

**Generalized Intelligent Framework for Tutoring**

**Course Technical Details**

**VBS Presence Patrol Scenario**

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# Overview

This document describes the technical details specific to the “VBS.PresencePatrol.Scenario” named domain content. It is meant to help GIFT course authors find examples of implementations GIFT supports in order to help facilitate re-use and quicker understanding of supported features. Basically what can GIFT do and how can you create similar course elements of your own.

For more details on what the user should see in this course refer to the test procedures for the course (if available).

For more details on authoring in general, refer to the help documentation for GIFT available in the “docs” folder of GIFT.

# Course Content

The purpose of this course is to exercise the use of a VBS scenario.

This course utilizes the following important features:

* **Guidance –** there are several uses of this in the form of presenting an HTML formatted message to the user.
* **Present Survey** – there are several uses of this to present GIFT surveys referenced by the “GIFT key” and “Survey Context” id. The GIFT surveys were authored using the Survey Authoring System (SAS).
* **Lesson Material** – The lesson material is referenced via a lesson material XML file called “Presence Patrol.lessonMaterial.xml”. That XML references a **YouTube** video URI to present as well as the default dimensions of the embedded video and whether or not to allow the video to be displayed in full screen mode at the user’s discretion.
* **VBS Scenario** – The one and only training application transition in this course shows how to configure a VBS instance.

*Note:* the goal of the scenario is to have the user patrol the perimeter of the compound. You can use the middle mouse wheel to identify the corridor while in the VBS scenario.

* + **vbs.presencepatrol.dkf.xml** – this DKF provides an assortment of assessment rules used to assess the user in the execution of the VBS scenario.
    - **Learner Id** – uses a GCC coordinate to identify the learner’s actor in the game when the scenario beings.
    - **Objects** – lists numerous waypoints (i.e. locations) of interest to this DKF. These waypoints are referenced by name by the concepts in the Task/Concept hierarchy.
    - **Start Trigger** – uses a GCC coordinate to identify when the learner has started the task. In this case it is a point close to the starting location of the learner and along the walled compound the learner is supposed to patrol.
    - **End Trigger** – uses a GCC coordinate to identify when the learner has ended the task. In this case it is a point near the Humvee located at the end of the patrol.
    - **Concepts –** there are 5 concepts being assessed in this DKF as described below.
      * **Stay close to wall** – the “Corridor Boundary Condition” for this concept specifies a path of segments that the learner should stay within in order to not violate this concept. The scoring rules for this concept utilize both violation count and violation time to calculate a score. In the case of violation time, the units of “hh:mm:ss” is used and three evaluators (i.e. evaluation rules) using that same syntax are specified.
      * **Cover and Concealment** – the “Corridor Posture Condition” for this concept specifies a path of segments and acceptable postures the learner should be in while in those segments in order to not violate this concept. The scoring rules for this concept utilize both violation count and violation time to calculate a score. In the case of violation time, the units of “hh:mm:ss” is used and three evaluators (i.e. evaluation rules) using that same syntax are specified.
      * **Rules of Engagement (RoE)** – the “Rules of Engagement Condition” for this concept specifies the approved weapon control status (WCS) for the entire execution of the parent task. If the RoE is violated (in this case if the learner fires their weapon), feedback will be presented in an escalating fashion (3 levels of escalation available in this DKF). The scoring rules for this concept utilize violation count.
      * **Complete Mission on Schedule** – the “Checkpoint Progress Condition” for this concept specifies a list of waypoints and a time at which the learner should reach each one by. The scoring rules for this concept utilize violation time to calculate a score. In the case of violation time, the units of “hh:mm:ss” is used and three evaluators (i.e. evaluation rules) using that same syntax are specified.
      * **Checkpoint Pace** – the “Checkpoint Pace Condition” for this concept specifies a list of waypoints and a time at which the learner should reach each one by. There are no scoring rules for this concept.
    - **State Transitions and Instructional Strategies:** There are numerous state transitions of interest and associated instructional strategies to choose from in this configuration which configures the Pedagogy and Strategy implementation of the Pedagogical module and Domain module, respectively.
      * **Arousal State transitions and instructional strategies:** The Arousal affective learner state attribute was driven by the mouse humidity sensor (Refer to GIFT Installation Instructions for more information about the mouse sensor) in demonstrations of this course. There are 4 arousal level transitions of interest in this DKF: {high to medium}, {medium to low}, {medium to high} and {low to medium}. All 4 transitions were associated with scenario adaptation instructional strategies. The first 2 transition’s strategies were associated with decreasing the fog level in the VBS scenario. The level of Fog was specified by the “decrease fog” instructional strategy “environmentAdaptation” pair value of “EnvironmentControlEnum” and “FogLevel1”, where “FogLevel1” maps to a VBS configuration file found in GIFT and used by the VBS plugin gateway module interop plugin code. The second 2 transition’s strategies were associated with increasing the fog level in the VBS scenario using similar configuration elements as with decreasing the fog level only with different values selected (e.g. “Fog Level 4”).
      * **Stay Close to Wall transition and Instructional Strategy:** When the user violates the “stay close to wall” concept, a feedback strategy named “corridor feedback” is selected. This strategy contains 3 feedback messages. Therefore upon the initial violation the first message will be used, the second violation the second message will be used and upon subsequent infractions the third message will be used (an example of increase escalation of this tactic). The messages are authored as text. The text can will be converted to speech and spoken by an avatar if GIFT is configured to do so.
      * **Cover and Concealment transition and instructional strategy:** When the user violates the “cover and concealment” concept, a feedback strategy named “cover and concealment feedback” is selected. This strategy contains 3 feedback messages. Therefore upon the initial violation the first message will be used, the second violation the second message will be used and upon subsequent infractions the third message will be used (an example of increase escalation of this tactic). The messages are authored as text. The text can will be converted to speech and spoken by an avatar if GIFT is configured to do so.
      * **Rules of Engagement transition and instructional strategy:** When the user violates the “rule of engagement” concept, a feedback strategy named “hold rules of engagement feedback” is selected. This strategy contains 3 feedback messages. Therefore upon the initial violation the first message will be used, the second violation the second message will be used and upon subsequent infractions the third message will be used (an example of increase escalation of this tactic). The messages are authored as text. The text can will be converted to speech and spoken by an avatar if GIFT is configured to do so.
      * **Complete Mission on Schedule transition and instructional strategy:** When the user violates the “complete mission on schedule” concept, a feedback strategy named “checkpoints feedback” is selected. This strategy contains 3 feedback messages. Therefore upon the initial violation the first message will be used, the second violation the second message will be used and upon subsequent infractions the third message will be used (an example of increase escalation of this tactic). The messages are authored as text. The text can will be converted to speech and spoken by an avatar if GIFT is configured to do so.
      * **Checkpoint Pace transition and instructional strategy:** When the user violates the “checkpoint pace” concept, a feedback strategy named “pace negative feedback” is selected. On the other hand, when the user successfully reaches a checkpoint on time and the concept is assessed At Expectation, a feedback strategy named “pace positive feedback” is selected. The messages are authored as text. The text can will be converted to speech and spoken by an avatar if GIFT is configured to do so.
  + **Interops to use** – there are 2 interop connections needed for VBS interaction.
    - **DIS plugin** - this plugin is used to receive DIS network traffic (<http://en.wikipedia.org/wiki/Distributed_Interactive_Simulation>) from VBS via its LVC game interface. The messages of interest include entity state, weapon fire and detonation.
    - **VBS Plugin –** this plugin is responsible for handling simulation management (e.g. load scenario, pause scenario) and Line-of-Sight queries messages from GIFT which are then sent to the VBS GIFT plugin DLL. The DLL in turn uses VBS scripting interface to execute the necessary logic to facilitate these GIFT requests.
      * The inputs to this plugin include the VBS scenario name to load.
  + **Guidance** – a message is displayed for 8 seconds while VBS is loading the scenario. This allows GIFT to provide any extra instructions of transitional guidance before the user will start interacting with the training application.
* **AAR** – “After Action Review” is shown some time after the VBS scenario/lesson and includes the scoring results of the lesson assessed by the rules in the DKF.