BCG
Buffalo Computer Graphics

Learning Management System (LMS) & Student Response Unit (SRU)
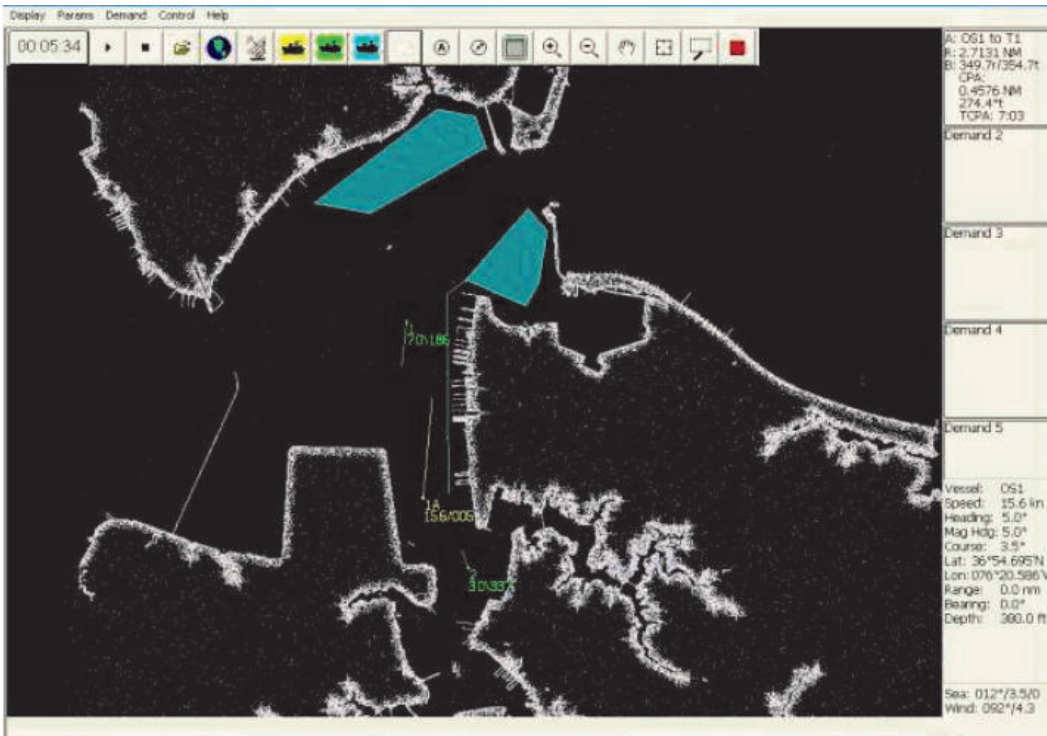
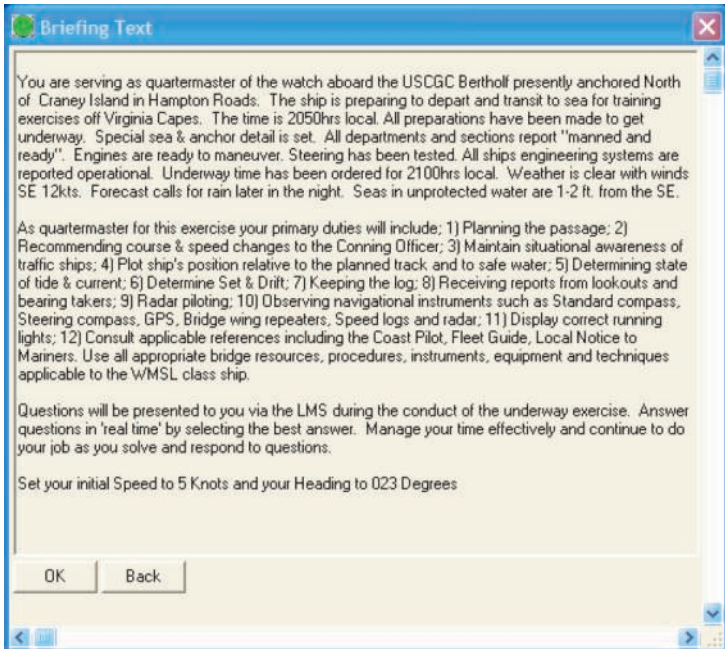Buffalo Computer Graphics (BCG) is pleased to offer the Learning Management System (LMS) as an accessory to our radar simulation product line. The LMS is a tool to enhance and automate the teaching process when operating BCG simulation.

The LMS combines custom instructor features integrated into BCG's Enhanced Graphical User Interface (GUI2) with a Student Response Unit (SRU) provided at each student learning position. The two modules are used as an on-line teaching aid to assist in the creation of intelligent lesson plans, briefing text, and event triggered messages within a training exercise. This includes instructor tools to highlight and designate sections of the exercise area which need to be avoided or require special attention during transit. These special training events may be programmed to take place automatically with the exercise, or be manually triggered by the instructor when they wish. Question and Answer sets can be programmed to appear during the scenario to test a student's knowledge at the point in the exercise which the information is most relevant. Question sets can be programmed to appear based on triggers established by the instructor or at the end of training. Upon completion, the LMS builds an evaluation report based upon instructor criteria and the actions taken by the student during training.

The SRU is networked to the LMS and placed with the student. This interactive terminal may be a desktop with monitor and mouse, a laptop or a tablet computer. The SRU provides an audible alert to the student when an action item occurs, then allows the student to respond using the SRU terminal interface. The SRU operates in real time and dynamically with the training exercise.
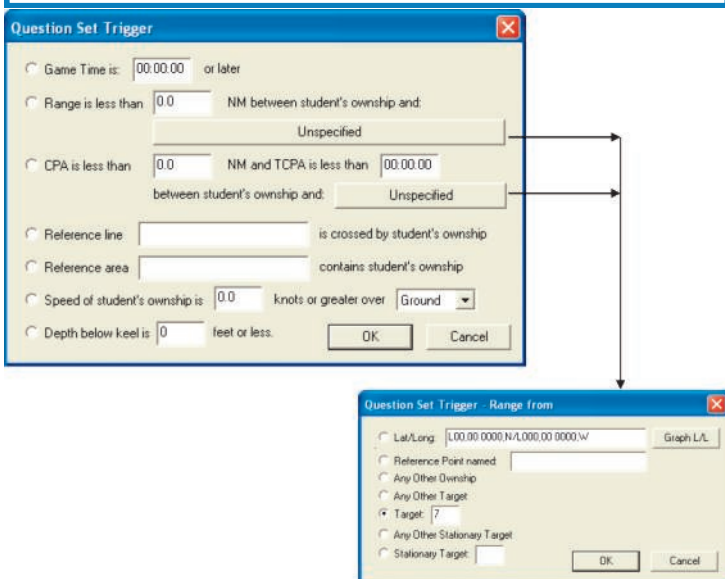
Briefing Text Window

Briefing Text

You are serving as quartermaster of the watch aboard the USCGC Bertholf presently anchored North of Craney Island in Hampton Roads. The ship is preparing to depart and transit to sea for training exercises off Virginia Capes. The time is 2050hrs local. All preparations have been made to get underway. Special sea & anchor detail is set. All departments and sections report "manned and ready". Engines are ready to maneuver. Steering has been tested. All ships engineering systems are reported operational. Underway time has been ordered for 2100hrs local. Weather is clear with winds SE 12kts. Forecast calls for rain later in the night. Seas in unprotected water are 1-2 ft. from the SE.

As quartermaster for this exercise your primary duties will include; 1) Planning the passage; 2) Recommending course & speed changes to the Conning Officer; 3) Maintain situational awareness of traffic ships; 4) Plot ship's position relative to the planned track and to safe water; 5) Determining state of tide & current; 6) Determine Set & Drift; 7) Keeping the log; 8) Receiving reports from lookouts and bearing takers; 9) Radar piloting; 10) Observing navigational instruments such as Standard compass, Steering compass, GPS, Bridge wing repeaters, Speed logs and radar; 11) Display correct running lights; 12) Consult applicable references including the Coast Pilot, Fleet Guide, Local Notice to Mariners. Use all appropriate bridge resources, procedures, instruments, equipment and techniques applicable to the WMSL class ship.

Questions will be presented to you via the LMS during the conduct of the underway exercise. Answer questions in 'real time' by selecting the best answer. Manage your time effectively and continue to do your job as you solve and respond to questions.

Set your initial Speed to 5 Knots and your Heading to 023 Degrees

OK   Back

The Student's Experience

The LMS interacts with the user through a standalone workstation using a graphical interface and/or text-to-audio voice messaging referred to as a Student Response Unit (SRU). With all phases of the SRU controlled by the instructor, they determine the level of automated support which is integrated into the training scenario. The student is automatically presented with the lesson plans, warnings and question sets to supplement the use of visuals, radar, charts and/or voice communication used during training. All SRU interactions and Ownship maneuvers are recorded for later review.

Triggers:

The LMS allows for warning messages or question and answer sets to appear after certain trigger events set by the instructor. These triggers include:

* Game Time
* Range
* TCPA/CPA
* Reference Line
* Reference Area
* Speed
* Depth

Warning
Your ship has run aground!

Question Set Trigger

○ Game Time is: [00:00.00] or later
○ Range is less than [0.0] NM between student's ownship and: [Unspecified]
○ CPA is less than [0.0] NM and TCPA is less than [00:00.00] between student's ownship and: [Unspecified]
○ Reference line [_____] is crossed by student's ownship
○ Reference area [_____] contains student's ownship
○ Speed of student's ownship is [0.0] knots or greater over [Ground ▾]
○ Depth below keel is [0] feet or less.   OK   Cancel

Question Set Trigger - Range from

○ Lat/Long: [L00.00.0000.N/L000.00.0000.W]   Graph L/L
○ Reference Point named [_____]
○ Any Other Ownship
○ Any Other Target
● Target: [7]
○ Any Other Stationary Target
○ Stationary Target: [_____]   OK   Cancel

Reference Library

The reference library includes:

◊ Navigation Rules
◊ Bowditch's American Practical Navigator
◊ Applicable Radar Operator's Manuals
◊ BCG User Manuals for installed software
◊ Pub 1310, Radar Navigation and Maneuvering Board Manual
◊ And manuals saved by the user.

Contact BCG for information and pricing on our full line of Maritime Simulation products.