FL 32826.