# TaskGuide™

## Users' Guide

## Version 2.0 Beta

## Stottler Henke

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# Table of Contents

# Chapter 1 - Introduction

## Overview

The TaskGuide™ software system provides a graphical authoring tool and execution tool for creating and running interactive applications, called **procedures**. TaskGuide executes each procedure by presenting a sequence of screens, one screen at a time, to:

- **Present information** using HTML-formatted text and images. Hyperlinks to external web pages or documents can provide additional information on demand. Screens can also embed Java graphical user interface objects to provide specialized interactive user interfaces.

- **Prompt users** to enter information using input controls such as text boxes, radio buttons, check boxes, and selection lists. This information is stored in the procedure's variables.

- **Carry out calculations** that compute numeric and text values, query and update files and databases, send commands to other software systems. Calculations can call standard and application-specific Java libraries.

TaskGuide procedures can be used to implement diverse types of applications such as:

- **Training tutorials** that present information to students, pose questions or problems, and provide tailored hints and feedback.

- **Performance support systems** such as task aids and decision support systems that guide users through analysis, decision-making, and execution tasks, step-by-step.

- **Training simulations** such as branching scenarios that present the current situation in each screen, prompt the student for decision or actions, and branch to the appropriate next situation.

- **Adaptive questionnaires** that determine which questions to ask based on previous answers and other available data.

- **Debriefing systems** that analyze and discuss the student's perceptions, decisions, and actions during a simulation-based training or assessment activity. This discussion format enables the software to refine its assessment of the student's proficiencies, provide instructional feedback, and guide reflection.

Flexible branching, looping, and calculation logic enables TaskGuide to select the appropriate next screen and generate its contents dynamically, based on the user's inputs and the values of the procedure's variables. This makes it possible to create **flexible procedures that provide dialog-like interactions that adapt to the situation and user.** For example, TaskGuide training tutorials can select or generate different hints, feedback, and follow-up questions based on each student's correct or incorrect answers to previous questions and, optionally, other information about the student. TaskGuide training simulations can branch to the next situation or present possible choices based on the student's decisions and the values of procedure's variables used to store the simulation

state. TaskGuide debriefing systems can point out noteworthy instances of student performance, assert relevant facts, ask probing questions about the student's experience and perspective, and, upon the student's responses, delve more deeply with follow-up facts and questions. TaskGuide performance support systems can filter, calculate, and display the information or possible options that are relevant to the current situation, so users can assess situations, make decisions, or execute tasks more accurately and efficiently.  A single TaskGuide procedure can even combine different types of interactions. For example, a TaskGuide procedure could provide training by interleaving tutorial interactions, branching scenarios, and debriefing.

TaskGuide procedures are comprised of step nodes and group nodes. **Step nodes** specify the content and format of each screen, along with optional calculations that run before or after each screen is displayed.  **Group nodes** contain step nodes and lower-level group nodes. Group nodes organize steps within a hierarchy, similar to the way computer folders organize files.  Group nodes can specify branching conditions that determine whether the steps in the group should be executed or skipped.  A group node can also be configured to loop, so that the steps in the group are executed repeatedly until some condition is satisfied.

A **TaskGuide procedure package** contains a set of related TaskGuide procedures that are distributed to users.  For example, a package could contain a set of related TaskGuide training tutorials that comprise a course. Or, a package could contain task aids that support a particular type of user or task area.

This document describes how **users** can run these procedures using the TaskGuide Procedure Execution Tool and the TaskGuide Procedure Execution Applet. The TaskGuide Procedure Execution software can also be embedded within custom applications and applets. The *TaskGuide Author's Guide* describes how **procedure authors** can create, edit, and deploy procedures using the TaskGuide Procedure Editor.

## TaskGuide Software Suite

The TaskGuide software suite provides the following software programs:

- **TaskGuide Procedure Editor -** a Java application that enables authors to create TaskGuide procedures,
- **TaskGuide Procedure Execution Tool -** a Java application that executes TaskGuide procedures, and
- **TaskGuide Procedure Execution Applet** - a Java applet that runs within Java-enabled web browsers to execute TaskGuide procedures. This applet is invoked by embedding an applet tag within a HyperText Markup Language (HTML) web page.
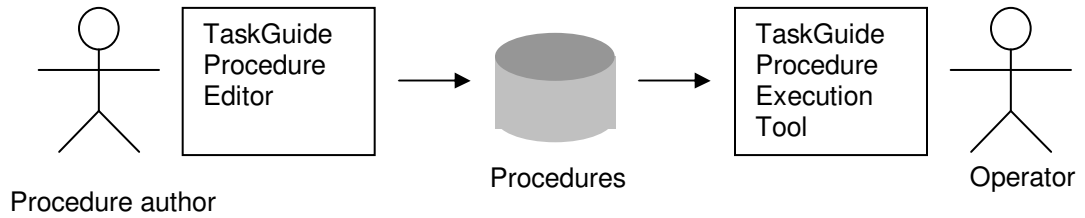
Figure 1 - Authors create procedures using the Procedure Editor.
Users run procedures using the Procedure Execution Tool.
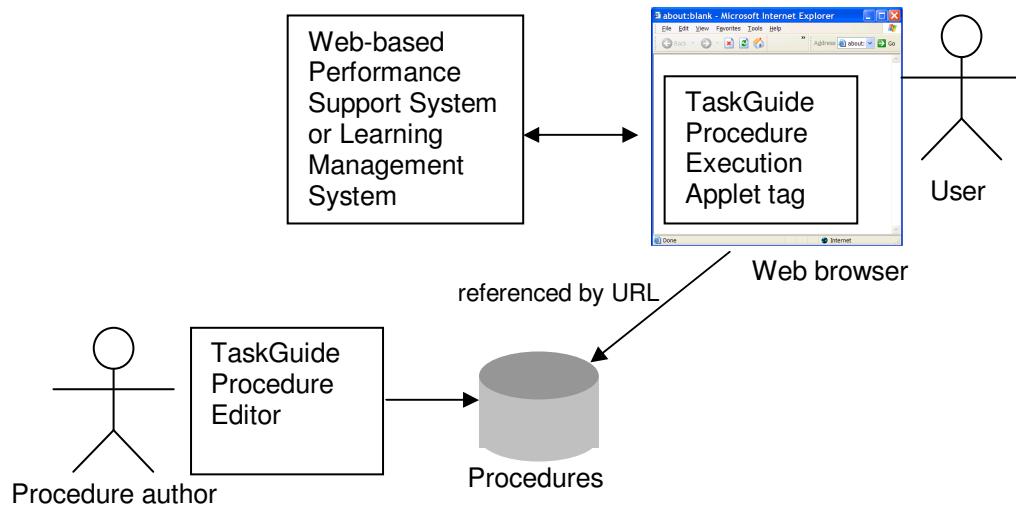


Figure 2 – The TaskGuide Procedure Execution Applet can be embedded within static or
dynamically-generated web pages served by a web-based EPSS or learning management system.

TaskGuide procedures can be authored so that the TaskGuide Procedure Execution
Applet exchanges student tracking data with a SCORM-compliant learning management
system via calls to SCORM JavaScript functions. TaskGuide also provides a Java library,
so its capabilities can also be invoked via calls to its application programming interface
(API).  This enables software developers to embed TaskGuide's procedure execution
capabilities and user interface windows within a larger training or task support system, as
shown in Figure 3.
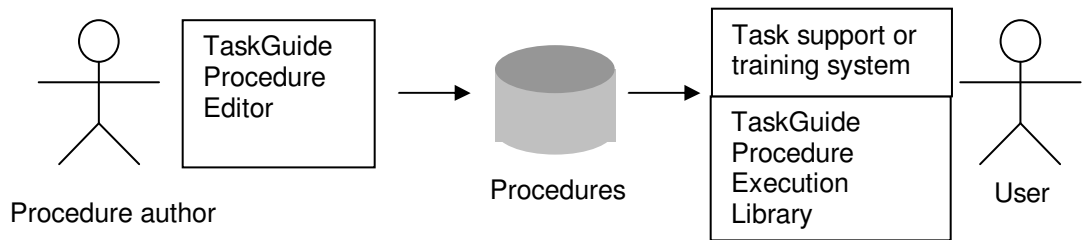


Figure 3 – The TaskGuide application programming interface (API) enables custom or 3rd party
applets or applications to embed the TaskGuide Procedure Execution Library.

# Chapter 2 - Getting Started

## PC Configuration Requirements

TaskGuide runs on PCs running the Windows XP, Windows Vista, and Windows 7 operating systems which satisfy the following configuration requirements:

| | |
|---:|---|
| RAM | 2 GBytes |
| Free disk | 11 MBytes (this does not include disk space needed for Java runtime system which is installed separately) |
| Display monitor resolution | 1024 x 768 pixels or higher |
| Display monitor colors | 8 bit color or higher |

Table 1 – TaskGuide Configuration Requirements

## Java Run-Time Environment

TaskGuide is written in the Java programming language and requires installation of the Java 6 or Java 7 run-time environment (JRE).  You can download Java from:

http://www.java.com/

If a 64-bit version of the Windows operating system is installed on your computer, download and install the 64-bit version of Java.  To test your installation of Java, type "java –version" into a Windows command window.  If Java has been installed successfully, the command window will display the version number of the currently installed version of Java.

## 3<sup>rd</sup> Party Software

TaskGuide uses the following third party software:

- **Commons Codec** encoding and decoding software. License: open source.  Web: http://commons.apache.org/codec/.  Software file: commons-codec-1.3.jar.
- **HTML Parser** for parsing HTML text.  License: open source.  Web: http://htmlparser.sourceforge.net/.  Software file: htmllexer.jar.
- **JLayer** software for playing MP3 audio files. License: GNU Lesser General Public License (LGPL). Web: http://www.javazoom.net/javalayer/javalayer.html).  Software file: **jl1.0.1.jar.**
- **Sferyx JSyndrome** HTML editing software. License: commercial, Sferyx Srl. Web: http://www.sferyx.com/.  Software file: HTMLEditorEnterprise.jar.

## Uninstalling TaskGuide

Before installing a new version of TaskGuide, uninstall any previous versions of TaskGuide. To uninstall the TaskGuide software, select the *Add or Remove Programs* menu choice from the Windows Control Panel. In the list of programs, select the TaskGuide program to be removed and press the *Change/Remove* button. For example, to uninstall TaskGuide version 1.1, *select TaskGuide Version 1.1* from the list of programs in the *Add or Remove Programs* dialog and press the *Change/Remove* button.

## Installing TaskGuide

The TaskGuide Execution Tool installation program file (e.g., taskguide_user_2.0_beta.exe) installs TaskGuide Execution Tool software and documentation. By default, the installation program installs the files in a folder named *c:\Program Files\Stottler Henke\TaskGuide 2.0 beta*. In this document, this folder is called the *installation folder*.

## Launching the TaskGuide Execution Tool

The TaskGuide Procedure Editor is a software application written in the Java programming language. To launch the TaskGuide Procedure Execution Tool, select *TaskGuide/Procedure Execution Tool* from the *Windows Start/All Programs* menu. Selecting this menu item runs a Windows command file named *runTaskGuide.bat* in a folder named *software* in TaskGuide installation folder. This command file starts the Java run-time system and launches the TaskGuide Procedure Execution Tool. You can then select the *File/Open* menu item to open and run a procedure file.

You can also create additional command files that are configured to launch the Procedure Execution Tool and run a particular procedure file automatically. *Appendix A – Procedure Execution Tool Command File* describes how system administrators or software developers can edit this command file to change how the TaskGuide Procedure Execution Tool is launched.

A set of related TaskGuide procedures can be distributed to users as a TaskGuide *procedure package*. The package may provide its own method for launching procedures such as running a Windows command (.bat) file or selecting a menu item from the *Windows Start/All Programs* menu. If so, consult the documentation written and distributed by the developers of the procedure package.

## Launching the TaskGuide Execution Applet

The TaskGuide Procedure Execution Applet is a Java applet that runs TaskGuide procedures within a web browser. The Applet is invoked by embedding an appropriately-configured applet tag within a static or dynamically-generated HTML page. The applet tag contains a parameter that specifies the web address (i.e., URL) of the procedure file to

be executed.  When the browser displays the HTML file, the TaskGuide Procedure Execution Applet starts running automatically by opening and running the procedure.

The way in which you point your browser to the appropriate web address depends upon the particulars of the web-based system that the developers of the procedure have selected for distributing theTaskGuide procedures to users.  For example, you might point your browser to the URL of the static HTML page that runs a particular TaskGuide procedure.  Or, you might log into a SCORM-compliant learning management system (LMS) or electronic performance support system (EPSS) to access the procedures.

*Appendix B – Procedure Execution Applet Tag* describes how to set applet parameters that control how TaskGuide runs within the TaskGuide Procedure Execution applet.

# Chapter 3 – Sample Procedure Execution Session

## Running a Sample Task Support Procedure

The following sample session illustrates how to use the Procedure Execution Tool to run a procedure that implements a task aid for carrying out a satellite operations procedure. This session should take about 5 minutes to complete.

1. Start the TaskGuide Procedure Execution Tool by selecting *TaskGuide/Execution Tool* from the Windows *Start/All Programs* menu.

2. Select the *File/Open* menu choice to open specification file AHM_Reset.tg in the TaskGuide *examples/satellite* subfolder in the TaskGuide installation folder.

3. Select the top-level procedure node by clicking your mouse on "AHM Reset" at the top of the Procedure Summary Pane in the upper-left corner of the applet window. TaskGuide displays the short text description of the currently *selected* procedure node against a blue background.

4. Review the procedure overview's purpose that is displayed in the Details Pane in the right side of the applet window.

5. In the Procedure Summary Pane in the upper left corner of the applet window, expand the group node labeled "Verify Batteries are in Taper Charge" by double-clicking on this short description. Steps 1 and 2 will become visible. Click on the short description of step 1 to view the details of this step in the Details Pane. Open other groups and review their steps.

6. Select the top-level procedure node by clicking your mouse on "AHM Reset" (again). Press the *Next Step* button to start executing the procedure. This button contains a white arrow inside a green circle. TaskGuide will advance to step 1.

7. At **steps 1 through 4**, press the *Next Step* button to continue execution and advance to the next step.

8. At **step 5**, enter a value of 10 for AHMOUT. Select **2 Batt** AHM Mode by clicking on the radio button next to this label. Press the *Next Step* button. TaskGuide will advance to **step 6**, the first step within the group labeled "Send AHM Init Command".

9. At **steps 6 through 9**, press the *Next Step* button to continue execution.

10. **Step 10** displays a new note, indicated by a yellow square icon. At **steps 10 through 14**, press the *Next Step* button to continue execution. At step 15, select "No..." in response to "Are all conditions satisfied?" This exit step has been configured to continue looping (i.e., *not* exit) when a no answer is entered. Because step 15 was the last step in the "Send AHM Init Command" looping group, TaskGuide will advance to step 6, the first step in the looping group.

11. At **steps 6 through 14**, press the *Next Step* button to continue.

12. At **step 15**, answer "Yes" to the question and press the *Next Step* button. TaskGuide will exit from the looping group and advance to step 16 which is an invisible exit step. This step has been configured to exit from the group "Change

Batt Mode Back to 2 if Necessary" only if the AHM Mode entered in step 5 and saved in a variable does not equal 2. In this case, a value of 2 was entered, so the exit condition fails, and execution continues automatically to step 17.

13. Because step 16 is an invisible step, TaskGuide executes this step's logic, but it does not display instructions to you for this step. Also, by default, TaskGuide does not display invisible steps in the procedure overview pane or in the log pane. To see invisible step 16 in these panes, press the right mouse button over the Procedure Summary Pane and select "Show Automated Steps" from the context menu.

14. At **steps 17 through 25**, press the *Next Step* button to continue.

15. At **step 26**, answer "Yes" to the question "Are all conditions satisfied?" and press the *Next Step* button. TaskGuide will exit from the group labeled "Change to 2 Batt Mode" and will advance to step 27.

16. At **steps 27 and 28**, press the *Next Step* button to complete the procedure.

Select the top-level *File/Exit* menu choice to exit from the Procedure Execution Tool.

# Chapter 4 – Using the Procedure Execution Tool and Applet

The TaskGuide Procedure Execution Tool enables the user to select a procedure to execute by selecting the *File/Open* menu choice. TaskGuide displays a file selection dialog to prompt you to select a procedure file.

When running TaskGuide within a web browser, the TaskGuide Procedure Execution Applet automatically starts the TaskGuide procedure.
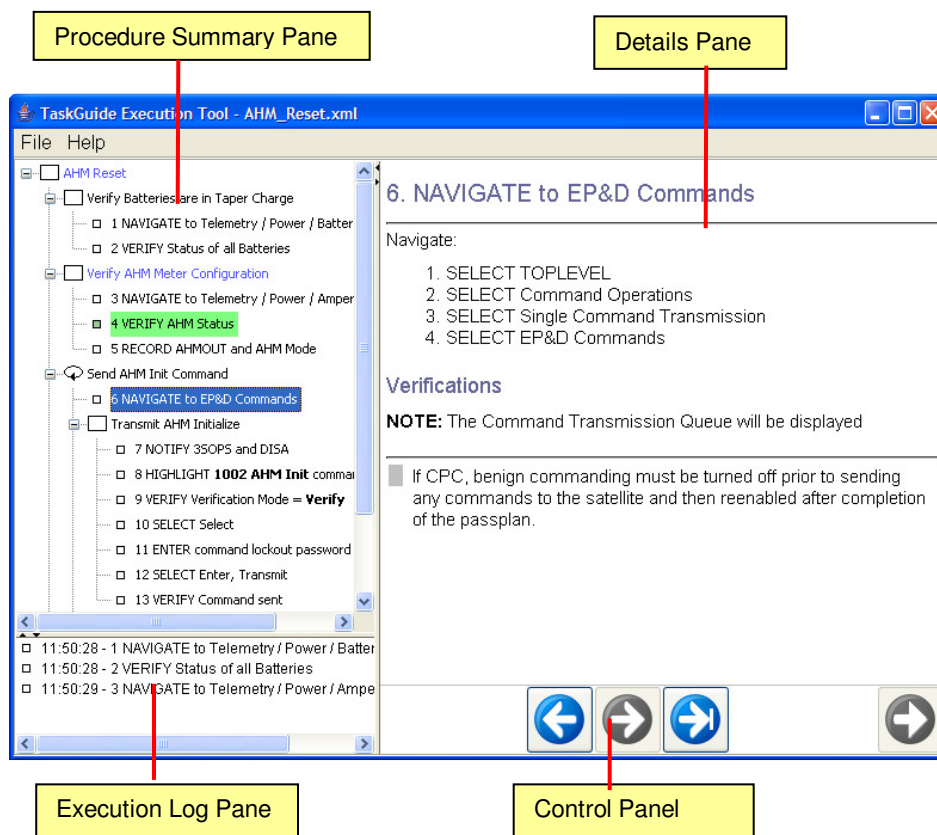


Figure 4  – The Procedure Execution Tool and Procedure Execution Applet user interface.

The TaskGuide Procedure Execution Tool and the Procedure Execution Applet display the Details Pane and the Control Panel as shown in Figure 4. In addition, procedures can be configured to display or hide the Procedure Summary Pane and/or the Execution Log Pane. The Details Pane presents information to the user and optionally prompts for input. The Procedure Summary Pane (upper left) provides a graphical summary of the procedure. The user can click on icons in the Procedure Summary Pane to see the details of any step in the procedure. The Execution Log Pane shows an ordered list of all executed procedure steps. Procedure steps within looping groups can be executed more than once and might appear multiple times in this list.

Typically, the Procedure Summary Pane and Execution Log are shown to users when

TaskGuide is used as a task aid or decision support tool.  However when TaskGuide is used to provide training tutorials, training simulations, or debriefing systems, these panes are usually hidden so that students cannot look ahead in the procedure and see answers or feedback to questions or decisions that they have not yet made.

# Procedure Summary Pane

The Procedure Summary Pane presents a graphical summary of the procedure by displaying an icon and label for each step node and group node.  This pane uses indentation to show that a step or group is part of a higher-level group, similar to the way files and folders are displayed by the Windows Explorer file browser.

If a group icon is *collapsed*, the group's children are hidden.  To expand a group icon and show the group's children, click on the *expand group button*, a plus sign inside a square to the left of the group node's icon. To hide the children of an expanded group, click on the *collapse group button*, a minus sign inside a square to the left of the group icon. You can also expand or collapse group nodes by double-clicking on the group node's icon.

During procedure execution, the Summary Pane highlights the icon and label of the *current step* being executed in green.  To select a step or group node and review its details in the Details Pane, click on its icon in the Summary Pane.  The Summary Pane highlights the *selected step* using a blue background.  When a step is both the current step and the selected step, the step's icon is green and the background of its label is blue. The label of each group that contains the current step is displayed in blue.

For example, in the example shown above in *Chapter 3 – Sample Procedure Execution Session*, step 4 is the current step and step 6 is the selected step. The group node label "Verify AHM Meter Configuration" is displayed in blue because this group node contains current step 4.

## Step Nodes

|  | *Visible* | *Invisible* |
|---|---|---|
| Simple Step | □ | ▪ |
| Exit Step | ↵ | ↵ |
| Conditional Branches Step | ⬦ | ⬦ |

Table 2   – Icons for Each Type of Step Node in the Procedure Summary Pane

Each TaskGuide step can be either *visible* or *invisible*.  If the step is **visible**, TaskGuide executes the step's pre-calculations (if any), presents the step's instructions to the user, accepts user input via input controls in the instructions, waits for the user to indicate completion of the step, and then executes any post-calculations.

TaskGuide executes each visible step as follows:
1.   TaskGuide executes the step's pre-calculations, if any.  Pre-calculations can

     assign new values to the procedure's variables, and they can apply functions to data objects to update their state.

2. TaskGuide generates and displays the step's instructions. Usually, instructions are entered by the author when specifying the procedure. However, it is also possible to generate part or all of a step's instructions dynamically. Optionally, the instructions can contain user interface input controls that prompt the user to enter data or decisions.

3. After the user reviews the step's instructions, enters the data, and carries out any actions specified in the instructions, carries out the instructions, the user indicates that the step has been completed, usually by pressing the *Next Step* button.

4. TaskGuide executes the step's post-calculations, if any. Post-calculations can refer to variables that store data and decisions entered by the user.

5. TaskGuide determines the next step to execute and advances to this next step.

If the step is **invisible**, TaskGuide performs the step's pre- and post-calculations without presenting instructions to the user. Then, it advances automatically to the next step. That is, it carries out steps 1, 4, and 5 listed above, and it skips steps 2 and 3. Invisible steps are useful for performing calculations or automated operations when it is not necessary to present information to the user or accept input from the user.

There are three types of step nodes. They differ in how TaskGuide determines the next step to execute.

**Simple Steps**     After a simple step executes, TaskGuide advances to the next executable step. If the current step is not the last step in its group, TaskGuide advances to the next step in the group. If the current step is the last step in the group and the group is a looping group, TaskGuide checks the loop's test condition, if any, to determine whether to repeat the steps in the group. If the simple step is the last node in a simple group or branching group, TaskGuide advances to the first executable step that follows the group.

**Exit Steps**     Each exit step specifies an exit condition that controls how TaskGuide advances after completing the exit step. If the step's exit condition is true, TaskGuide exits from the group that contains the exit step by advancing to the first step that follows the group. Otherwise, TaskGuide advances to the step that follows the exit step in the procedure.

Exit steps can specify four different types of exit conditions. The group can be exited:

    1. always,
    2. if the user answers true to a true/false question
    3. if the user answers false to a true/false question, or
    4. if a boolean expression evaluates to true.

The exit step can specify exiting from the immediately enclosing group or from an outer group that is identified by the group's label.

**Conditional Branches**     Each conditional branches step specifies a list of conditional branches and a default destination node. Each conditional branch specifies a

**Steps**     boolean branch condition and the label of a destination step node. TaskGuide evaluates each branch condition in order, and it advances to the destination step node associated with the first branch condition whose value is true. If none of the conditional branches are true, TaskGuide advances to the default destination step node. If no default destination was specified, execution continues to the next step in the procedure.

### Group Nodes

There are three types of groups:

**Simple Groups**     ☐     All of the steps and sub-groups contained within a simple group are executed in sequence. When the last step or sub-group has been completed, TaskGuide advances to the first step that follows the group.

**Looping Groups**     ↺     Steps within a Looping Group are executed repeatedly until the group's (optional) test expression evaluates to false or until execution of an exit step within the group causes TaskGuide to break out of the loop

**Branching Groups**     ↷     Any non-looping group that contains a boolean test expression is a branching group. This text expression is evaluated each time the group's nodes steps or sub-groups are about to be executed. If the value of the test expression is true, TaskGuide advances to the first node in the branching group. If the expression value is false, TaskGuide skips all of the nodes in the group and advances to the first node that follows the branching group.

## Details Pane

The Details Pane displays information about:
- The current step being executed,
- A step or group selected in the Procedure Summary Pane, or
- A previously-executed step that has been selected in the Execution Log Pane.

This information includes:

**Step Number**     Assigned automatically by TaskGuide.

**Short Description**     Summarizes the step in a few words. By convention, the first word describes an action, and the rest of the description describes the object of the action. This description matches the step's short description in the Procedure Summary Pane.

**Instructions**     Presents information to the user, using formatted text and graphics. Instructions can include **input controls** such as text boxes, radio buttons, check boxes, and selection lists that prompt you for information or commands. You can type *control-V* to paste text

contained in your Windows clipboard into a text box.

A step's instructions can contain **special tags** that are evaluated when the step is currently executed. When you execute the current step or browse a previously-executed step, the Details Pane shows the value of the special tags. When you browse a step in the Summary Pane, the value of the special tag is not yet known, so the Details pane shows a placeholder for the tag.

**Notes**            Describe warnings, state conditions to be monitored during execution, and other information useful to the user. A note can be associated with a step or a group. If the note is associated with a group, it is displayed when any step within the group is the selected step. There are three types of notes: Information, Caution, and Warning.

TaskGuide draws a square icon next to each note. The icon's color indicates the note's type and newness. A gray icon indicates a note that is old (has already been displayed) or is in a step that is not currently-executed step (e.g., the note is being browsed). A blue, yellow, or red icon indicates a new note whose type is Information, Caution, or Warning, respectively.

**Verifications**   Tell the user how to confirm that the step was completed successfully.

## Context Menu

You can click the right mouse button over the Details Pane to display a context menu. This menu provides the following options:

**Copy**             You can click and drag your mouse to select text in the details pane. Then, right-click and select *Copy* from the context menu. Or, type control-C. Due to Java security restrictions, use of the Copy command requires additional privileges when running the TaskGuide Execution Tool applet within a web browser.

**Show Dictionary**  This context menu choice appears if the procedure includes a dictionary of terms. Select this menu option to display all dictionary definitions provided by the procedure. Or, type control-G.

# Control Panel

The Control Panel is displayed below the Details Pane. Depending upon how the TaskGuide procedure was configured, the Control Panel may display some or all of the following buttons:

 **Next Step**  By pressing this button, the user indicates that he or she has carried out the step's instructions and is ready to proceed to the next step.

13

| | **Information** | TaskGuide displays HTML-formatted information associated with the current step. This button is displayed only if the step contains additional information. |
|---|---|---|
| | **Undo Step** | By pressing this button, the user backs up to the previous visible step. This button is displayed only if the previous step can be undone, as configured by the procedure author. |
| | **Back** | TaskGuide displays a list of each step that has been executed in the Execution Log pane. Because procedures can contain loops, a step can be executed more than once. When the user presses the Back button, TaskGuide selects the previous step execution and displays the step's instructions the step details pane. If the step's instructions contain input controls, any values entered into input controls are also displayed. Embedded graphical user interface objects are not displayed. This button is displayed only if the procedure has been launched with parameters that specify that the Procedure Summary Pane and Execution Log panes should be displayed. |
| | **Forward** | TaskGuide displays the instructions in the step details pane for the step execution that follows the currently-selected step execution. If the instructions contain input controls, any values entered into input controls are also displayed. Embedded graphical user interface objects are not displayed. This button is displayed only if the Procedure Summary Pane and Execution Log panes are displayed. |
| | **Resume Execution** | TaskGuide selects the current step being executed and displays this step's details in the Details Pane. This button is displayed only if the Procedure Summary Pane and Execution Log panes are displayed. |

# Execution Log Pane

The Execution Log Pane in the lower left corner of the main window displays a log entry (a step execution) for each step executed so far. Each log entry displays the time at which the step was executed, followed by the step's number and short description. When you click on a log entry to select it, TaskGuide displays in the Details Pane the step's instructions and data entered by the user when the step was executed.

# Appendix A – Procedure Execution Tool Command File

This section is written for software developers and system administrators who are responsible for creating Windows command files that control how TaskGuide runs within the TaskGuide Execution Tool Java application.

The TaskGuide Execution Tool is a Java application.  The Windows command file *runTaskGuide.bat* in the TaskGuide installation directory invokes the Java run-time system and launches the TaskGuide Execution Tool.  This appendix describes how to modify this command file to control how TaskGuide is launched.

> **Tip:** If you are using TaskGuide to create and run a related set of procedures that use the same Java libraries of Java run-time parameters, you may find it convenient to create a command file for each set procedures that specifies these shared libraries or parameters.

The syntax of the command line that launches TaskGuide is:

```
java java_launch_parameters
 -cp taskguide_jar_files
com.stottlerhenke.taskguide.runtime.ProcedureExecutionApplication
command_line_arguments
procedure_filename
```

*java_launch_parameters* control how the Java run-time system is launched.  For example, to specify a maximum Java heap size of 256 Mbytes to run a large procedure, specify the following Java launch parameter:

```
-Xmx256m
```

*taskGuide_jar_files* specifies the Java jar files needed to run the TaskGuide Execution Tool software.  This list should contain at least the following names of files needed to run the TaskGuide Execution Tool:

```
.;TaskGuide.jar;commons-codec-1.3.jar;
htmllexer.jar;HTMLEditorEnterprise.jar
```

If your procedure uses additional Java libraries, add the names of these jar files to this list.  For example, if your procedure plays MP3 files, include the JLayer library file jl1.0.1.jar.

Use of *command_line_arguments* is optional. They control how TaskGuide executes. You can specify the following arguments:

-f*filename*  Specifies the name of the file that contains the TaskGuide procedure to be executed.  *filename* can specify a full file pathname or a relative pathname.  If this argument is not

specified, the TaskGuide Execution Tool is launched, but no procedure file is opened. The user can select and open a procedure file using the *File/Open* menu item.

# Appendix B – Procedure Execution Applet Tag

This section is written for software developers and system administrators who are responsible for creating applet tags that control how TaskGuide runs within a Java applet that is embedded within an HTML web page.

You can run the TaskGuide Procedure Execution Applet by specifying an applet tag within a static or dynamically-generated HTML page.  The applet tag should contain the following attributes:

**CODEBASE**        We recommend setting the CODEBASE attribute to ".", and placing all HTML files containing TaskGuide applet tags in a top-level folder.  This approach will ensure that TaskGuide procedures running in applets can access any media files (procedure-specific and shared across procedures) that are placed in any subfolders within this folder.

**CODE**        This attribute specifies the name of the Java applet class that executes the TaskGuide applet.  TaskGuide provides two applet classes. To run a TaskGuide procedure within an applet that is launched by a SCORM learning management system, use:

```
com.stottlerhenke.taskguide.scorm.ProcedureExecutionScormApplet.class
```

To run a procedure in an applet that is *not* launched by a SCORM LMS, use:

```
com.stottlerhenke.taskguide.runtime.ProcedureExecutionApplet.class
```

**ARCHIVE**        This attribute should be set to the following list of JAR files that contain the TaskGuide procedure execution classes and other Java libraries required by the TaskGuide procedure:

```
"./software/TaskGuide.jar,./software/commons-codec-
1.3.jar,./software/htmllexer.jar,./software/HTMLEditorEnterprise.jar"
```

If your procedure uses additional Java libraries, add the names of these jar files to this list.

**WIDTH**                This attribute specifies the width of the applet window displayed in the browser, in pixels.

**HEIGHT**               This attribute specifies the height of the applet window displayed in the browser, in pixels.

The applet tag also specifies the following applet parameters:

**URLConfiguration**                This required string parameter specifies the relative or absolute URL of the procedure file procedure to be executed.  We recommend placing each procedure file in its own subfolder within the procedure package folder and specifying relative URLs for each procedure file.

**InitializedVariables**                This optional string parameter contains a comma-separated list of TaskGuide variable names.  The TaskGuide Procedure Execution Applet initializes the value of each of these variables  to the value of the applet parameter of the same name. For example, if the InitializedVariables applet parameter equals "v1,v2", the TaskGuide variables named v1 and v2 will be initialized to the values of the applet parameters named "v1" and "v2", respectively.

Figure 5 shows an example applet tag when a TaskGuide procedure is executed by the SCORM TaskGuide Execution Applet.

```
<applet
   CODEBASE = "."
   CODE     = "com.stottlerhenke.taskguide.scorm.ProcedureExecutionScormApplet.class"
   ARCHIVE     = "./software/TaskGuide.jar,./software/commons-codec-
1.3.jar,./software/htmllexer.jar,./software/HTMLEditorEnterprise.jar"
   NAME     = "Tutorials"
   WIDTH    = 800
   HEIGHT   = 700
   MAYSCRIPT = true>
   <param NAME = URLConfiguration VALUE = "satellite/AHM_Reset.tg">
</applet>
```

Figure 5  – Applet tag specifies the TaskGuide SCORM Procedure Execution Applet embedded within a web page.