



## Activity Based Fidelity Analysis Step by Step Guide



## **ADVISOR Enterprise User's Guide**

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## Foreword

ADVISOR Enterprise is a Training Management System that drives training efficiency by (a) aligning current and future training activities to operational requirements to identify gaps, duplications and training with minimal value; (b) forecasting and comparing the costs of viable delivery options; (c) uncovering cost drivers; and (d) improving resource allocation. ADVISOR is built around the ADDIE model with the added flexibility of starting the analysis at any level. ADVISOR is made up of the following modules that can be used separately or in any combination.

<b>Needs Assessment</b>	<b>Assess:</b> To find out <i>“the cause of the problem and potential solutions”</i> . Provides a step by step approach for understanding a problem before selecting the solution – in other words, before assuming that training is needed. Needs Assessment provides an audit trail and serves as the foundation for decisions by zeroing in on the source of the problem, identifying solutions that can produce the desired level of productivity, and highlighting actions that will generate the greatest impact. [Scope and Needs Assessment].
<b>Training Analysis</b>	<b>Analysis:</b> To find out <i>“who needs to be trained, on what and why”</i> . Provides a step by step approach for conducting Training Needs Analysis (TNA) or Training Systems Requirements Analysis (TSRA) to identify training needed by each job, position and employee to perform duties to the desired standard under the prescribed conditions. Four approaches may be used to conduct training analysis, namely Mission, System, Competency or Job. [Mission Analysis, Competency Analysis, System Analysis, Job Task Analysis, Knowledge/Skill Gap Analysis and Training Requirements Analysis].
<b>Training Design</b>	<b>Design:</b> To find out <i>“what is the most effective and economical way to deliver training”</i> . Provides a step by step approach for conducting Training Media Analysis (TMA) or Option Analysis to identify the most cost effective strategy for the delivery of training and generates Training Plans. The analysis takes into account limitations, instructional design requirements, upfront and recurring costs over training program life as well as risks associated with the introduction of new technology. [Media Analysis, Cost Analysis and Training Plans].
<b>Fidelity Analysis</b>	<b>Develop:</b> To find out the <i>“fidelity requirements of training devices”</i> . Provides a step by step approach for assessing the functional requirements of trainers and simulators based on training needs and performance objectives. It identifies visual, tactile, olfactory, affective and auditory sensory cues needed to practice tasks, within realistic environments, under preset conditions to attain the desired level of competency. In addition, ADVISOR takes into account elements within the virtual world and how users interact with each.
<b>Resource Management</b>	<b>Implementation:</b> To find out <i>“how much money and resources are needed”</i> . Compiles and analyzes missions/goals, competencies, systems, jobs, tasks, training requirements, courses, activities, costs, personnel and resources to generate concise, up to date and actionable reports. The reports provide insight on planned training activities for any time period; training requirements for each job/employee; budget, personnel and resource requirements, training impact as well as how to drive training effectiveness and efficiency by leveraging technology, improving resource allocation and identifying gaps, duplications and unwarranted training. [Forecast and Optimize Training Budgets, Personnel and Resources].
<b>Project Management</b>	<b>Implementation:</b> To find out <i>“how training should be implemented”</i> . Provides a step by step approach for planning a project and tracking progress in real time. This includes the setup of phases and tasks, dependencies and constraints, timelines as well as the assignment of personnel and resources needed to complete. Moreover, ADVISOR tracks progress by comparing hours worked and money spent on each task to project plan, to anticipate delays, facilitate the implementation of corrective measures, and keep projects on-time and within budget. [Develop Project Plans and Track Progress].

**Performance  
Analysis**

**Evaluation:** To find out “*how training impacts performance and organizational goals*”. Provides a step by step approach for improving performance by zeroing in on the source of the problem and identifying solutions that can produce the desired level of productivity. Moreover, ADVISOR highlights actions that will generate the greatest impact by assessing the feasibility of implementing plausible solutions as well as forecasting the costs, benefits and Return on Investment (ROI) of each intervention. [Performance Gap Analysis, Root Cause Analysis and Cost Benefit Analysis].

**Training Life  
Cycle  
Management**

**Manage:** To “*continually uncover venues to drive training effectiveness & efficiency*”. Maintains training effectiveness and efficiency over time by continually assessing the impact of changes to missions, jobs, tasks, systems, policies, technologies, throughput, and so forth on training content and activities; as well as budget, personnel and resource requirements. This is attained through a digital-twin model that continually aligns training activities to operational requirements to identify gaps, duplications and training with minimal value. Results (personnel/resource requirements for any time period; cost drivers; bottlenecks and deficiencies) are quickly and concisely communicated through dashboards. Actions that drive training effectiveness and efficiency are also highlighted.

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## Chapter 1: Setup Projects and Training Devices

### 1.1 Introduction

In general, Trainers and Simulators offer several advantages including the simulation of dangerous, life threatening situations; safe training environment; learning from doing; opportunity to make mistakes, as well as a more efficient learning environment. To achieve these benefits, Trainers and Simulators should allow students to practice all relevant tasks, within realistic environments, under preset conditions, with sufficient level of fidelity to attain the desired level of competency. In other words, the requirements for Trainers and Simulators should be driven by learning needs and performance objectives.

Whether you are investigating the viability of off-the-shelf trainers/simulators or procuring a custom-built trainer/simulator, the types and fidelity of visual, tactile, olfactory, affective and auditory sensory cues; as well as the synthetic environment requirements and elements should be clearly articulated.


Two approaches can be used to Perform Fidelity Analysis within ADVISOR: Task Based Fidelity Analysis or Activity Based Fidelity Analysis.

Task Based Fidelity Analysis relies on the Tasks that individuals perform on-the-job to identify the functional requirements for the trainers/simulators as well as the synthetic environment requirements, synthetic environment elements and activities, and sensory cues. This approach is best suited in the early stages of the analysis when training requirements/activities have not been defined.

Activity Based Fidelity Analysis relies on the Activities (i.e., Learning Objectives) that individuals are expected to master to identify the functional requirements for the trainers/simulators, as well as the synthetic environment requirements, synthetic environment elements and activities, and sensory cues. This approach can only be used once training requirements/activities have been defined and trainers/simulators have been identified as a viable delivery option (refer to Media Analysis Step by Step Guide).

The current guide presents a step by step process for conducting Activity Based Fidelity Analysis to identify trainers/simulators requirements. For details on all fidelity analysis covered by ADVISOR Enterprise, please refer to the Fidelity Analysis User Guide. Separate Step-by-Step Guide is available for conducting Task Based Fidelity Analysis, and therefore will not be covered in this Step-by-Step Guide. For info on basic functionality and how to configure ADVISOR in line with needs, please refer to the Configure ADVISOR Step by Step or User Guide. Remember that context sensitive help for each screen is also available by clicking on **[Help]**.

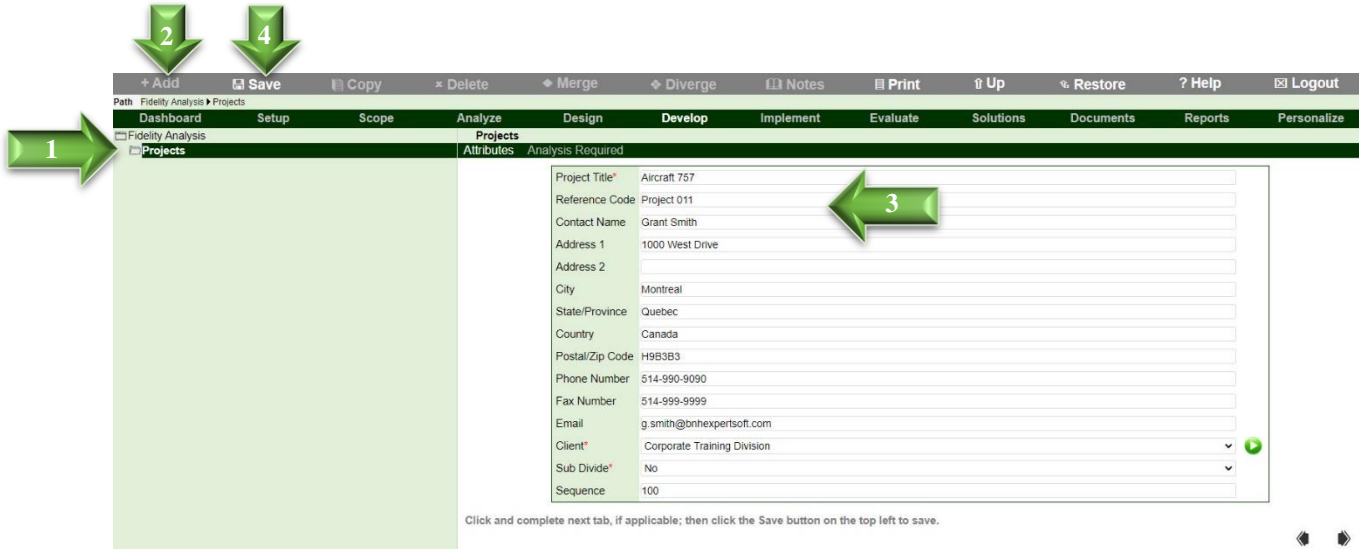
## 1.2 Setup New Projects

**Step 1:** To create a new Project, click on the  **Projects** folder.

**Step 2:** Click **[Add]**.

**Step 3:** Input the Project Title, Contact Name, Client and other info. Data required by ADVISOR is identified by a red asterisk (\*). Of course, the more data you provide, the better the results.

**Step 4:** Click **[Save]** to create the Project.




The screenshot shows the ADVISOR software interface. At the top, there is a menu bar with options: + Add, Save, Copy, Delete, Merge, Diverge, Notes, Print, Up, Restore, Help, and Logout. Below the menu bar is a breadcrumb path: Fidelity Analysis > Projects. The main content area is divided into two tabs: 'Attributes' and 'Analysis Required'. The 'Attributes' tab is active, showing a form with the following fields and values:

Project Title*	Aircraft 757
Reference Code	Project 011
Contact Name	Grant Smith
Address 1	1000 West Drive
Address 2	
City	Montreal
State/Province	Quebec
Country	Canada
Postal/Zip Code	H9B3B3
Phone Number	514-990-9090
Fax Number	514-999-9999
Email	g.smith@bnhexpertsoft.com
Client*	Corporate Training Division
Sub Divide*	No
Sequence	100

Below the form, there is a small text instruction: "Click and complete next tab, if applicable; then click the Save button on the top left to save." Green arrows in the original image point to the 'Add' button (2), the 'Project Title' field (3), and the 'Save' button (4). A green arrow (1) points to the 'Projects' folder in the breadcrumb path.

### Notes:

- To divide the Project into Segments, select “Yes” under the Sub Divide field.
- Once the project analysis is completed or milestone reached, you can Archive the Project. This will create a duplicate copy of the analysis that can only be viewed in read only mode to preserve integrity. Changes to the current analysis will not impact archived data. To archive an analysis, click on the  (project) node, then click on the **[Archive]** tab, input the Version Title and click **[Save]**. The date on which the archive was created is automatically saved.
- You may view an archived version in read only mode, delete as well as recover (i.e., overwrite existing version) by clicking on the corresponding tabs. Of course, if a Project is deleted, all archived versions of the Project will be automatically deleted as well.
- You may also share the analysis with colleagues (i.e., Users assigned to same Client) by clicking on **[Sharing]** tab, placing checkmarks next to their names and clicking **[Save]**.

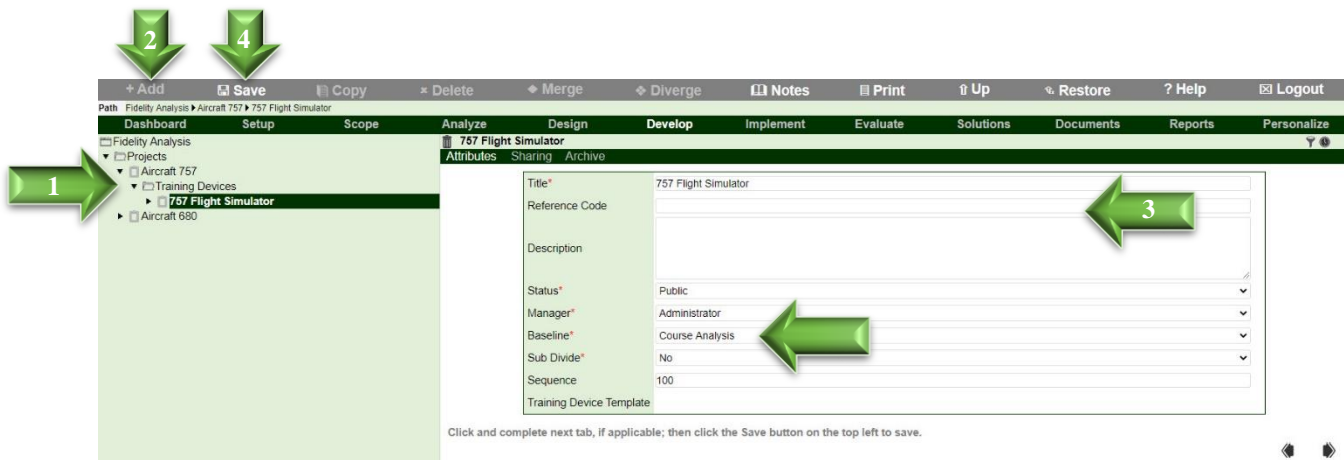
## 1.3 Setup Training Devices and Select Approach

**Step 1:** To assess the requirements for a Training Device, click on the **Training Devices** folder.

**Step 2:** Click **[Add]**.

**Step 3:** Input the Training Device Title, Description, Manager, **Baseline** and other info. Data required by ADVISOR is identified by a red asterisk (\*). Of course, the more data you provide, the better the results.

**Step 4:** Click **[Save]** to create the Training Device.



The screenshot shows the ADVISOR software interface. The left sidebar has a tree view with 'Fidelity Analysis' expanded to 'Projects' > 'Aircraft 757' > 'Training Devices' > '757 Flight Simulator'. A green arrow labeled '1' points to this folder. The top toolbar has buttons for '+ Add', 'Save', 'Copy', 'Delete', 'Merge', 'Diverge', 'Notes', 'Print', 'Up', 'Restore', 'Help', and 'Logout'. A green arrow labeled '2' points to the '+ Add' button. The main window shows the '757 Flight Simulator' form with fields: Title\* (757 Flight Simulator), Reference Code, Description, Status\* (Public), Manager\* (Administrator), Baseline\* (Course Analysis), Sub Divide\* (No), Sequence (100), and Training Device Template. A green arrow labeled '3' points to the 'Baseline\*' dropdown. A green arrow labeled '4' points to the 'Save' button in the top toolbar. Below the form, a note reads: 'Click and complete next tab, if applicable; then click the Save button on the top left to save.'

**Implication:** Baseline specifies the approach for conducting the Fidelity Analysis. Job Analysis indicates a Task Based Approach and Course Analysis indicates an Activity Based approach. Once the baseline is selected the ADVISOR interface will be streamlined accordingly:

- Job Analysis should be selected if training requirements have not been defined and media analysis has not been conducted. In other words, the Performance Objectives (Tasks that require training) will be used to identify Sensory Cues requirements.
- Course Analysis should be selected if media analysis has been conducted. In other words, Learning Objectives (Activities) will be used to identify Sensory Cues requirements.

### Notes:

- To divide the Training Device into Components, select “Yes” under the Sub Divide field.
- To minimize the effort required to conduct Fidelity Analysis, if training requirements/activities have been defined and trainers/simulators have been identified as a viable delivery option (refer to Media Analysis Step by Step Guide), then Training Devices along with Courses and relevant Learning Objective (Activities) can be imported by clicking on the **[Search]** tab under the **Training Device** folder, selecting Course, for example, under the **Search by** field, as well as Currently Used or User Recommended under the **Delivery Option** field and clicking **[Save]** to display the list of available courses. Place checkmarks next to desired Courses and click **[Save]** to automatically identify and copy Training Devices from the Currently Used or User Recommended delivery options along with relevant Learning Objectives (Activities).

## Chapter 2: Define Sensory Cues Repository

To identify the Sensory Cues Requirements for each Learning Objective (Activity) and in-turn the trainer/simulator, a repository of sensory cues to be considered should 1<sup>st</sup> be created under the **Device Sensory Cues** folder. To facilitate the selection process, the Cues can be organized under various Categories such as “Visual”, “Tactile”, “Olfactory”, “Affective”, “Auditory”, etc. To create a sensory cue Category for the Training Device:

**Step 1:** Click on the **Device Sensory Cues** folder.

**Step 2:** Click **[Add]**.

**Step 3:** Input the Category Title, Analyst Notes and other information.

**Step 4:** Click **[Save]** to create the Sensory Cue Category.

The screenshot shows the software interface with the following elements:

- Step 1:** The left-hand navigation pane shows a tree structure. The folder "Device Sensory Cues" is selected and highlighted.
- Step 2:** The "Add" button in the top toolbar is highlighted with a green arrow.
- Step 3:** The "Add" dialog box is open, displaying the following information:
  - Category Title\*: Olfactory
  - Reference Code: Sense 002
  - Analyst Notes: Relating to Sense of Smell
  - Sequence: 50
- Step 4:** A green arrow points to the "Save" button in the top-left corner of the dialog box.

For each Category, “Visual”, for example, various Cues can be created such as “Brightness”, “Color”, “Field of View”, and so forth. To add a Cue under a Category:

**Step 5:** Click ► next to the **(Category)** node (**Olfactory** for example).

**Step 6:** Click on the **Cues** folder.

**Step 7:** Click **[Add]**.

**Step 8:** Input the Cue Title, Analyst Notes, Response Type and other information.

**Step 9:** Click **[Save]** to create the Cue.

The screenshot shows the software interface with the following elements:

- Step 5:** The left-hand navigation pane shows a tree structure. The folder "Olfactory" is selected and highlighted.
- Step 6:** The "Cues" folder under "Olfactory" is selected and highlighted.
- Step 7:** The "Add" button in the top toolbar is highlighted with a green arrow.
- Step 8:** The "Add" dialog box is open, displaying the following information:
  - Cue Title\*: Odor
  - Reference Code: Sense of Smell 001
  - Analyst Notes: A distinctive smell that provides a quality, impression or feeling attached to something.
  - Response Type\*: Dropdown
  - Sequence: 100
- Step 9:** A green arrow points to the "Save" button in the top-left corner of the dialog box.

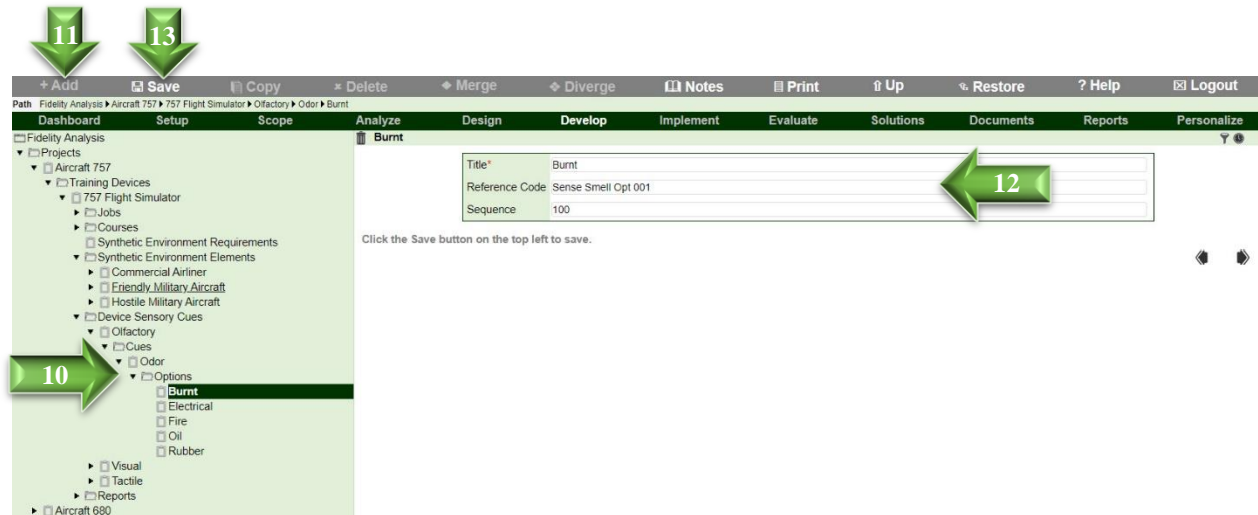
**Implications:** Two options can be selected under Response Type: “Alphanumeric” or “Dropdown”. Alphanumeric Response will allow users to input an alphanumeric value for the Cue; while the Dropdown Response will limit users’ response to the predefined Options. “Low”, “Medium”, and “High”, for example. If “Dropdown” is selected for Response Type, Dropdown Options for the Cue can be defined as follows:

**Step 10:** Click on the **Options** folder.

**Step 11:** Click **[Add]**.

**Step 12:** Input the Option Title and Sequence.

**Step 13:** Click **[Save]** to create Option for the Cue.




The screenshot shows the software interface with a tree view on the left and a form on the right. A green arrow labeled '10' points to the 'Options' folder under 'Burmt'. A green arrow labeled '11' points to the 'Add' button in the top toolbar. A green arrow labeled '12' points to the 'Title' field in the form, which contains the text 'Burmt'. A green arrow labeled '13' points to the 'Save' button in the top toolbar. The form also shows 'Reference Code' as 'Sense Smell Opt 001' and 'Sequence' as '100'. Below the form, there is a note: 'Click the Save button on the top left to save.'

**Note:**

- Once Cues have been defined under one Training Device, they can be easily copied under other Training Devices by clicking on the **[Search]** tab on the **Device Sensory Cues** folder.



## Chapter 3: Define Training Device Sensory Cues Requirements

### 3.1 Overview

The Activity Based approach is presented in this chapter – i.e., when Course Analysis is selected as Baseline under  (training device).

### 3.2 Identify Jobs

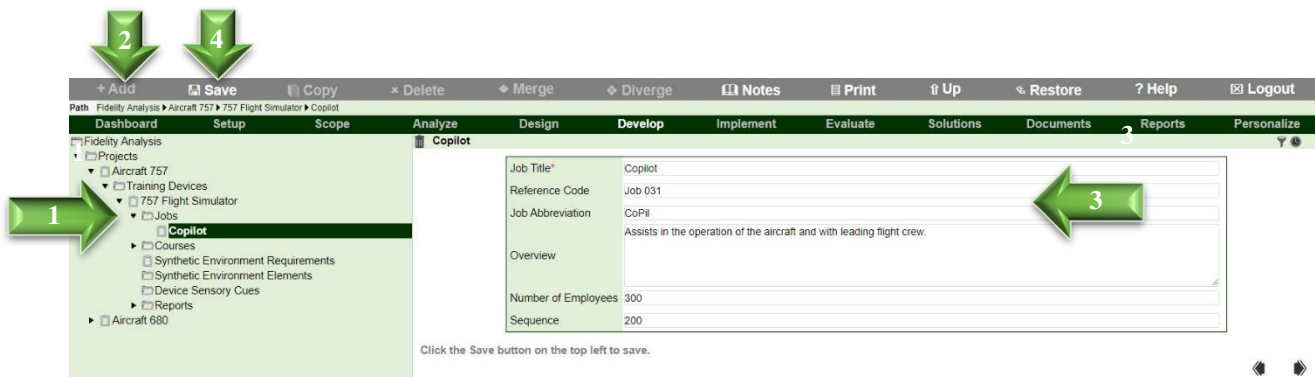
Identifies the target audience for the Training Device. In other words, all Jobs (Occupations) that will be trained on this Device. To add a new Job:

**Step 1:** Click on the  Jobs folder under the  (training device) node.

**Step 2:** Click [Add].

**Step 3:** Input the Job/Role Title, a brief overview, the number of employees that work in this capacity and other required information.

**Step 4:** Click [Save] to create the Job.





The screenshot shows the software interface for creating a new job. The navigation tree on the left is expanded to show the 'Copilot' folder under the '757 Flight Simulator' node. The main area displays the 'Copilot' job form with the following fields:

- Job Title\*: Copilot
- Reference Code: Job 031
- Job Abbreviation: CoPII
- Overview: Assists in the operation of the aircraft and with leading flight crew.
- Number of Employees: 300
- Sequence: 200

Green arrows indicate the steps: 1 points to the 'Copilot' folder in the tree, 2 points to the 'Save' button, 3 points to the 'Overview' text area, and 4 points to the 'Save' button again.

### 3.3 Identify Courses

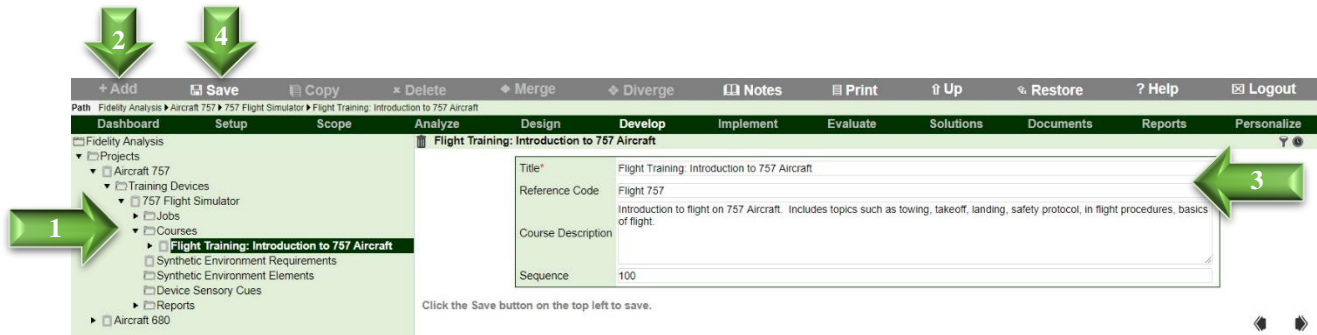
To identify Courses and in-turn Learning Objectives (Activities) that will be taught on the Training Device.

**Step 1:** Click on the  **Courses** folder under the  (**training device**) node.

**Step 2:** Click **[Add]**.

**Step 3:** Input Course Title, Reference Code, Description, etc.

**Step 4:** Click **[Save]** to create the Course.



The screenshot shows the software interface with the following elements:

- Step 1:** A green arrow points to the 'Courses' folder under the '757 Flight Simulator' node in the left sidebar.
- Step 2:** A green arrow points to the 'Add' button in the top toolbar.
- Step 3:** A green arrow points to the 'Title' field in the form, which contains the text 'Flight Training: Introduction to 757 Aircraft'.
- Step 4:** A green arrow points to the 'Save' button in the top toolbar.

The form fields are as follows:

Title*	Flight Training: Introduction to 757 Aircraft
Reference Code	Flight 757
Course Description	Introduction to flight on 757 Aircraft. Includes topics such as towing, takeoff, landing, safety protocol, in flight procedures, basics of flight.
Sequence	100

Click the Save button on the top left to save.

## 3.4 Define Learning Objectives

### Create Learning Objectives

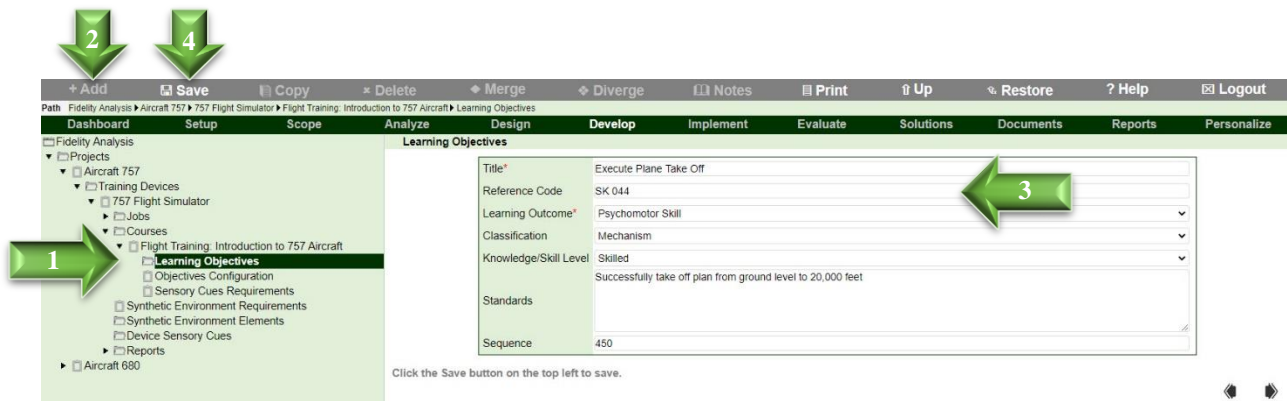
The Learning Objectives (Activities) for each Course are defined under the **Learning Objectives** folder. To determine the Fidelity Requirements of the Training Device all Learning Objectives (Activities) that will be trained on this Device must be analyzed. To add a Learning Objective (Activity):

**Step 1:** Click on the **Learning Objectives** folder under the **(course)** node.

**Step 2:** Click **[Add]**.

**Step 3:** Input the Learning Objective title, indicate its primary learning outcome and classification, knowledge/skill level, as well as other required information.

**Step 4:** Click **[Save]** to create the Learning Objective.



The screenshot shows the software interface for creating a Learning Objective. The left sidebar contains a tree view with the following structure:

- Fidelity Analysis
  - Projects
    - Aircraft 757
      - Training Devices
        - 757 Flight Simulator
          - Jobs
            - Courses
              - Flight Training: Introduction to 757 Aircraft
                - Learning Objectives** (highlighted with arrow 1)
                - Objectives Configuration
                - Sensory Cues Requirements
                - Synthetic Environment Requirements
                - Synthetic Environment Elements
                - Device Sensory Cues
                  - Reports
  - Aircraft 680

The main window shows the 'Learning Objectives' form with the following fields:

- Title\*: Execute Plane Take Off (arrow 3)
- Reference Code: SK 044
- Learning Outcome\*: Psychomotor Skill
- Classification: Mechanism
- Knowledge/Skill Level: Skilled
- Standards: Successfully take off plan from ground level to 20,000 feet
- Sequence: 450

At the top of the window, there is a toolbar with buttons: Add, Save, Copy, Delete, Merge, Diverge, Notes, Print, Up, Restore, Help, and Logout. Arrows 2 and 4 point to the 'Add' and 'Save' buttons respectively.

Below the form, there is a note: "Click the Save button on the top left to save."

## Import Learning Objectives

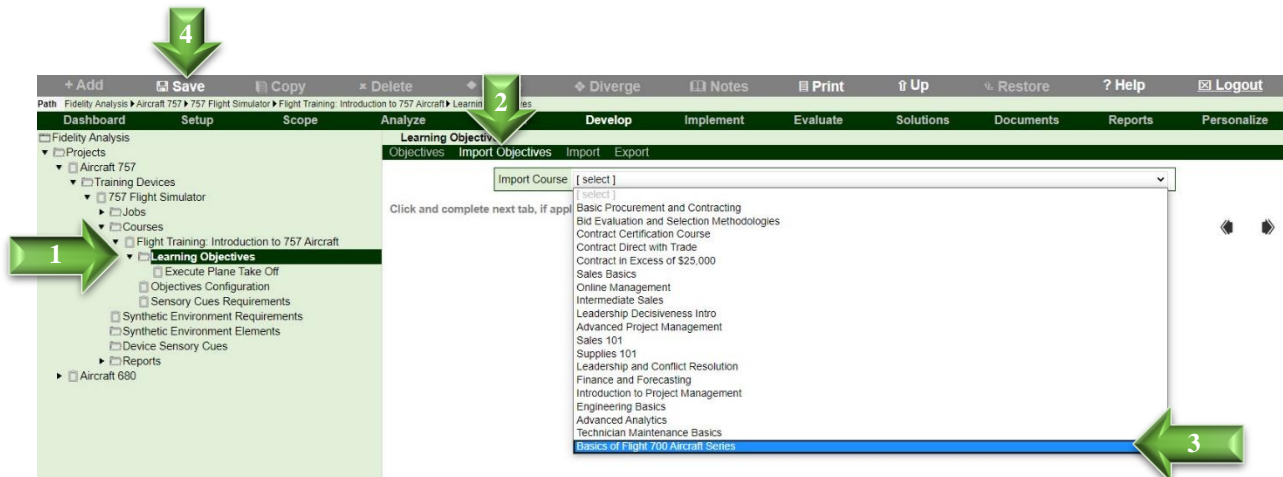
To minimize the effort required to identify relevant Learning Objectives (Activities), an import function is provided to assist analysts in copying Learning Objectives from existing Courses. To import Learning Objectives from a Course (created under Course Analysis folder under Design tab):


**Step 1:** Click on the  **Learning Objectives** folder.

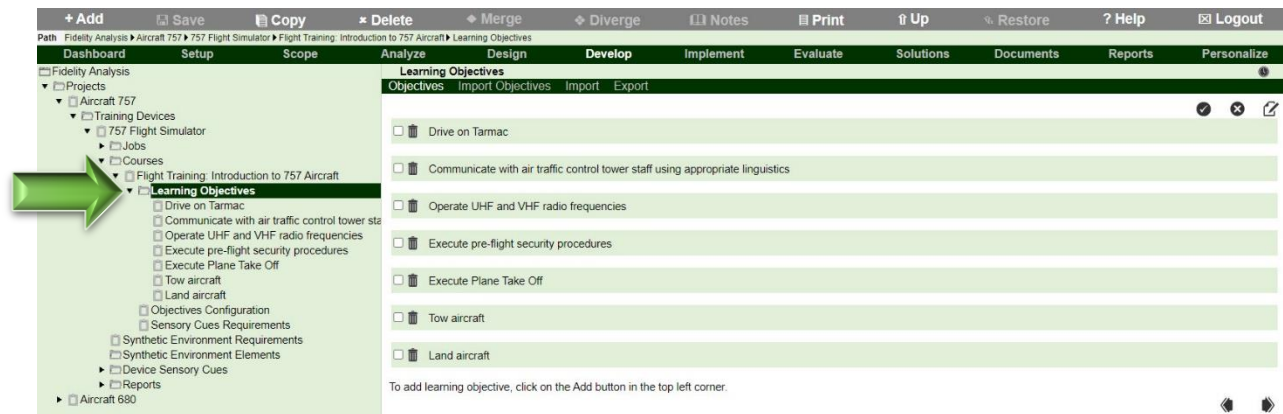
**Step 2:** Click on the **[Import Objectives]** tab.

**Step 3:** Select the desired Course.

**Step 4:** Click **[Save]** to import the Learning Objectives from selected Course.



**Note:** All the Learning Objectives from selected Course will automatically be imported/copied into the  **Learning Objectives** folder.



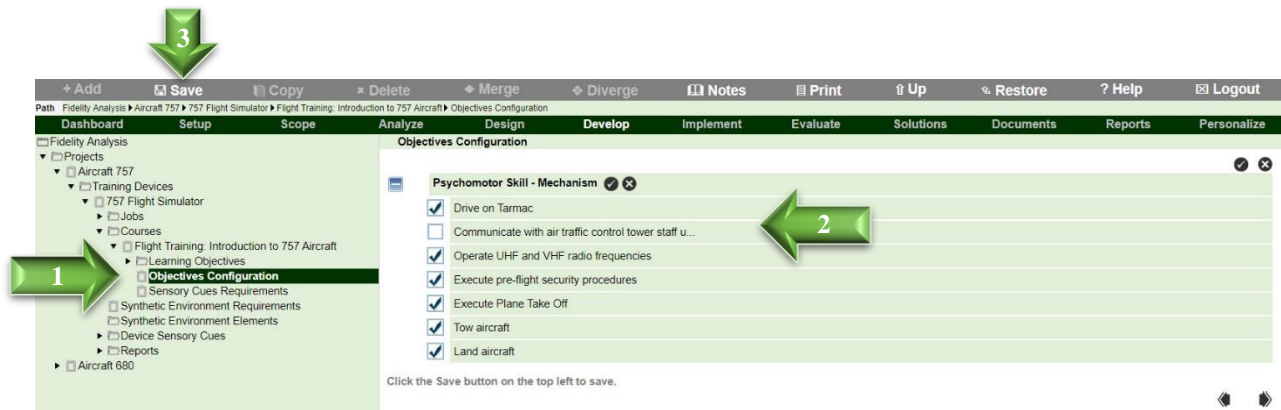
### 3.5 Select Relevant Objectives

Although multiple Learning Objectives (Activities) may exist under a Course, only few of those Learning Objectives (Activities) may be trained on this Device. To select relevant Learning Objectives (Activities) (by default all Learning Objectives are selected):

**Step 1:** Click on the  **Objectives Configuration** node.

**Step 2:** Place checkmarks next to relevant Learning Objectives; in other words, deselect Objectives that are not relevant.

**Step 3:** Click **[Save]**.




The screenshot shows the 'Objectives Configuration' window. The left sidebar has a tree view with 'Objectives Configuration' selected. The main area shows a list of tasks under the heading 'Psychomotor Skill - Mechanism'. The tasks are:

- Drive on Tarmac
- Communicate with air traffic control tower staff u...
- Operate UHF and VHF radio frequencies
- Execute pre-flight security procedures
- Execute Plane Take Off
- Tow aircraft
- Land aircraft

At the top of the window, there is a 'Save' button. A note at the bottom of the window says: 'Click the Save button on the top left to save.'

Note:

- Only selected Learning Objectives (Activities) will be presented under the  **Sensory Cues Requirements** node.

### 3.6 Identify Sensory Cues Requirements

To simplify and speed Fidelity Analysis, only relevant/selected Learning Objectives (Activities) (Section 3.5) will be assessed. To identify the Sensory Cues Requirements for each Objective (Activity):

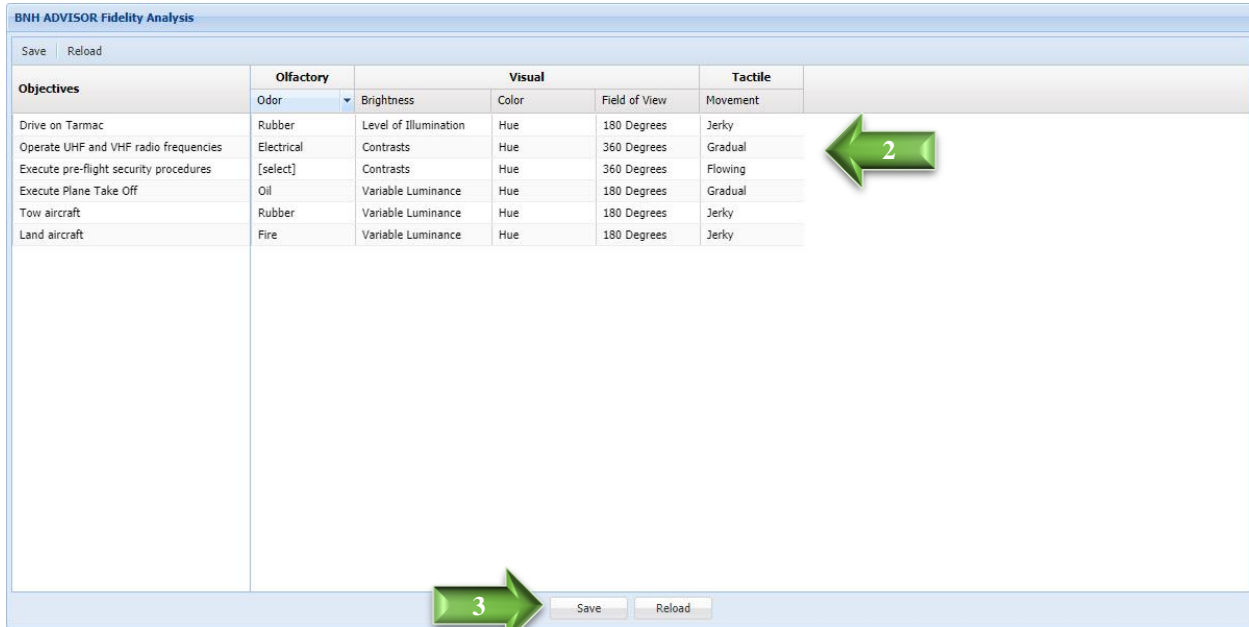
**Step 1:** Click on the  **Sensory Cues Requirements** node.



A table with relevant Learning Objectives (Activities) in the 1<sup>st</sup> Column is presented. Sensory Cues (defined in Chapter 2) are presented on the top row.

**Step 2:** For each Learning Objective (Activity), select or input the appropriate response for each Cue.

**Step 3:** Once all Cues have been selected, click [**Save**].



**Note:**

- If you click the [**Reload**] button, the responses for each Cue will revert to the last saved value.




## Chapter 4: Define Synthetic Environment

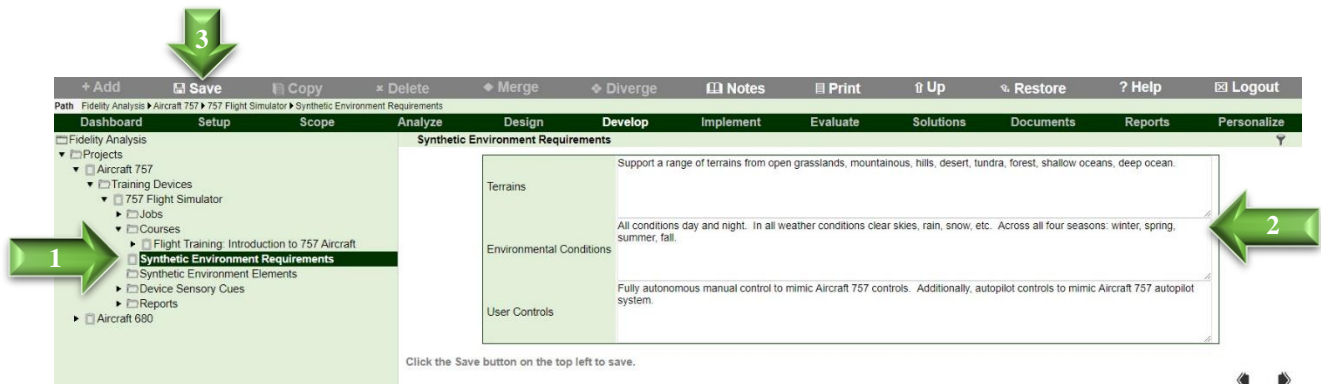
### 4.1 Overview

Training Devices typically operate within a synthetic (virtual) environment and trainees may be required to interact with virtual elements/objects within this synthetic/virtual environment. The process used to define both items is presented in this chapter.

### 4.2 Define Synthetic Environment

To define the synthetic environment requirements:

- Step 1:** Click on the  **Synthetic Environment Requirements** node, under the  (training device) node, ( **757 Flight Simulator**, for example).
- Step 2:** Define the required Terrains, Environmental Conditions and User Controls for Training Device. For example, Terrain may be defined as entire planet, specific locations, or specific characteristics such as flora, fauna and manmade. Environmental Conditions may include Day and Night, Seasonal Changes (Winter, Summer, Spring and Fall), and so forth.
- Step 3:** Click **[Save]**.



The screenshot shows the software interface for defining synthetic environment requirements. The left sidebar displays a tree view with the following structure:

- Fidelity Analysis
  - Projects
    - Aircraft 757
      - Training Devices
        - 757 Flight Simulator
          - Jobs
          - Courses
          - Flight Training: Introduction to 757 Aircraft
          - Synthetic Environment Requirements** (highlighted)
          - Synthetic Environment Elements
          - Device Sensory Cues
          - Reports
        - Aircraft 680

The main content area is titled "Synthetic Environment Requirements" and contains three sections:

- Terrains:** Support a range of terrains from open grasslands, mountainous, hills, desert, tundra, forest, shallow oceans, deep ocean.
- Environmental Conditions:** All conditions day and night. In all weather conditions clear skies, rain, snow, etc. Across all four seasons: winter, spring, summer, fall.
- User Controls:** Fully autonomous manual control to mimic Aircraft 757 controls. Additionally, autopilot controls to mimic Aircraft 757 autopilot system.

A toolbar at the top includes buttons for + Add, Save, Copy, Delete, Merge, Diverge, Notes, Print, Up, Restore, ? Help, and Logout. A note at the bottom of the main area says "Click the Save button on the top left to save."

### 4.3 Define Elements & Activities

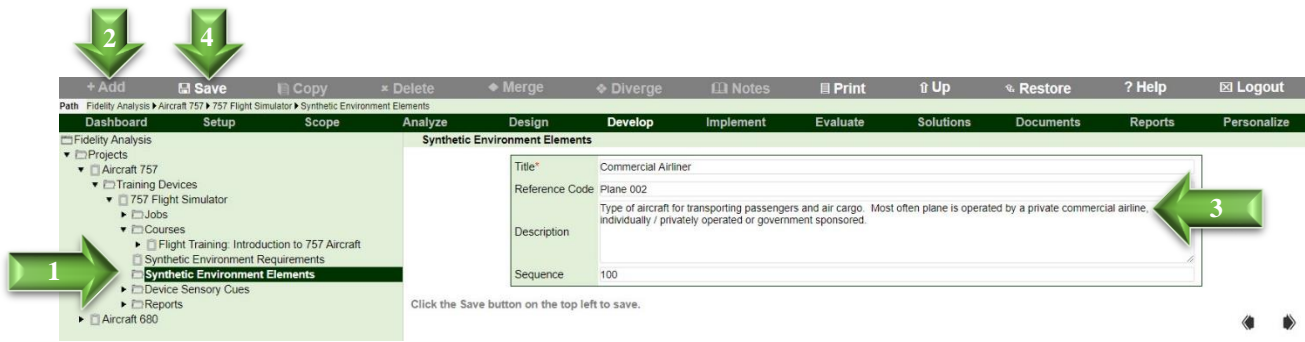
To define Elements/Objects within the Synthetic Environment including Activities – i.e., how users will interact with those Elements:

**Step 1:** Click on the  **Synthetic Environment Elements** folder.

**Step 2:** Click **[Add]**.

**Step 3:** Input the Element Title, Description and other information. These may include, as an example, enemy, friendly or neutral vehicles, aircrafts, ships and UAVs.

**Step 4:** Click **[Save]** to create the Element/Object.





The screenshot shows the software interface with the following elements:

- Toolbar:** + Add, Save, Copy, Delete, Merge, Diverge, Notes, Print, Up, Restore, Help, Logout.
- Navigation:** Dashboard, Setup, Scope, Analyze, Design, Develop, Implement, Evaluate, Solutions, Documents, Reports, Personalize.
- Left Tree:** Fidelity Analysis > Projects > Aircraft 757 > Training Devices > 757 Flight Simulator > Synthetic Environment Elements (highlighted with arrow 1).
- Main Form:** Synthetic Environment Elements
 

|                |  |
|----------------|--|
| Title*         | Commercial Airliner  |
| Reference Code | Plane 002  |
| Description    | Type of aircraft for transporting passengers and air cargo. Most often plane is operated by a private commercial airline, individually / privately operated or government sponsored. (arrow 3) |
| Sequence       | 100  |
- Buttons:** Save button on the top left to save. (arrow 4)

To define how users will interact with these Elements/Objects:

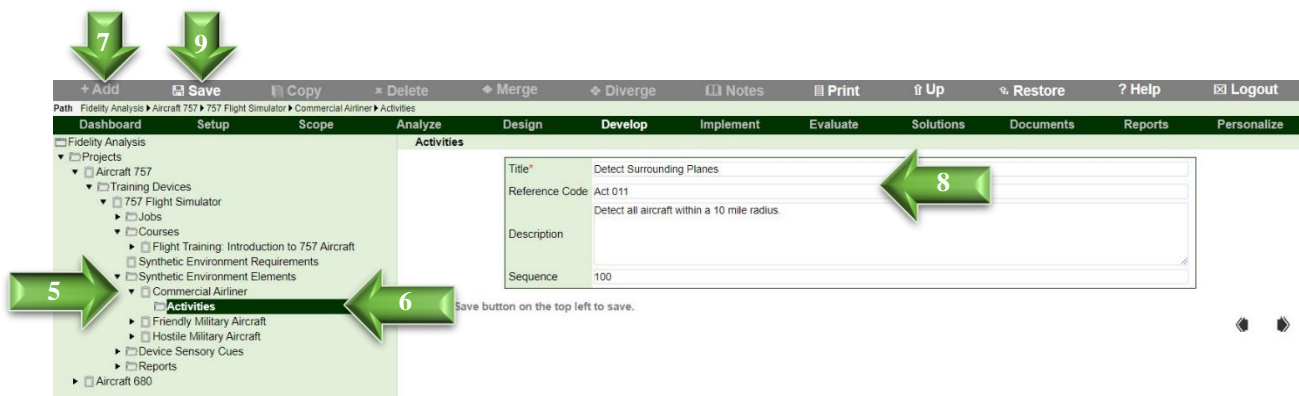
**Step 5:** Click on ► next to the  (element title) node, ( **Commercial Airliner**, for example) to expand.

**Step 6:** Click on the  **Activities** folder.

**Step 7:** Click **[Add]**.

**Step 8:** Input the Activity Title, Description and other information. This may include, as an example, users should be able to detect, observe, recognize, identify, communicate or engage with the Element/Object within a specific distance.

**Step 9:** Click **[Save]** to create the Activity.



The screenshot shows the software interface with the following elements:

- Toolbar:** + Add, Save, Copy, Delete, Merge, Diverge, Notes, Print, Up, Restore, Help, Logout.
- Navigation:** Dashboard, Setup, Scope, Analyze, Design, Develop, Implement, Evaluate, Solutions, Documents, Reports, Personalize.
- Left Tree:** Fidelity Analysis > Projects > Aircraft 757 > Training Devices > 757 Flight Simulator > Commercial Airliner > Activities (arrow 6).
- Main Form:** Activities
 

|                |  |
|----------------|--|
| Title*         | Detect Surrounding Planes                              |
| Reference Code | Act 011  |
| Description    | Detect all aircraft within a 10 mile radius. (arrow 8) |
| Sequence       | 100  |
- Buttons:** Save button on the top left to save. (arrow 9)

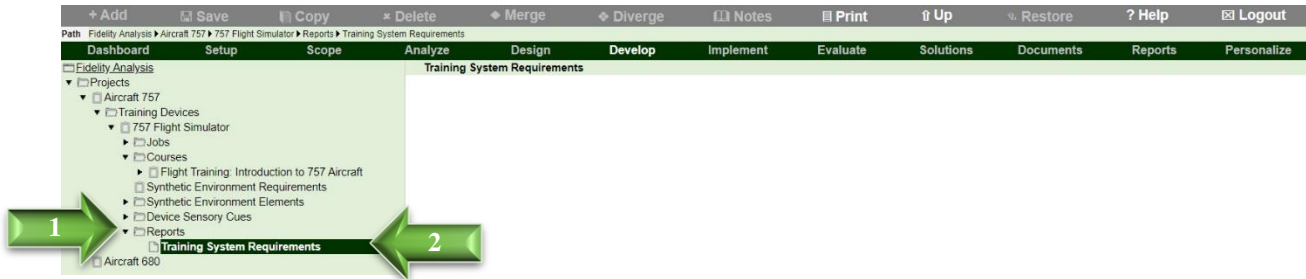
## Chapter 5: Generate Reports

### 5.1 Training System Requirements Report

One of ADVISOR's key benefits is the ease and speed in which various types of reports can be generated. The Training System Requirements Report generates a concise summary of Training Device requirements based on defined parameters including: Functional Requirements – i.e., Tasks (Performance and Enabling Objectives) or Activities (Learning Objectives) that each Job/Occupation is expected to perform on the Training Device; Sensory Cues Requirements for Training Device and Components; Synthetic Environment Requirements; as well as Synthetic Environment Elements/Objectives and Activities. To generate:

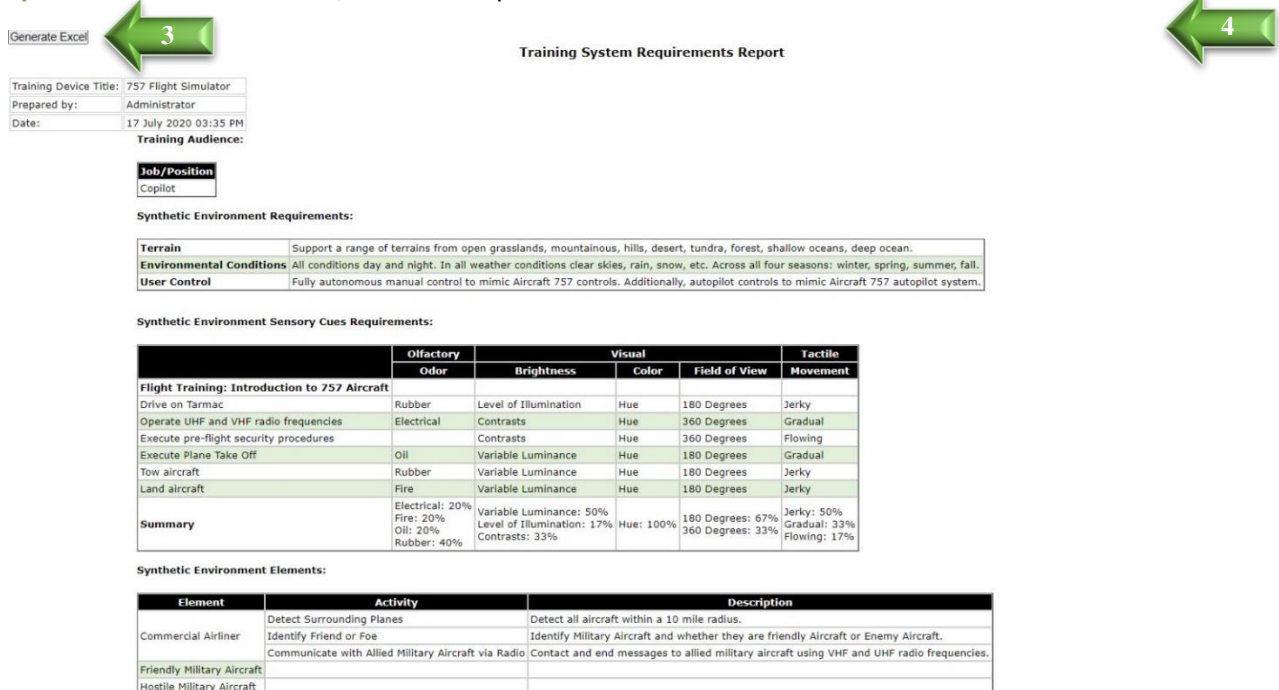
**Step 1:** Click on ► next to the **Reports** folder to expand.

**Step 2:** Click on the **Training System Requirements** node to generate the report in a new window.



**Step 3:** You can export the report to MS Excel by clicking the **[Generate Excel]** button.

**Step 4:** To return to ADVISOR, close the Report window.



**Training System Requirements Report**

Training Device Title: 757 Flight Simulator  
 Prepared by: Administrator  
 Date: 17 July 2020 03:35 PM

**Training Audience:**

**Job/Position**  
 Copilot

**Synthetic Environment Requirements:**


**Terrain** Support a range of terrains from open grasslands, mountainous, hills, desert, tundra, forest, shallow oceans, deep ocean.  
**Environmental Conditions** All conditions day and night. In all weather conditions clear skies, rain, snow, etc. Across all four seasons: winter, spring, summer, fall.  
**User Control** Fully autonomous manual control to mimic Aircraft 757 controls. Additionally, autopilot controls to mimic Aircraft 757 autopilot system.

**Synthetic Environment Sensory Cues Requirements:**

|  | Odory   | Visual  |           | Tactile                              |
|--|---|---|-----------|--------------------------------------|
|  | Odor  | Brightness  | Color     | Field of View                        |
| <b>Flight Training: Introduction to 757 Aircraft</b> |   |   |           |                                      |
| Drive on Tarmac                                      | Rubber  | Level of Illumination   | Hue       | 180 Degrees                          |
| Operate UHF and VHF radio frequencies                | Electrical  | Contrasts   | Hue       | 360 Degrees                          |
| Execute pre-flight security procedures               |   | Contrasts   | Hue       | 360 Degrees                          |
| Execute Plane Take Off                               | Oil   | Variable Luminance  | Hue       | 180 Degrees                          |
| Tow aircraft   | Rubber  | Variable Luminance  | Hue       | 180 Degrees                          |
| Land aircraft  | Fire  | Variable Luminance  | Hue       | 180 Degrees                          |
| <b>Summary</b>                                       | Electrical: 20%<br>Fire: 20%<br>Oil: 20%<br>Rubber: 40% | Variable Luminance: 50%<br>Level of Illumination: 17%<br>Contrasts: 33% | Hue: 100% | 180 Degrees: 67%<br>360 Degrees: 33% |

**Synthetic Environment Elements:**

| Element                    | Activity  | Description  |
|----------------------------|---|--|
| Commercial Airliner        | Detect Surrounding Planes<br>Identify Friend or Foe | Detect all aircraft within a 10 mile radius.<br>Identify Military Aircraft and whether they are friendly Aircraft or Enemy Aircraft. |
| Friendly Military Aircraft | Communicate with Allied Military Aircraft via Radio | Contact and end messages to allied military aircraft using VHF and UHF radio frequencies.  |
| Hostile Military Aircraft  |   |  |

Remember that context sensitive help is also available for each screen by clicking on **[Help]** and video clips on how to perform specific functions by clicking on the video  icon. **Enjoy!**

## Annex A: Sensory Stimulus Cues

Sensory Stimulus Cues from MIL-HDBK-29612-2A are presented below as a reference of the types of stimulus cues that are typically considered for Training Devices.

### MIL-HDBK-29612-2A

TABLE 29. Sensory stimulus cues.

| VISUAL CUES |                              | VISUAL CUES   |                               |
|-------------|------------------------------|---------------|-------------------------------|
| Domain      | Type                         | Domain        | Type                          |
| Brightness  | Candle Power                 | Composition   | Titles and Headings           |
| Brightness  | Contrasts                    | Composition   | Underlining                   |
| Brightness  | Contrast in Illumination     | Composition   | Upper Case Letters            |
| Brightness  | Dim Contrasts                | Composition   | Upper and Lower Case Letters  |
| Brightness  | Glitter                      | Chart         | Organization                  |
| Brightness  | Gloss                        | Chart         | Classification                |
| Brightness  | Glowing                      | Chart         | Time Lines                    |
| Brightness  | Gradual Contrasts            | Chart         | Flowchart                     |
| Brightness  | Instantaneous Contrasts      | Chart         | Tabular (or table)            |
| Brightness  | Level of Illumination        | Field of View | 30 degree                     |
| Brightness  | Lack of Contrast             | Field of View | 90 degree                     |
| Brightness  | Lack of Resolution           | Field of View | 180 degree                    |
| Brightness  | Variable Luminance           | Field of View | 360 degree                    |
| Color       | Brightness                   | Field of View | 30 degree - Azimuth           |
| Color       | Black and White              | Field of View | 90 degree - Azimuth           |
| Color       | Contrasting                  | Field of View | 180 degree - Azimuth          |
| Color       | Contrasting Brightness       | Field of View | 360 degree - Azimuth          |
| Color       | Dull                         | Field of View | 30 degree - Elevation         |
| Color       | Full Spectrum of Color Chart | Field of View | 90 degree - Elevation         |
| Color       | Gray                         | Field of View | 180 degree - Elevation        |
| Color       | Hue                          | Field of View | 360 degree - Elevation        |
| Color       | Shading                      | Form          | 3D                            |
| Color       | Tint                         | Form          | Alphanumeric                  |
| Composition | Bold                         | Form          | Angle                         |
| Composition | Captions                     | Form          | Boundaries Clear and Complete |
| Composition | Contrasting style of Type    | Form          | Boxes                         |
| Composition | Font Size                    | Form          | Bubbles                       |
| Composition | Font Style                   | Form          | Contrasting                   |
| Composition | Grouping                     | Form          | Density                       |
| Composition | Highlight Color (use of)     | Form          | Environment                   |
| Composition | Italics                      | Form          | Liquid                        |
| Composition | Icons                        | Form          | Map                           |
| Composition | Line Length                  | Form          | Non-translucent               |
| Composition | Lower Case Letters           |               |                               |
| Composition | Paragraph Indentations       |               |                               |
| Composition | Size Text                    |               |                               |
| Composition | Space Between Lines          |               |                               |
| Composition | Style                        |               |                               |

## MIL-HDBK-29612-2A

TABLE 29. Sensory stimulus cues - Continued.

| VISUAL CUES |   | VISUAL CUES |                                 |
|-------------|---|-------------|---------------------------------|
| Domain      | Type                                      | Domain      | Type                            |
| Form        | Numerals                                  | Light       | Fluorescent                     |
| Form        | Rules                                     | Light       | Incandescent                    |
| Form        | Solid Object                              | Light       | Infra Red                       |
| Form        | Split Image                               | Light       | Natural                         |
| Form        | Static Display                            | Movement    | Contrasting                     |
| Form        | Symbols                                   | Movement    | Cyclic                          |
| Form        | Symmetry                                  | Movement    | Eye                             |
| Form        | Table                                     | Movement    | Flowing                         |
| Form        | Timelines                                 | Movement    | Full                            |
| Form        | Translucent                               | Movement    | Gradual                         |
| Graph       | Bar                                       | Movement    | Hand Signals                    |
| Graph       | Line                                      | Movement    | Head                            |
| Graph       | Pictorial                                 |             |                                 |
| Graph       | Pie                                       |             |                                 |
| Light       | Black Light                               |             |                                 |
| VISUAL CUES |   | VISUAL CUES |                                 |
| Domain      | Type                                      | Domain      | Type                            |
| Movement    | Instantaneous                             | Perception  | Position Along a Common Scale   |
| Movement    | Jerky                                     | Perception  | Position Along Nonaligned Scale |
| Movement    | Limited                                   | Perception  | Volume                          |
| Movement    | Still                                     | Pictorial   | Aerial                          |
| Perception  | Acuity (sharpness)                        | Pictorial   | Animation                       |
| Perception  | Altered Depth                             | Pictorial   | Cartoon-like Image              |
| Perception  | Angle                                     | Pictorial   | Diagram                         |
| Perception  | Area                                      | Pictorial   | Line Drawing                    |
| Perception  | Curvature                                 | Pictorial   | Moving                          |
| Perception  | Capacity Levels                           | Pictorial   | Representational Picture        |
| Perception  | Depth                                     | Pictorial   | Sketch                          |
| Perception  | Diameter                                  | Pictorial   | Still                           |
| Perception  | Direction                                 | Pictorial   | Transformational Picture        |
| Perception  | Fidelity (exactness)                      | Print       | Checklists                      |
| Perception  | Fumes                                     | Print       | Instructions                    |
| Perception  | Gradual Changes                           | Print       | Procedures                      |
| Perception  | Intensity of Shading and Color Saturation | Print       | Reference Materials             |
| Perception  | Instantaneous Changes                     | Rate        | Constant                        |
| Perception  | Mirage                                    | Rate        | Contrasting                     |
| Perception  | Length                                    |             |                                 |

## MIL-HDBK-29612-2A

TABLE 29. Sensory stimulus cues - Continued.

| VISUAL CUES |   | VISUAL CUES |   |
|-------------|---|-------------|---|
| Domain      | Type                                    | Domain      | Type  |
| Rate        | Fast                                    | Size        | Stocky  |
| Rate        | Gradual Changes                         | Size        | Thin  |
| Rate        | Instantaneous Changes                   | Size        | Width   |
| Rate        | Slow                                    | Size        | Willowy   |
| Rate        | Variable                                | Source      | Smoke   |
| Scale       | Exact                                   | Source      | Fire  |
| Scale       | Magnified                               | Structure   | Background  |
| Scale       | Proportional                            | Structure   | Lines of Text Broken<br>According to Sense (not<br>space) |
| Scale       | Reduced                                 | Structure   | Page Design   |
| Sequence    | Cartoon Strip Fashion                   | Structure   | Spatial Arrangements                                      |
| Sequence    | Each Panel (one at a time)              | Structure   | Use of White Space  |
| Sequence    | Indicated by Arrows,<br>Numbers, Labels | Temperature | Frost   |
| Shape       | Concave                                 | Temperature | Ice   |
| Shape       | Convex                                  | Temperature | Red Hot   |
| Shape       | Corrugated                              | Temperature | Simmer  |
| Shape       | Crooked                                 | Texture     | Blunt   |
| Shape       | Fluted                                  | Texture     | Braided   |
| Shape       | Recessed                                | Texture     | Braille   |
| Shape       | Spiral                                  | Texture     | Bumpy   |
| Shape       | Straight                                | Texture     | Clammy  |
| Shape       | Twisted                                 | Texture     | Coarse Grained  |
| Size        | Bony                                    | Texture     | Delicate  |
| Size        | Chunky                                  | Texture     | Fine Grained  |
| Size        | Compact                                 | Texture     | Filmy   |
| Size        | Contracting                             | Texture     | Furrowed  |
| Size        | Contrasting                             | Texture     | Gouge   |
| Size        | Dilated                                 | Texture     | Groove  |
| Size        | Elongated                               | Texture     | Holey   |
| Size        | Gangling                                | Texture     | Limp  |
| Size        | Height                                  | Texture     | Interlaced  |
| Size        | Large                                   | Texture     | Indentions  |
| Size        | Lean                                    | Texture     | Jagged  |
| Size        | Pudgy                                   | Texture     | Meshed  |
| Size        | Slim                                    | Texture     | Notched   |
| Size        | Spindly                                 | Texture     | Prickly   |
| Size        | Stature                                 | Texture     | Relief  |

## MIL-HDBK-29612-2A

TABLE 29. Sensory stimulus cues - Continued.

| VISUAL CUES            |                      | VISUAL CUES            |                           |
|------------------------|----------------------|------------------------|---------------------------|
| Domain                 | Type                 | Domain                 | Type                      |
| Texture                | Ribbed               | Topography             | Crest                     |
| Texture                | Ridges               | Topography             | Crown                     |
| Texture                | Rough                | Topography             | Elevation                 |
| Texture                | Rut                  | Topography             | Embankment                |
| Texture                | Scaly                | Topography             | Peak                      |
| Texture                | Sharp                | Topography             | Zenith                    |
| Texture                | Sheer                | Vibration              | Constant                  |
| Texture                | Smooth               | Vibration              | Flutter                   |
| Texture                | Soft                 | Vibration              | Random                    |
| Texture                | Spongy               | Vibration              | Shake                     |
| Texture                | Stubby               | Vibration              | Shimmy                    |
| Texture                | Velvety              | Vibration              | Variable                  |
| Texture                | Warped               | Vibration              | High                      |
| Thermal Signature      | Variable             | Vibration              | Low                       |
| Thermal Signature      | Enumerable           | Frequency              |                           |
| Topography             | Apex                 | Vibration              | High                      |
| Topography             | Bank                 | Frequency              | Low                       |
|                        |                      | Wind                   | Ripples on Water          |
|                        |                      | Wind                   | Flags                     |
|                        |                      | Wind                   | Sock                      |
| TACTILE CUES           |                      | TACTILE CUES           |                           |
| Domain                 | Type                 | Domain                 | Type                      |
| Manipulate Foot/Leg    | Foot Operated Pedal  | Manipulate Hand/Finger | Knob                      |
| Manipulate Foot/Leg    | Foot Operated Switch | Manipulate Hand/Finger | Lever                     |
| Manipulate Hand/Finger | Crank                | Manipulate Hand/Finger | Mouse                     |
| Manipulate Hand/Finger | Grip                 | Manipulate Hand/Finger | Thumb Wheel               |
| Manipulate Hand/Finger | Handle               | Manipulate Hand/Finger | Touch Screen              |
| Manipulate Hand/Finger | Hand Wheel           | Manipulate Hand/Finger | Switch, Continuous Rotary |
| Manipulate Hand/Finger | Isotonic Joystick    | Manipulate Hand/Finger | Switch, Discrete Rotary   |
| Manipulate Hand/Finger | Keyboard             | Manipulate Hand/Finger | Switch, Key Operated      |

## MIL-HDBK-29612-2A

TABLE 29. Sensory stimulus cues - Continued.

| TACTILE CUES           |                     | TACTILE CUES |                |
|------------------------|---------------------|--------------|----------------|
| Domain                 | Type                | Domain       | Type           |
| Manipulate Hand/Finger | Switch              | Temperature  | Icy            |
| Manipulate Hand/Finger | Switch, Push Button | Temperature  | Languid        |
| Manipulate Hand/Finger | Switch, Rocker      | Temperature  | Lukewarm       |
| Manipulate Hand/Finger | Switch, Slide       | Temperature  | Seethe         |
| Manipulate Hand/Finger | Switch, Toggle      | Temperature  | Simmer         |
| Resistance             | Dense               | Temperature  | Sizzle         |
| Resistance             | Hard                | Temperature  | Swelter        |
| Resistance             | Firm                | Temperature  | Tepid          |
| Resistance             | Hollow              | Temperature  | Torrid         |
| Resistance             | Impenetrable        | Temperature  | Warm           |
| Shape                  | Concave             | Texture      | Blunt          |
| Shape                  | Convex              | Texture      | Braided        |
| Shape                  | Corrugated          | Texture      | Braille        |
| Shape                  | Crooked             | Texture      | Bumpy          |
| Shape                  | Fluted              | Texture      | Coarse Grained |
| Shape                  | Recessed            | Texture      | Delicate       |
| Shape                  | Straight            | Texture      | Fine Grained   |
| Shape                  | Twisted             | Texture      | Filmy          |
| Size                   | Chunky              | Texture      | Furrowed       |
| Size                   | Compact             | Texture      | Gooey          |
| Size                   | Height              | Texture      | Gouge          |
| Size                   | Large               | Texture      | Greasy         |
| Size                   | Lean                | Texture      | Groove         |
| Size                   | Length              | Texture      | Holey          |
| Size                   | Pudgy               | Texture      | Interlaced     |
| Size                   | Small               | Texture      | Indentions     |
| Size                   | Stocky              | Texture      | Jagged         |
| Size                   | Width               | Texture      | Meshed         |
| Temperature            | Cold                | Texture      | Notched        |
| Temperature            | Cool                | Texture      | Prickly        |
| Temperature            | Frigid              | Texture      | Relief         |
| Temperature            | Frosty              | Texture      | Ribbed         |
| Temperature            | Hot                 | Texture      | Ridges         |
|                        |                     | Texture      | Rough          |
|                        |                     | Texture      | Rut            |
|                        |                     | Texture      | Scaly          |
|                        |                     | Texture      | Sharp          |
|                        |                     | Texture      | Sheer          |

## MIL-HDBK-29612-2A

TABLE 29. Sensory stimulus cues - Continued.

| TACTILE CUES        |                  | TACTILE CUES        |                 |
|---------------------|------------------|---------------------|-----------------|
| Domain              | Type             | Domain              | Type            |
| Texture             | Slick            | Whole Body Movement | Pivot           |
| Texture             | Slimy            | Whole Body Movement | Roll            |
| Texture             | Smooth           | Whole Body Movement | Spin            |
| Texture             | Soft             | Whole Body Movement | Sway            |
| Texture             | Spongy           | Whole Body Movement | Swing           |
| Texture             | Sticky           | Whole Body Movement | Tester          |
| Texture             | Stiff            | Whole Body Movement | Thrash          |
| Texture             | Stubby           | Whole Body Movement | Wobble          |
| Texture             | Tightness        |                     |                 |
| Texture             | Velvety          |                     |                 |
| Texture             | Warped           |                     |                 |
| Whole Body Movement | Body Orientation |                     |                 |
| Whole Body Movement | Incline          |                     |                 |
| Whole Body Movement | Lurch            |                     |                 |
| Whole Body Movement | Pitch            |                     |                 |
| OLFACTORY CUES      |                  | OLFACTORY CUES      |                 |
| Domain              | Type             | Domain              | Type            |
| Chemical            | Almond           | Odor                | Hot             |
| Chemical            | Fruit            | Odor                | Hydraulic Fluid |
| Chemical            | Peach            | Odor                | Moldy           |
| Engine Exhaust      | Gas              | Odor                | Musty           |
| Engine Exhaust      | Turbine          | Odor                | Oil             |
| Fragrance           | Sweet            | Odor                | Ozone           |
| Fragrance           | Fresh            | Odor                | Pungent         |
| Fuel                | Diesel           | Odor                | Rancid          |
| Fuel                | Gas              | Odor                | Reeking         |
| Fuel                | JP4              | Odor                | Rotten          |
| Gun Powder          | Cordite          | Odor                | Rubber          |
| Odor                | Antiseptic       | Odor                | Smoke           |
| Odor                | Burnt            | Odor                | Sour            |
| Odor                | Electrical       | Odor                | Sulfuric        |
| Odor                | Fire             | Odor                | Stagnant        |
| Odor                | Foul             | Odor                | Stench          |
| Odor                | Gaseous          | Odor                | Sulfur          |

## MIL-HDBK-29612-2A

TABLE 29. Sensory stimulus cues - Continued.

| OLFACTORY CUES          |               | OLFACTORY CUES          |             |
|-------------------------|---------------|-------------------------|-------------|
| Domain                  | Type          | Domain                  | Type        |
| Odor                    | Tobacco       | Taste                   | Sweet       |
| Taste                   | Acidic        | Taste                   | Tart        |
| Taste                   | Bitter        |                         |             |
| Taste                   | Salty         |                         |             |
| AFFECTIVE CUES          |               | AFFECTIVE CUES          |             |
| Domain                  | Type          | Domain                  | Type        |
| Attitude                | Appreciative  | Condition               |             |
| Attitude                | Assertive     | Physiological Condition | Dizzy       |
| Attitude                | Authoritative | Physiological Condition | Fatigue     |
| Attitude                | Caring        | Physiological Condition | Nauseous    |
| Attitude                | Confident     | Physiological Condition | Lethargic   |
| Attitude                | Demeanor      | Physiological Condition | Unaware     |
| Attitude                | Diplomatic    | Physiological Condition | Numb        |
| Attitude                | Emotional     | Physiological Condition | Painful     |
| Attitude                | Hostile       | Physiological Condition | Shocked     |
| Attitude                | Impassive     | Physiological Condition | Stress      |
| Attitude                | Nervous       | Physiological Condition | Stunned     |
| Attitude                | Self Control  | Physiological Condition | Unconscious |
| Attitude                | Sharpness     | Physiological Condition | Vertigo     |
| Attitude                | Shifty        |                         |             |
| Attitude                | Smug          |                         |             |
| Attitude                | Superior      |                         |             |
| Attitude                | Stoicism      |                         |             |
| Attitude                | Timid         |                         |             |
| Attitude                | Trustworthy   |                         |             |
| Attitude                | Unfeeling     |                         |             |
| Physiological Condition | Blacked Out   |                         |             |
| Physiological Condition | Comatose      |                         |             |
| Physiological Condition | Dazed         |                         |             |

## MIL-HDBK-29612-2A

TABLE 29. Sensory stimulus cues - Continued.

| AUDITORY CUES |                  | AUDITORY CUES |          |
|---------------|------------------|---------------|----------|
| Domain        | Type             | Domain        | Type     |
| Duration      | Long             | Sound         | Grind    |
| Duration      | Medium           | Sound         | Groan    |
| Duration      | Short            | Sound         | Growl    |
| Duration      | Constant         | Sound         | Hiss     |
| Duration      | Variable         | Sound         | Hum      |
| Music         | Background       | Sound         | Knock    |
| Music         | Constant         | Sound         | Peep     |
| Music         | Variable         | Sound         | Ping     |
| Pitch         | Constant         | Sound         | Pop      |
| Pitch         | High             | Sound         | Rattle   |
| Pitch         | Low              | Sound         | Reedy    |
| Pitch         | Medium           | Sound         | Roar     |
| Pitch         | Penetrating      | Sound         | Rumble   |
| Pitch         | Piercing         | Sound         | Scream   |
| Pitch         | Variable         | Sound         | Screech  |
| Quality       | Constant         | Sound         | Shrill   |
| Quality       | Mellow           | Sound         | Shriek   |
| Quality       | Soothing         | Sound         | Squawk   |
| Quality       | Strident (harsh) | Sound         | Squeak   |
| Quality       | Variable         | Sound         | Squeal   |
| Rate          | Constant         | Sound         | Tap      |
| Rate          | Fast             | Sound         | Ticking  |
| Rate          | Gradual          | Sound         | Ting     |
| Rate          | Instantaneous    | Sound         | Treble   |
| Rate          | Slow             | Sound         | Whine    |
| Rate          | Variable         | Sound         | Whir     |
| Rhythm        | Constant         | Sound         | Whistle  |
| Rhythm        | Variable         | Sound         | Yap      |
| Sound         | Boom             | Sound         | Yelp     |
| Sound         | Buzz             | Sound         | Yip      |
| Sound         | Chatter          | Sound         | Zing     |
| Sound         | Chirp            | Source        | Buzzer   |
| Sound         | Chuckle          | Source        | Bell     |
| Sound         | Clang            | Source        | Klaxon   |
| Sound         | Click            | Source        | Whistle  |
| Sound         | Cry              | Tempo         | Constant |
| Sound         | Ding             | Tempo         | Fast     |
| Sound         | Dong             | Tempo         | Medium   |

## MIL-HDBK-29612-2A

TABLE 29. Sensory stimulus cues - Continued.

| AUDITORY CUES |                     |
|---------------|---------------------|
| Domain        | Type                |
| Tempo         | Slow                |
| Tempo         | Variable            |
| Timbre        | Constant            |
| Timbre        | Tonal Sound         |
| Timbre        | Full Sound          |
| Timbre        | Ambient Sound       |
| Timbre        | Variable            |
| Verbal        | Abrupt Changes      |
| Verbal        | Babble              |
| Verbal        | Blab                |
| Verbal        | Change of Narration |
| Verbal        | Chatter             |
| Verbal        | Constant            |
| Verbal        | Dialect             |
| Verbal        | Jabber              |
| Verbal        | Jargon              |
| Verbal        | Mumble              |
| Verbal        | Mutter              |
| Verbal        | Synthesized Speech  |
| Verbal        | Variable            |
| Verbal        | Whisper             |
| Voice         | Accents             |
| Voice         | Animated            |
| Voice         | Constant            |
| Voice         | Female              |
| Voice         | Inflections         |
| Voice         | Male                |
| Voice         | Human (real)        |
| Volume        | Constant            |
| Volume        | Strong              |
| Volume        | Variable            |
| Volume        | Weak                |