NVDA Class Two  
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# Introduction

In this lesson, we'll explore NVDA Review Modes and mouse navigation.

Review modes are at the core of NVDA. Once you understand NVDA review modes and related keyboard commands, NVDA comes into focus.

Mouse navigation and echo locates application elements and orients a user to object and text locations.

Let's discuss NVDA Review modes and the mouse in detail.

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# Review Modes

There are four NVDA review modes. Each Review Mode has a cursor and mode-specific keyboard commands.

All Review Modes are active at the same time. Use a mode by executing the mode-specific keyboard commands.

NVDA has the following modes:

* System Focus – This is the default mode. System Focus accesses text documents, ribbons, menus, and other Windows display elements.
  + System Focus uses System Carat or Edit Cursor.
* Object Review – Navigate and review objects. Objects are Windows controls, such as - edit boxes, buttons, combo boxes, radio buttons, etc.
  + Object Review uses the Object Cursor.
* Screen Review - Screen Review navigates any part of the display. This mode reviews text and objects on the screen that aren’t accessible to System Focus. By default, the screen review cursor follows System focus.
  + Screen Review uses the Review Cursor.
* Document Review – This review is enabled when focus is placed in a browse mode document such as a web page or HTML formatted email.
  + Document Review uses the Browse Cursor.

Let's discuss Review Modes in detail.

## Switch Review modes

Review modes have different keyboard commands, they are always available.

There are keyboard commands to switch review modes if NVDA isn’t responding as expected.

Switch review modes with NVDA keyboard accelerators.

Switch to the next Review Mode.

* Desktop Layout: NVDA-NUMPAD 7.
* Laptop Layout: NVDA-PAGE UP.

Switch to the previous Review Mode

* Desktop Layout: NVDA-NUMPAD 1.
* Laptop Layout: NVDA-PAGE DOWN.

## The Review Cursor

The Review Cursor

The Review Cursor follows System focus. The Review Cursor can navigate any part of the display.

Configure review cursor settings in the NVDA Settings dialog.

To open Review Cursor settings:

* Open the NVDA Menu.
* Activate the Preferences sub menu.
* Activate “Settings.
* The Settings dialog opens.
* A list of property sheets is on the left side of the dialog
* Navigate to “Review Cursor”
* Navigate Review Cursor controls

Configure the following checkboxes:

* Follow system focus - The review cursor is always placed on the same object as the system focus.
  + Enable this option with the NVDA keyboard accelerator: NVDA-NUMBER ROW 7.
* Follow mouse cursor - The review cursor is tethered to the mouse cursor and follows mouse cursor navigation.
  + Enable this option with the NVDA keyboard accelerator: NVDA-NUMBER ROW 6.
* Simple review mode - When this option is enabled, NVDA filters out objects that may not be of interest. Such as invisible objects and formatting objects.

Activate the OK button to save Review Cursor settings and exit the dialog.

Activate the Cancel button to cancel the changes and exit the dialog.

## Object Presentation Settings

Object Presentation Settings configure what NVDA echoes while navigating objects in Object Review.

Open Object Presentation Settings in NVDA Settings or with an NVDA keyboard accelerator.

Open NVDA Settings and select the “Object Presentation" property sheet, or press NVDA-CTRL-O.

The first controls are checkboxes:

* Report tooltips - If an object has a tooltip, NVDA reads the tooltip. A tooltip is a small text passage with control information.
* Report notifications - NVDA reports help balloons and Windows toast notifications.
* Report object shortcut keys - NVDA reports shortcut keys associated with ribbons, menus, and controls.
* Report object position information – NVDA announces the object position. If an object is the third of four radio buttons, NVDA announces it’s the third radio button.
* Guess object position information when unavailable – NVDA attempts to announce positions when it isn’t clear. The feedback may not be correct.
* Report object description - NVDA announces object descriptions. This option can be chatty. Object descriptions may include reading an entire dialog.
* Progress bar output - Read the Windows progress bar. The progress bar is displayed when downloading files, copying many files, or zipping an archive. This is a combo box. Choose from:
  + Off
  + Speak
  + Beep
  + Speak and Beep
* Rotor through these options with the NVDA keyboard accelerator NVDA-U.

The remaining controls are checkboxes:

* Report background progress bars - Report progress bars even if focus isn’t in the associated application.
* Report dynamic content changes - NVDA announces new content.
  + This is nice when accessing a chat or terminal program.
  + Toggle this setting with NVDA-NUMBER ROW 5.
* Play a sound when auto-suggestions appear – NVDA plays a sound when a drop-down suggestion list is displayed.
  + Auto suggestions include:
    - Search edit boxes.
    - The Start Menu.
    - And more.

Activate the OK button to save Object Presentation settings and exit the dialog.

Activate the Cancel button to cancel the changes and exit the dialog.

## Object Review

Object Review navigates and accesses Windows objects.

Some objects contain other objects. A list contains list items, a toolbar contains individual controls.

By default, Object Review navigates primary objects. If there are objects containing other objects, you can navigate containing objects and switch back to navigating primary objects at any time.

Using Object Review, you can choose how to navigate objects.

Use Object Review to familiarize yourself with a dialog or application.

The following Object Review commands are available:

* Read the focused object: NVDA-NUMPAD 5
* Move to containing object: NVDA-NUMPAD 8
* Move to previous object: NVDA-NUMPAD 4
* Move to next object: NVDA-NUMPAD 6
* Move to first contained object: NVDA-NUMPAD 2
* Report review location: NVDA-DELETE
* Move review to focus object: NVDA-BACKSPACE
  + This routes the. Object cursor to the Focus cursor
* Move focus to current review position: NVDA-SHIFT-BACKSPACE
  + This routes the Focus cursor to the Object cursor.

Laptop Object Review:

* Read the focused object: NVDA-SHIFT-O
* Move to containing object: NVDA-SHIFT-UP ARROW
* Move to previous object: NVDA-SHIFT-LEFT ARROW
* Move to next object: NVDA-SHIFT-RIGHT ARROW
* Move to first contained object: NVDA-SHIFT-DOWN ARROW
* Report review location: NVDA-DELETE
* Move review to focus object: NVDA-BACKSPACE
  + This routes the Object cursor to the Focus cursor.
* Move focus to current review position: NVDA-SHIFT-BACKSPACE
  + This routes the Focus cursor to the Object cursor.

## Navigate a Dialog

Use the File Explorer "Folder Options" dialog for an example of Object Review Mode.

* Open “File Explorer Options” in the Start Menu or in the File Explorer Command Bar.
* Object Review navigates dialog controls.

Navigate the dialog with standard Windows navigation. NVDA echoes each control group label, but doesn't navigate each radio button

Switch to Object Review commands. Each object is accessed. Focus navigates each radio button not just the selected radio button control.

Navigate the dialog with NVDA Object Review commands:

* Move to the next object
  + Desktop Layout: NVDA-NUMPAD 6
  + Laptop Layout: NVDA-SHIFT-RIGHT ARROW
* Move to the previous object
  + Desktop Layout: NVDA-NUMPAD 4
  + Laptop Layout: NVDA-SHIFT-LEFT ARROW
* Read the focused object
  + Desktop Layout: NVDA-NUMPAD 5
  + Laptop Layout: NVDA-SHIFT-O

Return to System focus (TAB and SHIFT-TAB). NVDA switches between object focus and System focus with different keyboard commands.

Object navigation reviews a dialog and explores each object (control) without changing configurations.

Activate the focused control in Object review with the Object review keyboard command: NVDA-ENTER.

## Screen Review

Screen Review reads text in the focused Window or dialog.

This review mode is nice when accessing information Windows that aren’t accessible with System Focus.

Use NVDA Screen Review commands to read and navigate Windows.

Desktop Layout:

* Move to the previous character: NUMPAD 1
* Read the current character: NVDA-NUMPAD 2
* Move to the next character: NUMPAD 3
* Say All NUMPAD PLUS
* Move to the Previous Word: NUMPAD 4
* Read the Current Word: NUMPAD 5
* Move to the next word: NUMPAD 6
* Move to the top line: SHIFT-NUMPAD 7
* Move to the bottom line: SHIFT-NUMPAD 9
* Move to the previous line: NUMPAD 7
* Read the current line: NUMPAD 8
* Move to the next line: NUMPAD 9
* Move to the start of the line: SHIFT-NUMPAD 1
* Move to the end of the line: SHIFT-NUMPAD 3
* Say All: NUMPAD PLUS

Laptop Layout

* Move to the previous character: NVDA-LEFT ARROW
* Read the current character: NVDA-PERIOD
* Move to the next character: NVDA-RIGHT ARROW
* Move to the previous word: NVDA-CTRL-LEFT ARROW
* Read the current word: NVDA-CTRL-PERIOD
* Move to the next word: NVDA-CTRL-RIGHT ARROW
* Move to the top line: NVDA-CTRL-HOME
* Move to the bottom line: NVDA-CTRL-END
* Move to the previous line: NVDA-UP ARROW
* Read the current line: NVDA-SHIFT-PERIOD
* Move to the next line: NVDA-DOWN ARROW
* Move to the start of line: NVDA-HOME
* Move to the end of line NVDA-END
* Say All: NVDA-SHIFT-A

Because the screen review cursor follows system focus, Use these commands at any time to read information at the focus cursor or carat insertion point.

## Copy Text with Screen Review

Select and copy text using Screen Review.

When focused in a dialog or interface where text selection isn’t allowed, select text with Screen Review. Select text with Screen Review in information Windows or dialogs.

To select and copy text using Screen Review:

* Focus on the first character to select.
* Press NVDA-F9.
* Move focus to the last character to select.
* Press NVDA-F10 once to select the text.
* Press NVDA-F10 a second time to copy the text to the Windows Clipboard.

NVDA alerts if text can’t be selected. Press NVDA-F10 twice and the text is copied to the Windows Clipboard.

After selecting and copying text, paste text to any edit box.

# The Mouse

NVDA has Mouse echo and location features that allow a user to review Window objects and text using the physical mouse.

Let's explore mouse configurations and navigation.

## Mouse Settings

Open Mouse Settings in the NVDA menu or with an NVDA keyboard accelerator.

Open NVDA Settings and select the “Mouse" property sheet, or

Press NVDA-CTRL-M; and navigate Mouse setting controls.

The following are checkboxes unless otherwise specified.

* Report mouse shape changes: NVDA announces when the mouse shape changes.
* Enable mouse tracking: NVDA reads text under the mouse.
  + Press NVDA-M to toggle this setting.
* Text unit resolution - Select a mouse text echo in this combo box.
  + Choose from:
    - Character.
    - Word.
    - Line.
    - Paragraph.
* Report object when mouse enters it - NVDA announces the selected object
  + Objects are Windows controls.
* Play audio coordinates when mouse moves - As the mouse moves, NVDA beeps. The higher the pitch, the higher the mouse is on the display.
  + On stereo headphones or speakers, the beep switches headphone or speaker as the mouse moves left or right on the display.
* Brighten audio coordinates volume - If this checkbox is checked, the beep changes according to display brightness under the mouse.
* Ignore mouse input from other applications - If an application automatically activates a control or moves the mouse, NVDA ignores the action and echoes data according to physical mouse movement.

Activate the OK button to save the changes and exit the dialog.

Activate the cancel button to cancel the changes and exit the dialog.

## Mouse Navigation

Move the physical mouse to explore the display. NVDA echoes information according to Mouse configurations.

NVDA has some basic mouse keyboard commands:

Desktop Layout:

* Left mouse click: NUMPAD SLASH
* Left mouse button lock: SHIFT-NUMPAD SLASH
  + This is a toggle.
* Right mouse click: NUMPAD STAR
* Right mouse button lock: SHIFT-NUMPAD STAR
  + This is a toggle.
* Move the mouse to current focused object: NVDA-NUMPAD SLASH
  + This routes the mouse to the System Carat.
* Move the focus to object under mouse: NVDA-NUMPAD STAR
  + This routes the System Carat to the mouse.

Laptop layout:

* Left mouse click: NVDA-LEFT BRACKET
* Left mouse button lock: NVDA-CTRL-LEFT BRACKET
* Right mouse click: NVDA-RIGHT BRACKET
* Right mouse button lock: NVDA-CTRL-RIGHT BRACKET
  + This is a toggle.
* Move the mouse to the current focused object: NVDA-SHIFT-M
  + This routes the mouse to the System Carat.
* Move the focus to the object under mouse: NVDA-SHIFT-N
  + This routes the System Carat to the mouse.

## Drag and Drop

Use the Left mouse button lock to drag and drop data.

To drag and drop:

* Place the Mouse on data to drag.
* Lock the Left mouse button:
  + Desktop Layout: SHIFT-NUMPAD SLASH
  + Laptop Layout: NVDA-CTRL-LEFT BRACKET
* Move the mouse to a drop location or route the mouse to the System Carat.
* Unlock the right mouse button. The "Lock Left Mouse Button" command is a toggle.

The data is dropped at the mouse location.

# Conclusion

Understanding NVDA Review modes, navigating with the different cursors, and mouse navigation are fundamental to accessing Windows with NVDA.

Take some time to explore dialogs with the object cursor, Review Cursor and System focus. Switching easily among cursors and understanding the mouse provides complete access to Windows.

Thanks for joining me today! If you have questions or comments, please email CathyAnne, cathy@blind.training.

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# Exercises

* Open a document and practice switching between the different review modes (object, document, and screen).
* Navigate objects with Object Cursor.
* Read the current character, word, line, and paragraph with the Review Cursor.
* Route the mouse pointer to the Object Cursor.
* Open File Explorer and select a list box item. Left-click, right-click, and double-click using the numpad.
* Enable the "Play audio coordinates when mouse moves" checkbox and move the physical mouse.
* Select various mouse echo options and review the difference when moving the physical mouse.