



ASSISTIVE CONTEXT-AWARE TOOLKIT (ACAT)

USER GUIDE

VERSION 1.0.0

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1 INTRODUCTION

Assistive Context-Aware Toolkit (ACAT) is an open source platform developed by researchers in the Labs at Intel to help people with limited mobility to communicate and interact with their computer. Originally created for Professor Stephen Hawking, ACAT was developed to be highly configurable so it could be adapted to Prof. Hawking's changing needs. This configurability makes it a useful tool for a wide range of disabilities. Developed for MS Windows, it enables users to communicate using keyboard simulation and text to speech capability. It also enables users to perform common tasks such as editing, managing documents, navigating the internet and accessing emails. It enables the creation of customized interactive solutions that leverage the movements people with disabilities might be limited to such as touch, eye blinks and eyebrow movements.

1.1 Organization

This user guide is organized as follows:

[Chapter 1](#): Introduction.

[Chapter 2](#): Has instructions for installing and uninstalling ACAT.

[Chapter 3](#): A quick start guide to get you going with ACAT.

[Chapter 4](#): Has details on the ACAT scanners

[Chapter 5](#): Has details on ACAT menus.

[Chapter 6](#): Shows you how to use ACAT for tasks such as file and window management, launching applications.

[Chapter 7](#): Describes ACAT support for various applications such as Microsoft Word, Internet Explorer, Notepad, etc.

[Chapter 8](#): Has details on customizing ACAT through the various settings dialogs.

[Chapter 9](#): Has details on customizing ACAT through the **ACAT Config** application.

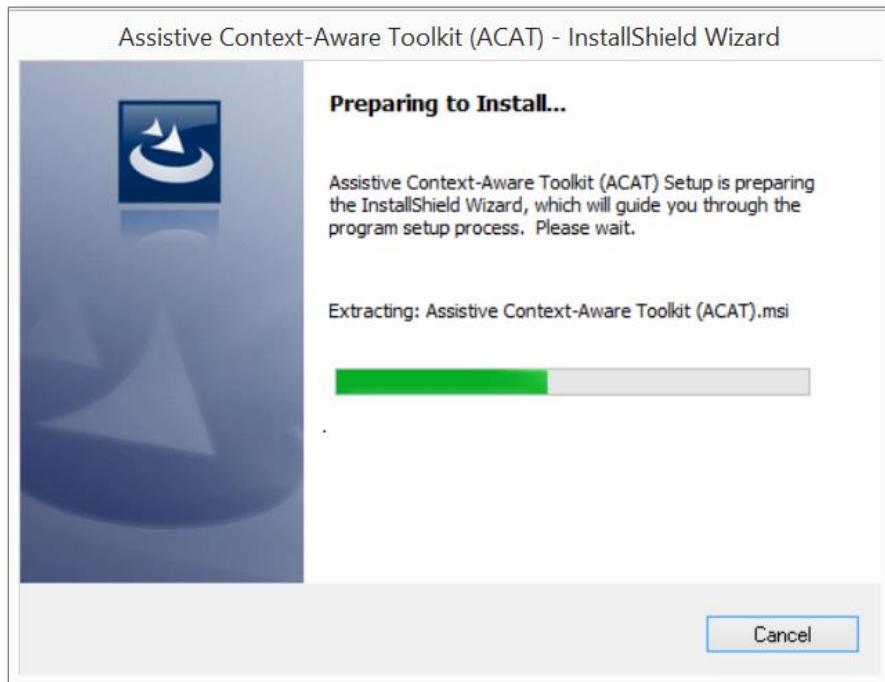
2 INSTALLATION

2.1 Installing ACAT

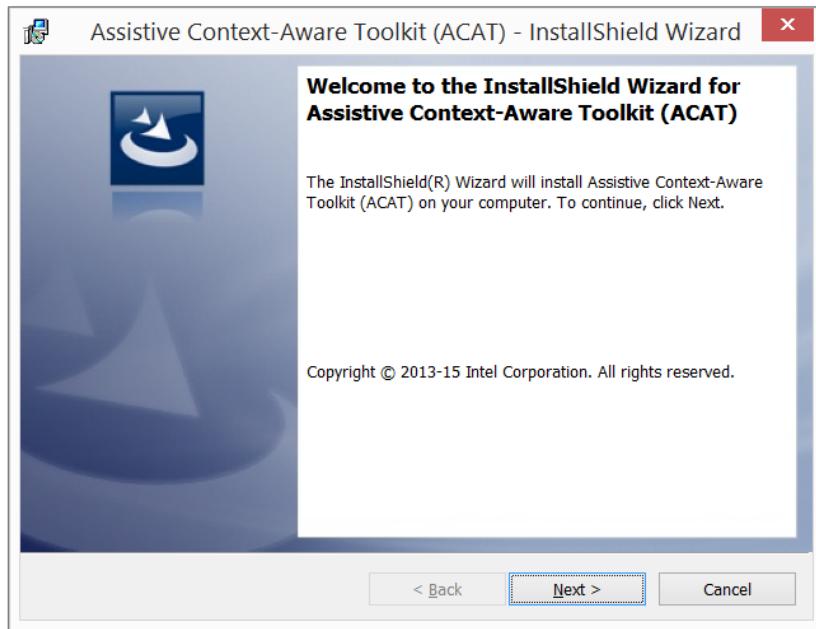
If you have already installed a previous version of ACAT, you must first uninstall it. See section 2.2 on uninstalling ACAT.

Follow these steps to install ACAT on your computer.

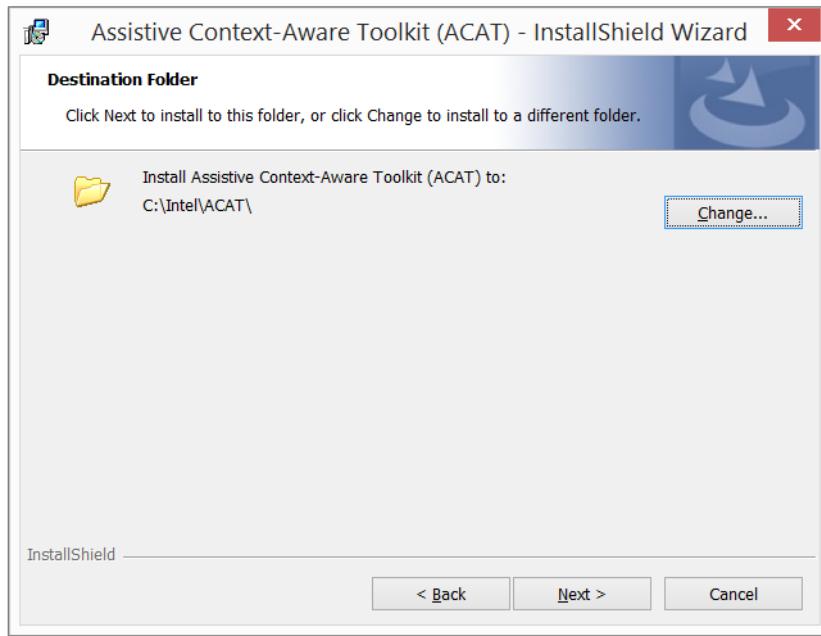
1. Download ACATSetup.exe and run it.
2. ACAT uses Microsoft .NET Framework 4.5. It will check if your computer has this framework. If it cannot find it, the installer will display a dialog to install .NET Framework 4.5. Click on “Install”.
3. Setup will extract ACAT components.



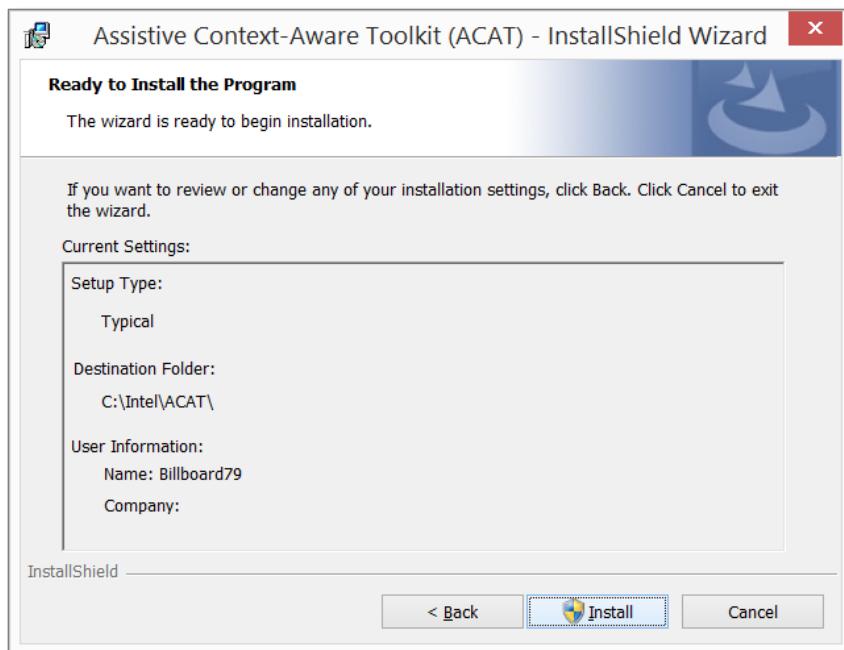
4. The Welcome screen will be display. Click “Next”



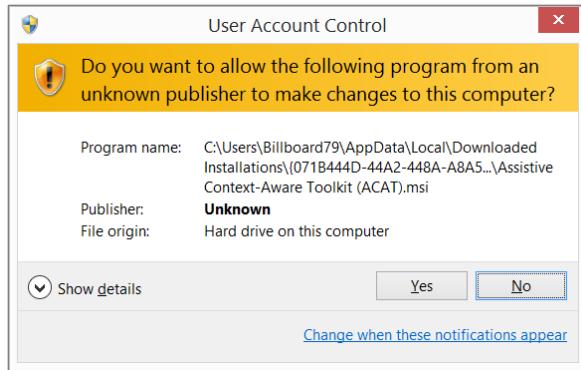
5. Setup will prompt you to select the folder to install ACAT. Click on “Next” to select the default folder C:\Intel\ACAT. If you want to choose an alternate folder, click on “Change” and select the folder.



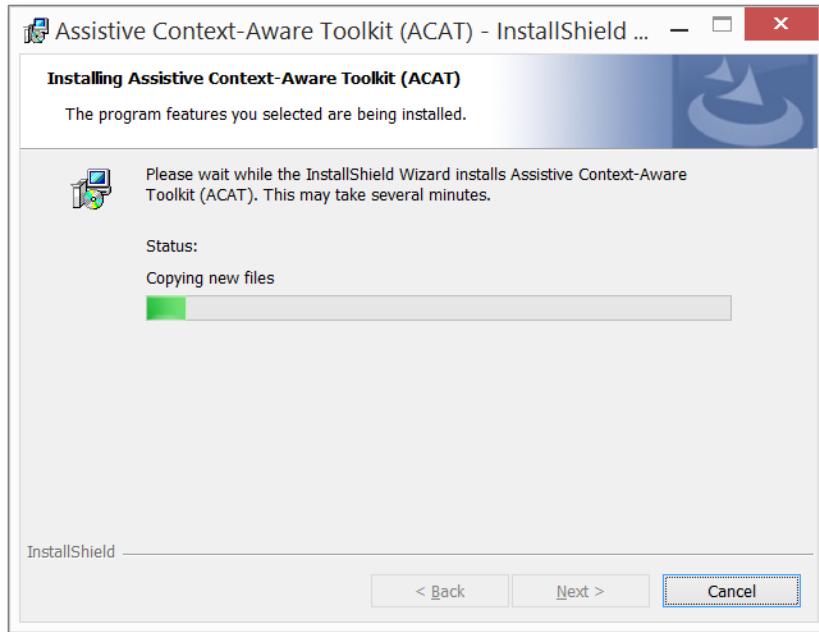
6. Click on “Install”.



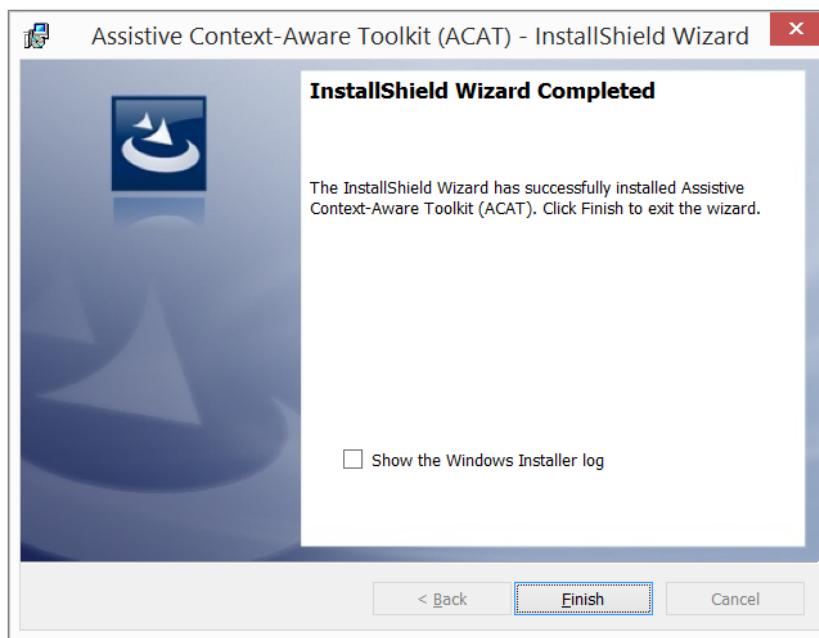
7. Windows will display a “User Account Control” dialog box. Choose “Yes”.



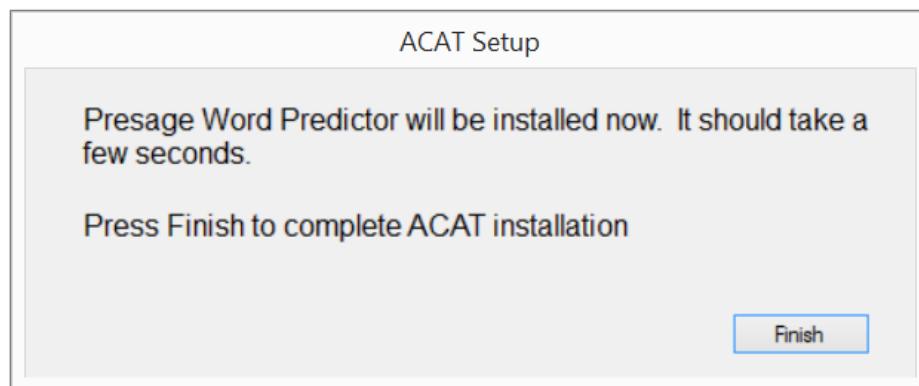
8. Setup will begin installing ACAT.



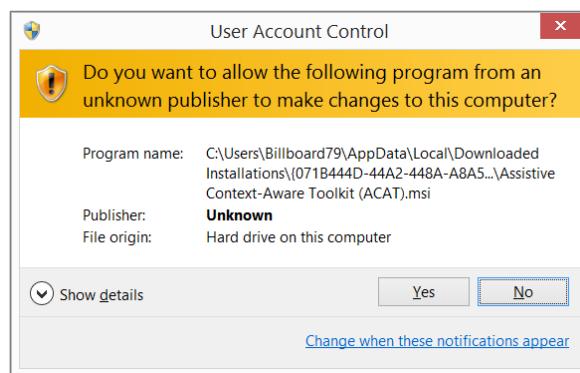
9. When installation is done, the “Installation Completed” dialog will display. Click on “Finish”.



10. After you select “Finish”, ACAT will install the Presage word prediction engine. The following Presage install dialog will appear. Click “Finish”

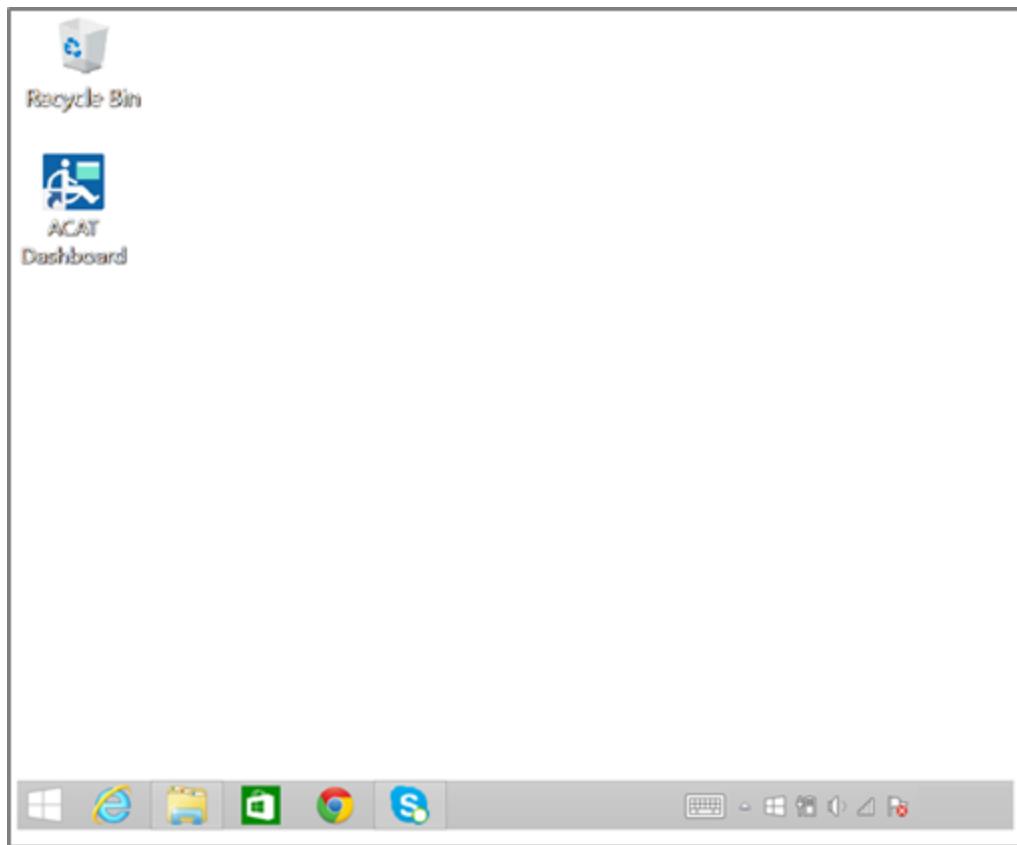


11. Windows will display a “User Account Control” dialog box. Choose “Yes”



12. Wait for Presage installation to finish. It should take a couple of seconds. ACAT installation is complete.

13. A single icon with a shortcut to the ACAT Dashboard will appear on the desktop.



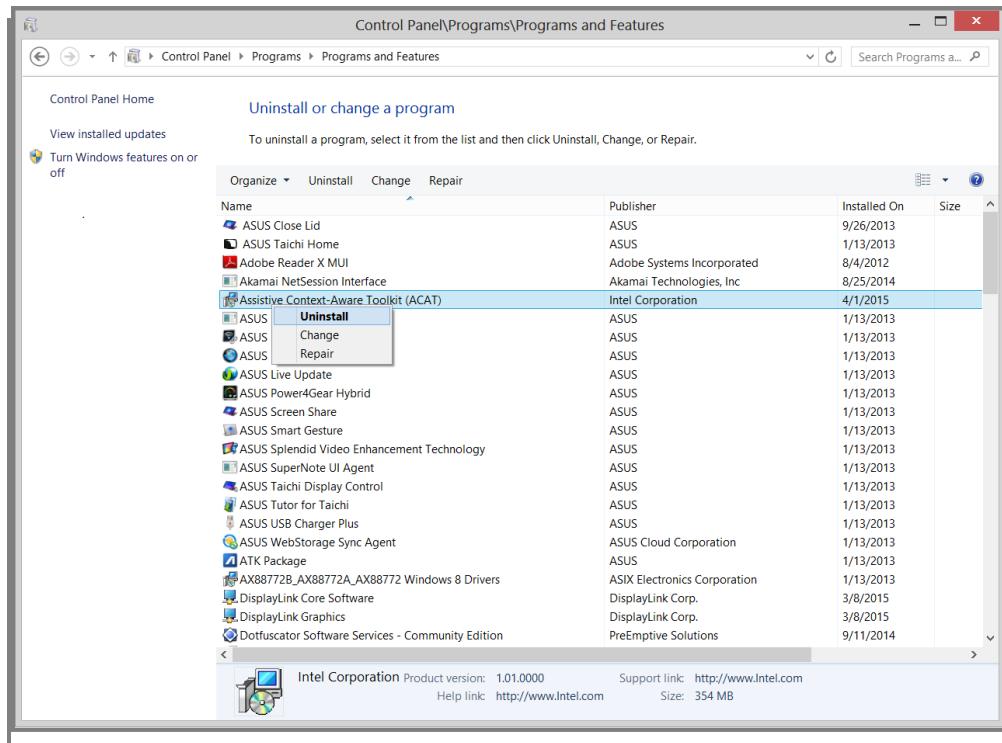
2.2 Uninstalling ACAT

Note: If you have installed ACAT Language packs, you must uninstall them first before uninstalling ACAT. Refer to section 2.4 for details on uninstalling language packs.

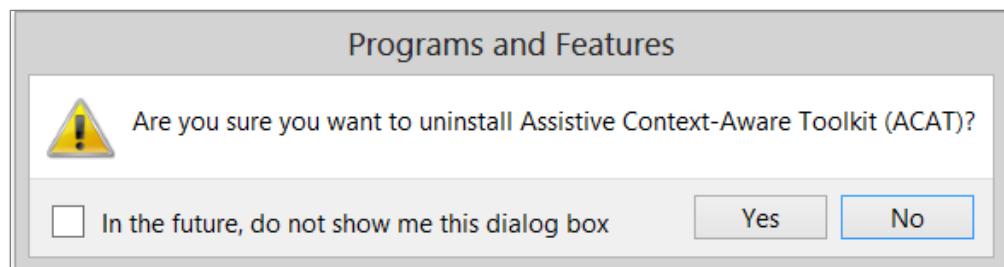
Follow these steps to uninstall ACAT.

1. If the ACAT application is running, close it. This also applies to the ACAT Dashboard application. To exit the ACAT Dashboard, right click on its icon in the system tray and choose "Exit".
2. If you have installed any ACAT Language packs, uninstall them first (see section 2.4).
3. Launch Windows Control Panel and choose on "Uninstall a program".
4. From the list of programs, look for "Assistive Context-Aware Toolkit (ACAT)".

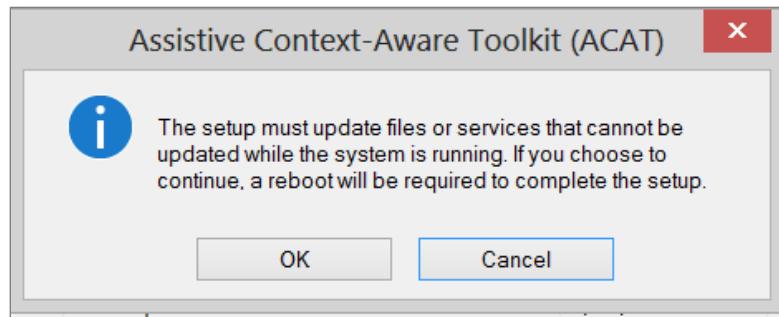
5. Right click on it and choose “Uninstall”.



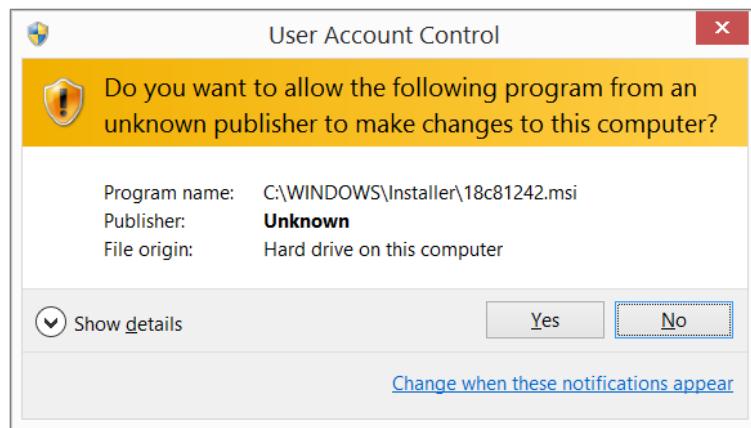
6. Windows will prompt you with a confirmation. Choose “Yes”.



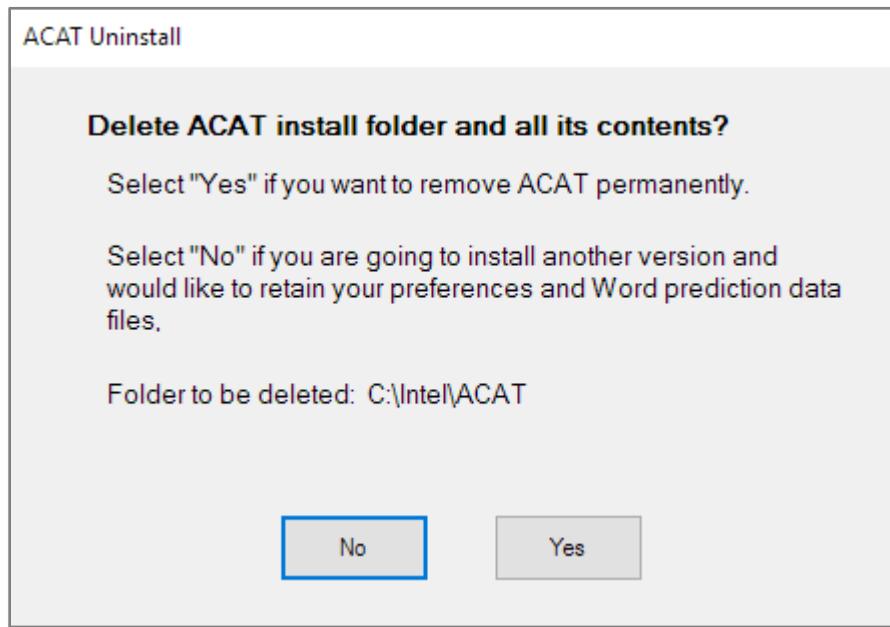
7. The following dialog will appear. Click on OK (a reboot is not required).



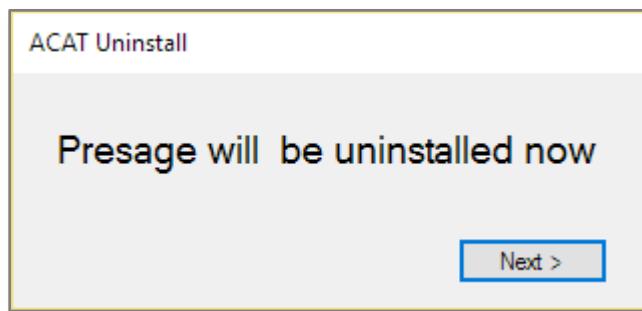
8. "User Account Control" dialog will appear. Choose "Yes".



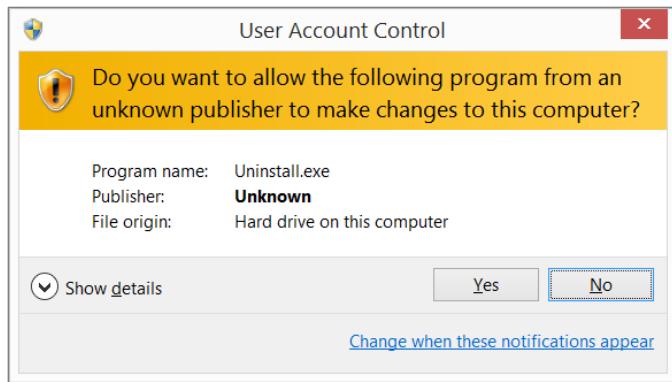
9. Setup will prompt you to confirm if you want to uninstall ACAT completely. If you choose “Yes”, setup will delete the entire ACAT folder regardless of whether the files under there belong to ACAT or not. All user data files such as your ACAT settings, abbreviations, and custom word prediction models will be deleted permanently. Choose “No” if you are planning to reinstall ACAT or upgrade it to the latest version.



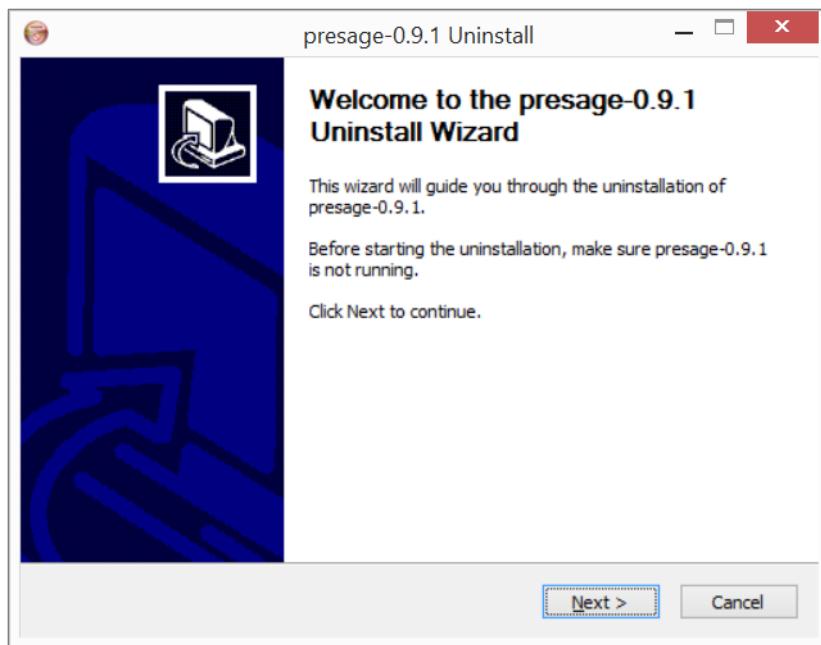
10. Setup will now uninstall Presage. Click **Next**.



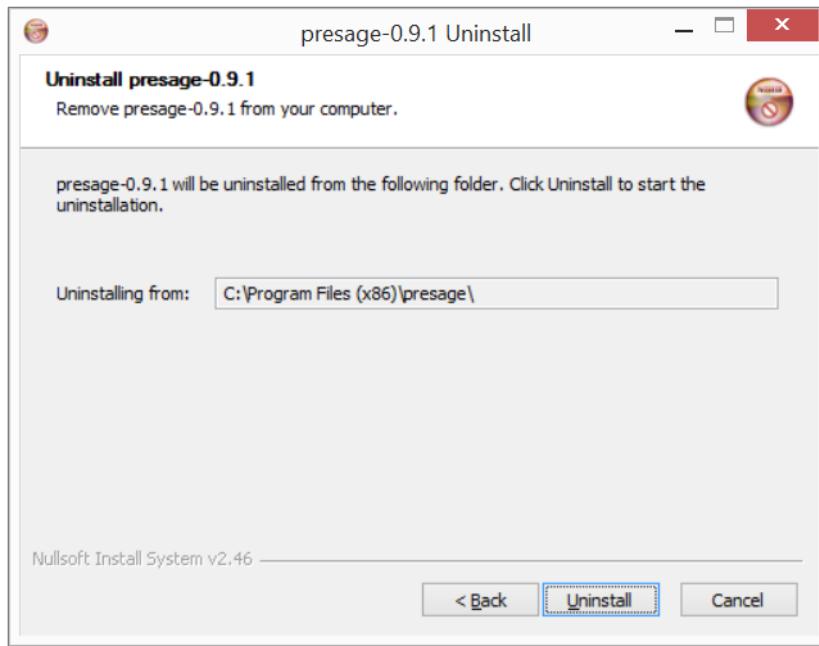
11. Windows will display the following “User Control” dialog. Choose “Yes”.



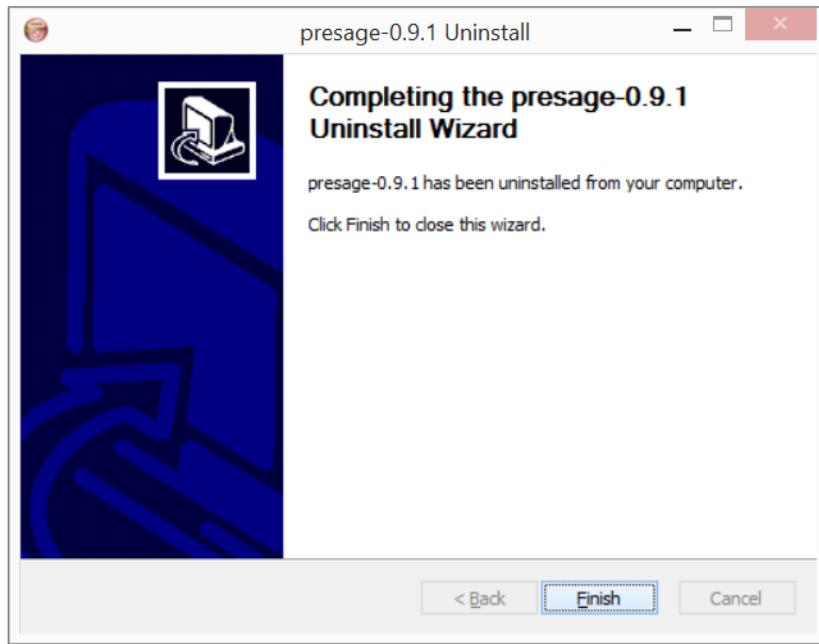
12. The Presage uninstall Welcome screen will be displayed. Click on “Next”.



13. An “Uninstall” confirmation dialog will display. Click on “Uninstall”.



14. After Presage has uninstalled, the Finish dialog will display. Click on “Finish” to complete the uninstall.



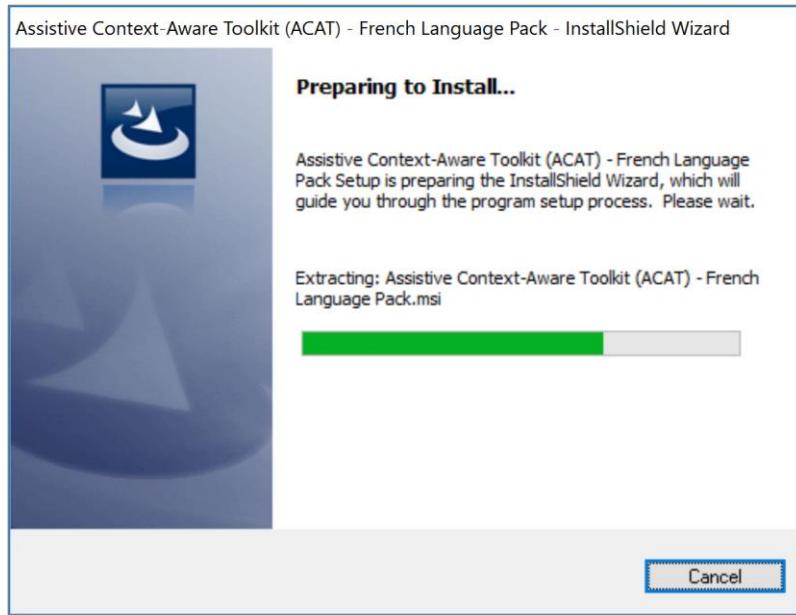
2.3 Installing ACAT Language Packs

While English is the default language, ACAT can be customized for other languages as well. French language pack is available on the ACAT download page. Other language packs will be uploaded when they become available. When a language other than English is selected (see sections 6.10 and 9.9), ACAT will adapt and display text in the selected language in all the scanners, menus, dialogs. Word prediction will also be done in the selected language.

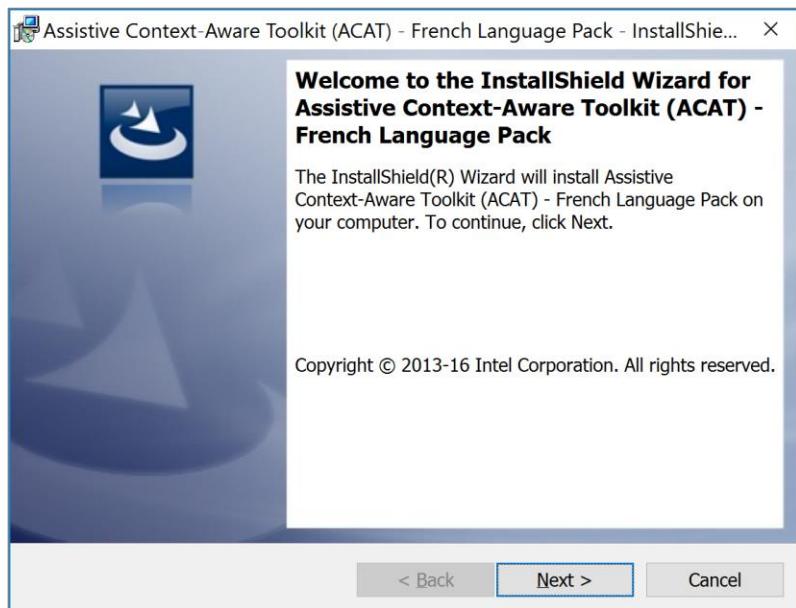
Note: You **must** install the English version of ACAT first **before** you install the language packs. The language packs contain only additional files that are required to support the language.

Follow these steps to install a language pack. The French language pack is used only as an example here.

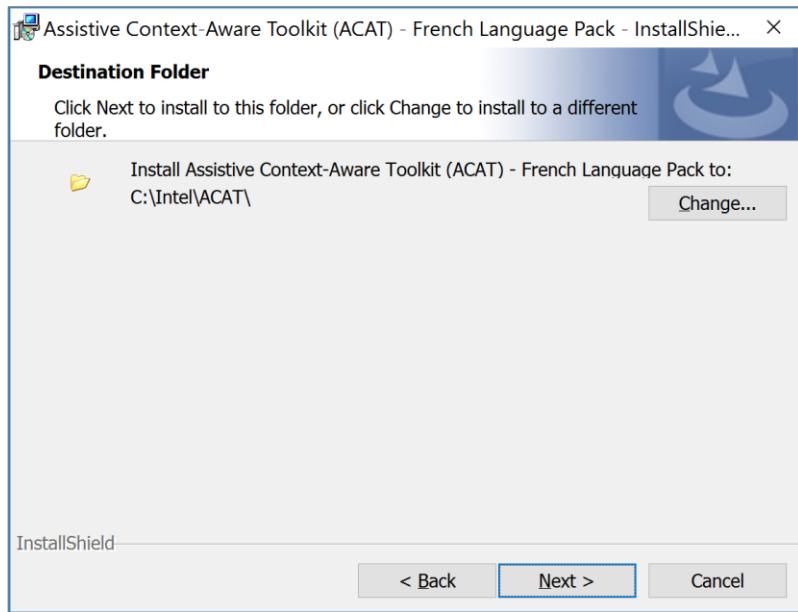
1. Run the installer for the language pack. The initialization dialog will first display.



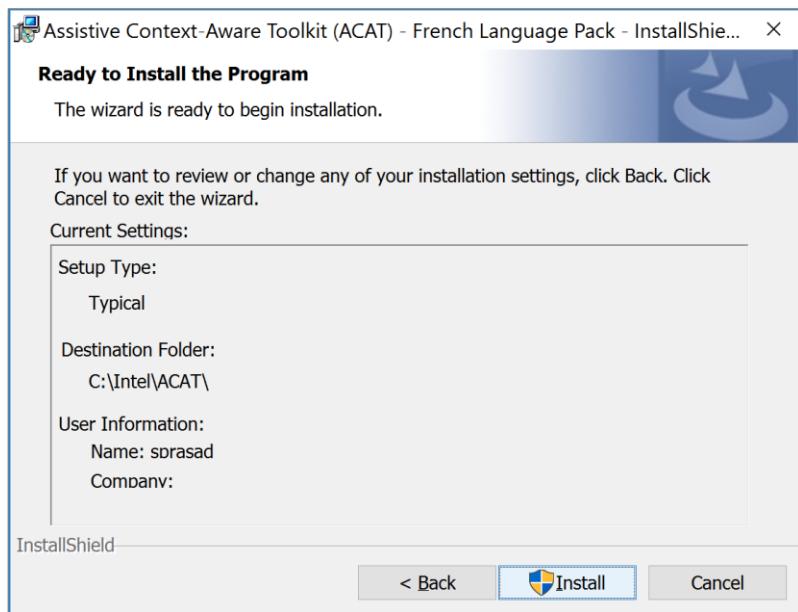
2. "ACAT Language Pack install" dialog will appear, press Next.



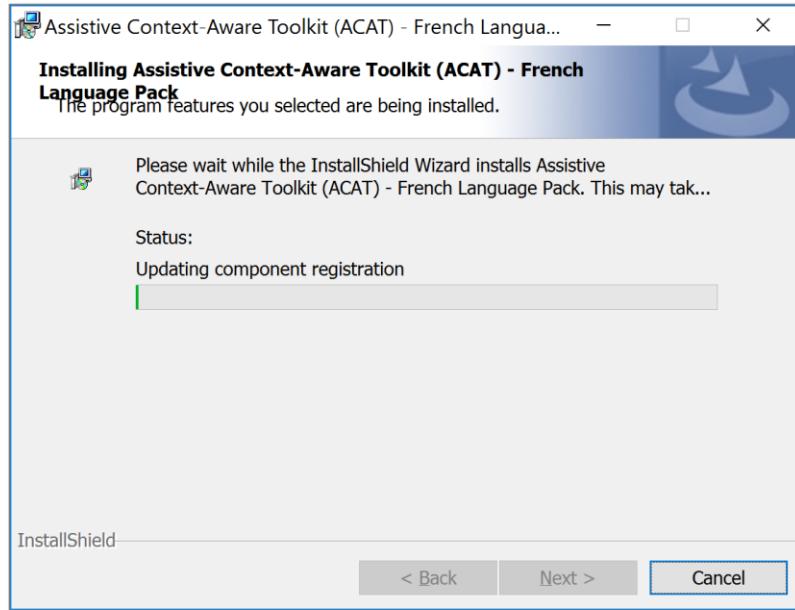
3. The installer will prompt you for the destination folder. You **must** select the same folder where you installed ACAT.



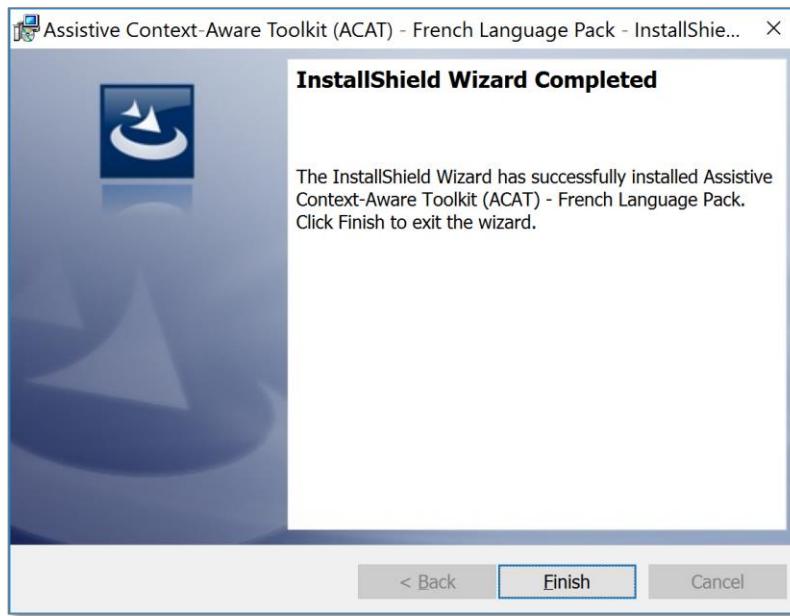
4. In the following dialog, select “Install”.



5. The installer will install the Language pack.



6. The installer will display the following dialog at the end of the installation. Press "Finish".



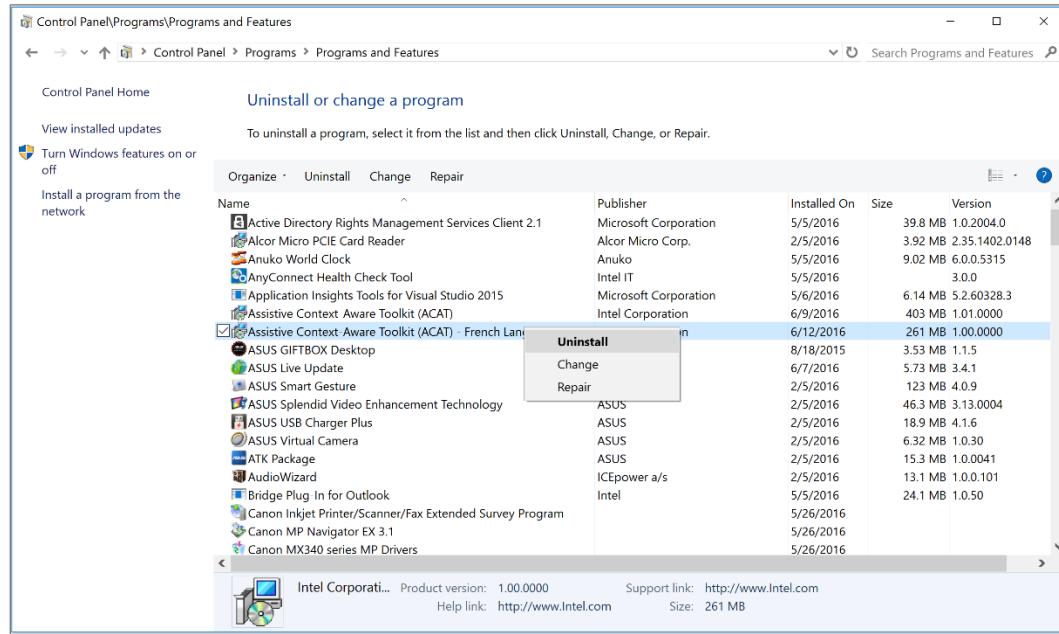
The next time you launch any of the ACAT applications, ACAT prompt you to select the preferred language. You can also switch languages from within ACAT (see sections 6.10 and 9.9).

2.4 Uninstalling ACAT Language Packs

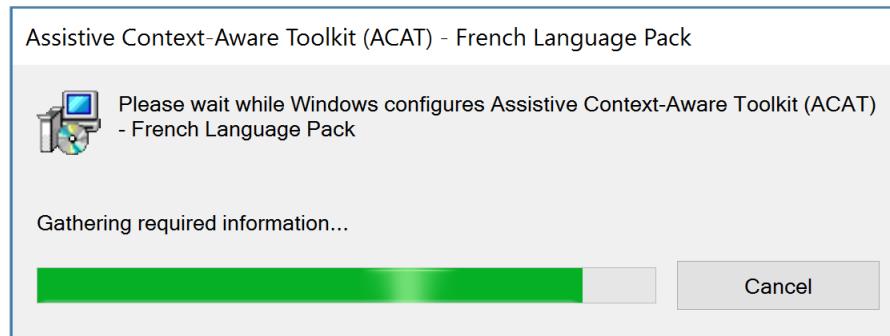
Follow these steps to uninstall ACAT Language packs.

1. Close ACAT and the ACAT Dashboard application. Check the system tray if ACAT Dashboard is running there and choose “Exit”.
2. Launch Windows Control Panel and choose on “Uninstall a program”.

- From the list of programs, look for the language pack. For instance, “Assistive Context-Aware Toolkit (ACAT) – French Language Pack”.



- The uninstaller will go through uninstalling the language pack.



3 GETTING STARTED

The ACAT User Interface is designed to be used without the need for a keyboard or a mouse. The User Interface is made up of ‘scanners’. A scanner is a window with User Interface elements such as the alphabet button keys for typing. The User Interface elements are iteratively highlighted one after another allowing the user to make a selection. The user selects an element by activating a switch when the element is highlighted. ACAT will then execute the action associated with the element. If it is an alphabet button for instance, it would type the letter. If an action such as “display the main menu” is associated with the element, ACAT will execute the action. Because user needs vary greatly there are many ways a user can activate a switch and ACAT supports a range of input mechanisms.

- a. **Keyboard:** You can use F12 key on the keyboard as a trigger.
- b. **ACAT Vision:** ACAT vision uses a webcam to detect facial gestures and translates them into trigger events.
- c. **Off-the-shelf switches:** An off-the-self switch works by sending a keystroke to the computer whenever you activate the switch. You can configure the switch to send an F12 keystroke and ACAT will recognize that as a trigger.
- d. **ACAT Proximity switch:** This switch is currently under development. It attaches to the user’s glasses and can detect check movement, which is then translated into trigger events.

Note: Out of the box, ACAT supports keyboard and ACAT vision as input switch mechanisms. You can also use the mouse interact with the UI by pointing and clicking.

ACAT is bundled with a number of variations of applications (see section 3.1.1) and you can pick the ones that suit your needs. Before you can use these applications, you should familiarize yourself with how the user interface works and how to trigger it with your input sensor.

The recommended sequence for getting up and running quickly on ACAT is:

- 1. Vision Tryout** To get familiar with ACAT Vision switch mechanism (see section 3.2).
- 2. ACAT Tryout** Type short words using the ACAT Vision switch mechanism (see section 3.4). You can also try out different scanning speeds and find the one that suits you.

3. ACAT Talk

Communicate by typing sentences using a keyboard and by picking words from a word prediction list. Convert text to speech. (see section 3.6)

4. ACAT App

Use the full-blown app to interact with applications such as email, web browser, Notepad, MS Word etc. (see section 3.7)

3.1 ACAT Dashboard

The ACAT installer creates a shortcut to the ACAT Dashboard application on your desktop. You can use the Dashboard to launch any of the ACAT applications. Try out the different versions and find the ones that you prefer. You can then create shortcuts to your preferred apps on the desktop by right clicking on their icons in the Dashboard window and selecting **Create Desktop Shortcut**.

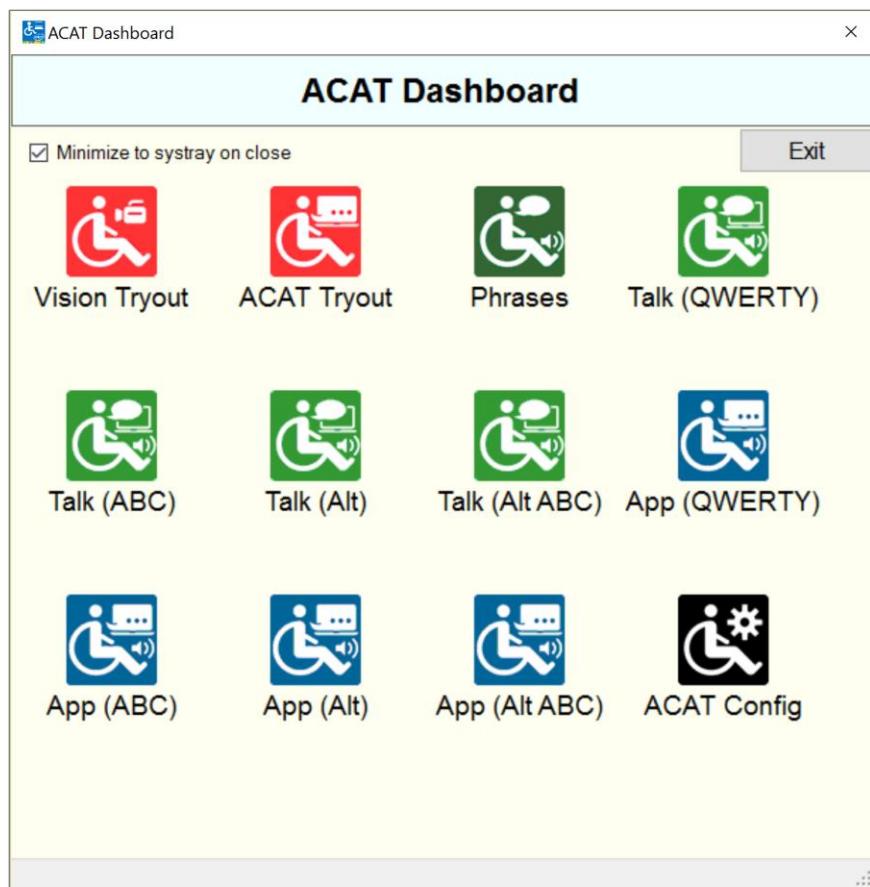


Figure 1: ACAT Dashboard

If the **Minimize to systray on close** checkbox is checked, ACAT Dashboard will minimize to the systray when you launch an application, or if you close the window. When you exit the ACAT application that you launched, the Dashboard will automatically display.

If the Dashboard is minimized to the systray, you can exit it by right-clicking on the ACAT icon in the systray and selecting **Exit**.

3.1.1 Dashboard Shortcuts

The application shortcuts listed in the Dashboard broadly fall under two categories – **Talk** and **App**. In each of the categories, the shortcuts point to applications with different variations of the layout of the Alphabet scanner. For instance, Talk (QWERTY) is the Talk application with a QWERTY keyboard and Talk (ABC) is the Talk application with a layout in alphabetical order.

“Talk” shortcuts: Talk apps is to enable the user to communicate and are scaled down versions of the full User Interface. The different “talk” versions are just different keyboard layouts. They have a Talk window into which the user types text from an Alphabet keyboard. The user can then convert the text to speech. The apps also contain list predefined phrases that are stored for quick access to convert to speech.

“App” shortcuts: These are shortcuts to the fully-featured ACAT applications which enable you to perform tasks such as email, browsing the web, writing documents, viewing photos/videos and to interact with applications on your desktop.

The following table describes the apps in the ACAT Dashboard.

Shortcut	Name	Description
	Vision Tryout	A utility to get you familiar with using ACAT Vision which uses a webcam to detect facial gestures to trigger ACAT (see section 3.2). This is a standalone utility, not meant to be used as a trigger for the ACAT applications.

Shortcut	Name	Description
	ACAT Tryout	This is a simple application to get you started, exposing you to the “scanners” and how they function. It also lets you try your switch with the User Interface (see section 3.4).
	Phrases	The ACAT Phrases application that displays a list of phrases that can be converted to speech (see section 3.5).
	Talk (QWERTY)	The ACAT Talk application with a QWERTY keyboard layout (see section 3.6.1).
	Talk (ABC)	The ACAT Talk application with a keyboard in which the letters are arranged in Alphabetical order (see section 3.6.2).
	Talk (Alt)	The ACAT Talk application with a alternate keyboard layout and scanning sequence optimized for text entry (see section 3.6.3).
	Talk (Alt ABC)	The Talk (ABC) application with an alphabetically ordered keyboard and an alternate scanning sequence optimized for text entry. (see section 3.6.4).
	App (QWERTY)	The fully-featured ACAT application with a QWERTY keyboard layout (see section 3.7.1).

Shortcut	Name	Description
	App (ABC)	The fully-featured ACAT application with an alphabetically arranged keyboard layout (see section 3.7.2).
	App(Alt)	The fully-featured ACAT application with an alternate keyboard and scanning sequence optimized for text entry (see section 3.7.3).
	App (Alt ABC)	The fully-featured ACAT application with an alphabetically arranged keyboard and an alternate scanning sequence optimized for text entry. (see section 3.7.4).
	ACAT (Config)	A utility to configure the various settings in ACAT. This is not an assistive application and will typically be used by helpers to configure ACAT (see section 9).

The remaining sections in this chapter will guide you step-by-step on getting started with ACAT.

3.2 Vision Tryout

Skip this section if you are not going to use ACAT Vision as your switch. To disable/enable ACAT Vision, you can use the **Actuators** option in the **ACAT Config** utility (see section 9.2).

ACAT vision analyzes the video stream from the camera on your system, senses facial gestures such as a cheek twitch, and translates them into trigger events to actuate the UI. If your system does not have a built-in camera, you can plug in a webcam.

Start with the Vision Tryout app to get used to trigger with facial gestures. ACAT Vision depends on a number of parameters such as:

- Distance of your face from the camera,
- Facial posture,
- Lighting,

- Facial gestures

The Vision Tryout application will help you get familiar with how it works so you can trigger the UI consistently.

From the ACAT Dashboard (see section 3.1), select Vision Tryout. If it detects multiple cameras it will display following dialog with a list of cameras from which you can select the one you want to use.

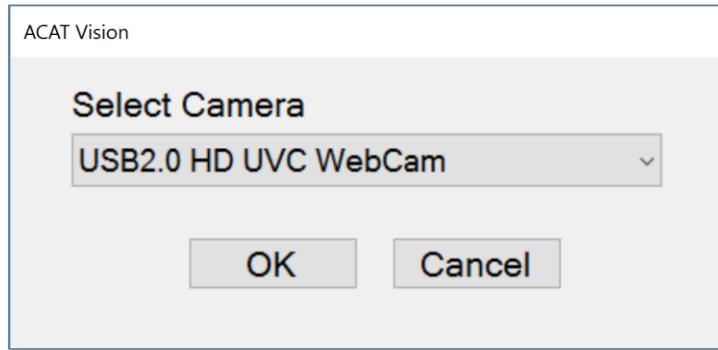


Figure 2: Camera selection

After you select the camera, you will see the following window at the bottom right corner of your display.

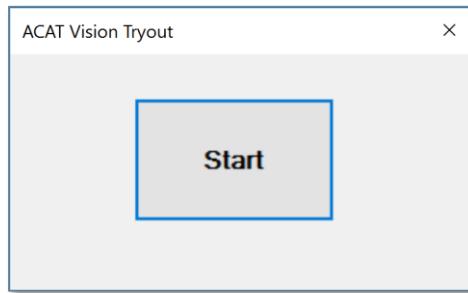


Figure 3: Vision Tryout window

Press the **Start** button. After a few seconds, the video window will appear at the top left corner of your display. ACAT Vision will initialize the camera and then calibrate it (see Figure 4). It tries to detect your face and if it does so successfully, it looks for landmarks such as your eyebrows, cheeks and mouth. You must keep your head perfectly still and ensure that the camera is tracking your face and is able to recognize facial gestures. You will see blue rectangles around the eyebrows, cheeks and the mouth.

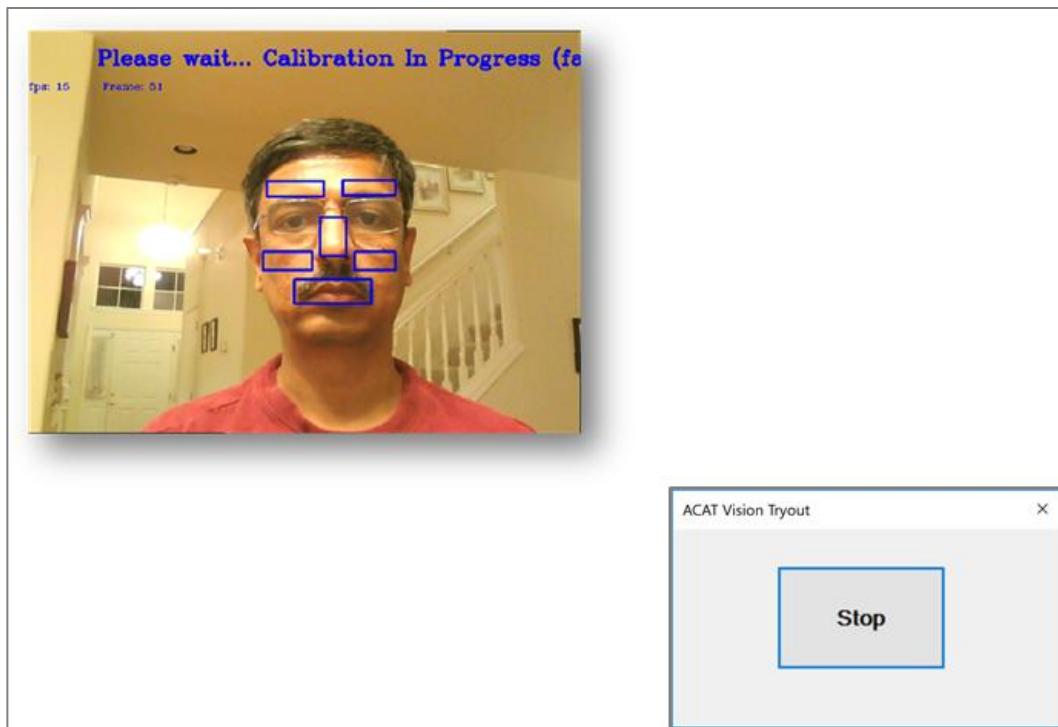


Figure 4: Camera calibration

The calibration should normally take a few seconds. When the “**Please wait... Calibration in Progress**” message goes away in the video window, it is ready.

To trigger, twitch your cheek by pulling the cheek muscle and quickly releasing it. You can also quickly open your mouth and close it. ACAT Vision will recognize the facial gestures and in the video window, you will see a green rectangle around your cheek (or your mouth) with a “**Cheek Gesture Detected**” message (see figure below).

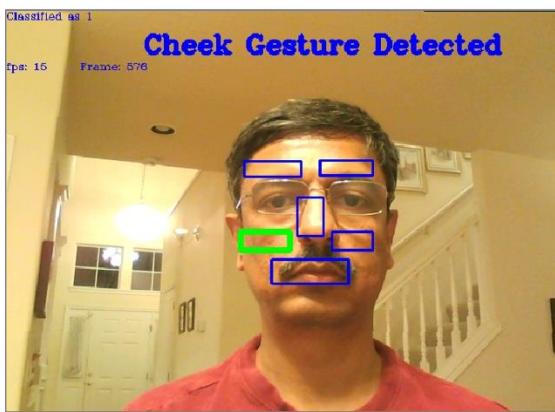


Figure 5: Cheek Gesture Detection

Practice this by repeating it a few times and ensure that it detects your gesture consistently.

You can also use your eyebrows. Raise and lower your eyebrows quickly and you will see an “**Eyebrow Raise Detected**” message in the video window.

To select your preferred gesture for triggering ACAT, run the ACAT Config utility from ACAT Dashboard and refer to section 9.2 for details.

3.2.1 Vision Tips

If ACAT is not able to calibrate or detect your gestures consistently, follow these tips:

1. Make sure the face is positioned between 1-2 feet away from the camera.
2. During the calibration phase, try to keep as still as possible. Do not make any head or facial movements.
3. Face detection works well in most lighting conditions but if the room is too dark or (artificial/sun) light is shining directly on the face then face detection will work quite as well. Make sure the face is reasonably illuminated.
4. For gesture detection to work correctly, you must keep your head perfectly still and only move your cheek muscle, mouth or your eyebrow.

5. To force recalibration while the video window is active, click on the window and press the 'r' key.

To quit Vision Tryout, press the **Stop** button and then select **Exit**.

3.3 Using Vision with ACAT

When you launch any of the ACAT Apps, they activate ACAT Vision on startup. This section outlines the various stages of initialization and the prompts you will see on the display.

3.3.1 Initialization and Calibration

If you are not going to use ACAT Vision as the switch mechanism and would like to turn it off, see section 9.29.2 on how to disable it. You can skip this section as well.

When you launch any of the ACAT Apps, ACAT Vision will first initialize the camera.

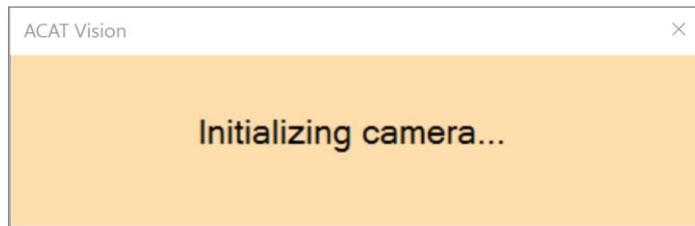


Figure 6: Camera Initialization

After initialization, it will calibrate the camera. Remain still and you will see blue rectangles in the video around the eyebrows, cheeks and mouth. If calibration is taking too long, refer to section 3.2.1 for tips on getting optimum results.

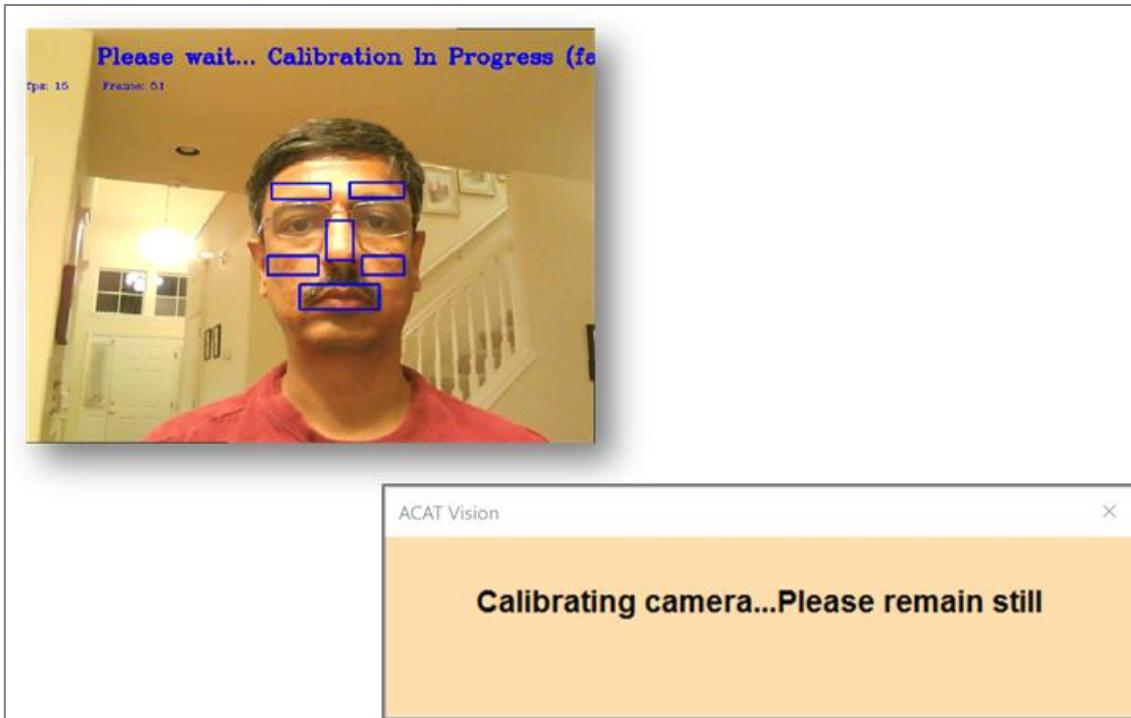


Figure 7: Camera calibration

After calibration has ended, the video window will close automatically and the ACAT scanner will display.

While ACAT is running, if ACAT Vision loses track of your face at any time, it will display a message indicating that it is calibrating. After calibration has successfully completed, the message will disappear.

Note: You can hide or show the video window at any time by pressing the hot key **Ctrl+Alt+Shift+W** (in that order). This hot key acts as a toggle.

3.4 ACAT Tryout

ACAT Tryout is a simple application lets you use your switch mechanism for text entry. The modalities and interaction used by this application are very similar to the ones used by the fully featured ACAT application. You can also test adjust the speed of scanning, make it faster or slower depending on your reaction time.

Note: If you are using a webcam as your trigger mechanism, make sure you familiarize yourself with how ACAT Vision works and how to get it to detect your facial gestures. You may want to try the standalone Vision Tryout app first (see section 3.2) before proceeding any further.

From **ACAT Dashboard**, click on **Tryout**. This will launch the **ACAT Tryout** application. If ACAT Vision is enabled, ACAT initialize the camera and perform calibration. See section 3.3 for details.

3.4.1 Typing

The ACAT Tryout window is shown in Figure 8. The word in red is the one you should type using the four letters. The  button is the backspace key. The  button clears the text to let you start over.

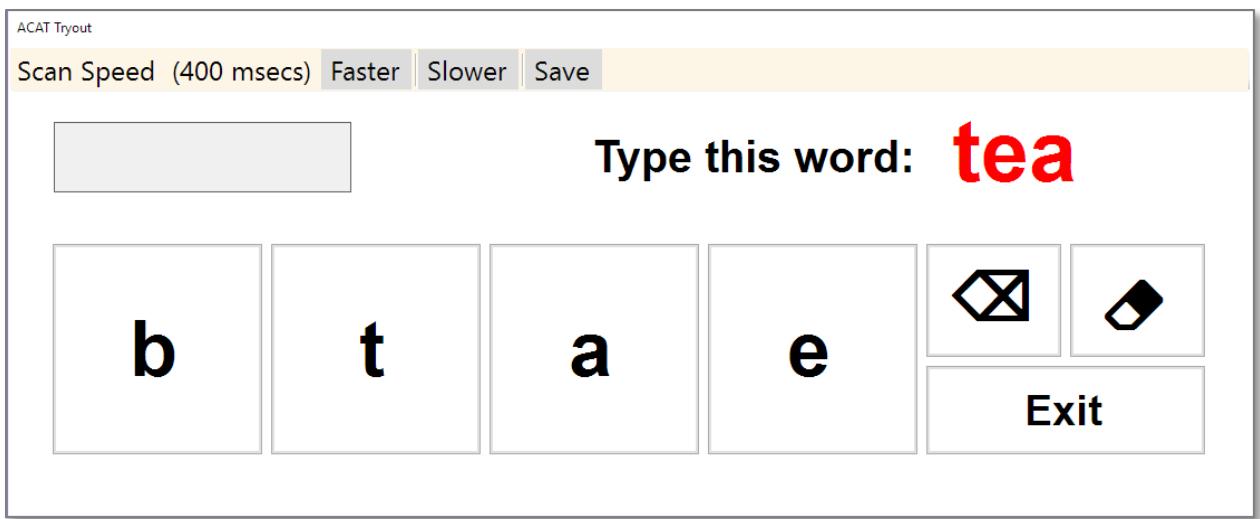
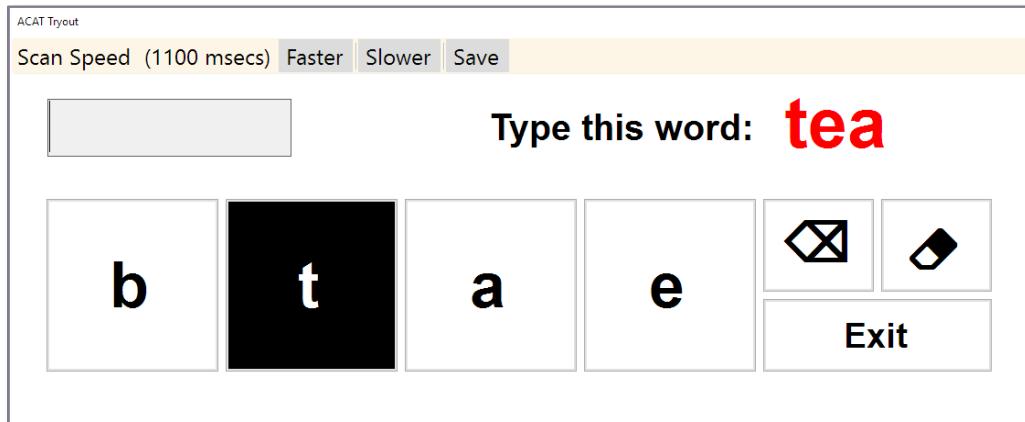


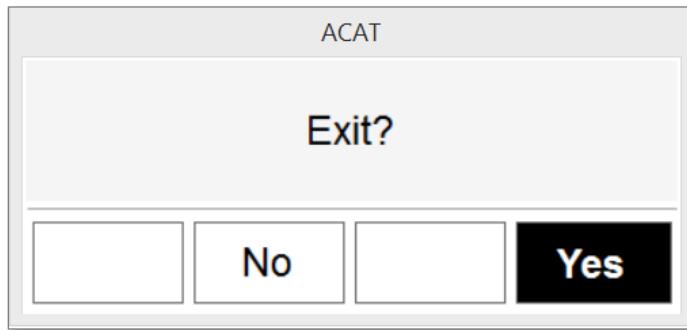
Figure 8: ACAT Tryout main window

Follow these steps to begin typing:

1. The buttons will be highlighted one at a time. To enter the word “tea”, wait for the letter ‘t’ to get highlighted. While it is highlighted, trigger the switch. If you are using the camera, twitch your cheek or move your mouth. If you are using the keyboard, press F12. If you are using an off-the-shelf switch, activate it.



2. Repeat step 1 for the next letter and so on until you type the entire word. The next word will display.
3. If scanning of the buttons stops, just trigger your switch and scanning will resume.
4. To quit, trigger the **Exit** button. A Yes/No dialog will be displayed. When the word **Yes** is highlighted, trigger your switch. The application will close.



3.4.2 Adjusting scan speed

If you feel the default speed of scanning is too fast or too slow, click on the **Slower** or the **Faster** button to adjust the speed. When you have found the optimal speed, click on **Save** to save the current setting. The speed will apply to all the ACAT applications.

3.5 ACAT Phrase Application

This application displays a list of phrases that you can convert to speech by selecting a phrase. If you are using a webcam as your trigger mechanism, make sure you

familiarize yourself with how ACAT vision works and how to train ACAT to detect your facial gestures. See sections 3.2 and 3.3 for details on using ACAT Vision.

When you launch ACAT Phrase, a list of phrases is displayed. See section 8.3 for details on adding phrases to the list.

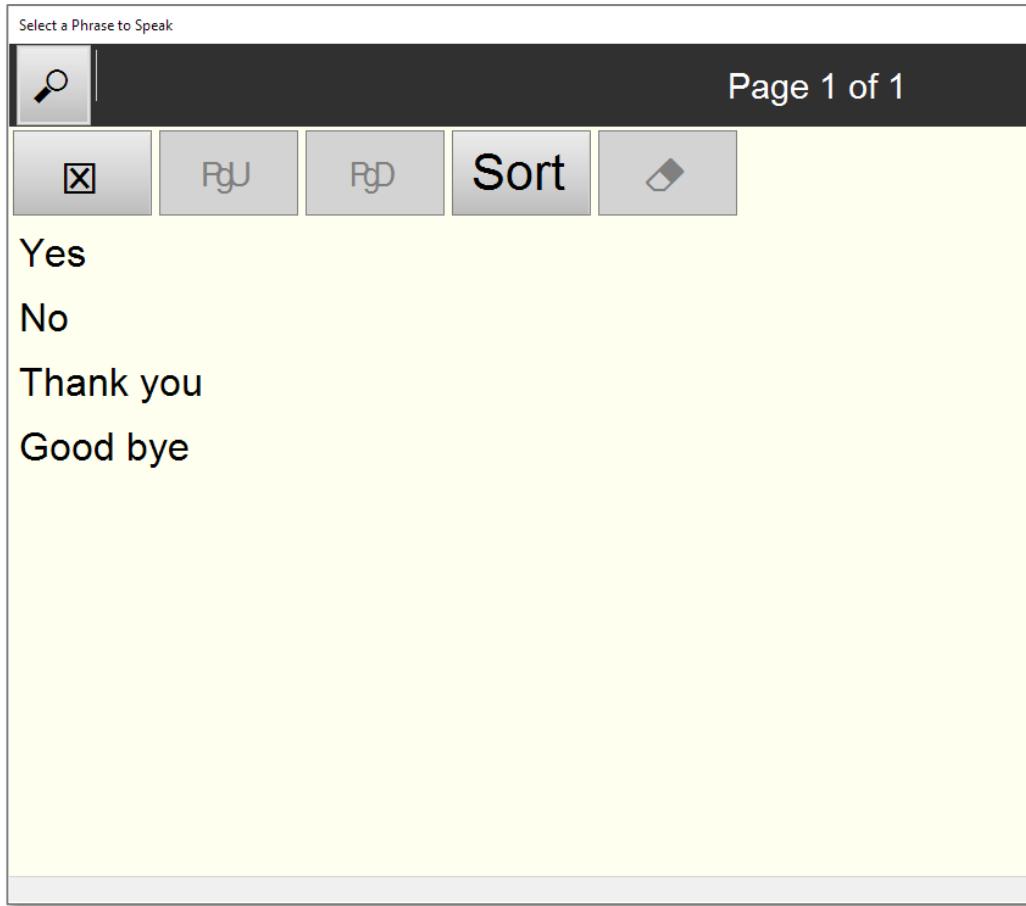


Figure 9: ACAT Phrases Application

ACAT will begin scanning the phrases. When the desired phrase is highlighted, trigger your switch (twitch your cheek if you are using ACAT Vision) and the highlighted phrase is converted to speech.

3.6 ACAT Talk Applications

If you are using a webcam as your trigger mechanism, make sure you familiarize yourself with how ACAT vision works and how to train ACAT to detect your facial gestures. See sections 3.2 and 3.3 for details on using ACAT Vision.

If you have not tried out the ACAT Tryout application (see section 3.4), you may want to do that before you use the Talk application.

Now that you are familiar with your switch mechanism and how the UI works, you can use the ACAT Talk application to enter text by using the keyboard and by selecting words from the word prediction list. You can also convert the text you entered into speech. The ACAT Talk application is a scaled down version of the fully-featured ACAT application. It supports contextual next-word prediction through the Presage intelligent predictive text entry toolkit (<http://presage.sourceforge.net>).

There are four variations of ACAT Talk as described in section 3.6. Pick the one that you prefer.

3.6.1 Talk (QWERTY)

The Talk (QWERTY) application shown in Figure 10 has a box into which you type the text you want to use to communicate. It has a QWERTY keyboard for typing.

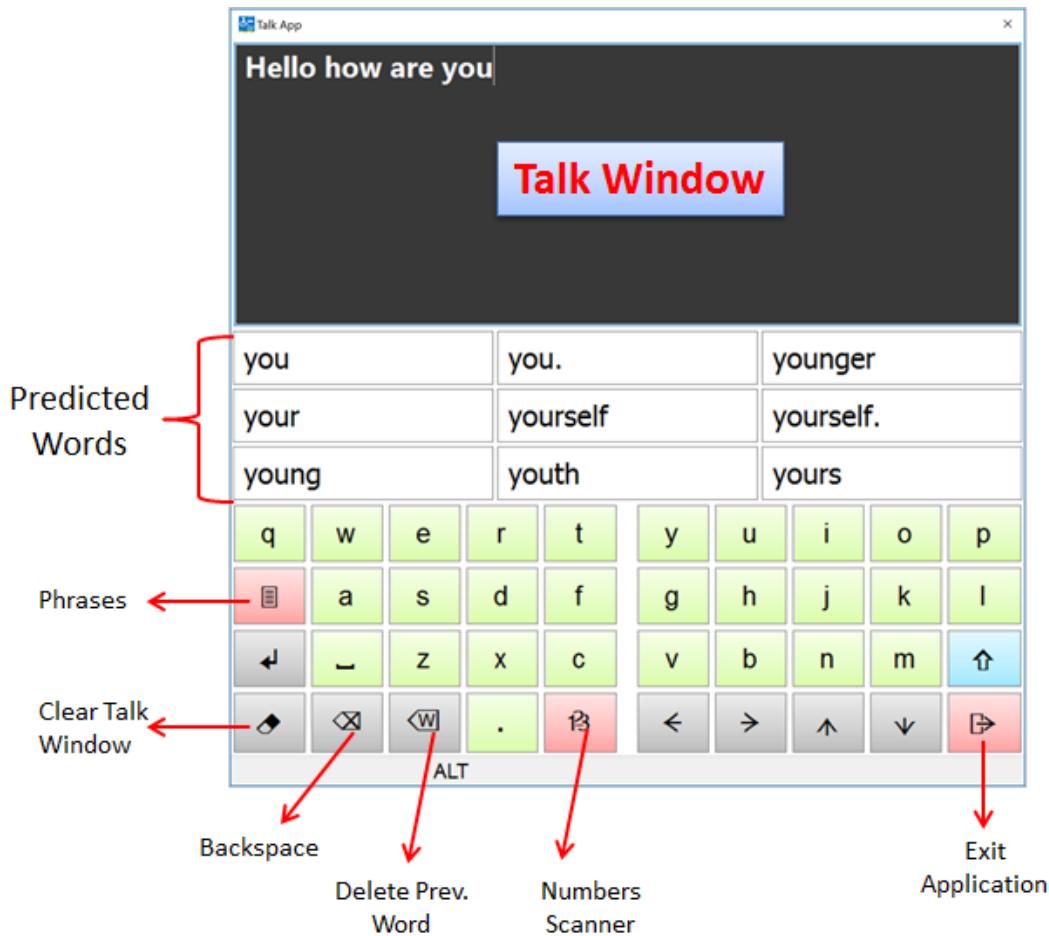
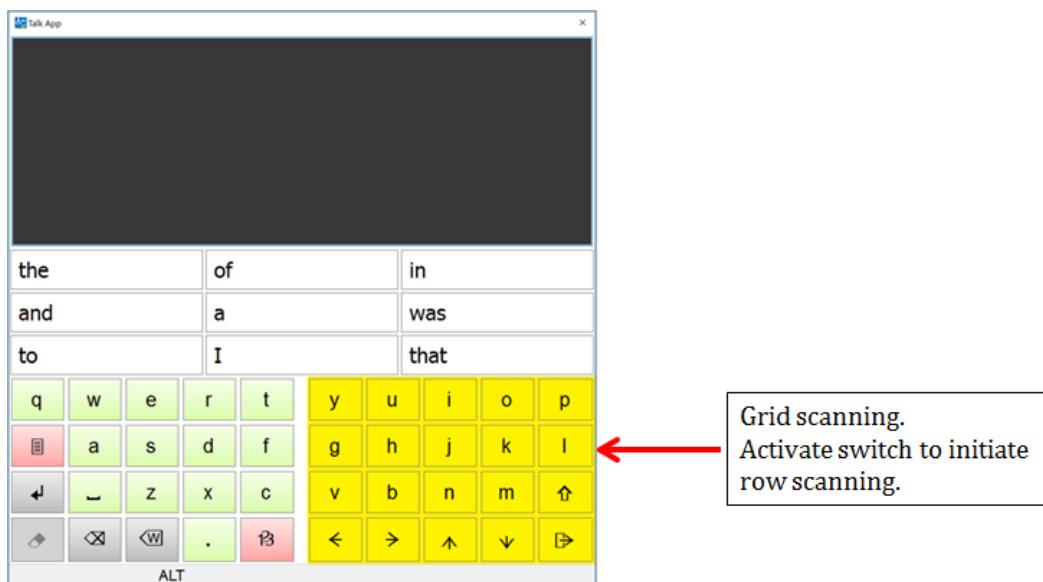


Figure 10: Talk (Qwerty)

3.6.1.1 Type a sentence

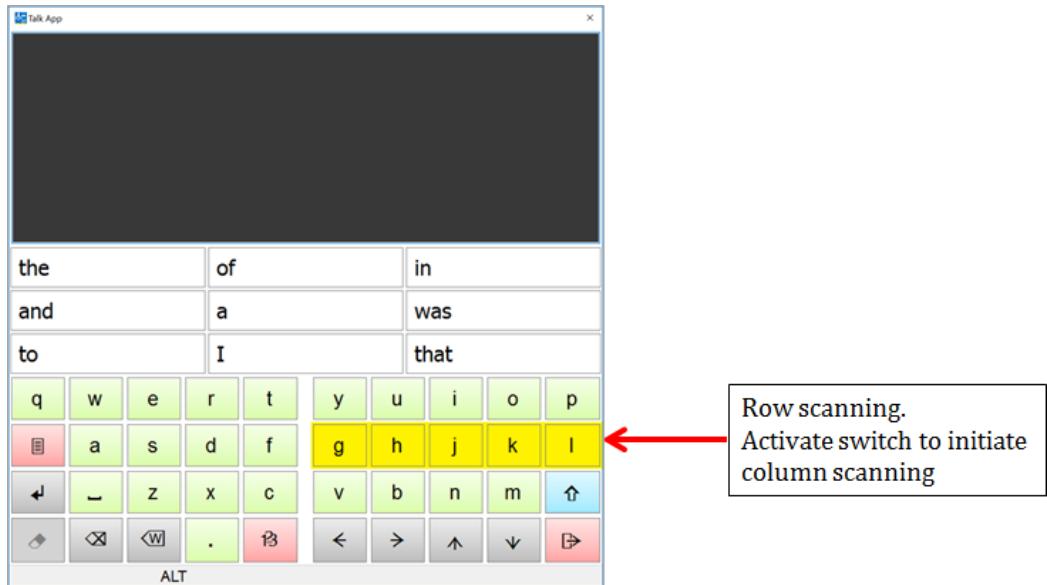
Follow these steps to type a sentence into the talk window and convert it to speech.

1. To use the camera as the switch mechanism, follow the steps outlined in section 3.3. Test your facial gestures and ensure that they are recognized.
2. If you are going to use the keyboard as the switch mechanism, press F12 as the trigger. If you are using an off-the-shelf switch, activate it.
3. From the ACAT Dashboard (see section 3.1) run **Talk (QWERTY)**. The window shown in Figure 10 will appear. It has the QWERTY keyboard, a box into which you can enter text by typing or by selecting words from a list of predicted words.
4. ACAT will begin scanning the word list, the left half of the keyboard and the right half of the keyboard.
5. To type the letter 'h', wait till the right half of the keyboard is highlighted.

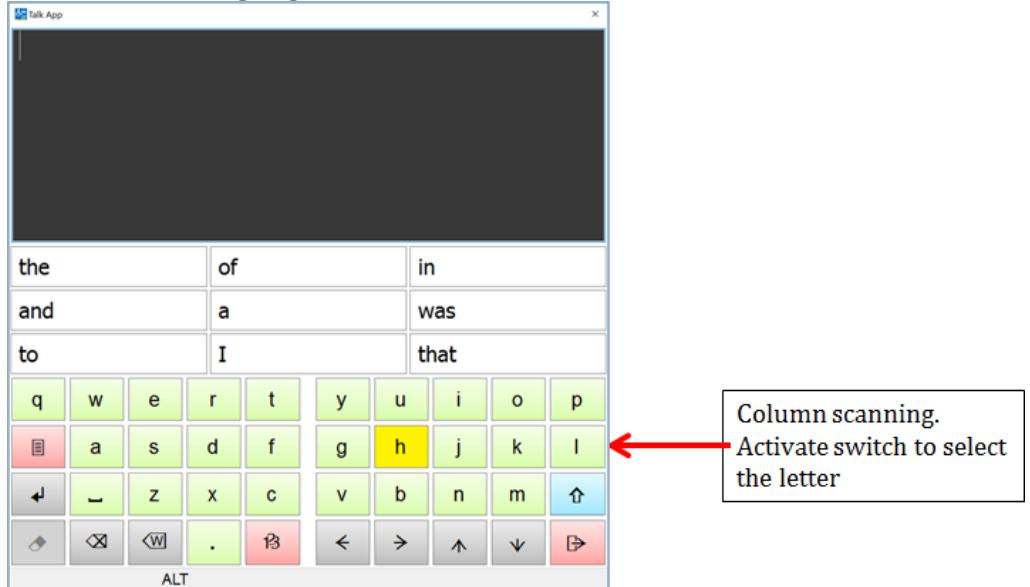


6. Activate your switch.

- ACAT will begin scanning the rows. Wait until the second row is highlighted.



- Activate your switch.
- ACAT will begin highlighting the buttons in the second row. Wait until the letter 'h' is highlighted.



- Activate your trigger. The letter 'h' will appear in the talk window. The predicted words list will refresh and show the predicted words beginning with the letter 'h'.

11. To select a word from the word list, wait until the word list section is highlighted. Activate your trigger.
 12. ACAT will begin scanning the words in the list. When the desired word is highlighted, activate your trigger.
 13. The word will appear in the talk window and ACAT will refresh the word list with a list of predicted words that will likely follow the word you just selected.
 14. Continue steps 4 to 13 to add other words and complete the sentence.
-  15. Select the  button. ACAT will convert the sentence you just typed into speech.
-  16. Select the  button to clear the Talk window.

3.6.1.2 Convert phrases to speech

You can convert to speech by selecting a phrase from a list of predefined phrases that are stored for quick access.

- 
1. Activate the  button. A list of phrases will display. Section 8.3 has details on adding phrases to the list.
 2. Highlighting will alternate between the button bar and the list. When the list is highlighted, activate your switch.
 3. ACAT will highlight the phrases in the list one at a time. When the desired phrase is highlighted, activate your switch and the selected phrase will be converted to speech.

In the Phrases dialog, select the  button to close the dialog and go back to the Talk window.

See section 6.9.16.8 for adding phrases to the list.

3.6.1.3 Resize the window

To adjust the size of the ACAT Talk window use the following shortcuts. The setting is automatically saved and will apply to all the ACAT scanners and applications.

Ctrl+Alt+Comma to make the window smaller.

Ctrl+Alt+Period to make the window larger.

Ctrl+Alt+ / to set the window to its default size.

3.6.1.4 Exit the application

To exit the Talk application, select the  button.

3.6.2 Talk (ABC)

The Talk (ABC) application shown in Figure 11 has a text box. The words you type will appear here, and you can convert the text to speech. It has a keyboard with the keys arranged alphabetically. It also includes a list of predefined favorite phrases that can be converted to speech. See section 8.3 for details on specifying phrases that will appear in this list.

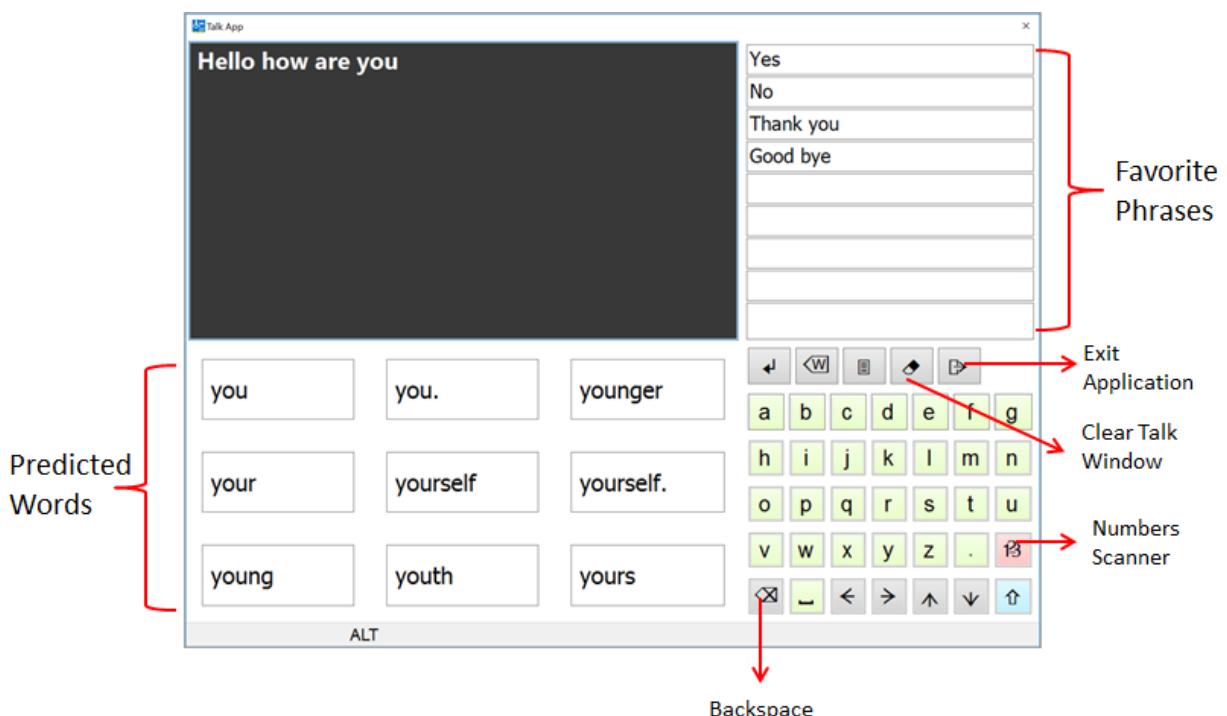


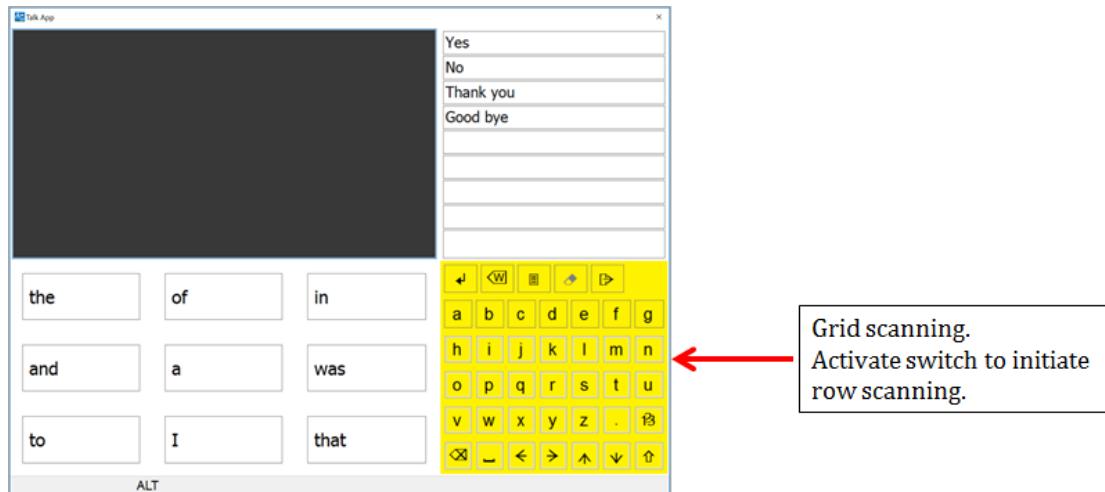
Figure 11: Talk (Abc)

3.6.2.1 Type a sentence

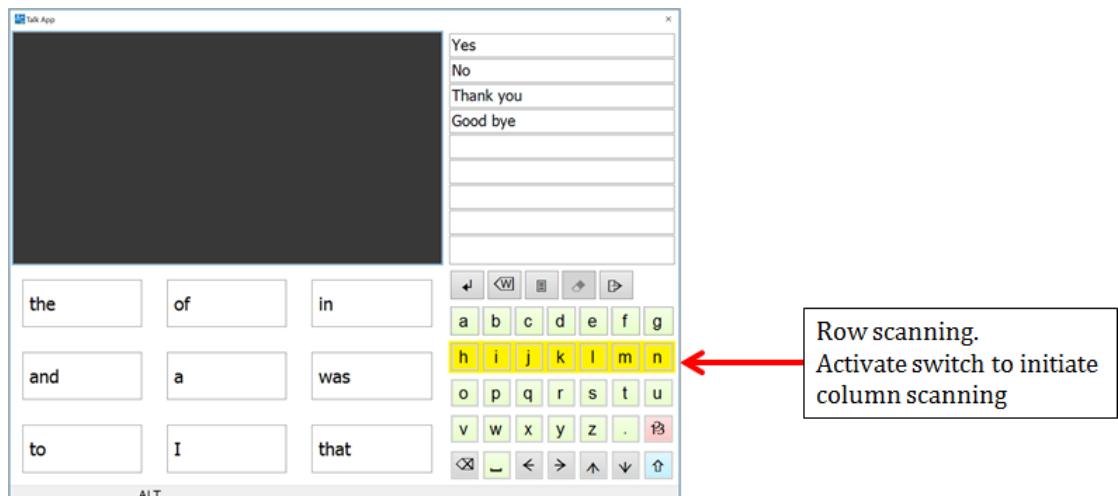
Follow these steps to type a sentence.

1. To use the camera as the switch mechanism, follow the steps outlined in section 3.3. Test your facial gestures and ensure that they are recognized.
2. If you are going to use the keyboard as the switch mechanism, press F12 as the trigger.

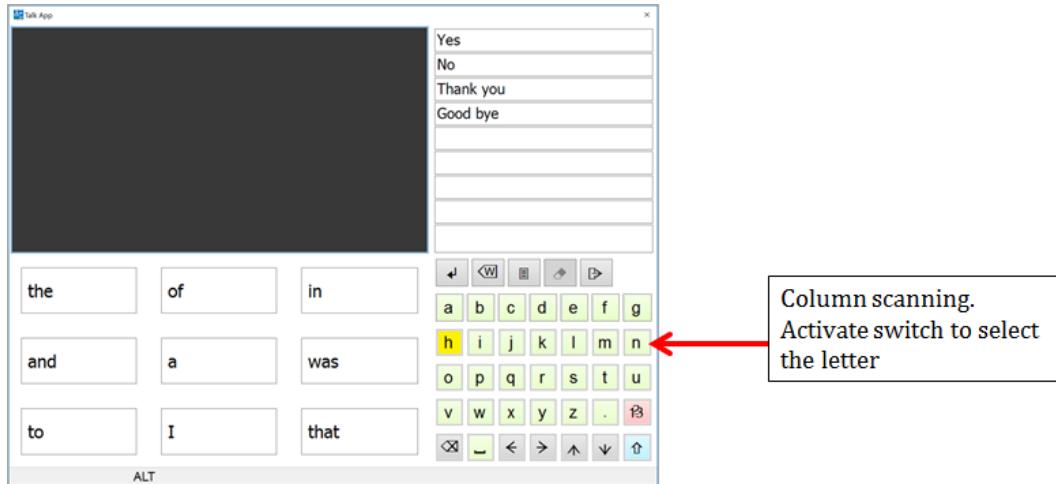
3. From ACAT Dashboard (see section 3.1), run **Talk (ABC)**. The window shown in Figure 11 will appear. It has the alphabetic keyboard, a textbox, a list of predicted words and a list of phrases.
4. ACAT will begin scanning the word list, the phrase list and the keyboard.
5. To type the letter 'h', wait till the keyboard section is highlighted.



6. Activate your switch.
7. ACAT will begin scanning the rows. Wait till the third row is highlighted.



8. Activate your switch.
9. ACAT will begin highlighting the buttons in the row. Wait until the letter 'h' is highlighted.



10. Activate your switch.
11. The letter 'h' will appear in the talk window. The predicted words list will refresh and show the predicted words beginning with the letter 'h'.
12. To select a word from the word list, wait till the word list section is highlighted. Activate your trigger.
13. ACAT will begin scanning the words in the list. When the desired word is highlighted, activate your trigger.
14. The word will appear in the talk window and ACAT will refresh the word list with a list of predicted words that will likely follow the word you just selected.
15. Continue steps 4 to 14 to add other words and complete the sentence.
16. Select the button. The sentence you just typed will be converted to speech.
17. Select the button to clear the Talk window.

3.6.2.2 Convert phrases to speech

You can also convert a list of canned phrases to speech. See section 8.3 for details on adding phrases to the list.

Activate the button. A list of phrases will be displayed. Highlighting will alternate between the button bar and the list. When the list is highlighted, activate your switch. ACAT will highlight the phrases in the list one at a time. When the desired phrase is highlighted, activate your switch and the selected phrase will be converted to speech.

In the Phrases dialog, select the  button to close the dialog and go back to the Talk window.

3.6.2.3 Resize the window

To adjust the size of the ACAT Talk window use the following shortcuts. The setting will be automatically saved and will apply to all the ACAT applications.

Press **Ctrl+Alt+Comma** to make the window smaller.

Press **Ctrl+Alt+Period** to make the window larger.

Press **Ctrl+Alt+/** to set the window to its default size.

3.6.2.4 Exit the application

To exit the Talk application, select the  button.

3.6.3 Talk (Alt)

This variation of the Talk application is optimized for efficient text entry through an optimized arrangement of keys and scanning sequences.

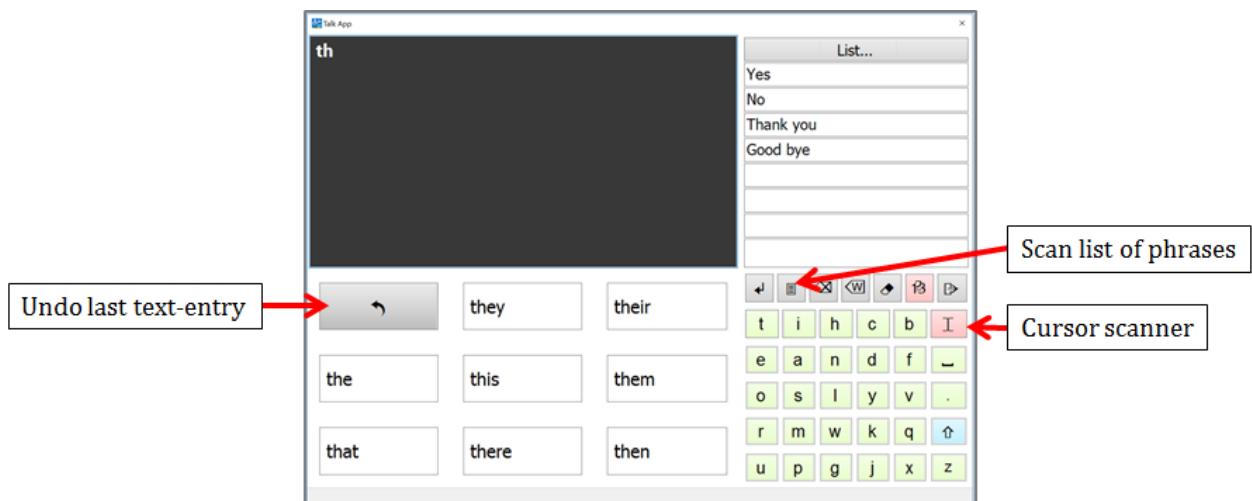


Figure 12: Talk (Alt) scanner

The keys in the keyboard are arranged in frequency order – the letters occur most frequently in the English language at the beginning of each row.

See section 3.6.2.1 for steps on how to type a sentence and convert it to speech.

The first button in the predicted word list does a quick undo of the last text-entry action. If you typed a letter, it deletes it. If you picked a word from the list, or auto-completed a word, it deletes it as well.

To access the list of canned phrases, select the  button.

3.6.4 Talk (Alt ABC)

This is similar to Talk Alt (see section 3.6.3) except for the arrangement of the keys in the scanner. They are in alphabetical order.

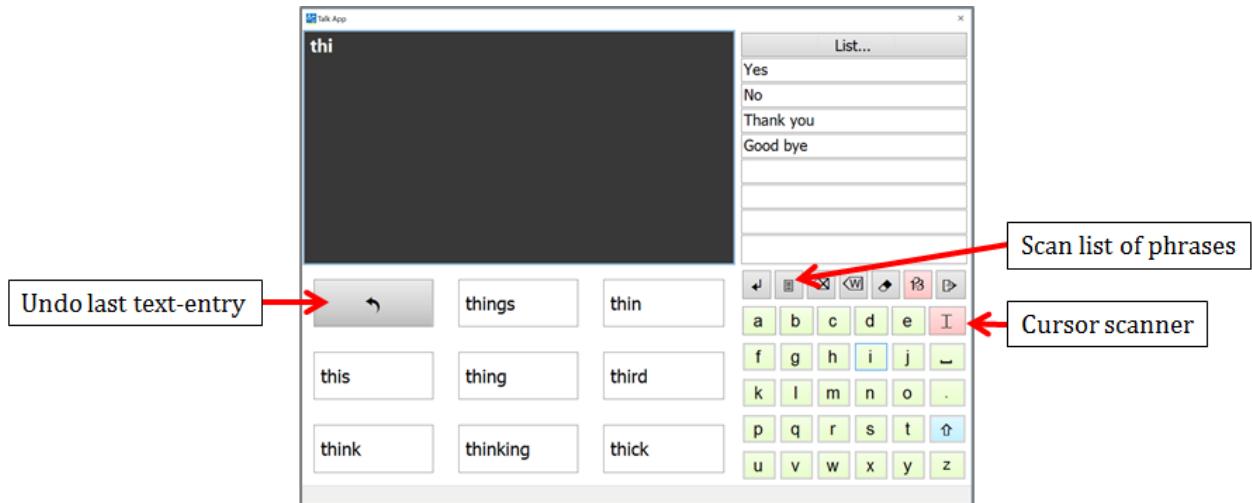


Figure 13: Talk (Alt ABC) scanner

3.7 ACAT Application

The ACAT application is the fully featured solution to interface with your computer. With the ACAT App you can:

- Converse, with others
- Edit text,
- Interact with applications like email,
- Browse the web,
- Manage files,
- Deliver lectures

If you have not tried the Talk Apps yet, you may want to do so first before going any further (see section 3.6). The Talk Apps can get you up to speed quickly on using the Alphabet scanner and the word prediction list to type text.

There are four variations of the ACAT application. Functionally they are all identical except for the layout of the alphabet scanner. From the ACAT Dashboard, launch the ACAT app with the layout you prefer. If ACAT Vision is enabled, ACAT will initialize the camera and perform calibration. See section 3.3 for details on this.

3.7.1 ACAT (QWERTY)

In version of the ACAT App has the Alphabet scanner with QWERTY keyboard.

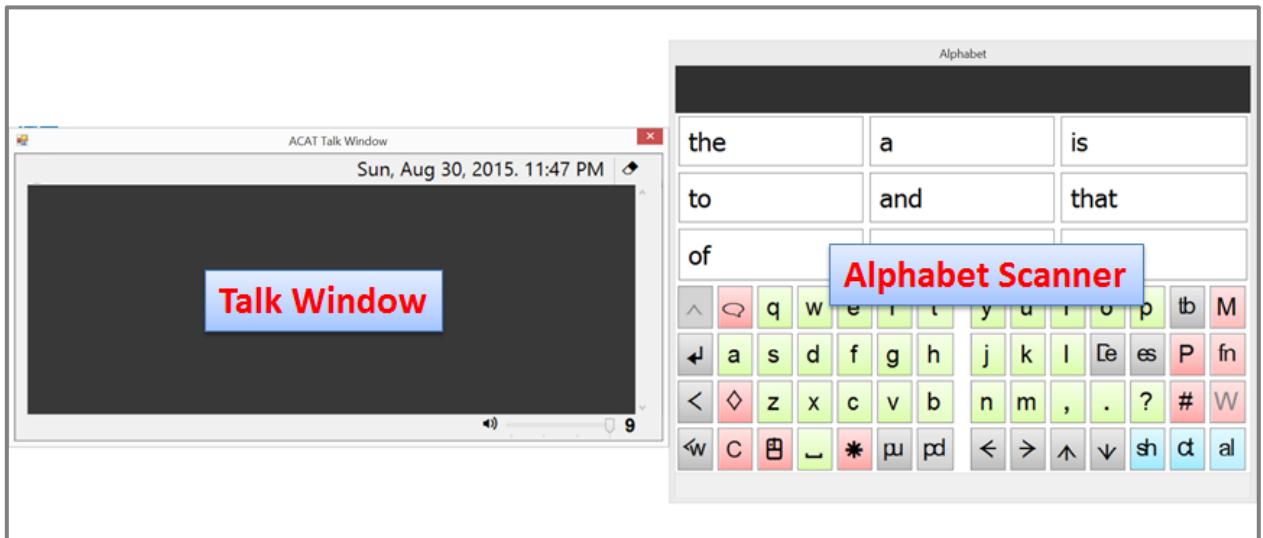


Figure 14: Talk window with the Alphabet scanner (QWERTY)

You can toggle the visibility of the Talk window by selecting the Talk button  in the Alphabet scanner. When the Talk window is not visible, the active application that is running on the desktop gets focus. If it is one of the applications that ACAT supports, it will respond appropriately, for instance, by displaying a contextual menu customized for the application (see Chapter 77 for details on application support).

The remaining chapters in this guide discuss the full list of features and functionality of the ACAT application.

3.7.2 ACAT (ABC)

This has keys in the Alphabet scanner arranged in alphabetical order. The Talk window is displayed alongside the scanner. You can type sentences in the Talk window by following the steps described for the Talk app in sections 3.6.1.1 and 3.6.2.1.

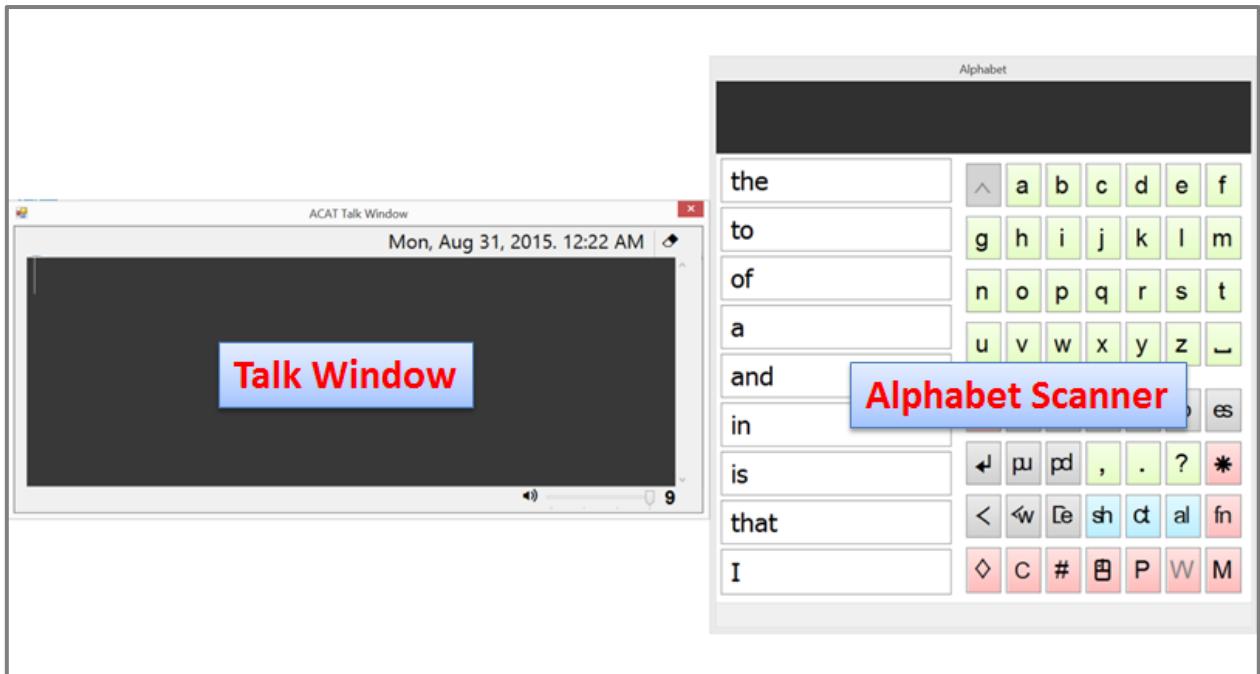


Figure 15: Talk window with Alphabet Scanner (Abc)

You can toggle the visibility of the Talk window by selecting the Talk button  in the Alphabet scanner. When the Talk window is not visible, the active application that is running on the desktop gets focus. If it is one of the applications that ACAT supports, it will respond appropriately, for instance, by displaying a contextual menu customized for the application (see Chapter 7 for details on application support).

The remaining chapters in this guide discuss the full list of features and functionality of the ACAT application.

3.7.3 ACAT (Alt)

This version of ACAT App is optimized for efficient text entry through an optimized arrangement of keys and scanning sequences. The keys in the keyboard are arranged in frequency order – the letters occur most frequently in the English language at the beginning of each row.

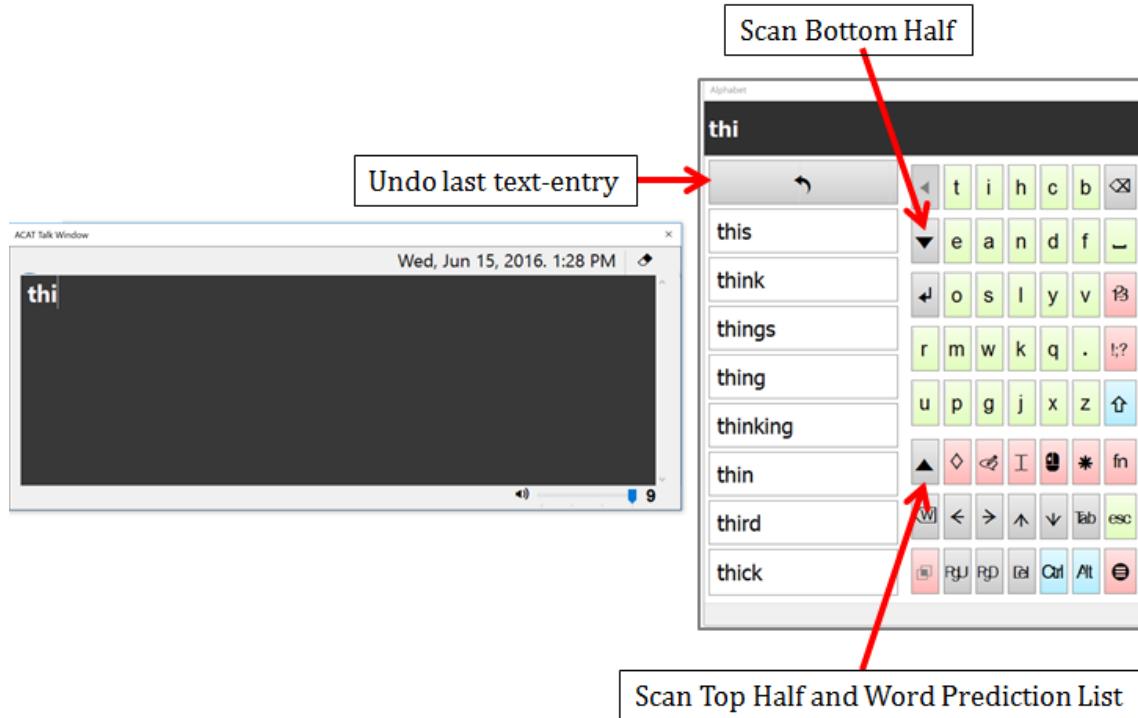


Figure 16: ACAT App (Alt) Alphabet Scanner

The top level scanning of the Alphabet scanner alternates between the letters and the word prediction list. To scan the bottom three rows in the scanner, choose the down-arrow button as shown in Figure 16. Similarly when the bottom rows are being scanned, use the up-arrow button to go back to scanning the letters and word prediction list.

The first button in the predicted word list is a quick undo of the last text-entry action. If you typed a letter, it deletes it. If you picked a word from the list, or auto-completed a word, it deletes it as well.

3.7.4 ACAT (Alt ABC)

This is similar to ACAT Alt (see section 3.7.3) except the keys in the Alphabet scanner are arranged alphabetically.

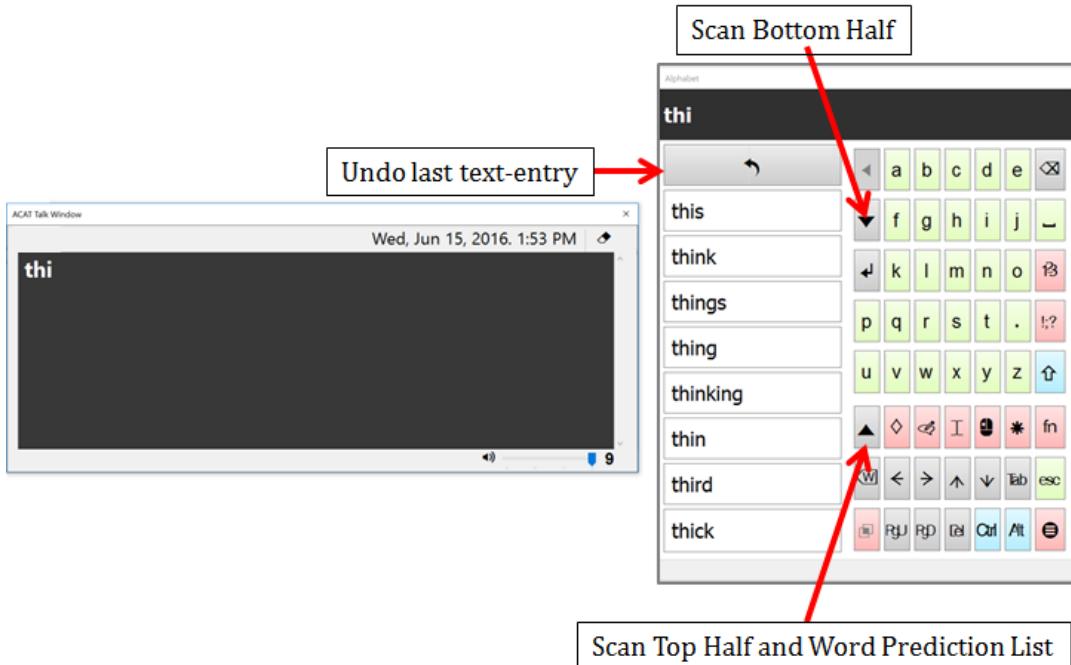


Figure 17: ACAT App (Alt ABC) Alphabet scanner

3.7.5 Using ACAT with Notepad

You can use the ACAT Apps to edit documents with Notepad, WordPad or Microsoft Word 2010. Here are the steps to create and enter text into a text document.

1. From the Alphabet scanner, select the  button to display the Tools menu.
2. Select **Create File** from the **Tools** menu
3. Select **Text File** to create a plain text document. Files are created in your **Documents** folder by default. To change the location of the folder, see section 9.6.3.
4. After you have made a selection, ACAT displays a dialog to enter the filename, and also the Alphabet scanner which you can use to enter the file name.
5. As you start typing, ACAT will display the name of the file in the **Name of File** field. At the same time, it checks to see if the file already exists. If it does, the file name is displayed in red. If the file does not already exist, the file name is displayed in green.
6. When you are done with entering the file name, select the  button. ACAT will create the file and launch Notepad with the file.
7. Using the alphabet scanner enter some text into the file. Notice that as you type, ACAT tracks what you have typed and updates the word prediction list with likely words.

3.7.6 Resizing the scanner

To adjust the size of the scanner you can use the following shortcuts. These shortcuts work only on the Alphabet scanner. The setting is automatically saved and will apply to all the ACAT scanners and applications.

Press **Ctrl+Alt+Comma** to make the window smaller.

Press **Ctrl+Alt+Period** to make the window larger.

Press **Ctrl+Alt+/** to set the window to its default size.

3.7.7 Exiting ACAT application

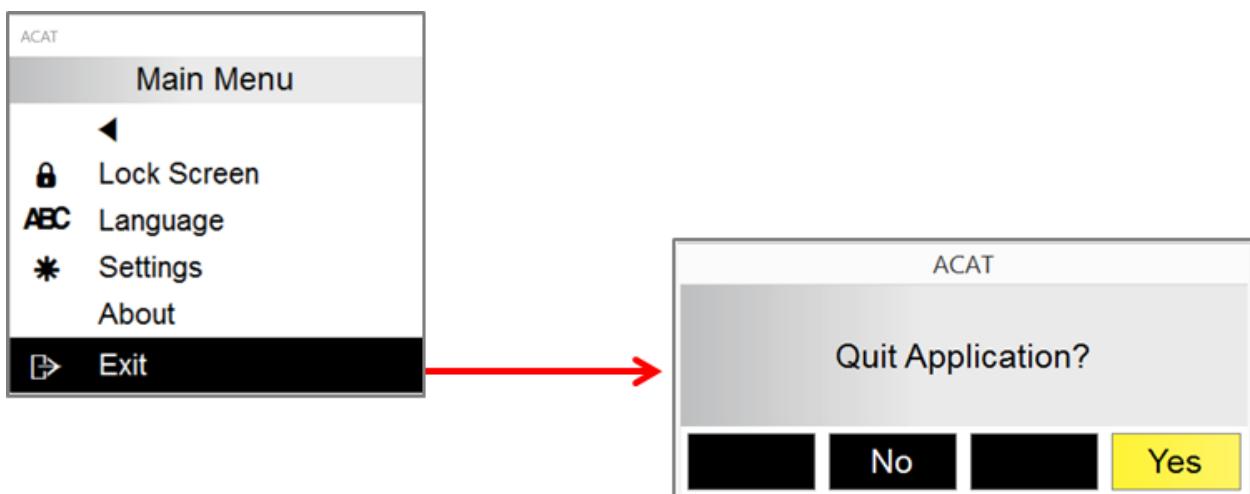


Figure 18: Quitting ACAT

To exit the application:

- a. Select the  button on the alphabet scanner. This will bring up the main menu.
- b. ACAT will scan the menu options.
- c. Activate your switch when **Exit** is highlighted.
- d. ACAT will ask for confirmation to exit
- e. Select **Yes** to quit the application.

The remaining chapters in this document describe all the features of ACAT.

3.8 ACAT Config

ACAT Config is a non-assistive application that exposes all the ACAT settings that can be directly manipulated. It requires the use of a keyboard and mouse and can be typically used by a helper to customize ACAT according to the end-user needs.

See section 9 for details on ACAT Config.

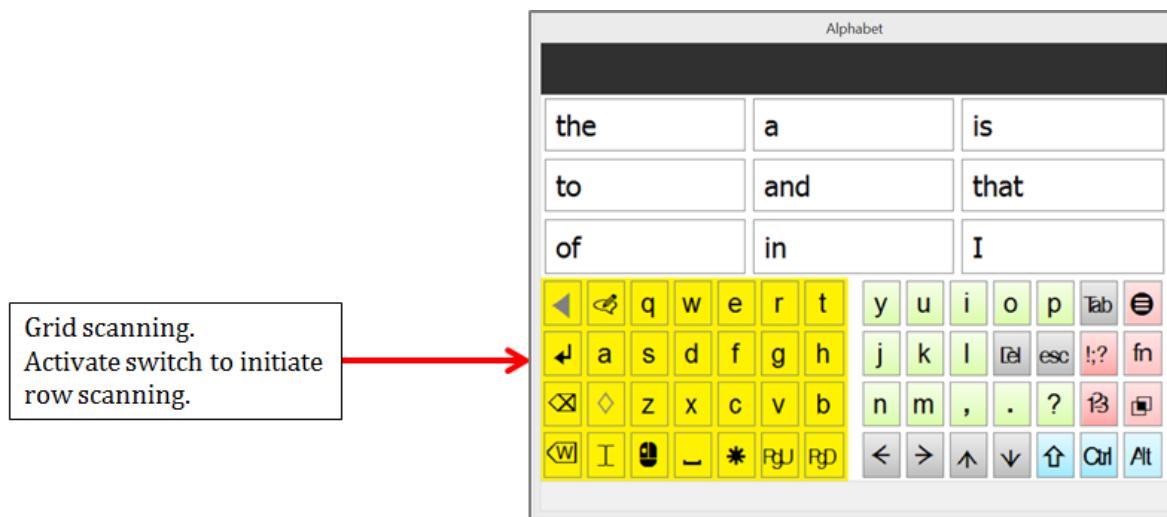
4 ACAT SCANNERS

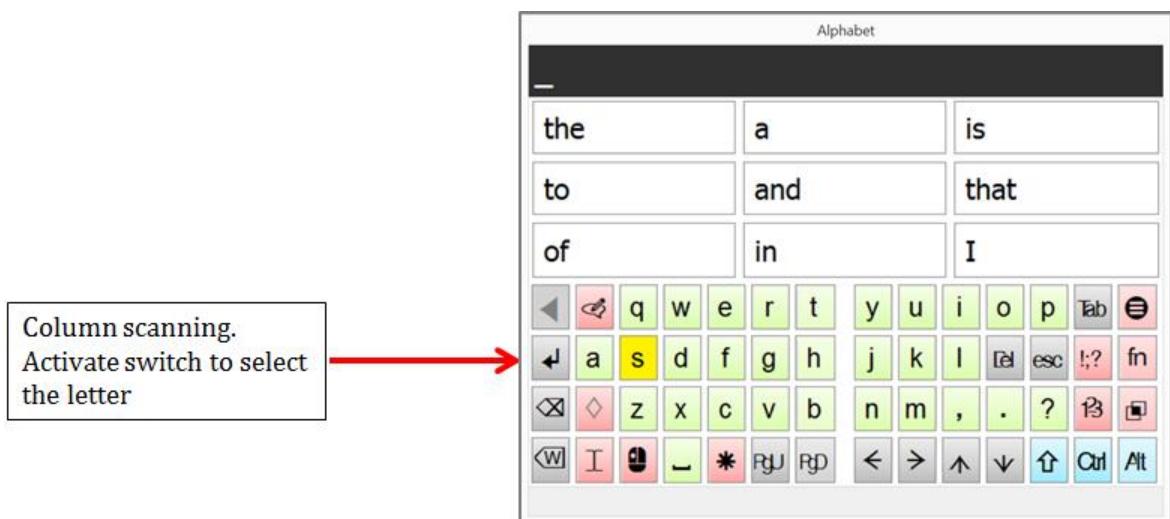
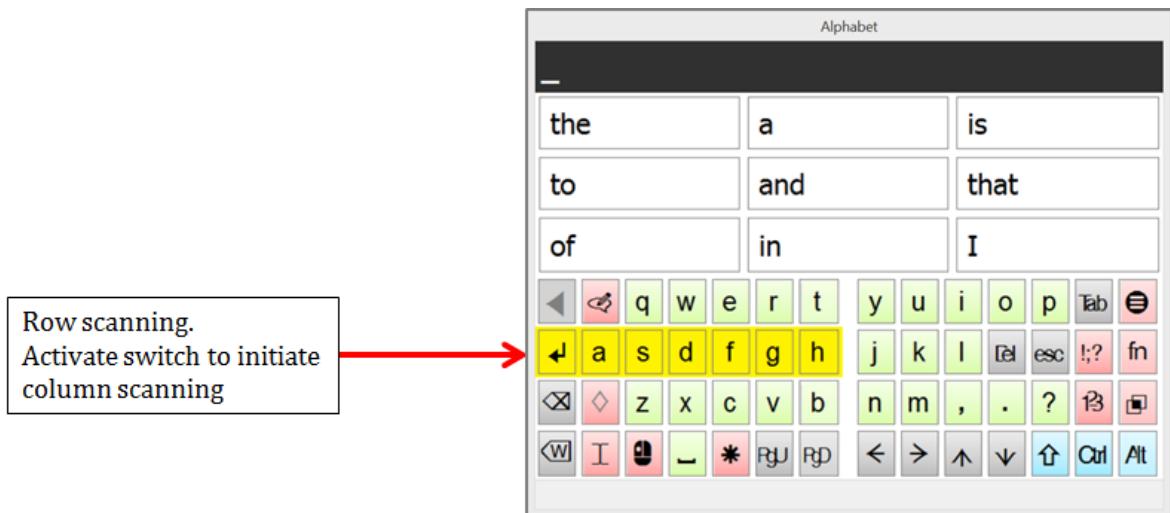
The ACAT user interface is a collection of ‘scanners’, each of which has a specific function. For instance, the Alphabet scanner lets you type as you would on a keyboard and the Cursor Navigation scanner lets you navigate around a document or a web page. Each scanner is composed of buttons. ACAT sequentially scans the buttons by highlighting them on a timer basis, say, once every second. When the desired button is highlighted, you select it by activating your switch mechanism. ACAT will then execute the action associated with the button such as typing the letter you selected, or activating a menu.

4.1 Scanning

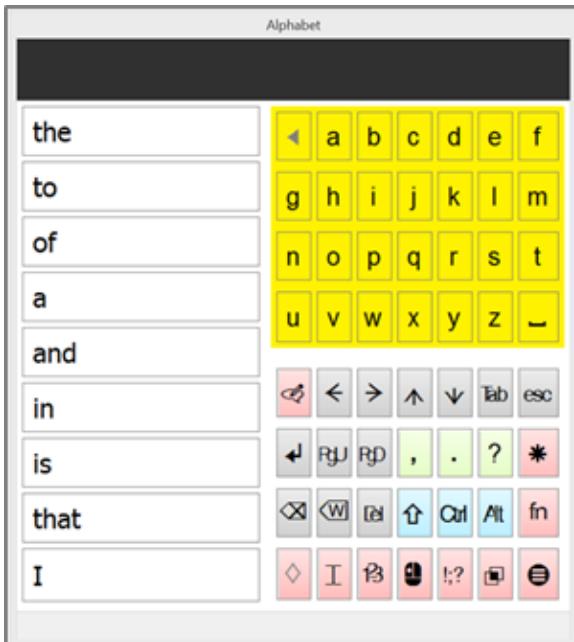
There is a hierarchy in the scanning sequence. This is to enable you to get to the desired button quickly. Scanning starts at the top level and you activate your switch to go down to the next level and so on until the target button is reached. When the target button is highlighted, you activate the switch to execute the action associated with the button.

The figures below show the transitions you would make to select the letter ‘h’ in the QWERTY version of Alphabet scanner. Each transition occurs on an activation of your switch.





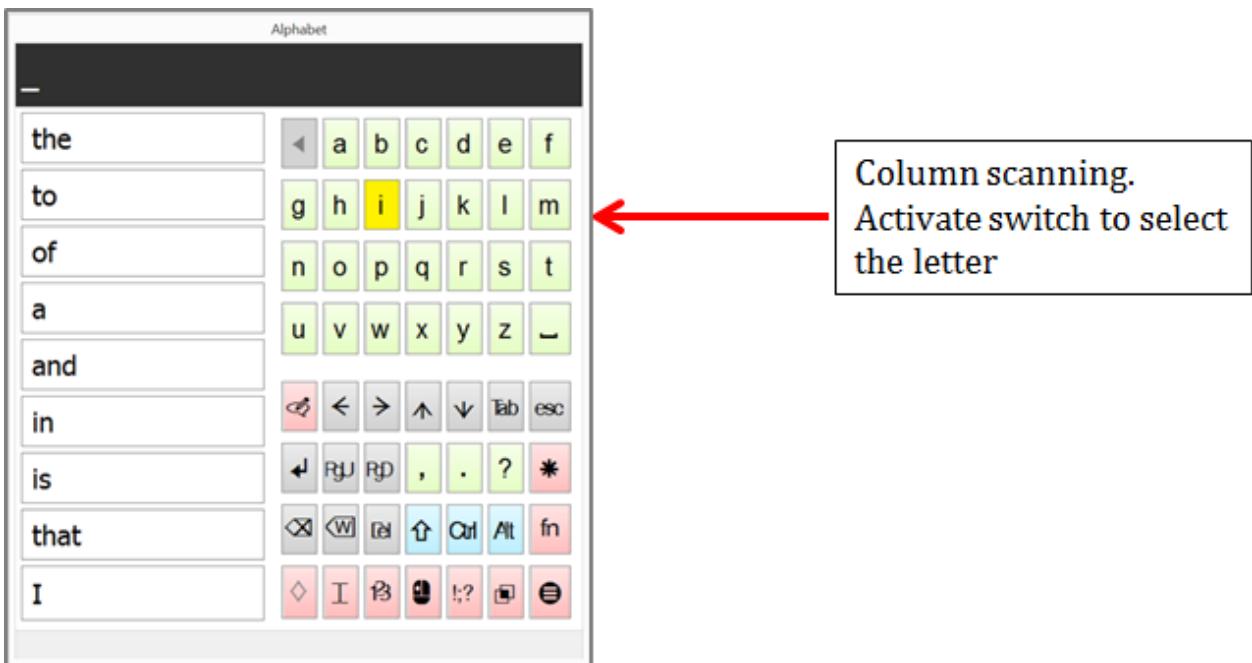
The figures below show the transitions you would make to select the letter 'i' in the Alphabetical version of Alphabet scanner. Each transition occurs on an activation of your switch.



Grid scanning.
Activate switch to initiate row scanning.



Row scanning.
Activate switch to initiate column scanning



4.2 Color scheme

The buttons are color coded based on their function.

Button	Description
	Buttons of this color will enter text into the target application window. E.g. letters of the alphabet, numbers, punctuations etc.
	Buttons on this color will display another scanner, menu or dialog.
	These are modifier keys – Shift, Control and Alt
	All other buttons

The remaining sections in this chapter have details on the scanners used in ACAT.

4.3 The Alphabet Scanner

The Alphabet scanner is the main scanner. It enables you to enter text, does word prediction and gives you access to all the other scanners (see Figure 19). ACAT has two versions of the Alphabet scanner. The first one has the alphabet keys arranged in the QWERTY layout. The second variation has the alphabet keys arranged alphabetically.

Figure 19 and Figure 20 describe the buttons in both the variations of the Alphabet scanner.

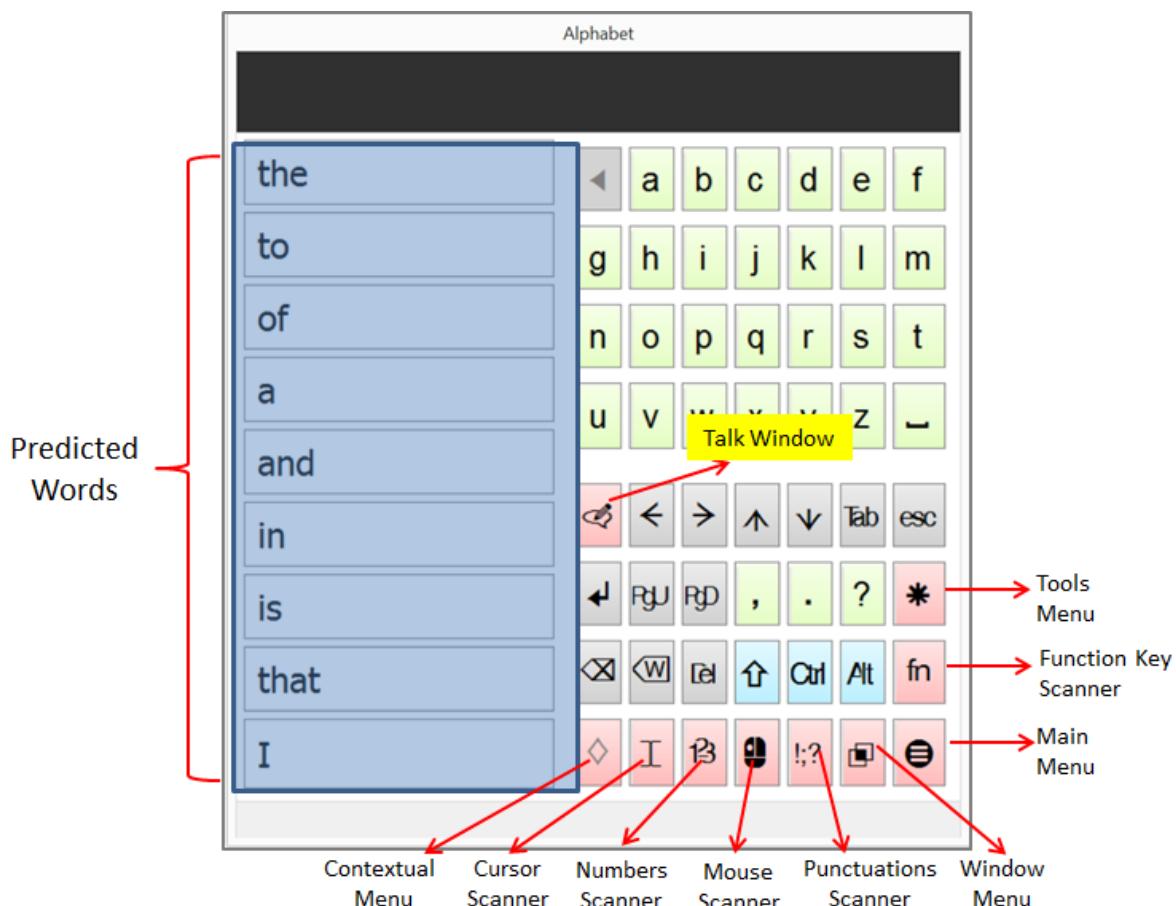


Figure 19: The Alphabet Scanner (Alphabetical layout)

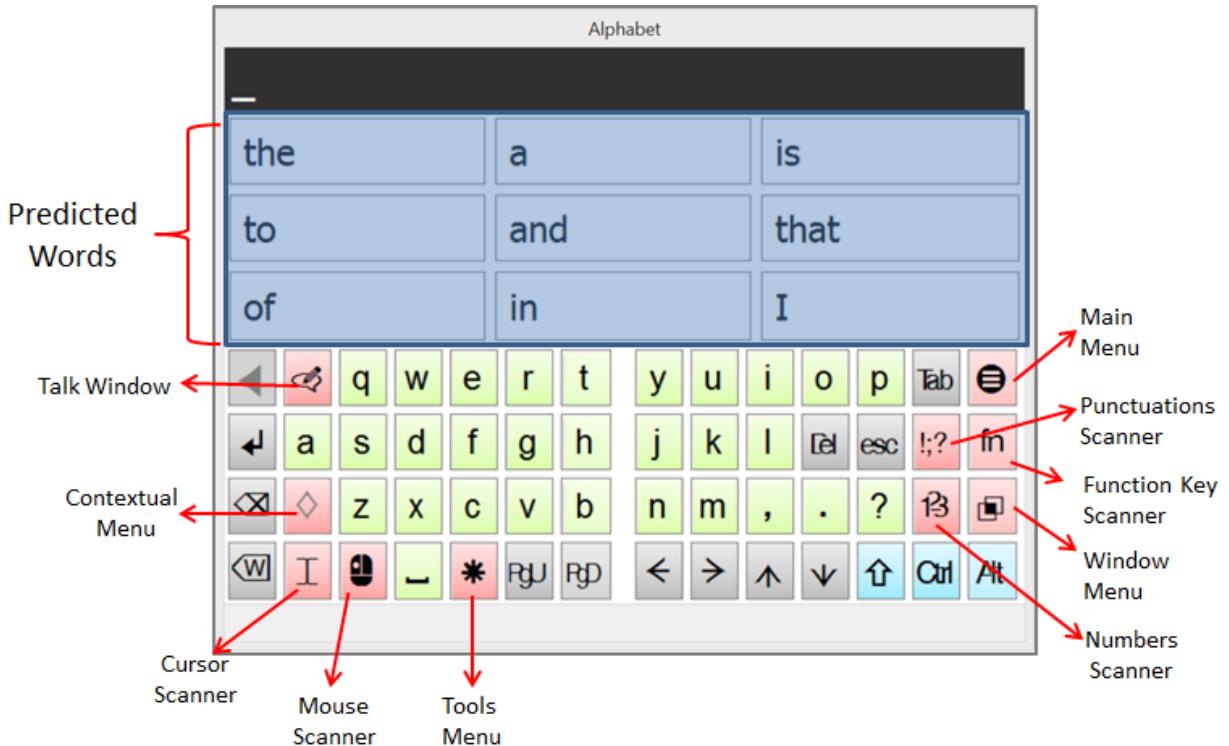
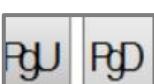


Figure 20: Alphabet scanner (QWERTY)

The following table describes the buttons in the Alphabet scanner.

Button	Description
	Displays the contextual menu. See section 5.1 for details.
	Opens the Tools Menu which gives you access to features such as the File Browser, Application launcher etc. Refer to section 5.3 for details.
	Toggles the visibility of the Talk window. See section 6.1 for details on the Talk window.
	Opens the Numbers scanner with a numeric keypad. See section 4.7 for details.

Button	Description
	Opens the Punctuations scanner with all the punctuations. See section 4.3.1 for details.
	Opens the Cursor scanner. This scanner provides navigation functions such as the cursor arrow keys, page up, page down, clipboard operations etc. See section 4.5 for details.
	Opens the Function key scanner with buttons for F1 through F12. See section 4.8 for details.
	Opens the Mouse scanner. See section 4.6 for details.
	Opens a Window menu which provides window managements functions such as move, resize, maximize, minimize etc. See section 7.1 for details
	Opens the Main menu which gives you access to ACAT settings. You can also exit the ACAT application from the Main menu. See section 5.2 for details.
	Engages the Shift key. The next letter you type will be rendered in uppercase and shift will be deactivated. If you select this button twice in succession, it locks the shift key (equivalent to Caps Lock) and all letters you type will be rendered in uppercase. Selecting this once more will deactivate it. The status bar at the bottom of the scanner will visually indicate that the shift key is engaged.

Button	Description
	<p>Engages the Ctrl key. Ctrl will be used in conjunction with the next letter you type. For example, if you type 'a', Ctrl-A will be sent.</p> <p>The status bar at the bottom of the scanner will visually indicate that the Ctrl key is engaged.</p>
	<p>Engages the Alt key. Alt will be used in conjunction with the next letter you type. For example, if you type 'a', Alt-A will be sent.</p> <p>The status bar at the bottom of the scanner will visually indicate that the Alt key is engaged.</p>
	Backspace
	Deletes the previous word.
	The Tab key
	The ENTER key. If the Talk window (see section 6.1) is active, activating this button converts the text in the Talk window to speech. Otherwise, simulates a key press of the ENTER key.
	The Delete key. Deletes the next character.
	The Page Up and Page Down keys.
	Arrow keys for navigation.

4.3.1 Resizing the scanner

To adjust the size of the scanner use the following shortcuts. These shortcuts work only on the Alphabet scanner.

Ctrl+Alt+Comma to make the window smaller.

Ctrl+Alt+Period to make the window larger.

Ctrl+Alt+/ to set the window to its default size.

4.4 The Punctuations Scanner

Use this scanner to enter punctuations.



Figure 21: The Punctuations Scanner

Button	Description
	Exits the scanner and takes you back to the Alphabet scanner
	Backspace

Button	Description
	The ENTER key

4.5 The Cursor Scanner

The Cursor scanner provides navigation and clipboard operations. It has all the navigation keys found in the numeric keypad of a physical keyboard. You can use this scanner to browse or edit documents.

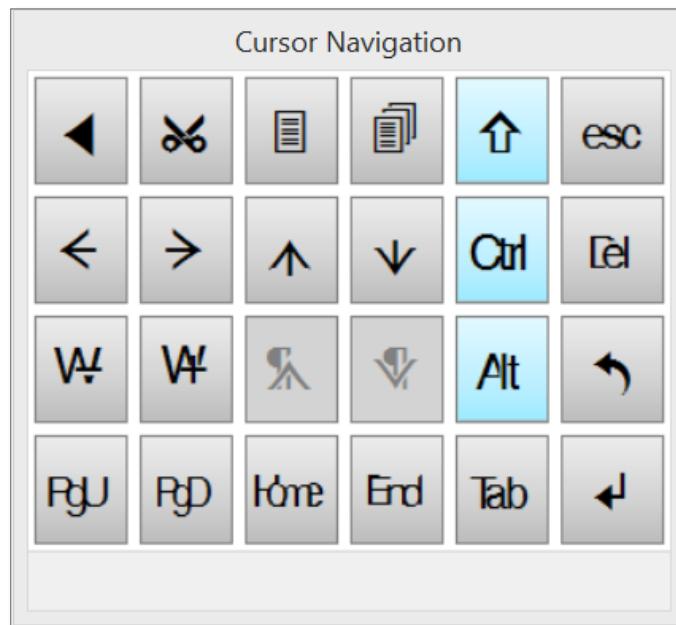
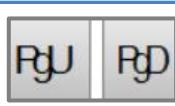
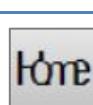
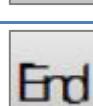


Figure 22: The Cursor Navigation Scanner

Button	Description
	Exits the Cursor scanner and takes you back to the Alphabet scanner
	Cuts selection into the clipboard

Button	Description
	Copies selection to the clipboard
	Pastes selection from the clipboard.
	Engages the Ctrl key. The status bar at the bottom of the scanner will visually indicate that the Ctrl key is engaged.
	Engages the Shift key. If you select this button twice will lock the shift key. You can leave the shift key engaged and then use any of the other navigation buttons to select select text in the active application window. The status bar at the bottom of the scanner will visually indicate that the shift key is engaged.
	Engages the Alt key. The status bar at the bottom of the scanner will visually indicate that the Alt key is engaged.
	Arrow keys – left arrow, right arrow, up arrow and down arrow
	The Delete key. Deletes the next character.
	Moves the caret back by one word, or forward by one word.
	Moves the caret back by a paragraph or forward by a paragraph. These options are enabled only for Microsoft Word.
	Performs an Undo.

Button	Description
	Page up and Page down
	The Home key
	The End key
	The Tab key
	The ENTER key

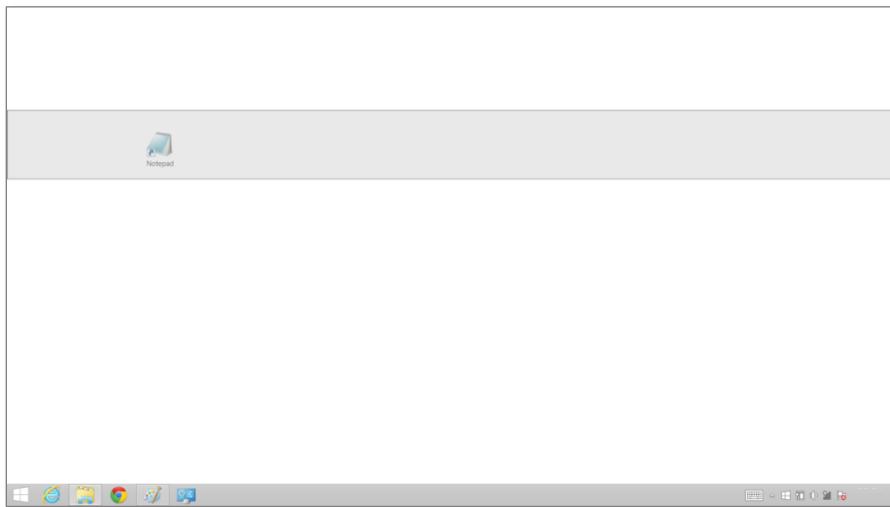
4.6 The Mouse Scanner

This scanner provides mouse functions – the ability to move the mouse around, and activate the mouse with a click, double click, right click, etc.

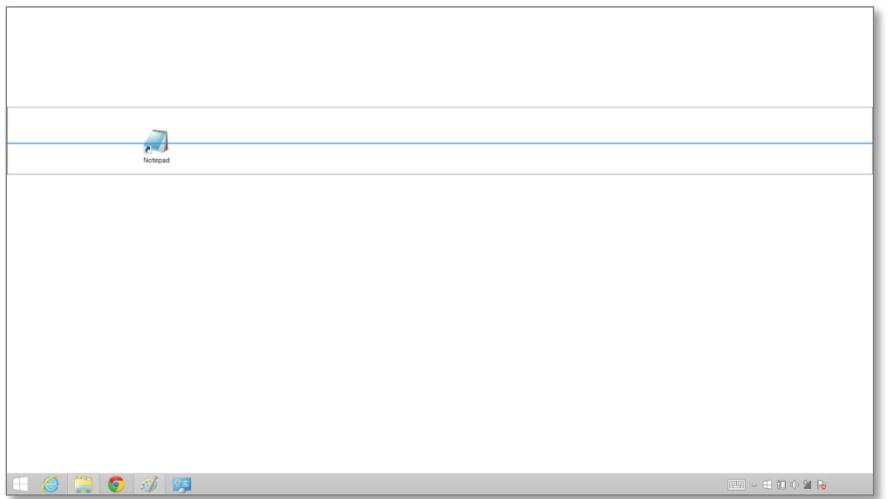
ACAT uses the grid scanning approach position the mouse in the desired (X, Y) location on the display. Here is how it works:

1. You initiate grid scanning from the mouse scanner. There are two options – top-down where the scanning starts from the top of the display, and bottom up where scanning starts from the bottom of the display.
2. First you must lock in the Y coordinate of the target location. Select the  button to initiate grid scanning. A horizontal rectangle moves down from the top of the display. When the target location is inside the rectangle activate

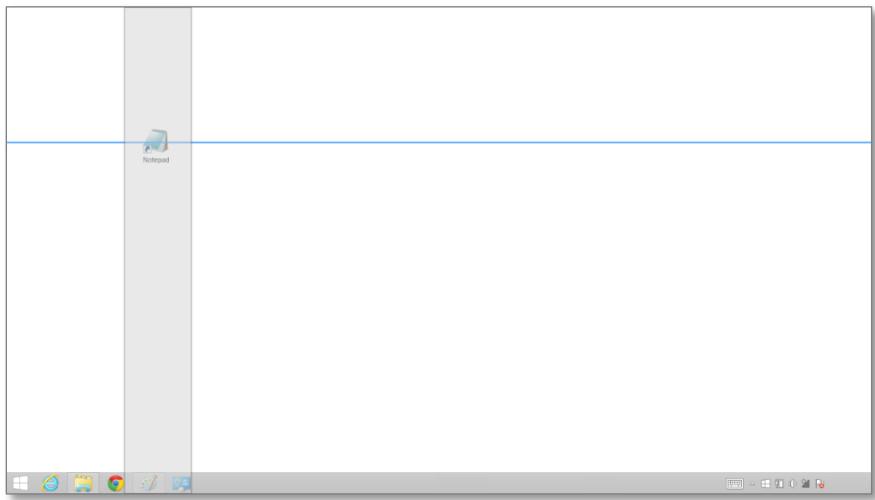
your switch.



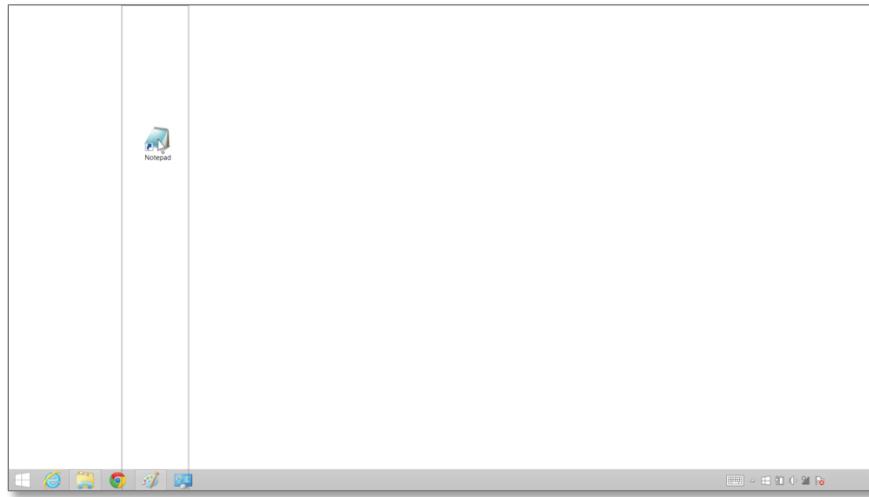
3. The rectangle stops moving. A horizontal line begins scanning inside the rectangle. When the horizontal line hits your target Y location, activate your switch. The Y coordinate of the target location is now locked.



4. You must now lock the X coordinate. A vertical rectangle moves from the left edge of the display. When the target location is inside the vertical rectangle, activate your switch. The rectangle stops moving.



5. A mouse cursor now moves horizontally across. When the pointer you're your target location, activate your switch.



6. The mouse cursor will now be positioned at the desired X,Y location and the mouse scanner reappears. You can now use the buttons in the scanner to single click, double click etc.



Figure 23: Mouse Scanner

Button	Description
	Exits the scanner and takes you back to the alphabet scanner
 	Starts grid scanning from the top edge of the display or from the bottom edge of the display (see section 4.6)
	Repositions the scanner on the screen. The default position is the middle right of the display. When you select this option, ACAT moves the scanner to different positions on the display. When the scanner is at the desired position, activate your switch and the scanner will be positioned there. If the Auto save scanner's last position setting is turned on, (see section 8.1), the scanner will be positioned there permanently.
	Mouse single left-click
	Mouse single right click
	Mouse left double click
	Mouse left click and hold.
	Page up and Page down
	The ENTER key

4.7 Numbers Scanner

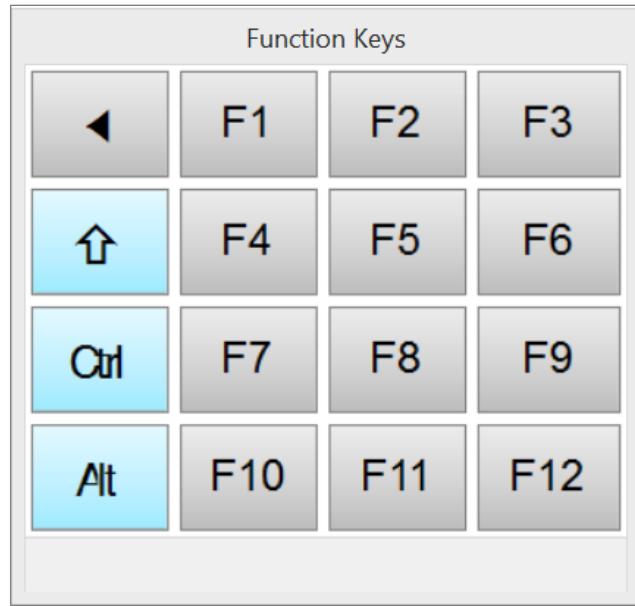
This scanner has a numeric keypad to enter numbers.



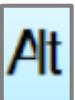
Button	Description
	Exits the scanner and takes you back to the Alphabet scanner
	Backspace

4.8 Function Key Scanner

This scanner enables you to trigger function keys F1 through F12. Using the modifier keys Shift, Ctrl and Alt enable you to enter key combinations like Alt+F1, Ctrl+F2 etc.



Button	Description
	Exits the scanner and takes you back to the Alphabet scanner
F1...F12	The function keys F1 through F12.
	Engages the Ctrl key. Ctrl will be used in conjunction with the function key you select. For example, selecting F1 will trigger Ctrl+F1. The status bar at the bottom of the scanner will visually indicate that the Ctrl key is engaged.
	Engages the Shift key. Shift will be used in conjunction with the function key you select. For example, selecting F1 will trigger Shift+F1. The status bar at the bottom of the scanner will visually indicate that the Shift key is engaged.

Button	Description
	<p>Engages the Alt key. Alt will be used in conjunction with the function key you select. For example, selecting F2 will trigger Alt+F2. The status bar at the bottom of the scanner will visually indicate that the Alt key is engaged.</p>

5 ACAT MENUS

ACAT menus provide access to additional features to accomplish tasks such as file management, window management, delivering lectures and configuring ACAT settings. This section gives a detailed description of the menus in ACAT

5.1 Contextual Menus

The idea behind a contextual menu is to give you access to features you need when you need them. The items in the contextual menu will change depending on what you are doing. If you were browsing the web with Internet Explorer for instance, the Contextual menu would have options such as Back, Forward, Page Up, Page Down, Search etc. Chapter 7 has details on the Contextual menus for the applications supported by ACAT.

The Contextual menu can be accessed from the Alphabet scanner by selecting the 

5.2 Main Menu

The Main Menu can be accessed by selecting the 

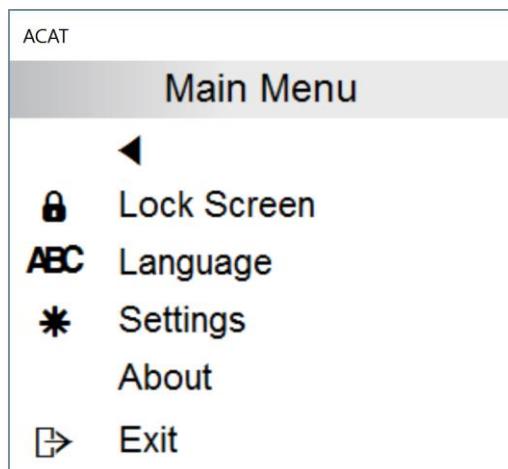


Figure 24: The Main Menu

Menu Option	Description
	Takes you back to the alphabet scanner
Lock Screen	Locks the display by displaying a screen with a pin code. You must type the pin to unlock the display. This is useful if you do not want your switch mechanism to accidentally trigger when you are engaged in activates such as eating. See section 6.7.
Language	Changes the language. If ACAT language packs are installed, displays a scanner that lists the languages installed from which the desired language can be selected. See section 2.3 on installing language packs.
Settings	Displays the Settings menu that gives you access to ACAT settings to configure the application. See section 5.4.
About	Displays the About box with versioning information and attributions. See section 8.9.
Exit	Exit the ACAT application with this option. ACAT displays a confirmation box and then exits.

5.3 Tools Menu

The tools menu gives you access to additional functions in ACAT. You can access the Tools Menu by choosing the  button on the Alphabet scanner.

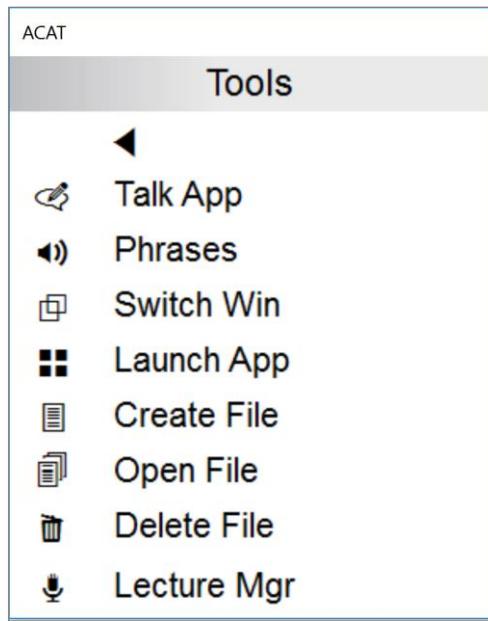


Figure 25: ACAT Tools Menu

Menu Option	Description
	Takes you back to the Alphabet scanner
Talk App	Displays the Talk App window (see section 3.6)
Phrases	Displays a list of phrases that you can convert to speech (see section 6.8). You can enter the Phrases using the Phrase Editor (see section 8.3).
Switch Win	Enables you to switch between windows of applications that are currently running on your computer. See section 6.4 .
Launch App	Enables you to launch applications like Notepad, Explorer. See section 6.5.

Menu Option	Description
Create File	You can create new text or Microsoft Word files with this option. You can enter the name of the file you want to create. ACAT creates the file and opens Notepad or Word so you can start entering text. See section 6.3.
Open File	Launches the ACAT File Browser which enables you to open files. Refer to section 6.2.1 for details.
Delete File	Launches the ACAT File Browser which enables you to delete files. Refer to section 6.2.2 for details.
Lecture Mgr	Enables you to deliver lectures using material from plain text or Microsoft Word documents. ACAT loads the text from the document and converts it to speech. You can use your switch to control the pace of the speech. See section 6.6.

5.4 Settings Menu

The settings menu gives you options to configure ACAT. You can access the Settings menu by choosing **Settings** from the **Main Menu**.

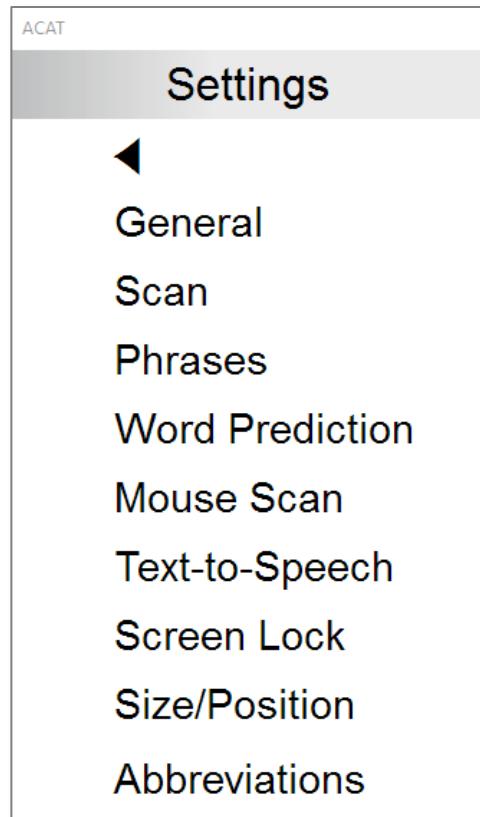


Figure 26: The Settings Menu

Menu Option	Description
	Takes you back to the Main menu.
General	Displays the settings dialog that has options for some of the general settings of the ACAT application. See section 8.1.
Scan	Displays settings dialog for the various timings of the scanners and the number of times the ACAT scans the controls in the scanners. See section 8.2.

Menu Option	Description
Phrases	Displays a dialog to add/edit/remove Phrases. These are your favorite phrases that can be converted from text to speech. See sections 8.3, 3.5 and 6.8.
Word Prediction	Displays the word prediction settings dialog. See section 8.4.
Mouse Scan	Displays the settings dialog to control the parameters associated with the mouse movement in the grid mode. See section 4.6 for details on mouse scanning.
Text-to-Speech	Displays the settings dialog to control the parameters for text to speech. See section 8.6.
Screen Lock	Displays the settings dialog to set the pin for the lock screen. See section 8.7.
Size/Position	Resize the scanners and set the default anchoring position of the scanners. See section 8.8.
Abbreviations	Displays the dialog that lets you add/edit/delete abbreviations. The Abbreviations tool lets you define short mnemonics for phrases you would commonly use. For instance, "gm" for "good morning". When you type the mnemonic, ACAT expands it to its corresponding phrase. See section 6.8 for details.

6 TOOLS

ACAT has a number of tools that help with tasks such as conversations, file management, window management, applications management and lecture management.

6.1 The Talk Window

The Talk window enables you to converse. You can enter text into the talk window and have ACAT translate the text to speech.

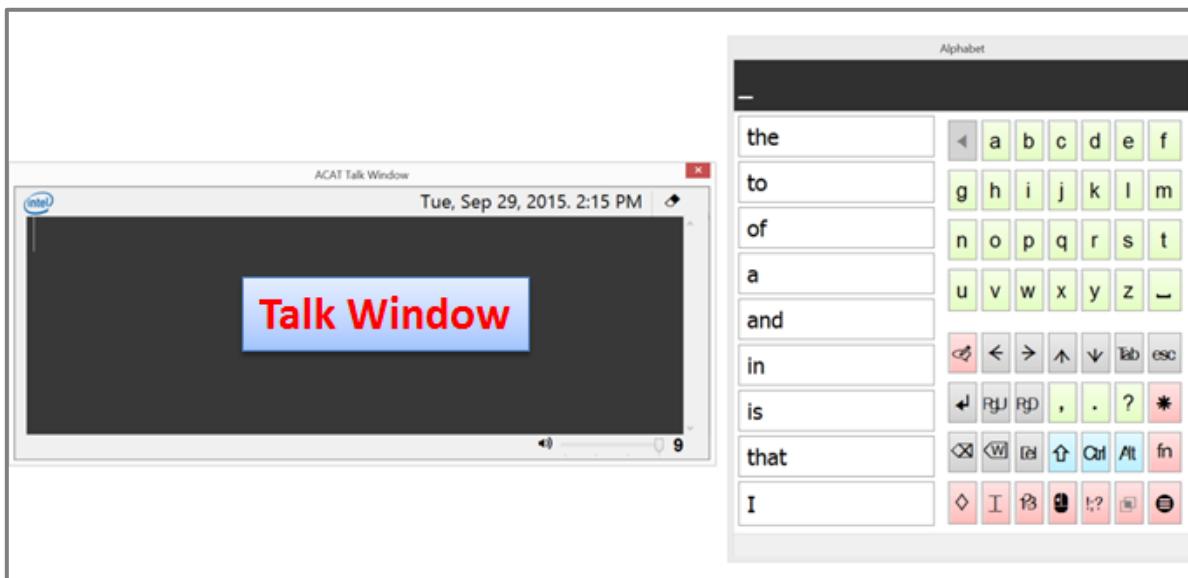


Figure 27: The Talk Window



The Talk window button  in the alphabet scanner toggles the visibility of the Talk window.

6.1.1 Talk Window Features

- Selecting ENTER  after entering text will convert the text to speech.
 - To repeat what you just typed, select ENTER once more.
 - You can type abbreviations and have ACAT either speak them directly or expand them into text (see section 6.8 on creating abbreviations).

- When you select **ENTER**, and **Dynamic Learning** is enabled (see section 8.3), ACAT will add the text into the learning model for word prediction.
- You can enter a search term in the Talk window and use the contextual menu to do a web search (see section 6.1.2).
- You can control the volume of text-to-speech through the Talk window contextual menu (see section 6.1.4).

6.1.2 Talk Window Contextual Menu

The Talk window contextual menu has the following options.

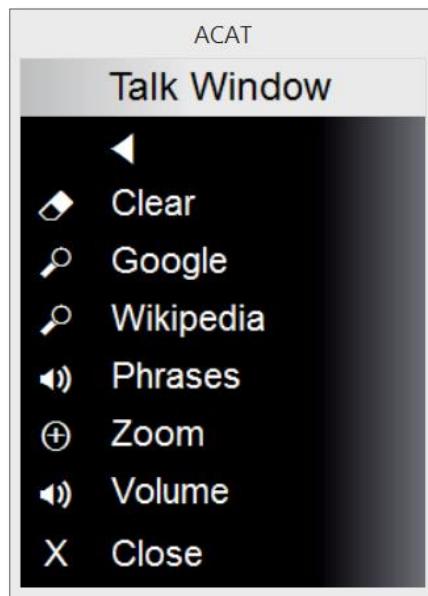


Figure 28: The Talk Window Contextual Menu

Menu Option	Description
	Exits the menu.
Clear	Clears the text in the Talk window. Confirms with a Yes/No dialog before clearing the text.

Menu Option	Description
Google	Googles for the search term at the caret position in the Talk window. The search results are displayed in the preferred browser, default is Internet Explorer . The preferred browser setting can be changed through ACAT Config (see section 9). Select General (see section 8.1) and change the PreferredBrowser setting.
Wikipedia	Searches for the Wikipedia entry for the term at caret position in the Talk window. The result is displayed in the preferred browser, default is Internet Explorer . The preferred browser setting can be changed through ACAT Config (see section 9). Select General (see section 8.1) and change the PreferredBrowser setting.
Phrases	Displays a list of phrases that you can convert to speech. You can enter the phrases using the Abbreviations tool (see section 6.8).
Zoom	Displays the Zoom menu to make the Talk window text bigger or smaller. See section 6.1.3.
Volume	Displays the volume settings scanner to set the volume of text-to-speech. See section 6.1.4.
Close	Closes the Talk window.

6.1.3 Talk Window Zoom Menu

You can enlarge or reduce the font size of the text in the Talk window through this menu. You can access this through the Talk window contextual menu (see section 6.1.2).

The Talk window Zoom menu has the following options.

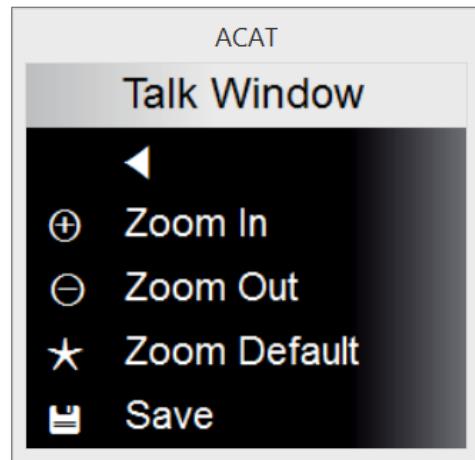


Figure 29: The Talk Window Zoom Menu

Menu Option	Description
	Exits the menu.
Zoom In	Enlarges the Talk window text.
Zoom Out	Reduces the Talk window text.
Zoom Default	Resets the font size to its default value.
Save	Saves the zoom level.

6.1.4 Volume Settings

Use the volume settings scanner to set the volume of text to speech. You can open this scanner from the contextual menu of the Talk window (see section 6.1.2)

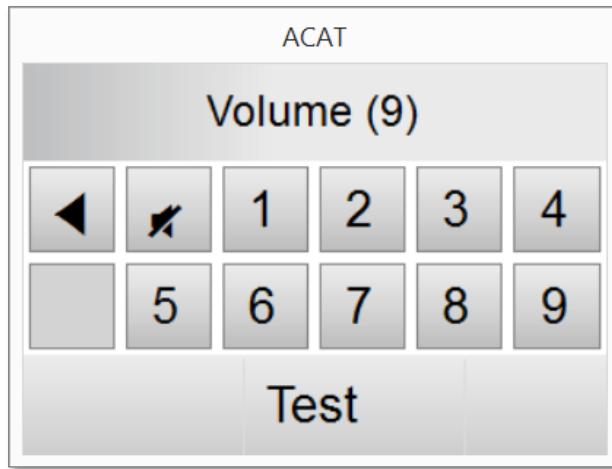


Figure 30: The Volume Settings Scanner

Use your switch to select the volume level from 1 to 9. You can also mute the speaker by selecting the

Select **Test** to test the volume setting. ACAT will speak a canned phrase.

Select the  button to exit the scanner.

6.2 File Browser

The File Browser tool enables you to open and delete files. You can access it from the Tools Menu (see section 5.3).

6.2.1 Opening Files

When you select **Open File** from the ACAT **Tools Menu**, the following window is displayed. It lists files from your **Documents** folder by default. When you select a file from the list, it launches the application that is associated with the file to open it. For instance, if you open a Microsoft Word file, it will launch Microsoft Word to open the file.

The File Browser can display files from multiple folders. To specify the folder locations, see section 9.6.2

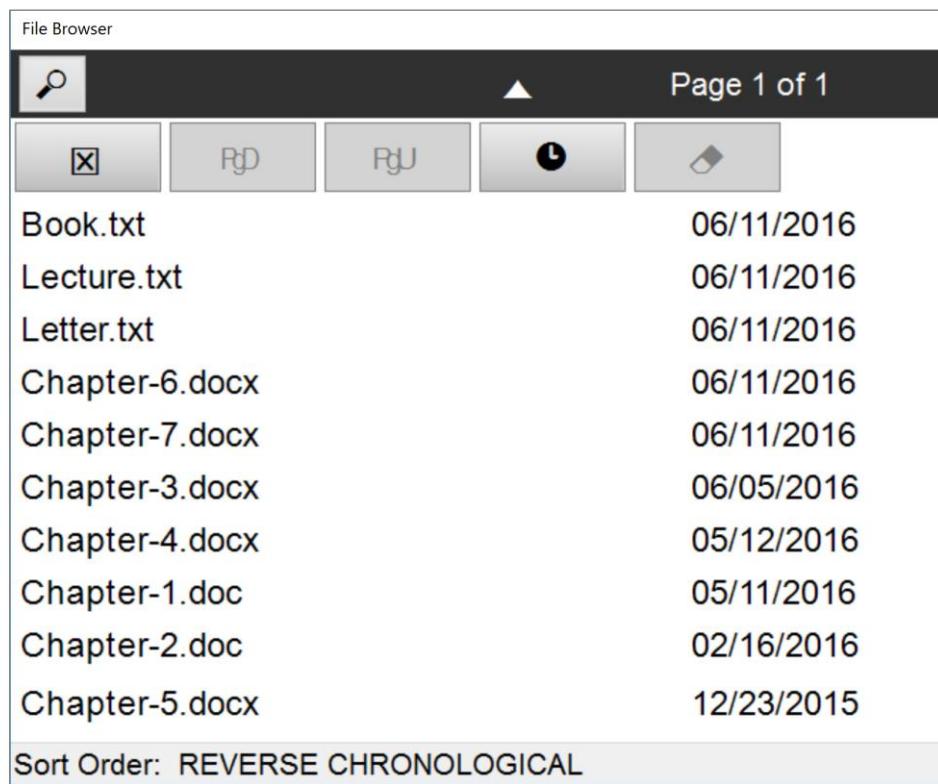


Figure 31: Open File

The top level scanning alternates between the search button, the button bar and the file list. If you select the file list, the file names will be scanned to enable you to make a selection. The following table describes the buttons in the Open File window.

Button	Description
	Brings up the Alphabet scanner to enable you to enter a search word. Wildcards such as "*" are not supported. It simply lists all the files that begin with text you have entered. For instance, if you enter "cha", ACAT will list all files that begin with "cha". To clear the search term, select the eraser button  from the buttons bar. To close the Alphabet scanner, select the  button on the Alphabet scanner.
	Exits the file browser
	Page Up. Scrolls up one page.
	Page Down. Scrolls down one page.
	Clears the search filter. Refreshes the file list to display all files.
	Changes the current sort order – either sorted by date or alphabetically. This button acts as a toggle and switches between sort by date ascending/descending and sort alphabetically ascending/descending.

6.2.2 Deleting Files

When you select **Delete File** from the ACAT Tools Menu, the window shown in Figure 31 is displayed. It lists files from your **Documents** folder. When you select a file from the list, ACAT confirms if you want to delete the file and if you confirm, the file is deleted.

The File Browser can display files from multiple folders. To specify the folder locations, see section 9.6.2

6.3 File Creator

You can create new plain text files and Microsoft Word documents with this tool. Select **Create File** from the Tools Menu (see section 5.3). ACAT will prompt you for the type of file to create.

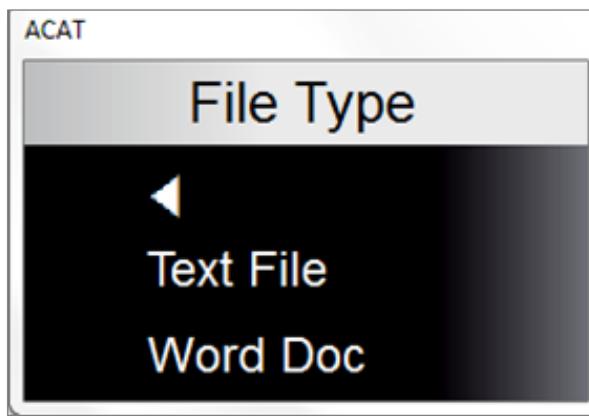


Figure 32: Choose File Type

Select to close the menu.

Select **Text File** to create a plain text document or **Word Doc** to create a Word document. Files are created in your **Documents** folder by default. To change this location, see section 9.6.3.

After you have made a selection, ACAT displays a dialog to enter the filename, and also the Alphabet scanner which you can use to enter the file name.

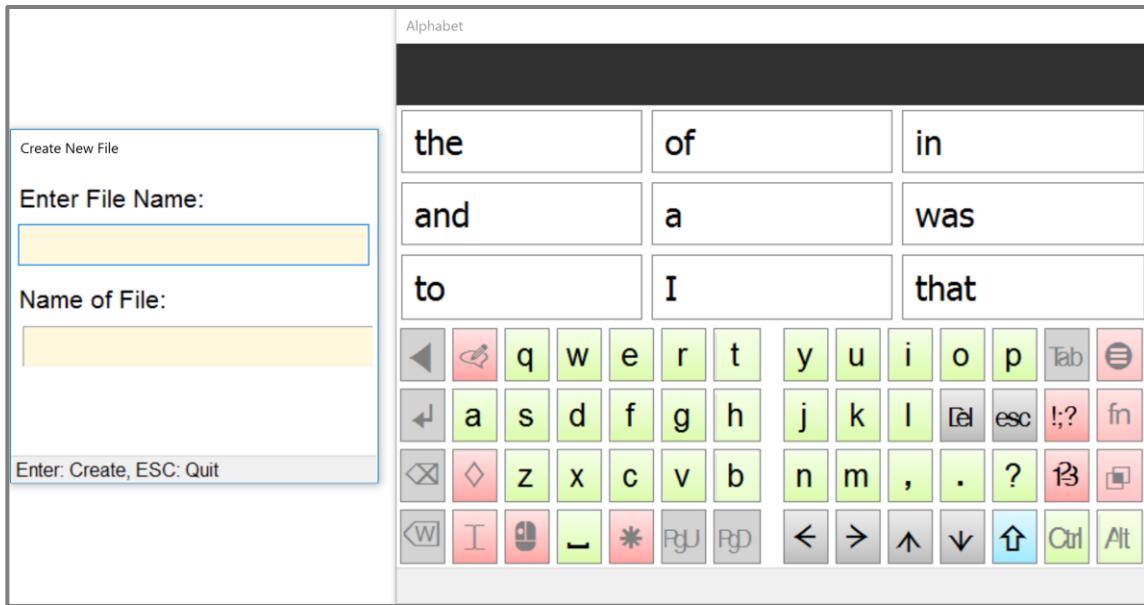


Figure 33: New File Scanner

When you start typing, ACAT will display the name of the file in the **Name of File** field. At the same time, it checks to see if the file already exists. If it does, the file name is displayed in red.

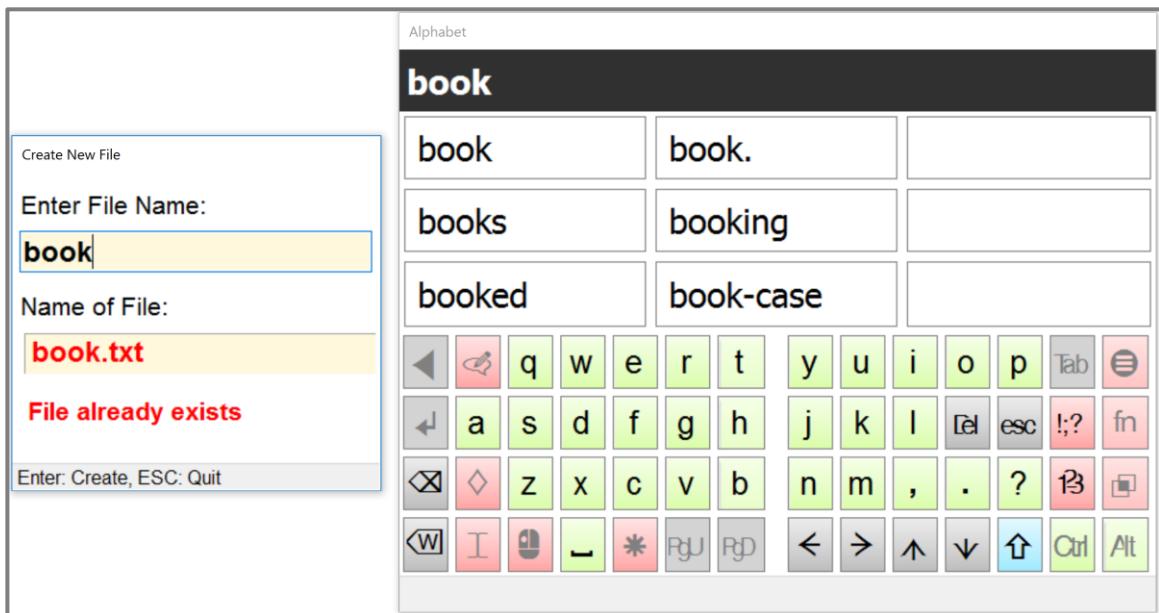


Figure 34: File already exists

If the file does not already exist, the file name is displayed in green.

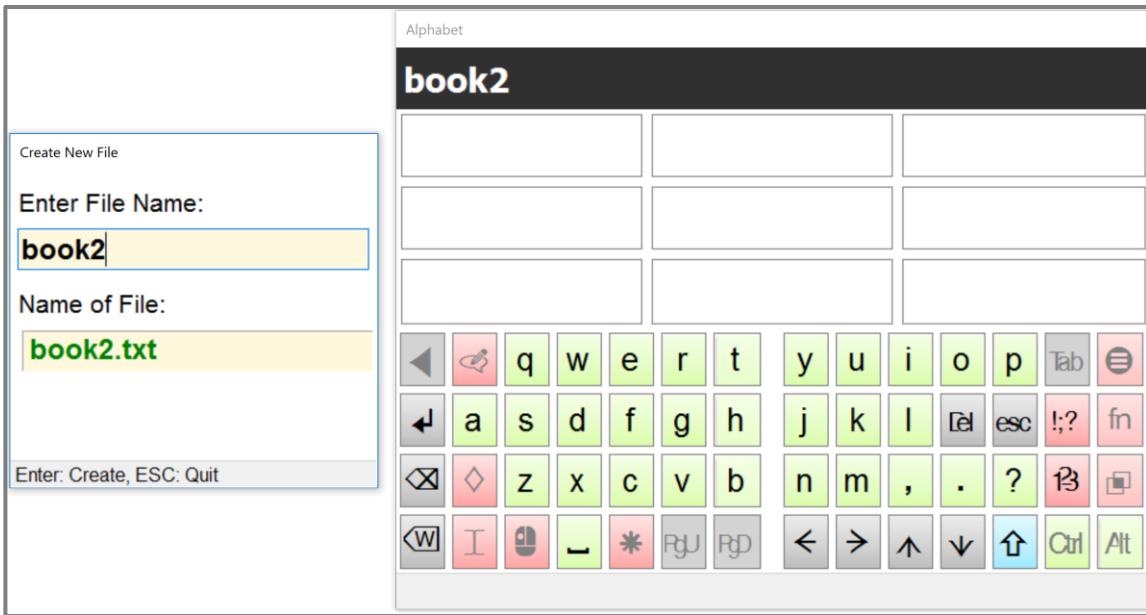


Figure 35: File does not exist, can be created.

When you are done with entering the file name, select the (ENTER) button. ACAT will create the file and launch Notepad with the file if you created a text file or Microsoft Word if you created a Word document.

To exit without creating a file, select the Escape button

6.4 Windows Task Switcher

You can switch between the windows of running applications with the **Windows Task Switcher** tool. You can access this by selecting **Switch Win** from the **Tools Menu** (see section 5.3).

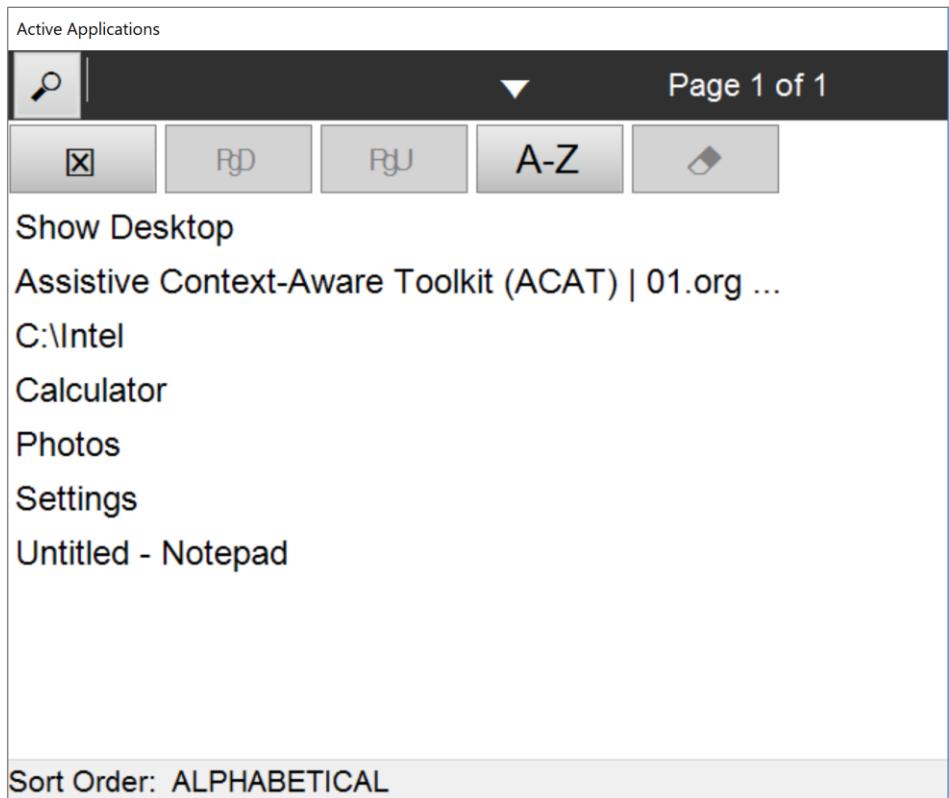


Figure 36: Switch Windows Scanner

The scanner shows the titles of all the active windows. The top level scanning alternates between the search button, the button bar and the window list. If you select the window list, the window titles will be scanned to enable you to make a selection. When you make the selection, ACAT will display a confirmation Yes/No dialog to confirm that you want to switch focus to the selected window. After you confirm, Switch Windows exits back to the Alphabet scanner and the window you selected will have focus.

The following table describes the buttons in the scanner.

Button	Description
	Brings up the Alphabet scanner to enable you to enter a search string to narrow down the list of windows. If you enter "out", ACAT will list all windows whose window titles begin with "Out". To clear the search term, select the eraser button  from the buttons bar. To close the Alphabet scanner, select the  button on the Alphabet scanner.
	Exits the scanner
	Page Up. Scrolls up one page.
	Page Down. Scrolls down one page.
	Changes the current sort order. This button acts as a toggle and switches the sort order between ascending and descending.
	Clears the search filter. Refreshes the file list to display all active windows.

6.5 Application Launcher

This tool enables you to launch applications. You can access this by selecting **Launch App** from the **Tools Menu** (see section 5.3).

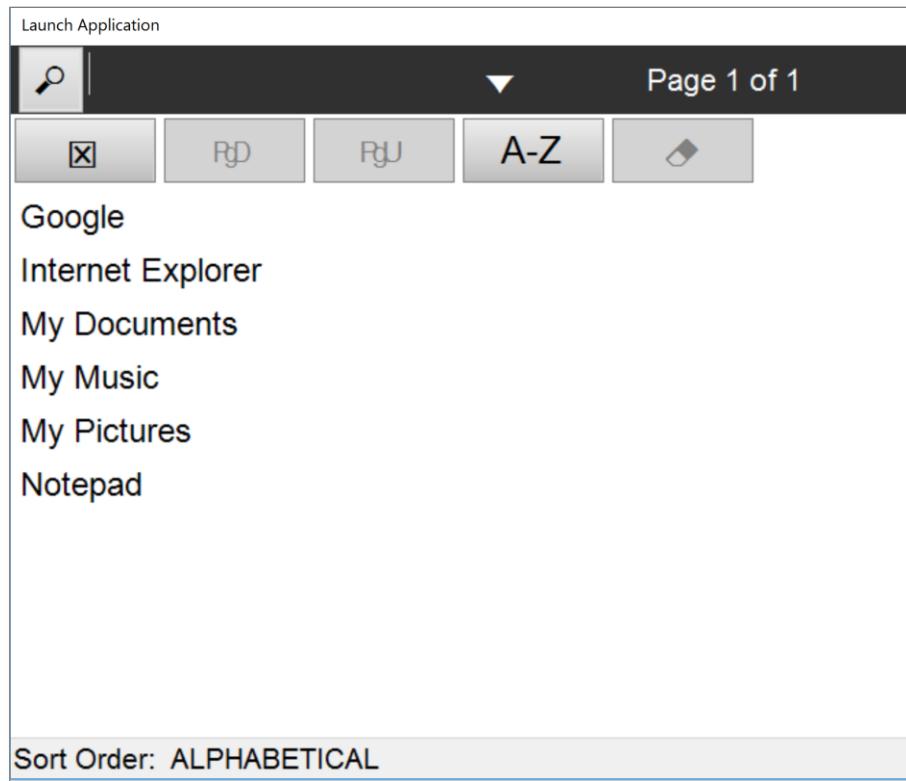


Figure 37: Launch Applications Scanner

The scanner shows the names of applications to launch. The top level scanning alternates between the search button, the buttons bar and the applications list. If you select the applications list, the application names will be scanned to enable you to make a selection. When you make the selection, ACAT will display a confirmation Yes/No dialog to confirm that you want to launch the selected application. After you confirm, the scanner will close and the selected application will be launched.

The following table describes the buttons in the buttons bar.

Button	Description
	Brings up the Alphabet scanner to enable you to enter a search string to narrow down the list of applications. If you enter "My", ACAT will list all applications whose names begin with "My". To clear the search term, select the eraser button  from the buttons bar. To close the Alphabet scanner, select the  button on the Alphabet scanner.
	Exits the scanner
	Page Up. Scrolls up one page.
	Page Down. Scrolls down one page.
	Changes the sort order. This button acts as a toggle and switches the sort order between ascending and descending.
	Clears the search filter. Refreshes the file list to display all applications.

6.5.1 Customizing the Launch Dialog

The list of applications in the Launch scanner (Figure 37) can be configured through the **ACAT Config** utility. See section 9.6.1 for details on this.

6.6 Lecture Manager

The Lecture Manager enables you to deliver lectures or speeches. Lectures should be in plain text file or from a Word document. ACAT then converts the text to speech. You can pace the lecture by having ACAT pause at the end of a sentence or a paragraph. Each time you activate your switch the speech continues speaking the next sentence or paragraph.

Lecture Manager can be accessed by selecting **Lecture Mgr** from the **Tools Menu** (see section 5.3). ACAT first displays the File Browser (see section 6.2.1) to select the name of the file. Only plain text files (*.txt) and Word documents (*.doc, *.docx) are displayed in the list. Select the desired file. ACAT displays the file in the Lecture Manager window which is docked with a scanner.

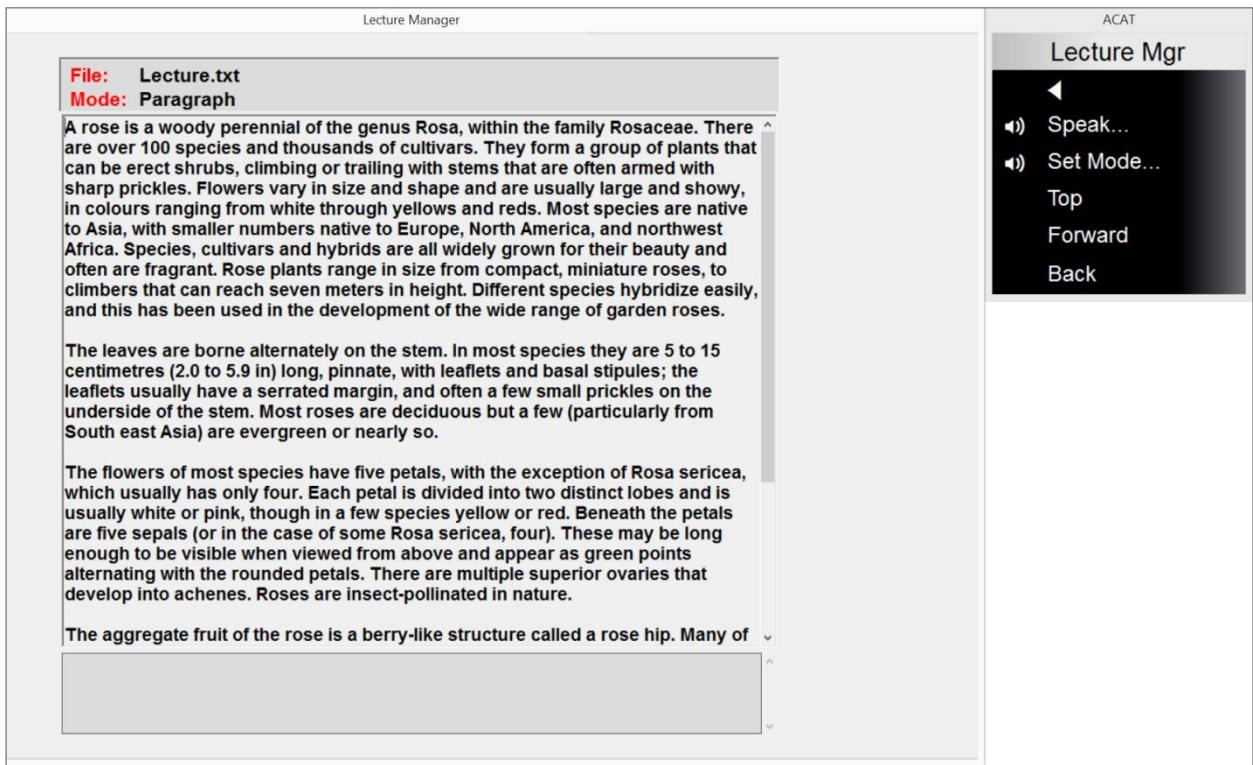


Figure 38: The Lecture Manager Main Window with Docked Scanner

The menu alongside the Lecture Manager main window helps you navigate through the lecture, set the lecture mode and begin speaking.

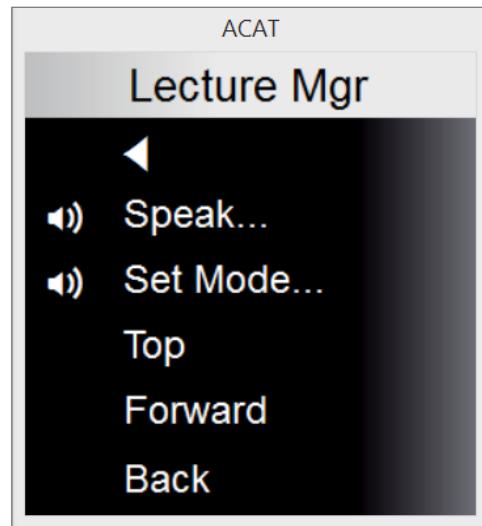


Figure 39: Lecture Manager Main Menu

Option	Description
	Exits the Lecture Manager
Speak	Begins the lecture (see section 6.6.2)
Set Mode	Lets you select the unit of speech – by sentence, by paragraph or ‘all’ which is the entire lecture. See section 6.6.1.
Top	Goes to the top of the lecture file
Forward	Navigates forward to the next unit – sentence or paragraph, depending on the mode. The sentence or paragraph is highlighted in the lecture manager window.

Option	Description
Back	Navigates backward to the previous unit - sentence or paragraph, depending on the mode. The sentence or paragraph is highlighted in the lecture manager window.

6.6.1 Speech/Navigation Mode

Use the 'Set Mode' option in the Lecture Manager main menu to select the unit of speech or navigation. When you select this option, ACAT will display the following menu.

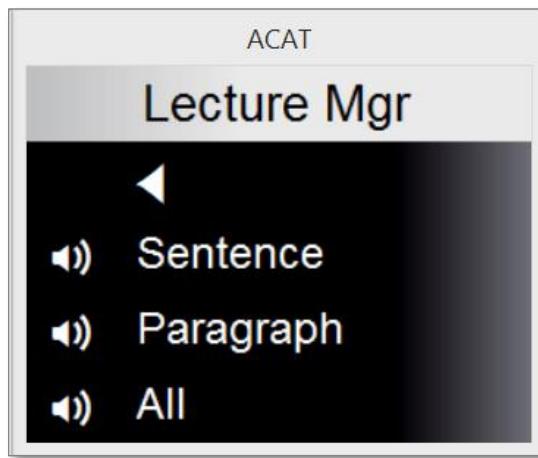


Figure 40: Lecture Manager Navigation Mode Menu

Sentence: If you select the **Sentence** mode, you can navigate and deliver the lecture by sentence. When the lecture is being delivered, ACAT will pause speaking at the end of every sentence. You must use your switch to begin speaking the next sentence. This gives you greater control over the pace of the lecture.

Paragraph: If you select the **Paragraph** mode, you can navigate and deliver the lecture by paragraph. When the lecture is being delivered, ACAT will pause speaking at the end of every paragraph. You must use your switch to begin speaking the next paragraph. This gives you greater control over the pace of the lecture.

All: If you select **All**, ACAT will deliver the entire lecture without pausing.

6.6.2 Speak

When you select **Speak** from the Lecture Manager contextual menu, ACAT displays a Yes/No dialog to confirm speaking. If you select **Yes**, it starts speaking. The current sentence being spoken is highlighted.

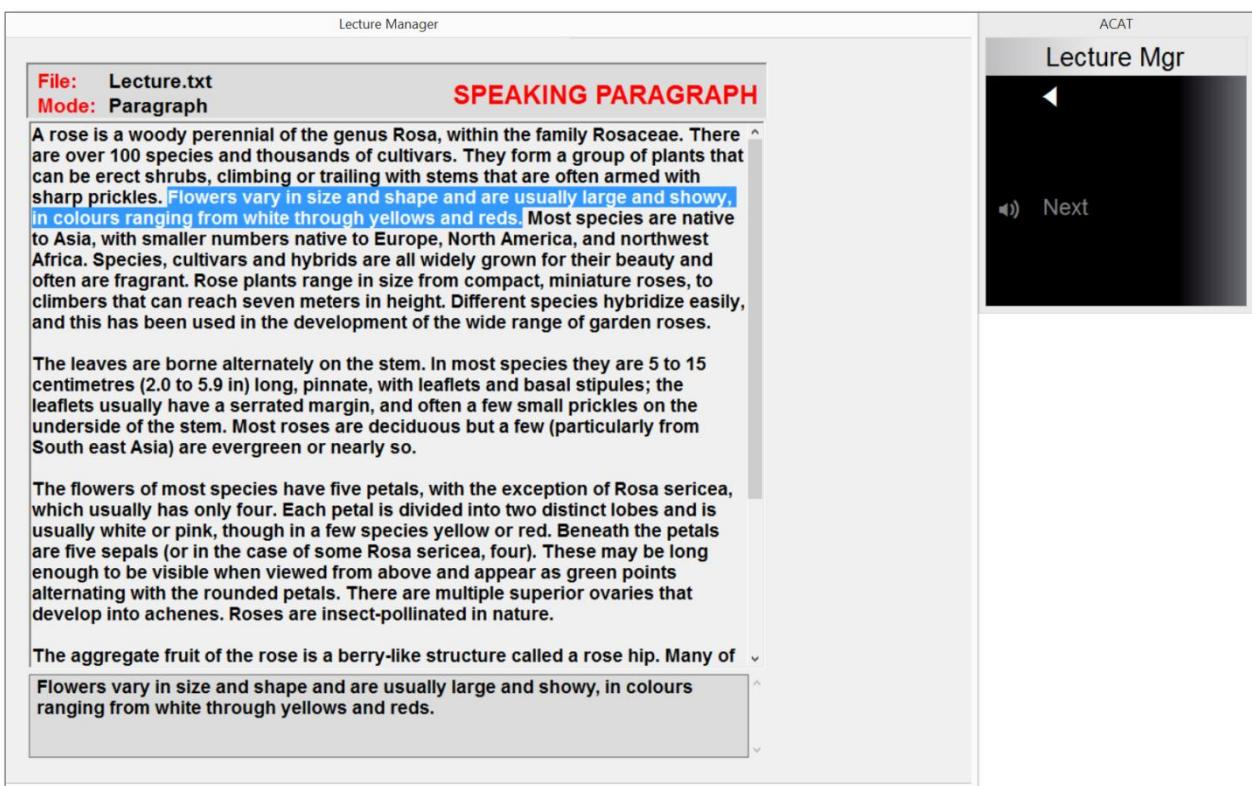


Figure 41: Delivering the Lecture

You must select the Next button to begin speaking. Depending on the Speech Mode (see section 6.6.1), the top of the window either displays **Speaking Paragraph** or **Speaking Sentence**.

You can stop speaking any time by selecting . ACAT will confirm that you want to stop and take you back to the Lecture Manager main menu.

6.7 Screen Lock

You can use Screen Lock to absorb inadvertent activations of your switch mechanism. Your switch might pick up inadvertent triggers when you really are not using it. This feature gives you the independence to stop any unwanted triggers. Instead of turning

off the switch, you could use **Screen Lock**. You can access this by selecting **Screen Lock** from the **Main Menu** (see section 6.7).

The Screen Lock window covers your entire display and displays pin that you must enter using your switch to unlock the screen. You can set the number of digits in the pin as well as the pin itself through the **Screen Lock** settings dialog (see section 8.7).



Figure 42: Screen Lock

6.8 Phrases

The Phrases tool enables you to create your most often used phrases that can be quickly converted to speech. To add your phrases to the list you can use the Phrases editor described in section 8.3.

The Phrases tool can be accessed by selecting **Phrases** from the **Tools Menu** (see section 5.3). The following dialog is displayed.

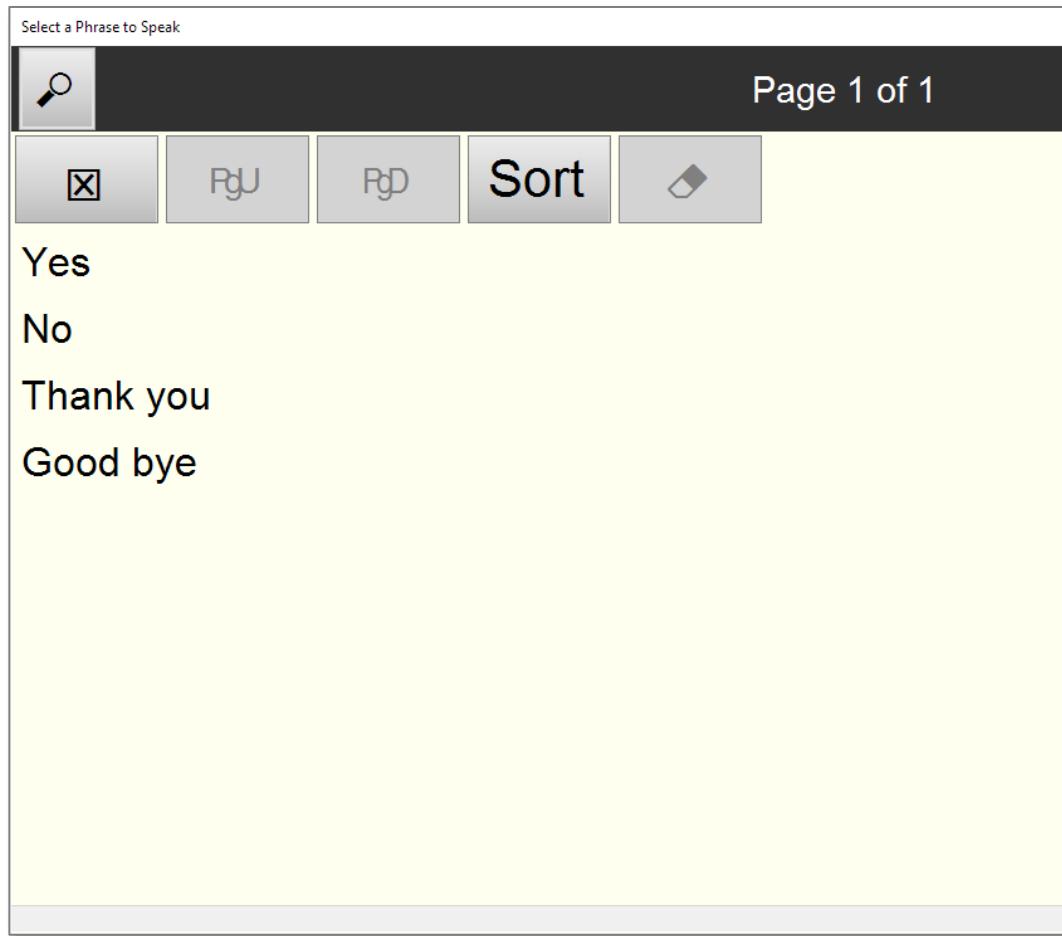


Figure 43: The Phrases scanner

The phrases are sorted in the order you listed them in the Phrases editor (section 8.3). When a phrase is highlighted, activate your switch and the phrase will be converted to speech.

The following table describes the buttons in the bar.

Menu Option	Description
-------------	-------------

Menu Option	Description
	<p>Brings up the Alphabet scanner to enable you search for phrases. If you enter "t", ACAT will list all phrases that begin with the letter "t". To clear the search term, select the  eraser button from the buttons bar. To close the Alphabet scanner, select the  button on the Alphabet scanner.</p>
	<p>Exits the scanner</p>
	<p>Page Up. Scrolls up one page.</p>
	<p>Page Down. Scrolls down one page.</p>
	<p>Changes the current sort order. By default, phrases are listed in the order from the phrases editor. Select this button to sort the phrases ascending/descending alphabetically.</p>
	<p>Clears the search filter. Refreshes the file list to display all applications.</p>

6.9 Abbreviations

This tool allows you to quickly type a few characters and access a longer phrase. You can create abbreviations and have ACAT expand them when you are entering text. ACAT supports two modes of expansion – written and spoken. In the written mode, the abbreviations are expanded in-place in the text window. In the spoken mode, when you enter an abbreviation, ACAT deletes it and then does a text to speech conversion of the expansion. For instance, if you have an abbreviation "asap" and you want this expanded to the phrase "as soon as possible", you would first map the phrase to "asap" to the phrase. When you enter "asap" in any window, ACAT will

automatically expand it to the corresponding phrase “as soon as possible”. If you specified the mode of expansion as “written”, it would do an in-place replacement of “asap” with the expansion. If you specified the mode as “spoken”, it would speak the expansion.

To add/edit/delete abbreviations, choose **Abbreviations** from the **Settings** menu (see section 5.3). This will display the Abbreviations scanner.

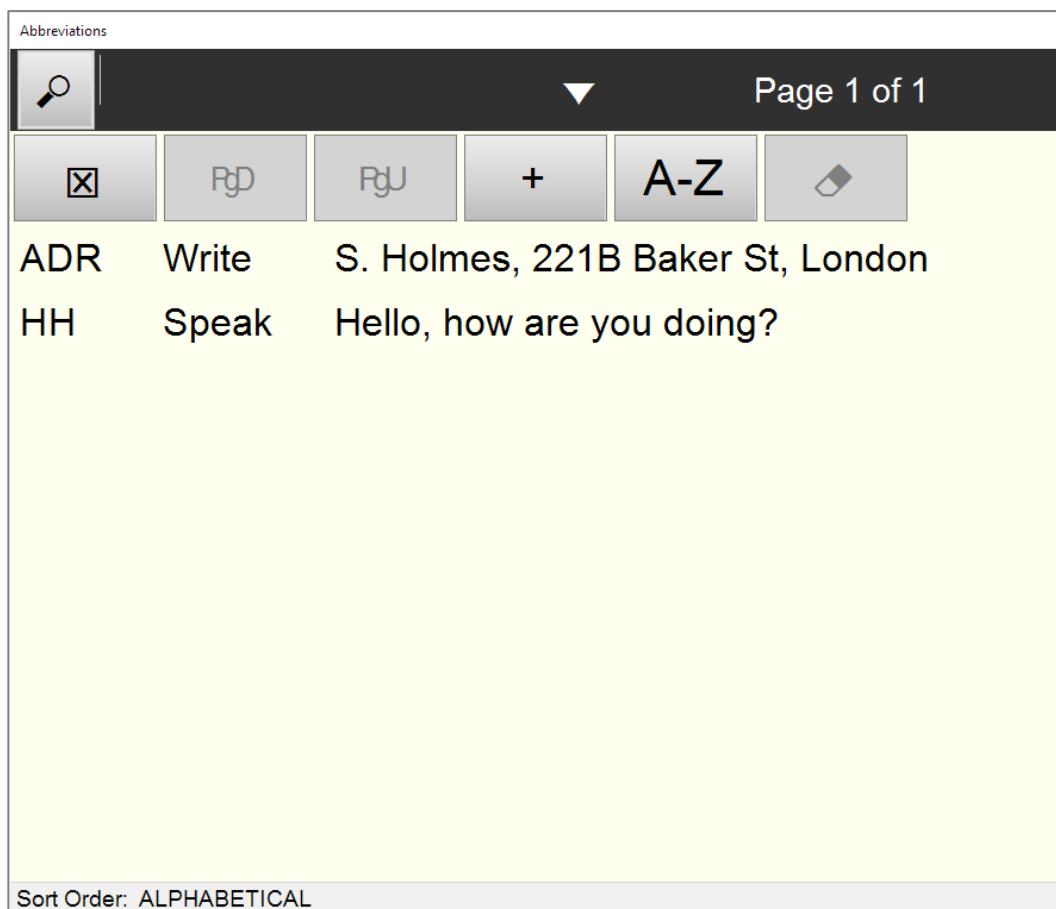


Figure 44: Abbreviations Scanner

The following table describes the buttons in the bar.

Menu Option	Description
-------------	-------------

Menu Option	Description
	<p>Brings up the Alphabet scanner to enable you search for abbreviations. If you enter “as”, ACAT will list all abbreviations that begin with “as”. To clear the search term, select the eraser button  from the buttons bar.</p> <p>To close the Alphabet scanner, select the  button on the Alphabet scanner.</p>
	<p>Exits the scanner</p>
	<p>Page Up. Scrolls up one page.</p>
	<p>Page Down. Scrolls down one page.</p>
	<p>Adds a new abbreviation (see section 6.9.1)</p>
	<p>Changes the current sort order. This button acts as a toggle and switches the sort order between ascending and descending.</p>
	<p>Clears the search filter. Refreshes the list to all abbreviations.</p>

6.9.1 Add an abbreviation

To add an abbreviation, select the  button on the button bar. ACAT will display a Yes/No dialog to confirm adding the abbreviation and then display the **Abbreviations Editor** dialog where you can enter the expansion and also select the abbreviation mode – written or spoken.

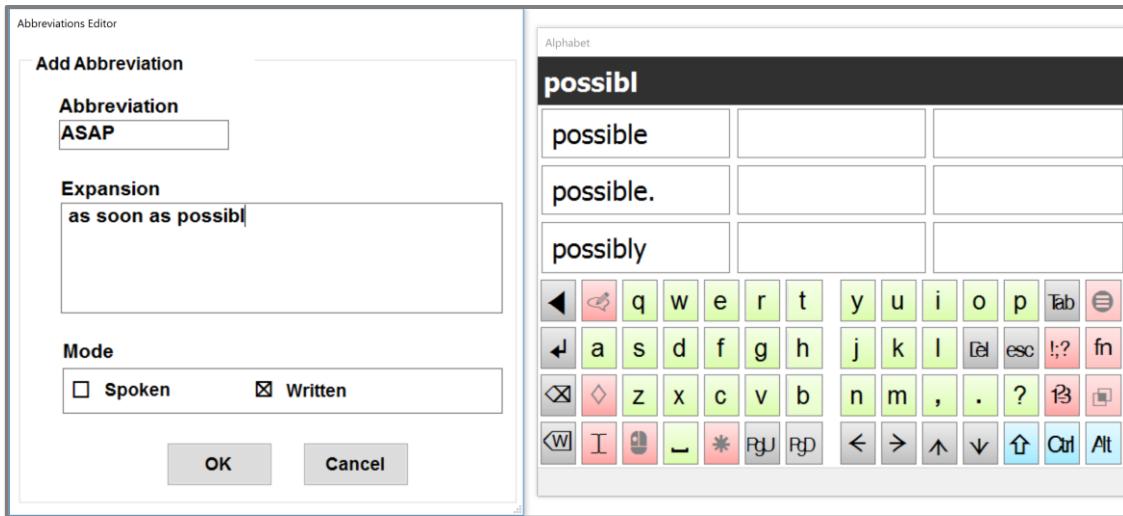


Figure 45: Abbreviations Editor to add an abbreviation

ACAT will scan the controls in this dialog box. To make changes to a control, activate your switch when the control is highlighted. For instance, to change the Mode, activate your switch when the Mode box is highlighted.

To enter text into the Expansion text box:

1. Activate the switch when the Expansion box is highlighted.
2. ACAT will display the Alphabet scanner. Enter the expansion
3. Select the button on the Alphabet scanner when you are done and ACAT will resume scanning the **Add Abbreviation** dialog.
4. Select OK to indicate you are done, or Cancel to discard changes.

When you exit this dialog, ACAT will take you back to the abbreviations scanner. You will see the new abbreviation you just added.

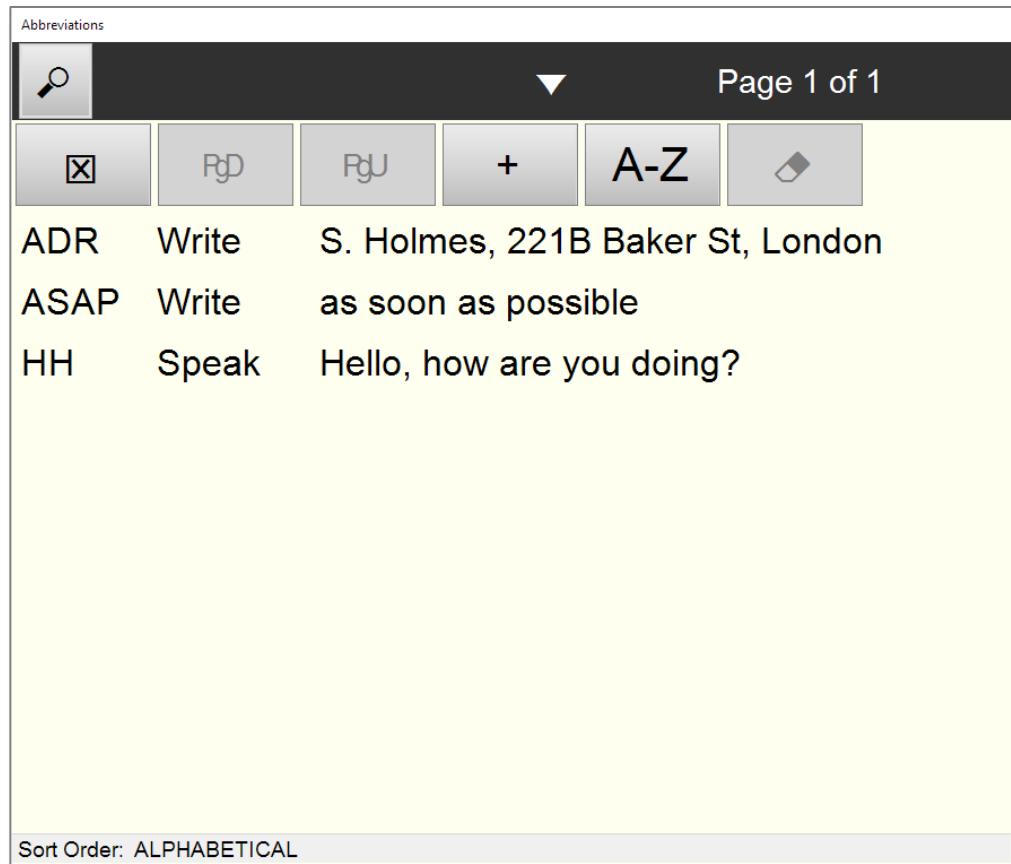


Figure 46: New abbreviation added

To test the abbreviation, activate the Talk window or go to Notepad and type asap. ACAT will expand it to “as soon as possible”.

6.9.2 Edit/Delete an abbreviation

The abbreviations scanner will list all the abbreviations you have added. You can search for abbreviations by typing it out and ACAT will narrow the list down to those that match your search term. You can edit an existing abbreviation by selecting it from the abbreviations scanner using the index number of the abbreviation. ACAT will display a menu confirming whether you want to Edit or Delete the abbreviation.

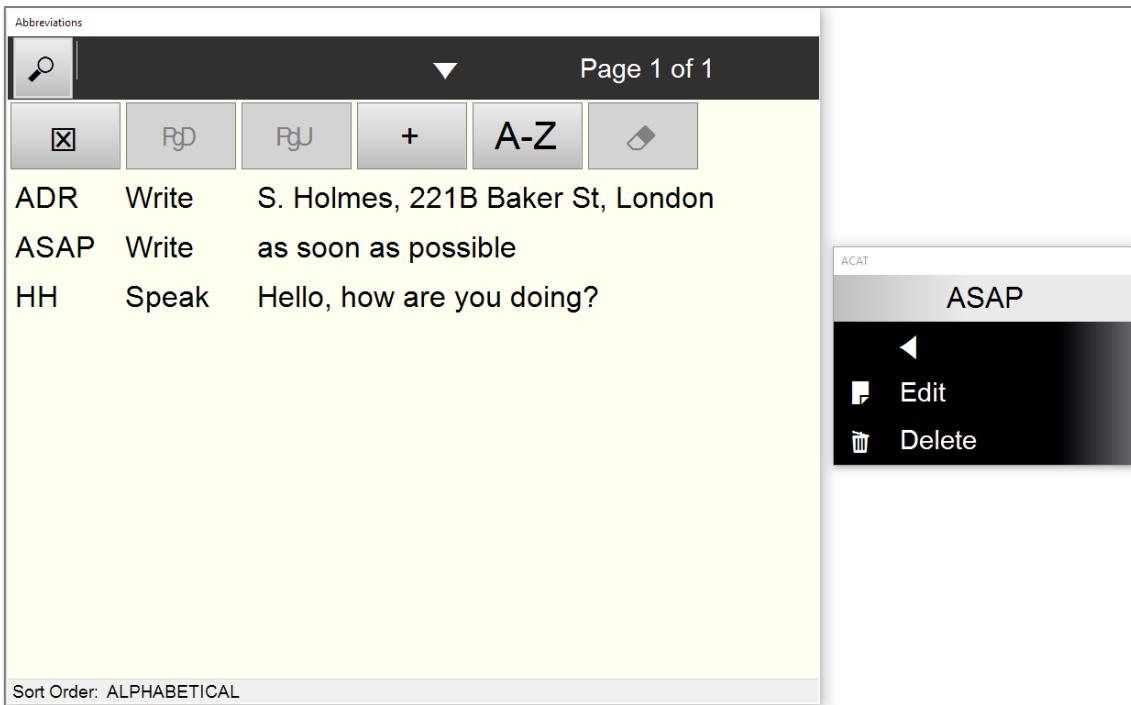


Figure 47: Select Abbreviation Operation

If you select **Edit**, ACAT will display the abbreviations editor dialog and you can edit and save the information in there as described in section 6.9.1.

If you select **Delete**, ACAT will delete the selected abbreviation.

6.10 Language Support

While English is the default language, ACAT supports non-English languages. If you have downloaded and installed ACAT language packs from the ACAT website, you can switch languages by selecting **Language** from the **Main Menu** (see section 5.2). When you select this option, the list of languages is displayed from which you can select the desired language. After you make the selection, ACAT will switch to the scanners and word prediction for selected language.

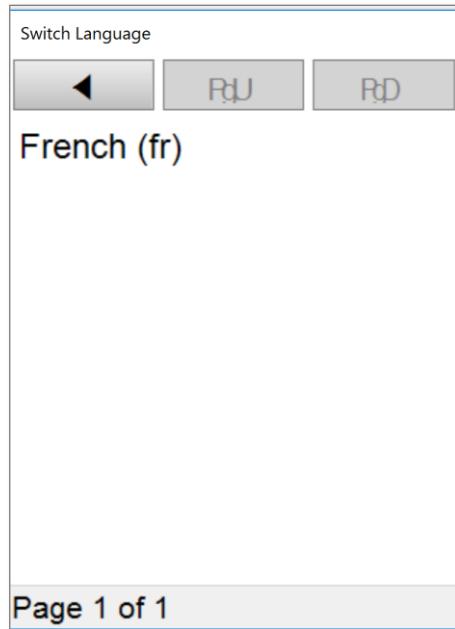


Figure 48: Switch Language Scanner

Menu Option	Description
	Exits the Switch Language scanner.
	Page Up. Scrolls up one page.
	Page Down. Scrolls down one page.

7 APPLICATIONS SUPPORT

ACAT is application-aware in that it tracks the application that currently has focus and responds appropriately. This section has details on how you can use ACAT to interact with and manage applications such as Notepad, Internet Explorer and Microsoft Word.

Contextual application awareness is provided through:

Contextual Next-Word Prediction: For applications such as Notepad or Microsoft Word, ACAT knows the caret position in the document and can read the text preceding the caret. It uses the preceding text as context predict the likely next word. You can move the caret to anywhere in the document and ACAT will track the caret position and update the word prediction list. In addition, ACAT will also enhance the word prediction model by feeding it text from the active document. This makes word prediction more relevant to the document you are editing.

Contextual Menus: Application-aware contextual menus. You can activate the

contextual menu by selecting the  button in the alphabet scanner. If you are interacting with Internet Explorer for instance, the contextual menu would have options to go Back, Forward, Search, Zoom etc.

You can launch application using the **Application Launcher** tool described in section 6.5

You can also switch to any application window using the **Task Switcher** tool covered in section 6.4.

7.1 Managing Application Windows

The Window menu in the alphabet scanner enables you to move, resize and close the currently active window of the application with which you are currently interacting.

You can access this by selecting the  button in the alphabet scanner.

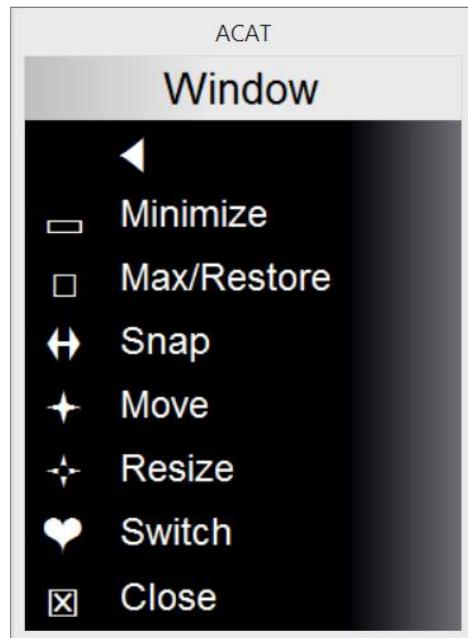


Figure 49: Window Management Menu

Button	Description
	Exits the menu
	Minimizes the active application window
	Toggles the active application window between Maximize and Restore
	Sets the window to occupy three-quarters of the display and position itself on the side of the screen. Use this option for optimizing the real estate on the screen between the application window and the ACAT scanner.

Button	Description
	Lets you position the active application window to any desired location the screen. See section 7.1.1 on the interaction to accomplish this.
	Lets you resize the active application window. See section 7.1.2 on the interaction.
	Displays a list of active applications and lets you switch focus to any application that is running. This is equivalent to using Alt-Tab. See section 6.4 on switching between windows.
	Closes the active application window. Displays a red rectangle outlining the window and gets your confirmation before closing the window.

7.1.1 Moving Application Windows

When you select Move from the Window menu, ACAT displays a small window in the middle of the screen.

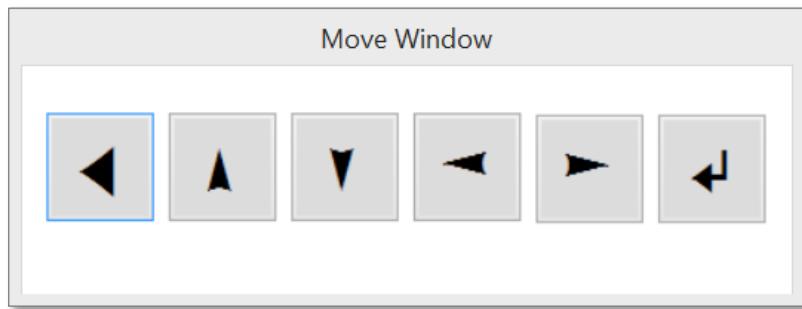


Figure 50: Move Application Window Dialog

1. You must first select the direction in which you want to move the window – up, down, left or right
2. After you have selected the direction, you can repeatedly activate your switch and the window will continue to move in the selected direction each time the



switch is activated. When you are done, you must select the ENTER button  to confirm.

3. Select the  button to exit. If you do not select the ENTER button, ACAT will restore the original position of the window.

7.1.2 Resizing Application Windows

Resizing windows is similar to the move operation described in section 7.1.1. When you select Resize from the Window menu, ACAT displays a small window in the middle of the screen.

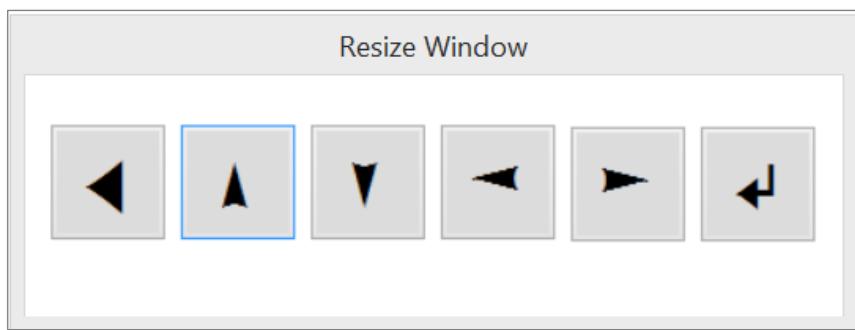


Figure 51: Resize Window Dialog

1. You must first select which edge you want to move to resize the window – the top edge, bottom edge, left edge or the right edge. Use your switch to select one of the arrow buttons to select the edge.
2. Depending on the edge you have selected, the windows cursor will change to a  or a . Now you can repeatedly activate your switch. For every activation, the window edge will move in the selected direction. When you are done, you must select the ENTER button  to confirm.
3. Select the  button to exit. If you do not select the ENTER button, ACAT will restore the original size of the window.

7.1.3 Switch between Applications

You can use the **Windows Task Switcher** tool to switch focus to a different window. Section 6.4 has details on this tool.

7.1.4 Launch Applications

You can use the **Application Launcher** tool to launch applications. Section 6.5 has details on this.

7.2 Application Dialogs

If the active application displays a dialog, ACAT automatically displays a contextual menu to facilitate navigation through the dialog and making selections. For instance, if you activate the **Find** dialog in Notepad to search for text, ACAT will automatically switch to the Dialog contextual menu.

The contextual menu for application dialog has the following options.

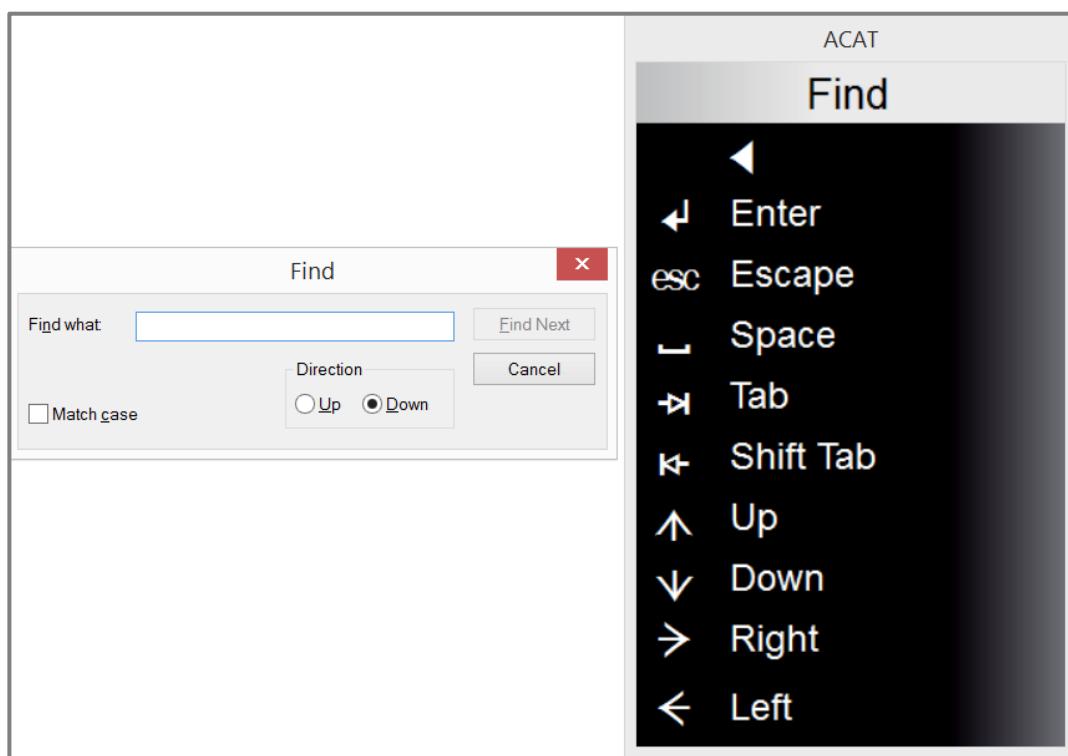


Figure 52: Application Dialog Contextual Menu

Option	Description
	Exits the menu.

Option	Description
Enter	The ENTER key. Used to confirm and dismiss the dialog.
Escape	The ESCAPE key. Used to cancel and dismiss the dialog.
Space	The Space bar. Can be used to activate a button in the dialog box.
Tab	The Tab key. Tab to the next field in the dialog.
Shift Tab	The Shift+Tab key. Tab to the previous filed in the dialog.
Up	The Up arrow. Can be used to naviagate lists, combo boxes.
Down	The Down arrow. Can be used to navigate lists, combo boxes.
Right	The Right arrow. Can be used to navigate lists, combo boxes.
Left	The Left arrow. Can be used to navigate lists, combo boxes.

7.3 Application Menus

If you activate a menu in the active application, ACAT automatically displays a contextual menu to facilitate navigation through the application menu and making a selection. For instance, if you were interacting with the file list in Explorer and you right clicked on a file using the Mouse scanner, ACAT will automatically display the contextual menu shown in Figure 53.

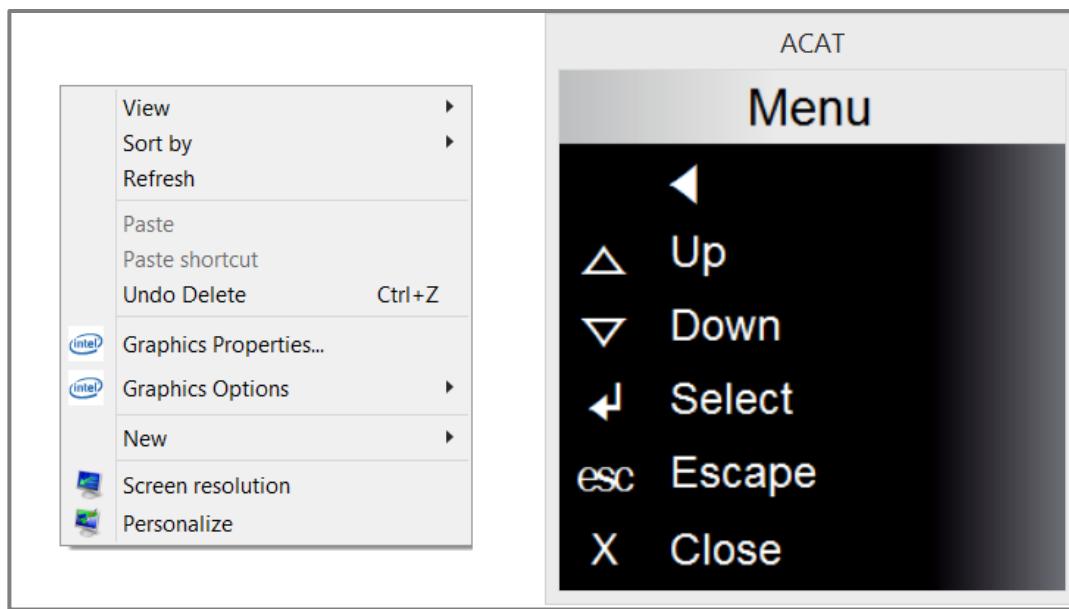


Figure 53: Application Menus Contextual Menu

Option	Description
	Exits the contextual menu.
Up	The UP arrow. Goes up one item in the menu
Down	The DOWN arrow. Goes down one item in the menu
Select	The ENTER key. Selects the currently highlighted menu item. If the menu is multi-leveled, opens the next level of the menu.
Escape	The ESCAPE key. Dismisses the menu. If the menu is multi-leveled and you are in the second level or higher, takes you back to the previous level

Option	Description
Close	Dismisses the menu.

7.4 Notepad

ACAT supports contextual word prediction for Notepad. When you type or navigate the cursor around the document, ACAT monitors the caret position and uses the words preceding the caret for next word prediction.

The contextual menu for Notepad has the following options:

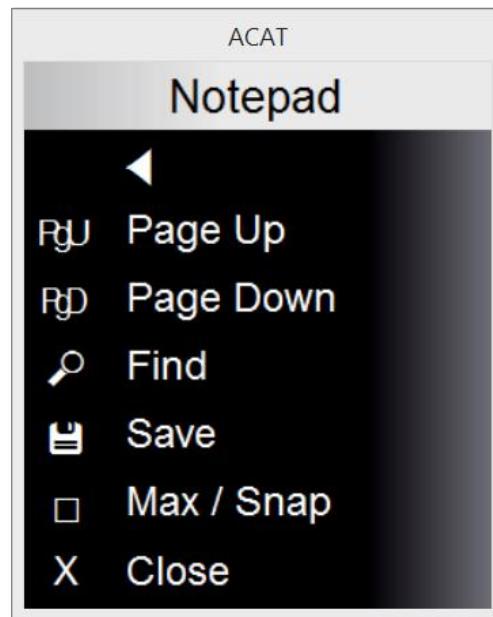


Figure 54: Contextual Menu for Notepad

Option	Description
	Exits the menu
Page Up	Scrolls up one page

Option	Description
Page Down	Scrolls down one page
Find	Displays the Notepad Find window to search for text.
Save	Saves the file
Max/Snap	Toggles the Notepad window between full maximize and snapping to the opposite edge of the display.
Close	Closes the Notepad application window

7.5 WordPad

ACAT supports contextual word prediction for WordPad. When you type or navigate the cursor around the document, ACAT monitors the caret position and uses the words preceding the caret for next word prediction.

The contextual menu for WordPad has the following options:

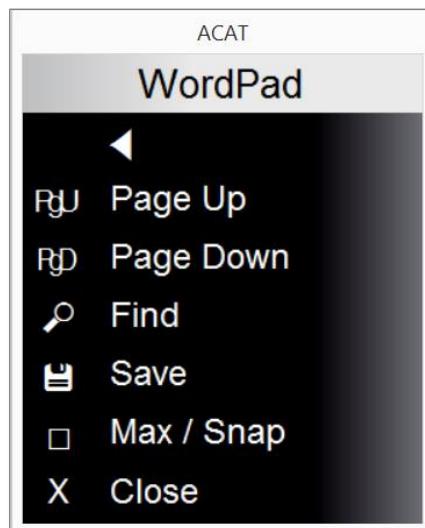


Figure 55: Contextual Menu for WordPad

Option	Description
	Exits the menu
Page Up	Scrolls up one page
Page Down	Scrolls down one page.
Find	Displays the WordPad Find window to search for text.
Save	Saves the file.
Max/Snap	Toggles the WordPad window between full maximize and snapping to the opposite edge of the display.
Close	Closes the Wordpad application window

7.6 Microsoft Word

ACAT supports contextual word prediction for Microsoft Word. When you type or navigate the cursor around the document, ACAT tracks the caret position and uses the words preceding the caret for next word prediction.

The contextual menu for MS Word has the following options:

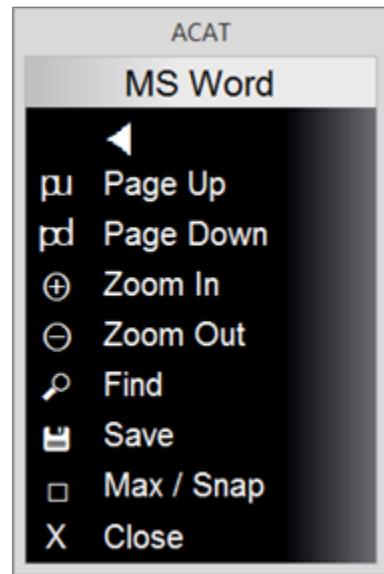


Figure 56: Contextual Menu for Microsoft Word

Option	Description
	Exits the menu
Page Up	Scrolls up one page
Page Down	Scrolls down one page
Zoom In	Zooms In
Zoom Out	Zooms out
Find	Displays MS Word's Find dialog to search for text.

Option	Description
Save	Saves the file.
Max/Snap	Toggles the MS Word application window between full maximize and snapping to the opposite edge of the display.
Close	Closes the MS Word application window

7.7 Acrobat Reader

If you are viewing a PDF file with Acrobat Reader, ACAT displays the contextual menu for Acrobat which allows you to page through the document, set the zoom level, and search for text

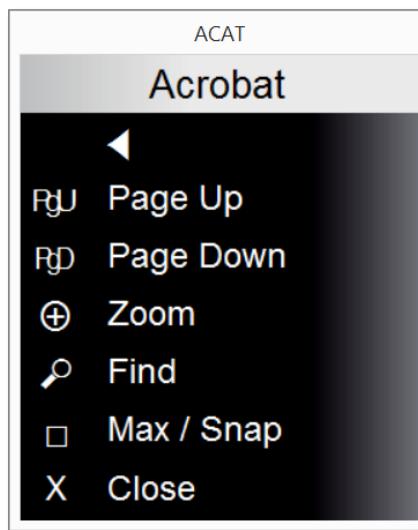


Figure 57: Contextual Menu for Acrobat Reader

Option	Description
	Exits the menu

Option	Description
Page Up	Scrolls up one page
Page Down	Scrolls down one page
Zoom	Displays the Zoom menu (see below)
Find	Opens the Find dialog in Acrobat Reader
Max/Snap	Toggles the Acrobat Reader window between full maximize and snapping to the opposite edge of the display.
Close	Closes the Acrobat Reader window

The Zoom menu enables you to set the zoom level of the document.

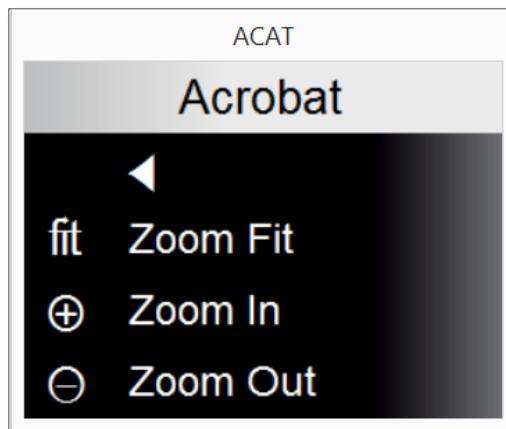


Figure 58: Acrobat Reader Zoom Menu

Option	Description
118	APPLICATIONS SUPPORT ACAT User Guide

Option	Description
	Exits the menu
Zoom Fit	Fits the page to fit the window.
Zoom In	Zooms in
Zoom Out	Zooms out

7.8 Foxit PDF Reader

If you are viewing a PDF file with Foxit PDF Reader, ACAT displays the contextual menu for Foxit which allows you to page through the document, set the zoom level, and search for text

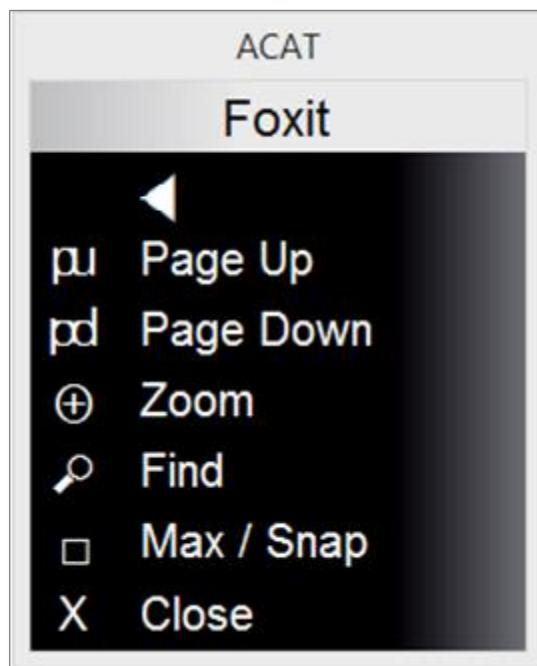


Figure 59: Contextual Menu for Foxit Reader

Option	Description
	Exits the menu
Page Up	Scrolls up one page
Page Down	Scrolls down one page
Zoom	Displays the Zoom menu (see below)
Find	Opens the Find dialog in Foxit Reader
Max/Snap	Toggles the Foxit Reader window between full maximize and snapping to the opposite edge of the display.
Close	Closes the Foxit Reader window

The Zoom menu enables you to set the zoom level of the document.

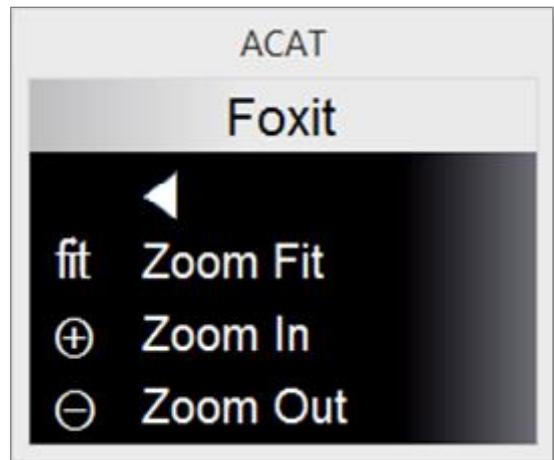


Figure 60: Foxit Reader Zoom Menu

Option	Description
	Exits the menu
Zoom Fit	Fits the page to fit the window.
Zoom In	Zooms in
Zoom Out	Zooms out

7.9 Internet Explorer

The contextual menu for Internet Explorer includes options to facilitate browsing.

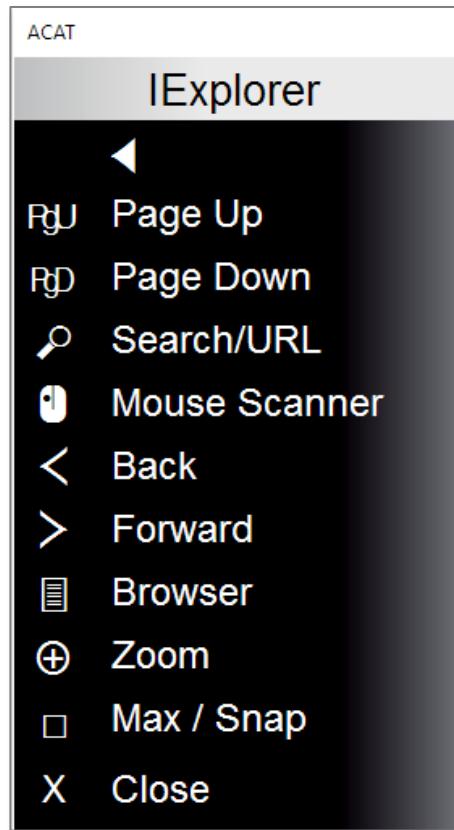


Figure 61: Contextual Menu for Internet Explorer

Option	Description
	Exits the menu
Page Up	Scrolls up one page
Page Down	Scrolls down one page
Search/URL	Positions the caret in the address bar so you can type a url or a search term

Option	Description
Mouse Scanner	Displays the Mouse scanner (see section 4.6). You can use the mouse scanner to click the mouse on hyperlinks in the page you are browsing.
Back	Goes back to the previous web page
Forward	Goes forward to the next web page
Browser	Displays the Browser menu that has additional options for Favorites, Tabbed browsing etc. (see below)
Zoom	Displays the Zoom menu (see below)
Max/Snap	Toggles the Internet Explorer window between full maximize and snapping to the opposite edge of the display.
Close	Closes the Internet Explorer window

You can use the Internet Explorer Zoom menu to control the zoom level of the web page you are browsing.

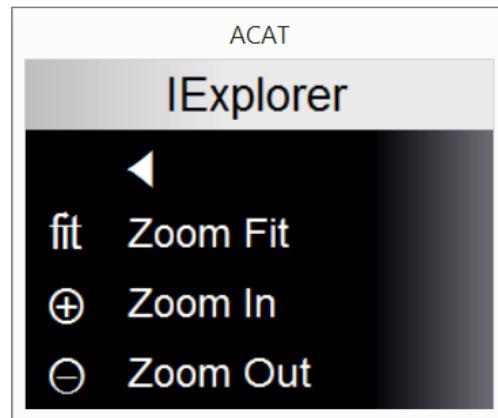


Figure 62: Internet Explorer Zoom Menu

Option	Description
	Exits the menu
Zoom Fit	Fits the page to fit the window.
Zoom In	Zooms in
Zoom Out	Zooms out

Selecting **Browser** from the IE contextual menu displays the Browser menu with additional options.

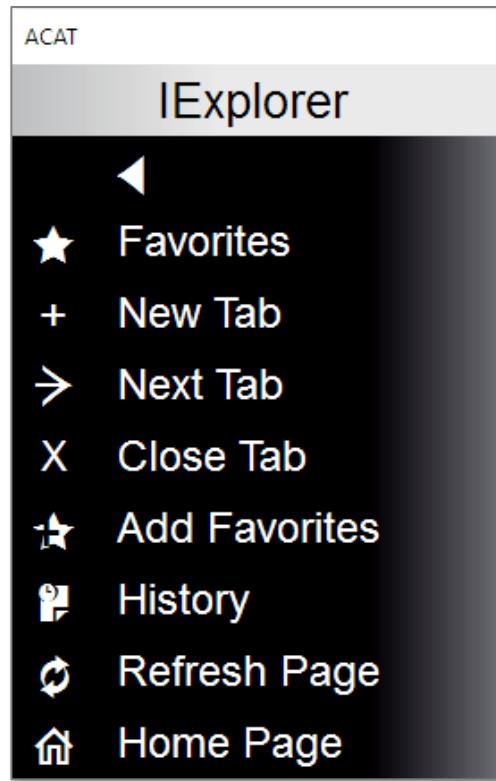


Figure 63: Internet Explorer Browser Menu

Option	Description
	Exits the menu.
Favorites	Displays the Favorites menu in IE. ACAT automatically displays a scanner to navigate the Favorites menu.
New Tab	Opens a new tab.
Next Tab	Goes to the next tab.

Option	Description
Close Tab	Closes the current tab.
Add Favorites	Adds the current page to IE Favorites .
History	Displays the History menu in IE. ACAT automatically displays a scanner to navigate the History menu.
Refresh Page	Refreshes the current page.
Home Page	Goes to the home page.

7.10 Microsoft Edge Browser

The contextual menu for the Microsoft Edge browser (on Windows 10) includes options to facilitate browsing.

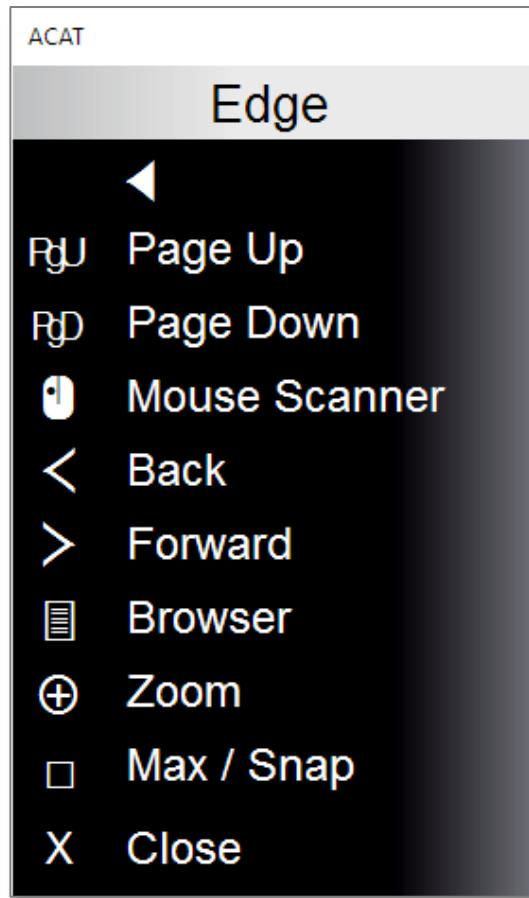


Figure 64: Contextual Menu for the Microsoft Edge Browser

Option	Description
	Exits the menu
Page Up	Scrolls up one page
Page Down	Scrolls down one page

Option	Description
Mouse Scanner	Displays the Mouse scanner (see section 4.6). You can use the mouse scanner to click the mouse on hyperlinks in the page you are browsing.
Back	Goes back to the previous web page
Forward	Goes forward to the next web page
Browser	Displays the Browser menu that has additional options for Favorites, Tabbed browsing etc. (see below)
Zoom	Displays the Zoom menu (see below)
Max/Snap	Toggles the Internet Explorer window between full maximize and snapping to the opposite edge of the display.
Close	Closes the Microsoft Edge browser window

You can use the **Zoom** menu to control the zoom level of the web page you are browsing.

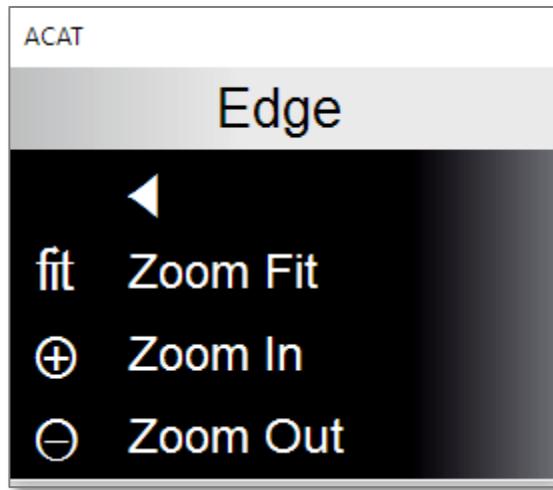


Figure 65: Microsoft Edge Browser Zoom Menu

Option	Description
	Exits the menu
Zoom Fit	Fits the page to fit the window.
Zoom In	Zooms in
Zoom Out	Zooms out

Selecting **Browser** from the Edge contextual menu displays the Browser menu with additional options.

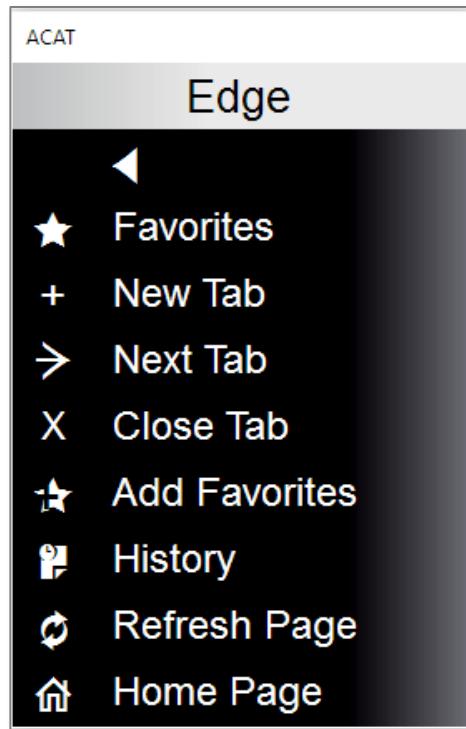


Figure 66: Edge Browser Menu

Option	Description
	Exits the menu.
Favorites	Displays the Favorites menu in the Edge browser.
New Tab	Opens a new tab.
Next Tab	Goes to the next tab.
Close Tab	Closes the current tab.

Option	Description
Add Favorites	Adds the current page to the browser Favorites .
History	Displays the web browsing history.
Refresh Page	Refreshes the current page.
Home Page	Goes to the home page.

7.11 Chrome Browser

The contextual menu for the Chrome Browser includes options to facilitate browsing.

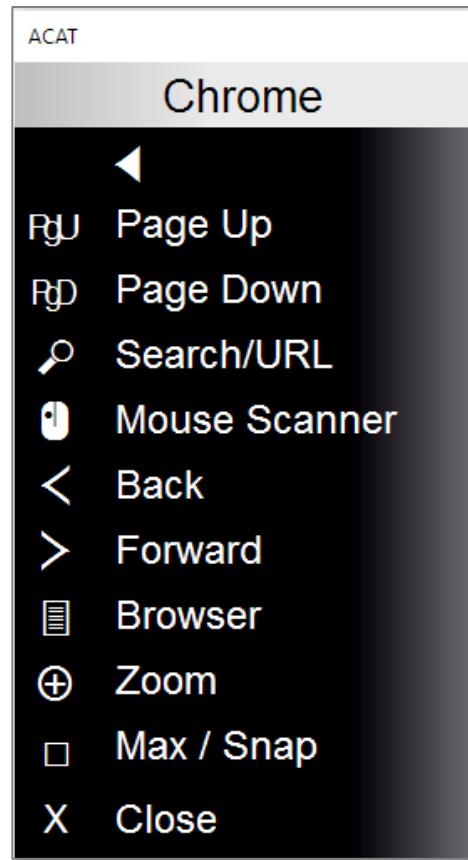


Figure 67: Contextual Menu for the Chrome Browser

Option	Description
◀	Exits the menu
Page Up	Scrolls up one page
Page Down	Scrolls down one page
Search/URL	Positions the caret in the address bar so you can type a url or a search term

Option	Description
Mouse Scanner	Displays the Mouse scanner (see section 4.6). You can use the mouse scanner to click the mouse on hyperlinks in the page you are browsing.
Back	Goes back to the previous web page
Forward	Goes forward to the next web page
Browser	Displays the Browser menu that has additional options for Favorites, Tabbed browsing etc. (see below)
Zoom	Displays the Zoom menu (see below)
Max/Snap	Toggles the Chrome browser window between full maximize and snapping to the opposite edge of the display.
Close	Closes the Chrome browser window

You can use the Chrome Browser Zoom menu to control the zoom level of the web page you are browsing. Select **Zoom** from the Chrome browser contextual menu.

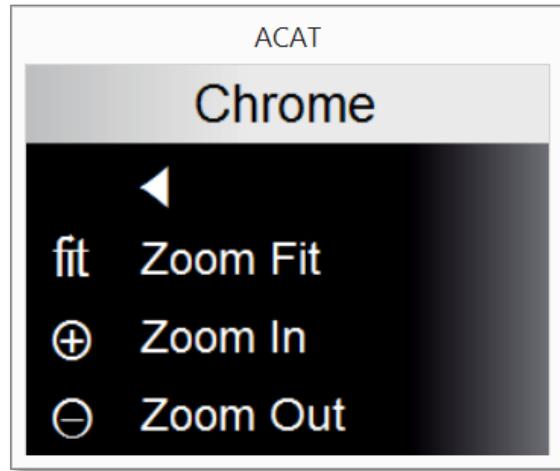


Figure 68: Chrome Browser Zoom Menu

Option	Description
	Exits the Zoom menu
Zoom Fit	Fits the page to fit the window.
Zoom In	Zooms in
Zoom Out	Zooms out

Select **Browser** from the Chrome browser contextual menu for additional options.

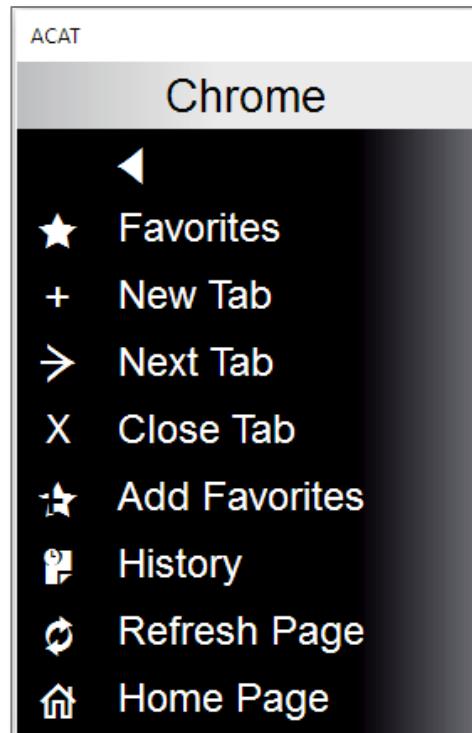


Figure 69: Chrome Browser menu

Option	Description
	Exits the menu.
Favorites	Displays the Bookmarks in the Chrome browser.
New Tab	Opens a new tab.
Next Tab	Goes to the next tab.
Close Tab	Closes the current tab.

Option	Description
Add Favorites	Adds the current page to the Chrome bookmarks.
History	Displays the browsing history menu in the Chrome browser.
Refresh Page	Refreshes the current page.
Home Page	Goes to the home page.

7.12 Firefox Browser

The contextual menu for the Firefox Browser includes options to facilitate browsing.

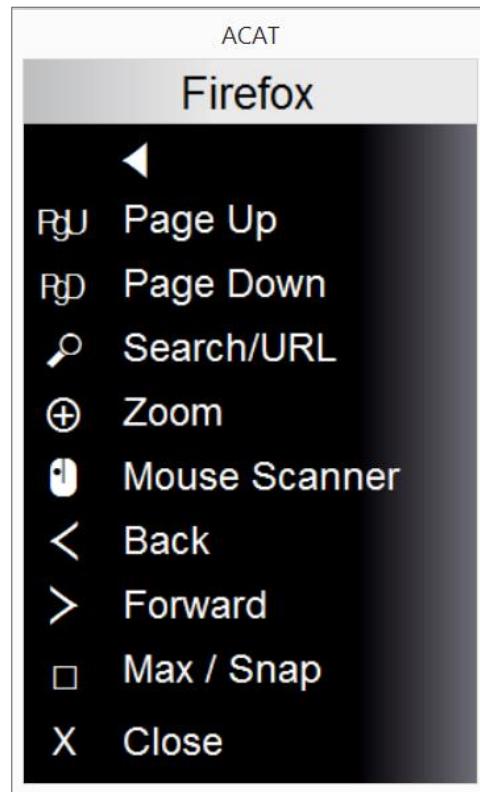


Figure 70: Contextual Menu for the Firefox Browser

Option	Description
	Exits the menu
Page Up	Scrolls up one page
Page Down	Scrolls down one page
Search/URL	Positions the caret in the address bar so you can type a url or a search term

Option	Description
Zoom	Displays the Zoom menu (see below)
Mouse Scanner	Displays the Mouse scanner (see section 4.6). You can use the mouse scanner to click the mouse on hyperlinks in the page you are browsing.
Back	Goes back to the previous web page
Forward	Goes forward to the next web page
Max/Snap	Toggles the Firefox browser window between full maximize and snapping to the opposite edge of the display.
Close	Closes the Firefox browser window

You can use the Firefox Browser Zoom menu to control the zoom level of the web page you are browsing.

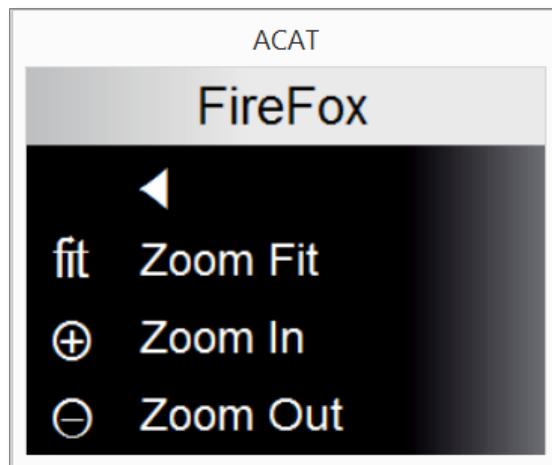


Figure 71: Firefox Browser Zoom Menu

Option	Description
	Exits the Zoom menu
Zoom Fit	Fits the page to fit the window.
Zoom In	Zooms in
Zoom Out	Zooms out

7.13 Windows Photo Viewer

If you are using Windows Photo viewer to view pictures, you can use the contextual menu to browse and manage your pictures.

The contextual menu for the Photo Viewer has the following options.

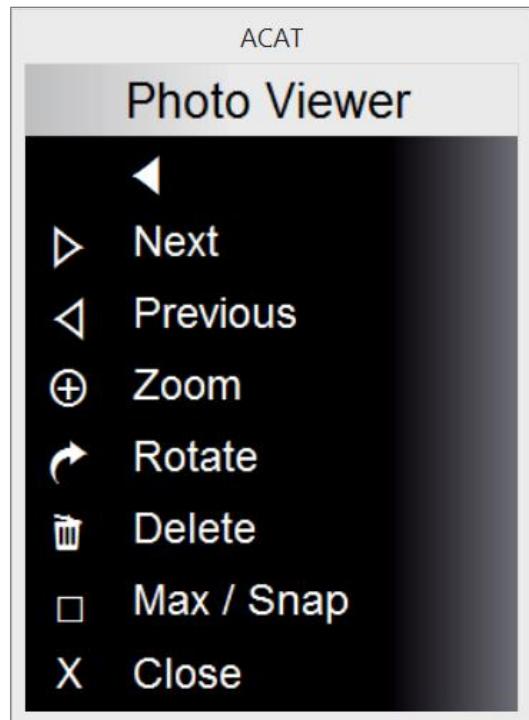


Figure 72: Contextual Menu for Windows Photo Viewer

Option	Description
	Exits the Photo Viewer menu
Next	Displays the next picture
Previous	Displays the previous picture
Zoom	Displays the zoom menu (details below)
Rotate	Displays the rotate menu (details below)

Option	Description
Delete	Deletes the picture you are currently viewing. Confirms with a Yes/No dialog before deleting
Max/Snap	Toggles the Photo viewer window between full maximize and snapping to the opposite edge of the display.
Close	Closes the Photo viewer.

Use the Zoom menu to control the zoom level of the picture you are viewing.

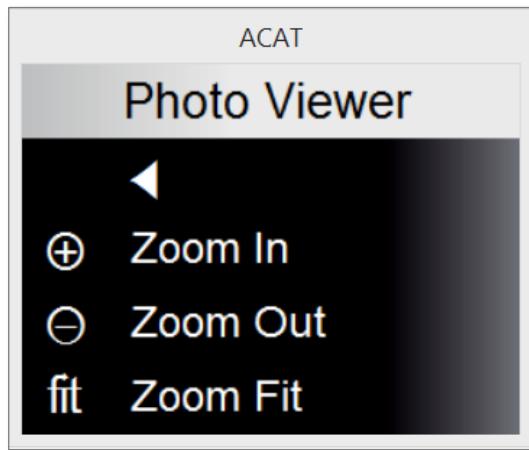


Figure 73: Zoom Menu for Windows Photo Viewer

Option	Description
	Exits the zoom menu
Zoom In	Zooms in the picture

Option	Description
Zoom Out	Zooms out the picture
Zoom Fit	Fits the picture in the window

Use the Rotate menu to rotate the picture.

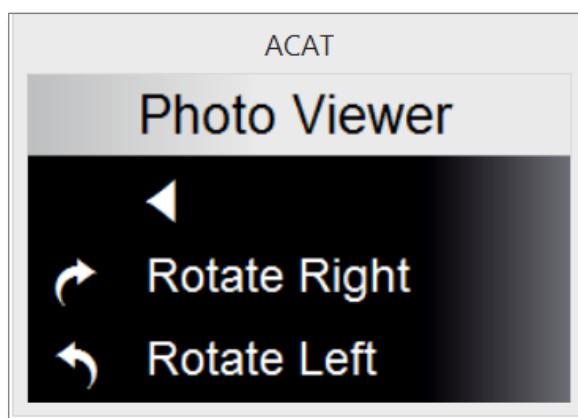


Figure 74: Rotate Menu for Windows Photo Viewer

Option	Description
	Exits the rotate menu
Rotate Right	Rotates the picture 90 degrees clockwise
Rotate Left	Rotates the picture 90 degrees counter-clockwise

7.14 Windows Media Player

If you are using Windows Media Player to listen to audio tracks or play video files, you can use the contextual menu to control media playback.

The contextual menu for the Media Player has the following options.



Figure 75: Contextual Menu for Windows Media Player

Option	Description
◀	Exits the Media Player menu
Play/Pause	Toggles between playing and pausing the current media file.

Option	Description
Fast Fwd	Fast forwards the current media file. Select again to stop fast forwarding and resume playing
Rewind	Rewinds the current media file. Select again to stop rewinding and resume playing. Note: Rewind may not work for audio files.
Stop	Stops the current media file
Prev. Track	Selects the previous audio track in the library. Not applicable for video files
Next Track	Selects the next audio track in the library. Not applicable for video files
Max/Snap	Toggles the Media player window between full maximize and snapping to the opposite edge of the display.
Close	Closes the Media Player

7.15 Microsoft Outlook

If you are using Microsoft Outlook for email, you can use the contextual menu to help with all email related activities such as creating new emails, browsing through existing emails, and switching to common sections of the application such as inbox and calendar.

7.15.1 Main Contextual Menu

The contextual menu shown in Figure 76 is displayed for all top level windows in Outlook – Inbox, Calendar, Tasks, Contacts and Notes.

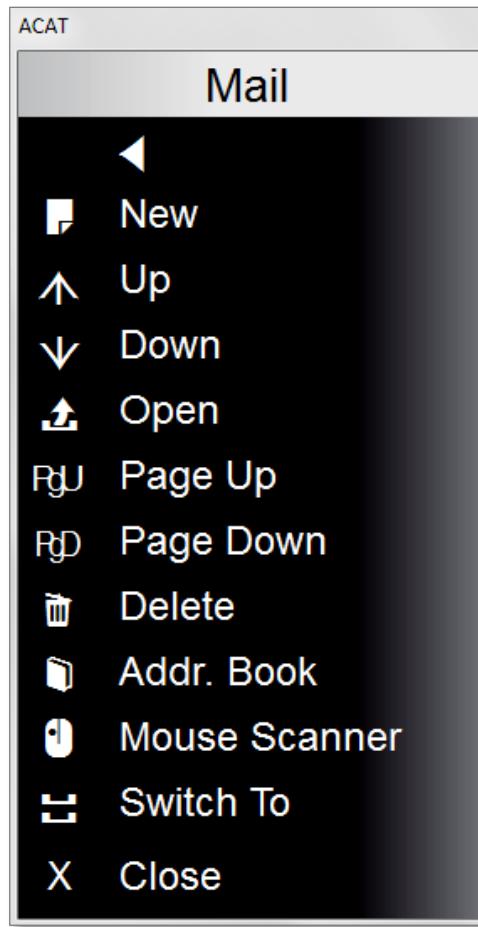


Figure 76: Main Contextual Menu for MS Outlook

Option	Description
	Exits the menu
New	Creates a new item – mail, appointment, task, contact or note.
Up	The Up Arrow. Highlights the previous item in the list.
Down	The Down arrow. Highlights the next item in the list.

Option	Description
Open	Opens the currently selected item - Email, Calendar, Task, Contact or Note. ACAT automatically switches to the contextual menu appropriate for the item. Mail item: see section 7.15.3. Calendar item: see section 7.15.5. Task item: see section 7.15.6. Contact item: see section 7.15.7.
Page Up	Scrolls up one page.
Page Down	Scrolls down one page.
Delete	Deletes currently selected item – Mail, Calendar, Task, Note or Contact.
Addr. Book	Opens the Address Book. Equivalent to pressing Ctrl + Shift + B
Mouse Scanner	Displays the Mouse scanner (see section 4.6)
Switch To	Displays the Switch To menu (see section 7.15.2)
Close	Closes the MS Outlook window

7.15.2 Switch To menu

You can use the **Switch To** menu to switch to the different folders in Outlook – Inbox, Calendar, Tasks, Contacts, Notes and Personal Folders.

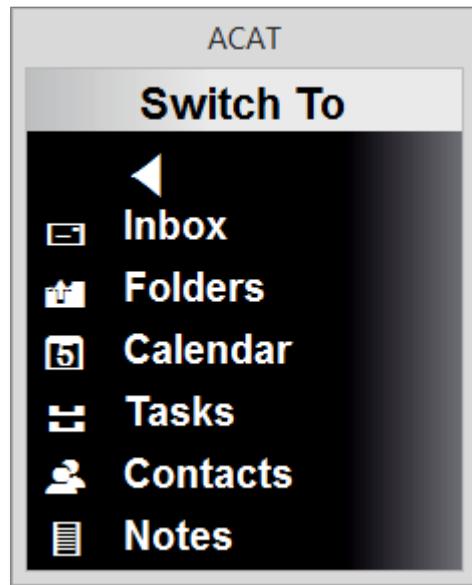


Figure 77: MS Outlook Switch To Menu

Option	Description
	Exits the Switch To menu
Inbox	Switches the current view in Outlook to Inbox .
Folders	Opens the “Go To Folder” Outlook dialog. This dialog enables you to navigate to all available folders such as the Inbox, Sent To Items, Deleted Items, Calendar, Contacts, etc.
Calendar	Switches the current view in Outlook to Calendar .
Tasks	Switches the current view in Outlook to Tasks .
Contacts	Switches the current view in Outlook to Contacts .

Option	Description
Notes	Switches to Outlooks Notes.

7.15.3 Open Mail Menu

When you open an email, ACAT displays the following contextual menu.



Figure 78: "Browse Mail" menu

Option	Description
	Exits Browse Mail menu
Previous	Opens the previous email.

Option	Description
Next	Opens the next email.
Action	Displays the email Action menu (see section 7.15.4)
Page Up	Scrolls up one page.
Page Down	Scrolls down one page.
Reply	Replies to the sender.
Mouse Scanner	Displays the Mouse scanner (see section 4.6).
Close	Closes the email window.

7.15.4 Mail Action Menu

The **Mail Action** menu gives you options to handle an opened email.

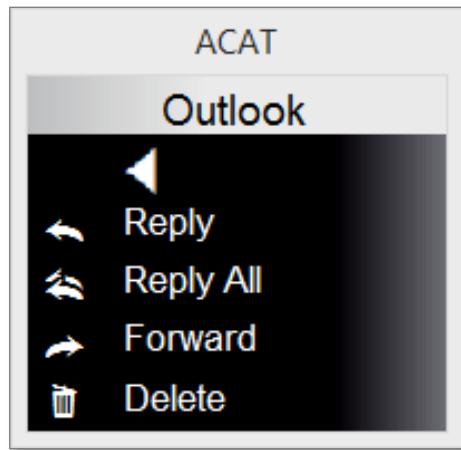


Figure 79: "Mail Action" menu

Option	Description
	Exits Mail Action menu
Reply	Replies to the sender.
Reply All	Does a Reply All
Forward	Forwards the email.
Delete	Deletes the email.

7.15.5 Open Appointment Menu

When you open a calendar appointment, the Open Calendar Item menu is displayed.

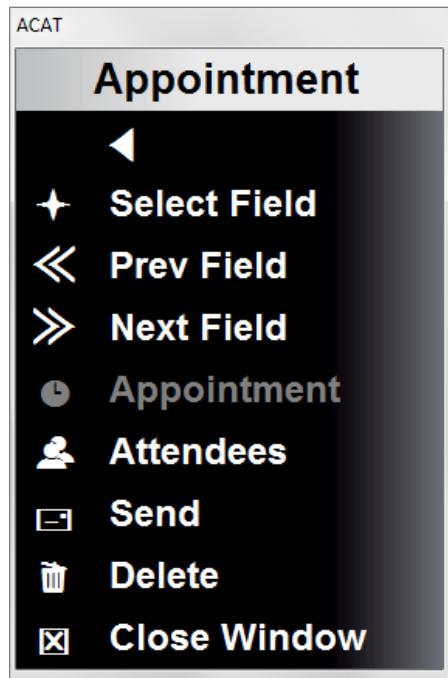


Figure 80: Open Calendar Appt. Menu

Option	Description
◀	Exits the menu
Select Field	Brings up the Alphabet scanner so you can enter text into the field.
Prev. Field	Goes to the previous field in the window (Shift+Tab).
Next Field	Goes to the next field in the window (Tab).
Appointment	Goes to the Appointment tab in the open calendar item.

Option	Description
Attendees	Goes to the Scheduling tab in the open calendar item.
Send	Sends the appointment to the recipients.
Delete	Deletes the appointment.
Close	Closes the appointment window.

7.15.6 Open Task Menu

This menu is displayed when you open a task in Outlook Tasks.

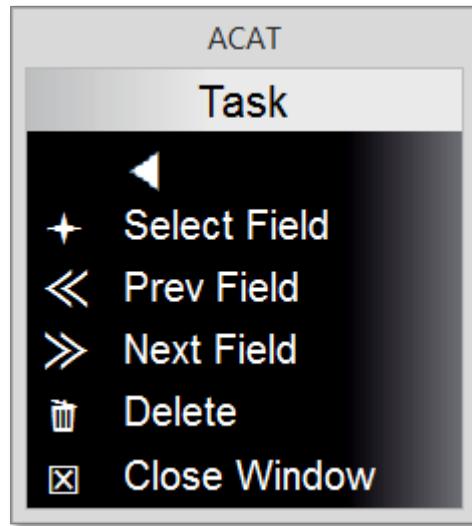


Figure 81: Open Task Contextual Menu

Option	Description
	Exits the menu

Option	Description
Select Field	Brings up the Alphabet scanner so you can enter text into the field.
Prev. Field	Goes to the previous field in the window (Shift+Tab).
Delete	Deletes the task.
Close	Closes the task window.

7.15.7 Open Contact Menu

This menu is displayed when you open a contact from Outlook Contacts.

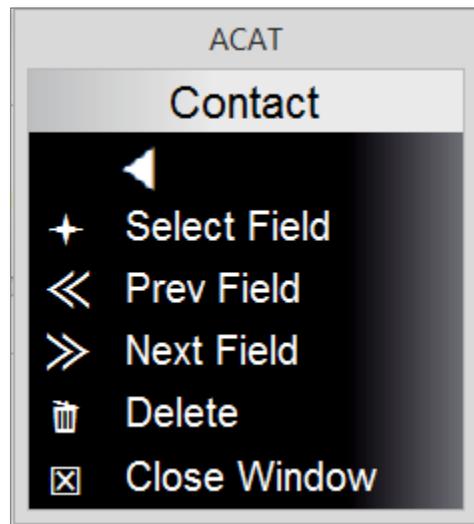


Figure 82: Contact Contextual Menu

Option	Description
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Option	Description
	Exits the menu
Select Field	Brings up the Alphabet scanner so you can enter text into the field.
Prev. Field	Goes to the previous field in the window (Shift+Tab).
Delete	Deletes the task.
Close	Closes the Contact window.

7.16 Windows Explorer

ACAT enables directory navigation and file manipulation through Windows Explorer. If Windows Explorer is the active window, ACAT displays the contextual menu shown in Figure 83.

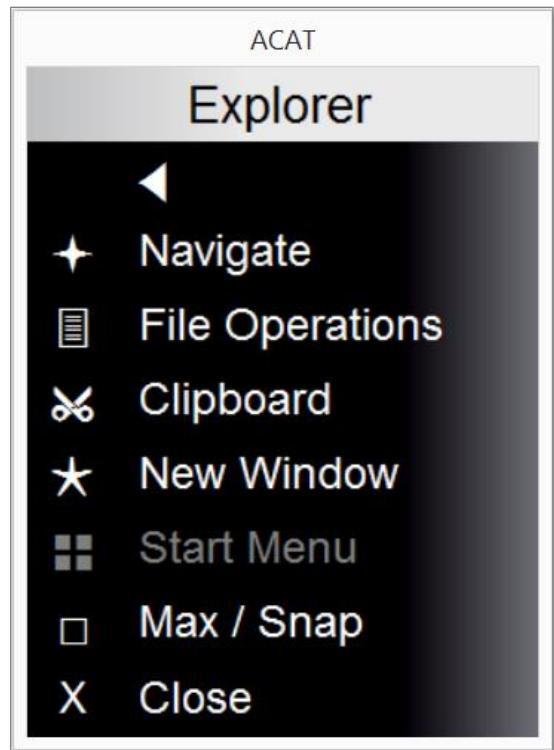


Figure 83: Windows Explorer Contextual Menu

Option	Description
	Exits the Explorer contextual menu.
File Operations	Opens the File Operations menu to perform operations such as delete, rename etc. See Figure 85.
Navigate	Opens the Navigate menu to navigate folders in Explorer. See Figure 84.
Clipboard	Opens the Clipboard menu to Cut, Copy and Paste files/folders. See Figure 86.

Option	Description
New Window	Opens the current folder in a new Explorer window.
Start Menu	Opens the Windows Start menu. This option is enabled only on Windows 7.
Max / Snap	Toggles the Explorer window between full maximize and snapping to the opposite edge of the display.
Close	Closes the Explorer window

The **Navigate** menu enables you to navigate the list of files/folders and open a file/folder.



Figure 84: Windows Explorer Navigate Menu

Option	Description
	Exits the Navigate menu back to the Explorer contextual menu.
Up	The UP arrow key. Highlights the previous file/folder in the list view.
Down	The DOWN arrow key. Highlights the next file/folder in the list view.
Page Up	The Page Up key. Displays the previous pageful of files/folders in the list
Page Down	The Page Down key. Displays the next pageful of files/folders in the list.
Enter	The ENTER key. If the highlighted item is a file, opens the file. If it is a folder, it opens the folder.
Parent Dir	Goes to the parent folder of the current directory.
Next Field	Switch focus to next pane in the Explorer window. This includes the Address bar, the folders pane, the file list.
Back	Navigates back to the previous directory.

With the File Operations menu you can rename, delete files, create folders etc.

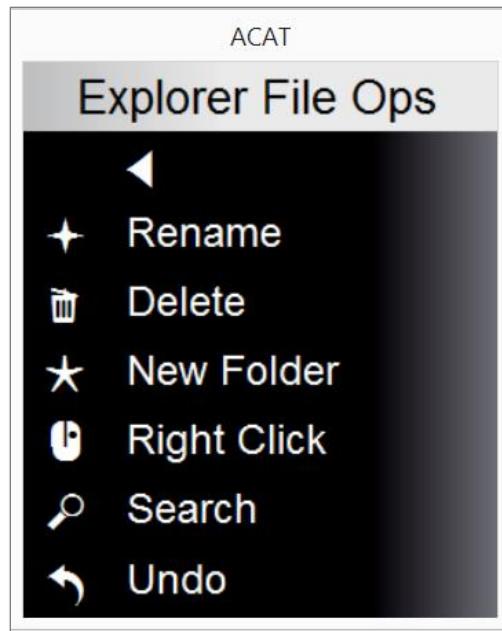


Figure 85: Windows Explorer File Operations Menu

Option	Description
◀	Exits the File Operations menu back to the Explorer contextual menu.
Rename	Renames the highlighted file/folder. ACAT will automatically switch to the Alphabet scanner so you can type the name of the file.
Delete	The DEL key. Deletes the highlighted file/folder.
New Folder	Creates a new folder. ACAT will automatically switch to the Alphabet scanner so you can type the name of the file.
Right Click	Does a mouse right click on the highlighted file/folder. Windows Explorer will display a menu with options for the file/folder. ACAT will automatically switch to the contextual menu to enable you to navigate the Explorer options menu.

Option	Description
Search	Switches focus to the Search box in Explorer so you do a search.
Undo	Undoes the last file operation such as an accidental file deletion.

The Clipboard operations menu lets you cut/copy/paste files or folders.

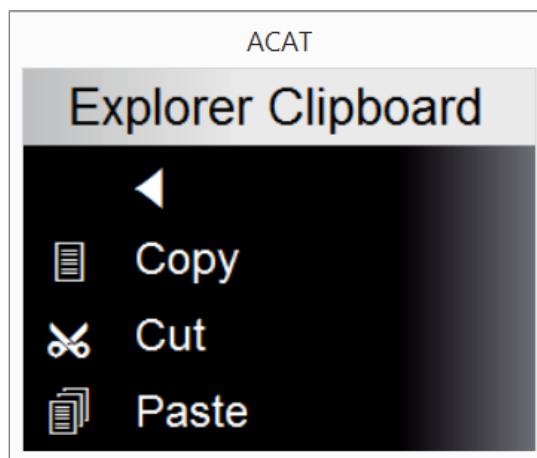


Figure 86: Windows Explorer Clipboard Operations Menu

Option	Description
◀	Exits the Clipboard Operations menu back to the Explorer contextual menu.
Copy	Copies the highlighted file/folder to the clipboard.
Cut	Cuts the highlighted file/folder to the clipboard.
Paste	Pastes file/folder from clipboard.

7.17 Calculator

If the Calculator application is activated, the following scanner is displayed which enables you to interact with the calculator. The buttons here match the ones on the Calculator. The layout of this scanner is a little different for Win10, and Win7/Win8.



Figure 87: Calculator Scanner

Option	Description
	Exits the scanner .
	Copies the number displayed in the Calculator to the clipboard.

8 ACAT SETTINGS

You can configure ACAT through the Settings dialogs. You can access them by

selecting the  button from the alphabet scanner. This will display the main menu. Select **Settings** from the main menu.

8.1 General Settings Dialog

You can access this dialog from the ACAT Settings menu (see section 5.4).

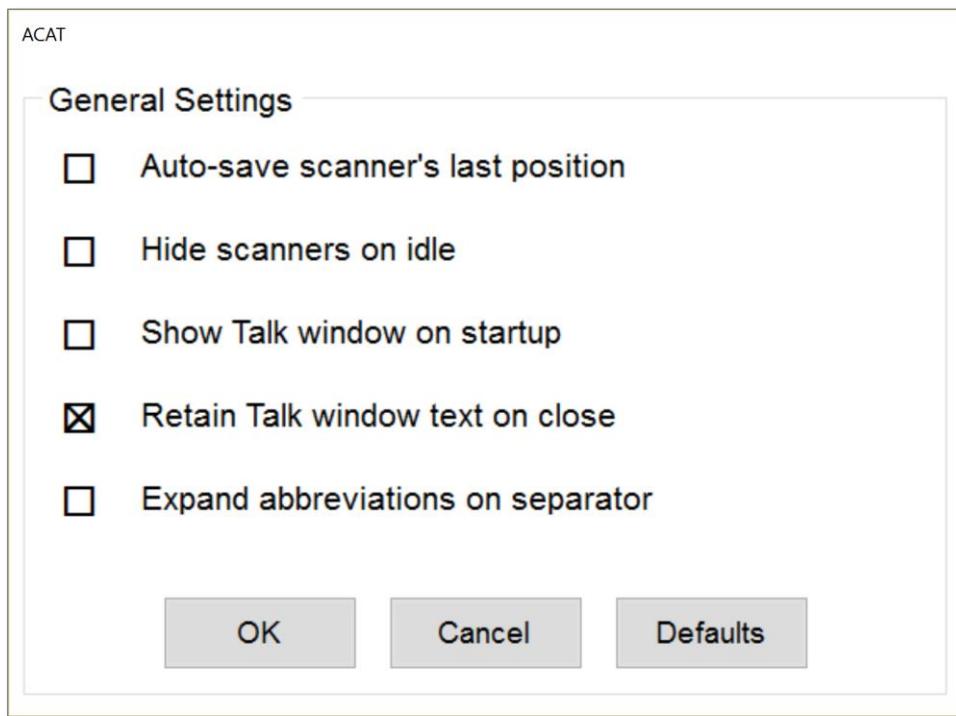


Figure 88: ACAT General Settings Dialog

To toggle a setting, activate your switch when the setting is highlighted.

Setting	Description
Auto-save scanner's last position	The default position for all scanners is the top right corner of the display. You can move the scanner position to one of the other corners from the Mouse scanner (see section 4.6) or from the Size/Position option in the Settings menu (see section 8.8). Toggle this setting on to save the scanner position permanently.
Hide scanners on idle	Toggle this setting on to auto-hide the scanners if they have been idle for a while. ACAT will automatically display the scanner when you activate your switch.
Show Talk window on startup	Toggle this setting on to always show the Talk window when the ACAT application starts up.
Retain Talk window text on close	Toggle this setting on to retain the contents of the talk window when it is closed. When you activate the talk window again, the text is restored. If this setting is turned off, ACAT will automatically clear the contents of the talk window when you close it.
Expand abbreviations on separator	If this setting is turned on, ACAT will expand abbreviations only if you type a space or a sentence terminator after you type an abbreviation. If you turn it off, ACAT will expand the abbreviation as soon as you type the last letter in the abbreviation. For details on abbreviations, see section 6.8.

8.2 Scan Settings Dialog

You can access this dialog from the ACAT Settings menu (see section 5.4).

The Scan Settings dialog configures the timing of the scanners, and also how many times the highlight iterates through the elements in the scanner.

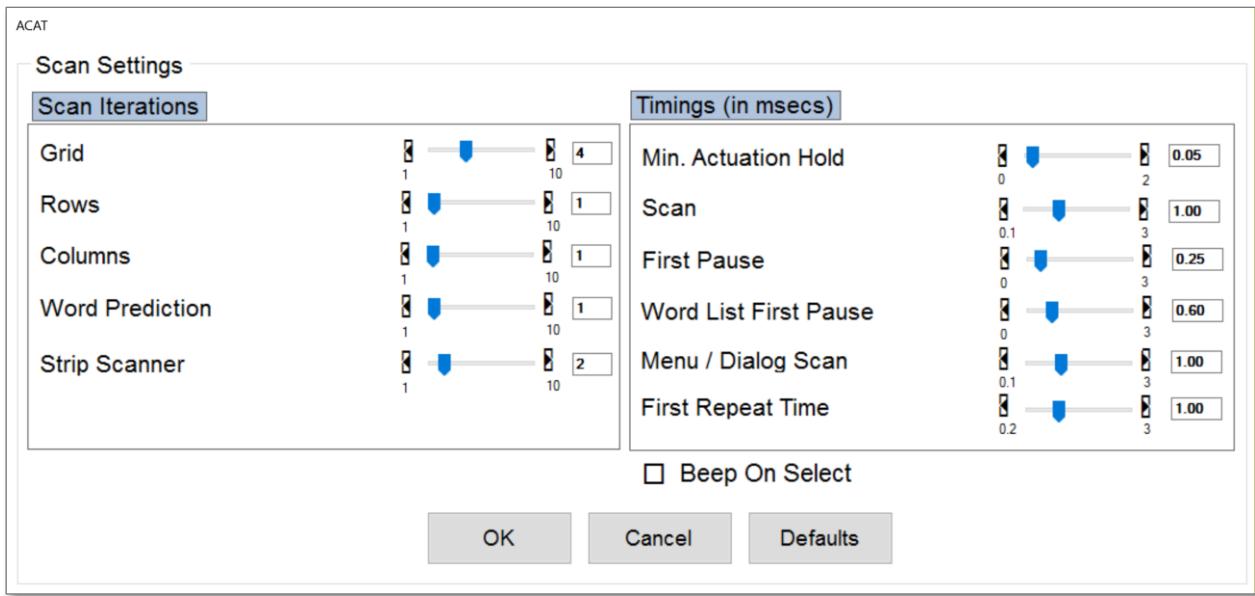


Figure 89: ACAT Scan Settings Dialog

To change a setting, activate your switch when the setting is highlighted. ACAT will scan the right and left arrows on the slider. Activate the switch to change values. When you have the desired value, stop triggering.

8.2.1 Scan Iteration Settings

These settings control how many times the scanner will scan the portion of scanning section.

Setting	Description
Grid	Controls the number of iterations in the top-level scanning. For instance, the Alphabet scanner top-level scanning highlights the word prediction and the two halves of the alphabet keyboard.
Rows	Controls how many times the rows in a grid will be scanned.

Setting	Description
Columns	Controls how many times the buttons in a row will be scanned.
Word Prediction	Controls how many times the words in the word prediction list will be scanned.
Strip Scanner	Strip scanners are used in non-English languages to display accented letters. This parameter controls how many times the buttons in the strip scanner are scanned.

8.2.2 Scan Time Settings

These settings control the scan timings of the scanners. You may want to tweak these settings to speed up or slow down the timings depending on your switch. Note that speeding up the timings could have an adverse effect on the accuracy as the likelihood of making incorrect selections increase.

Setting	Description
Min. Actuation Hold Time	<p>This is the length of time your switch should be held down in order for ACAT to recognize it as a valid trigger event. For instance, if you are using a button switch as a trigger, and this setting is set to 0.2, you must hold the button down for at least 200 ms for a trigger event to activate. Setting this to too low a value will result in a large number of false positives.</p>
Scan	<p>The length of time each element stays highlighted while scanning. This applies to scanners only. Timings for menus and dialogs are controlled by Tab Scan time.</p>
First Pause	<p>The additional length of time the first element stays highlighted. The value is added on to the Scan time. Selecting the very first element in a box, or a row can be challenging as you may have to activate your switch in quick succession. First Pause time gives you an additional delay for the first element to give you enough time to select it. If the scan time for instance is set to 1 second and First Pause time is set to 0.25, the first element in a scanner will stay highlighted for 1.25 seconds.</p>
Wordlist First Pause Hesitate	<p>The additional length of time the predicted word list in the Alphabet scanner stays highlighted.</p>
Menu / Dialog Scan	<p>Length of time each element stays highlighted in menus and dialogs.</p>

Setting	Description
First Repeat Time	Some buttons have a ‘repeat’ behavior. Even after you select them, they stay highlighted for an additional length of time to give you an opportunity to select them again with your switch. This applies to the navigation keys for instance. If you select a down arrow to go to the next line, it is quite likely you may want to keep the down arrow pressed. The First Repeat time gives you the additional time to continue selecting the same button. This is analogous to keeping a key pressed on a physical keyboard.
Beep on select	Toggle this on to play an audio beep every time a trigger event is detected from your switch.
OK	Select OK to close the dialog. ACAT will prompt you with a Yes/No confirmation to save the settings. If you choose Yes , the settings will be permanently saved.
Cancel	Select Cancel to close the dialog and discard changes.
Defaults	Select Defaults to restore Factory default settings.

8.3 Phrases Editor Dialog

You can access this dialog from the ACAT Settings menu (see section 5.4).

The Phrases tool allows you to create a list of your most often used phrases that can be converted to speech (see section 6.8). The tool can be accessed from the Tools menu (see section 5.3). The Phrases Editor dialog allows you to edit/add/remove phrases.

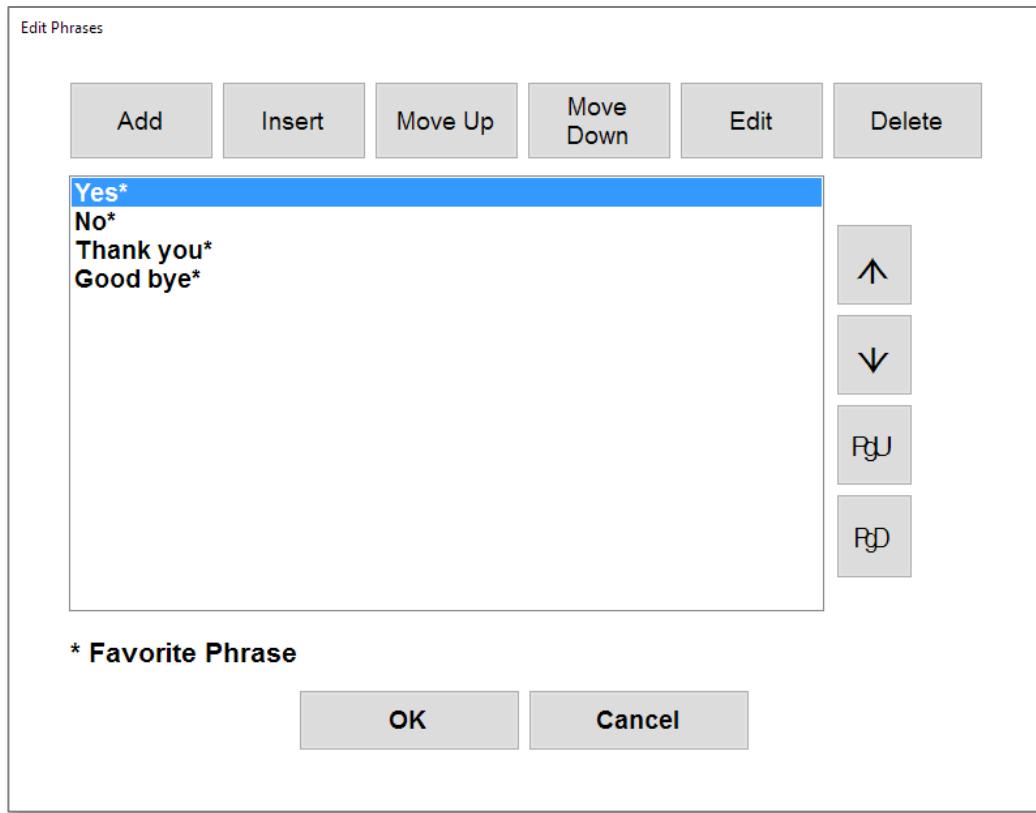


Figure 90: Edit Phrases

When you select “Phrases” from the Settings the Edit Phrases dialog is displayed. It shows a list of phrases. With the buttons at the top of the dialog, you can add, insert, reorder, edit or delete phrases. The order in which the phrases appear is important. You want the most frequently used phrases at the top of the list to easily access them from the Phrases tool (see section 6.8) or in the Talk applications.

Use the navigation buttons on the right to move through the phrases in the list. An asterisk at the end of the phrase indicates that the phrase is a “Favorite”, the one you use most often. Favorite phrases are displayed in the main window in the ACAT Talk applications (see section 3.6).

To add or insert a phrase in the list, select the Add or Insert button at the top of the dialog. The “Edit Phrase” dialog is displayed. When the text box is highlighted, activate your switch and the Alphabet scanner will display. Enter the phrase and close the Alphabet scanner. If you want to mark this phrase as a favorite, check the “Favorite” checkbox. Select OK to save the phrase.

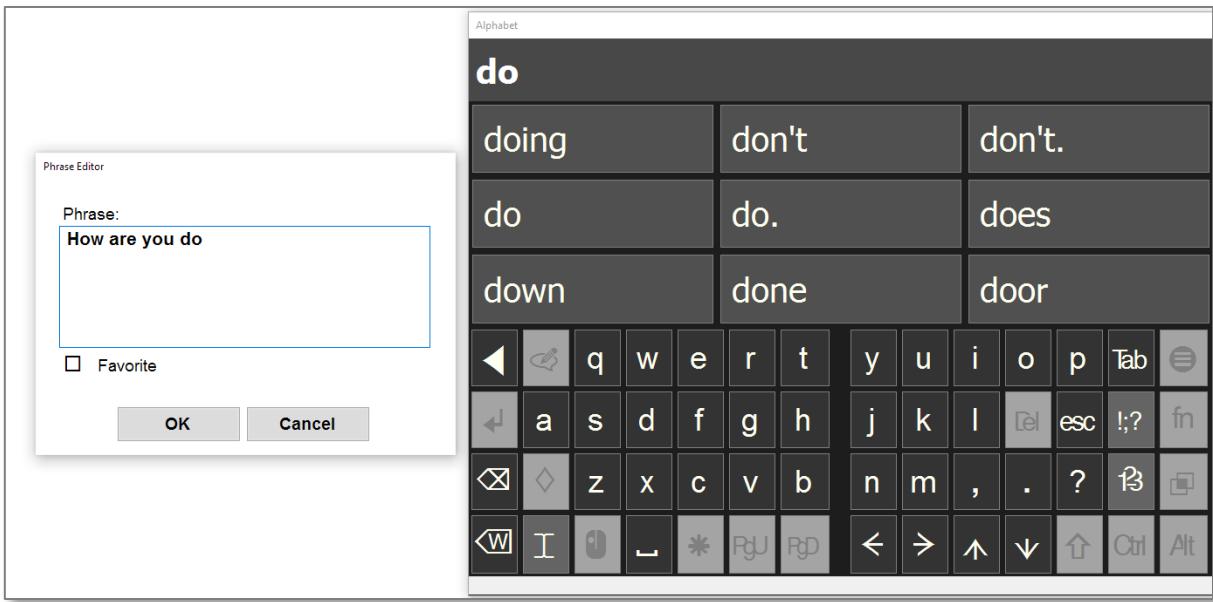


Figure 91: Add a new phrase

The phrase you entered is displayed in the list.

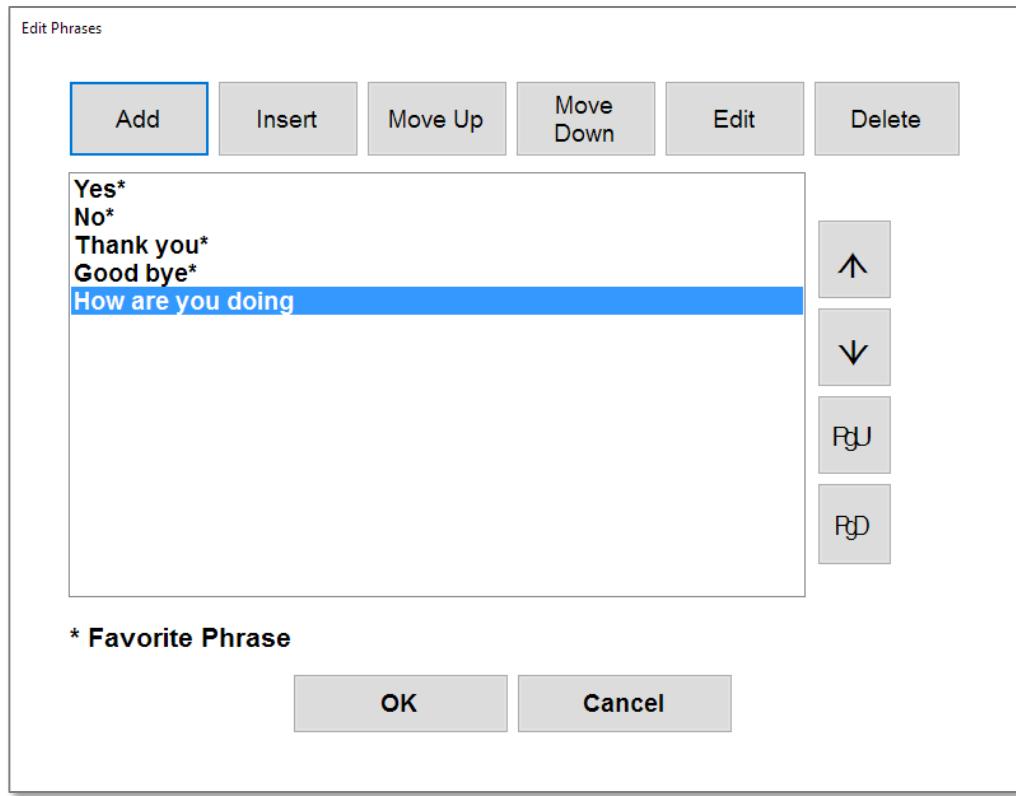


Figure 92: New phrase added to the list

You can use the Move Up and Move Down buttons to reorder the phrases in the list. You can move the highlighted phrase up or down the list.

8.4 Word Prediction Settings Dialog

You can access this dialog from the ACAT Settings menu (see section 5.4).

The ACAT word predictor suggests words based on context from the previous words in the sentence. It also learns your writing style and uses it to make word prediction more efficient and relevant.

The settings here are specific to the word predictor that is currently active. Some word predictors may not support the settings listed here.

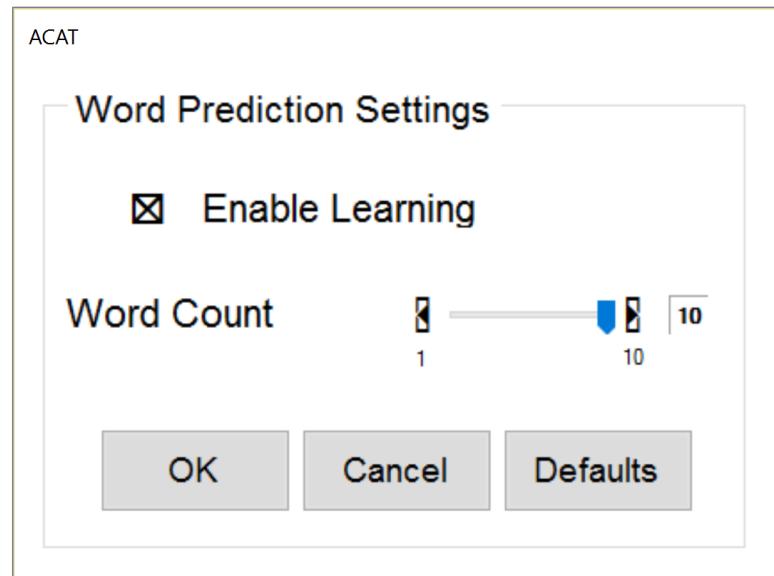


Figure 93: ACAT Word Prediction Settings Dialog

Setting	Description
Enable Learning	<p>Toggle this on if you want the word predictor to learn your writing style. When you type text into the talk window and select ENTER, the word predictor adds the sentence you just typed into its word prediction model. If you are working on a text or a word document, and you terminate a sentence with one of the sentence terminators - a period, an exclamation or a question mark – the word predictor adds the sentence you just terminated to its word prediction model.</p> <p>Note: Not all word predictors may support this feature.</p>
Word Count	Controls how many words are displayed in the word prediction list in the alphabet scanner.
OK	Select OK to close the dialog. ACAT will prompt you with a Yes/No confirmation to save the settings. If you choose Yes , the settings will be permanently saved.

Setting	Description
Cancel	Select Cancel to close the dialog and discard changes.
Defaults	Select Defaults to restore Factory default settings.

8.5 Mouse Grid Scan Settings Dialog

You can access this dialog from the ACAT Settings menu (see section 5.4).

This dialog controls the settings for moving the mouse on the display (see section 4.6).

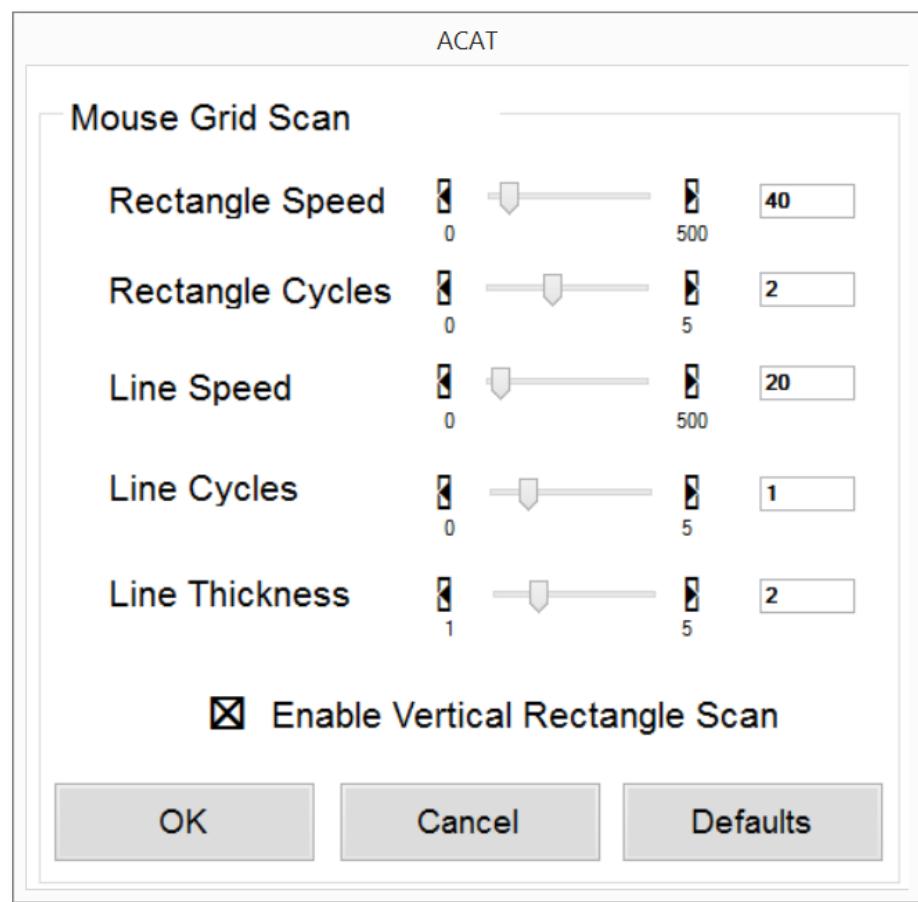


Figure 94: ACAT Mouse Grid Settings Dialog

Setting	Description
Rectangle Speed	Speed of traversal of the rectangle. Value should be between 1 and 500.
Rectangle Cycles	Number of times the rectangle sweeps across the display.
Line Speed	Speed of traversal of the line within the rectangle.
Line Cycles	Number of times the line sweeps within the rectangle
Line Thickness	Width of the grid line
OK	Select OK to close the dialog. ACAT will prompt you with a Yes/No confirmation to save the settings. If you choose Yes , the settings will be permanently saved.
Cancel	Select Cancel to close the dialog and discard changes.
Defaults	Select Defaults to restore Factory default settings.

8.6 Text-to-Speech Settings Dialog

You can access this dialog from the ACAT Settings menu (see section 5.4).

This dialog configures the text to speech settings.

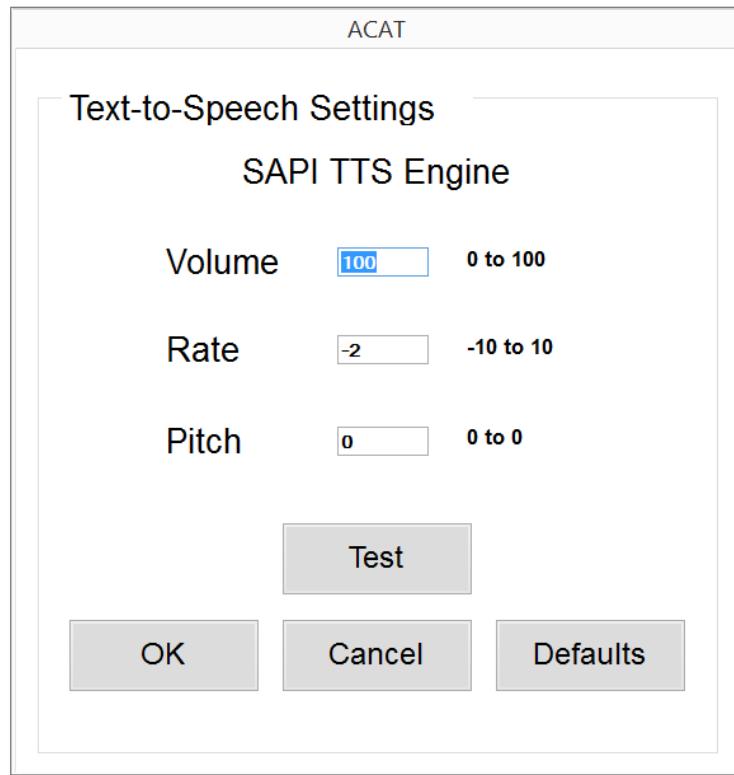


Figure 95: ACAT Voice Settings Dialog

To set the value, select the highlighted element. ACAT will display the numeric scanner which you can use to enter values.

Note: The range of values depends on the text to speech engine that is currently active.

Setting	Description
Volume	Speech volume.
Rate	Rate of speech.
Pitch	Pitch of speech

Setting	Description
Test	After setting the speech parameters, use this button to test your settings. ACAT will convert a canned phrase to speech using the parameters you just set.
OK	Select OK to close the dialog. ACAT will prompt you with a Yes/No confirmation to save the settings. If you choose Yes , the settings will be permanently saved.
Cancel	Select Cancel to close the dialog and discard changes.
Defaults	Select Defaults to restore Factory default settings.

8.7 Screen Lock Settings Dialog

You can access this dialog from the ACAT Settings menu (see section 5.4).

This dialog sets the pin for **Screen Lock** (see section 6.7).

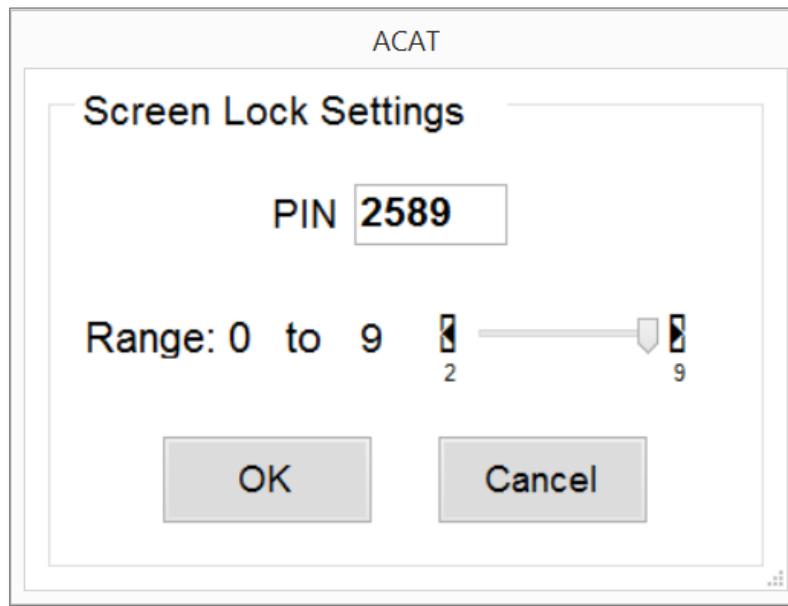


Figure 96: Screen Lock Settings Dialog

Setting	Description
PIN	Sets the pin to unlock the Lock screen. When the PIN is highlighted, activate your switch. ACAT will display a numeric scanner which you can use to enter the pin.
Range	Sets the range of digits to use for the pin.

8.8 Size/Position Scanner Dialog

You can access this dialog from the ACAT Settings menu (see section 5.4).

This dialog lets you resize the scanner. On large monitors with higher resolutions, you may want to enlarge the size of the scanner for visibility and usability. The Alphabet scanner is displayed alongside the dialog.

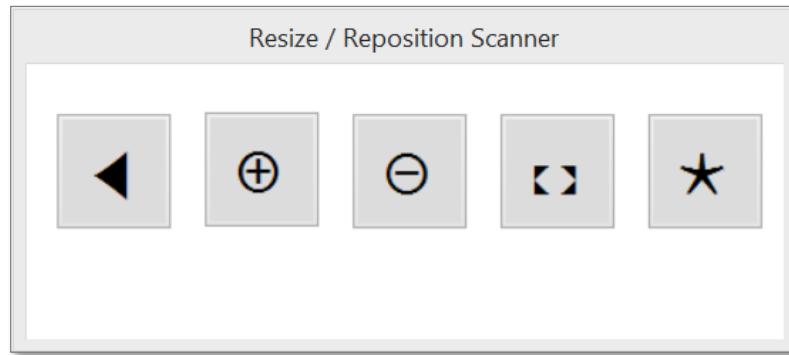


Figure 97: Resize and Position the Scanner

Setting	Description
	Exits the dialog. Displays a Yes/No dialog to confirm whether to save or discard the settings.

Setting	Description
	Increases the size of the scanner. While this button is highlighted, you can continue activating your switch to continue zooming in.
	Makes the scanner smaller. While this button is highlighted, you can continue activating your switch to continue zooming out.
	Repositions the scanner on the screen. The default position is the top right corner. When you select this option, ACAT moves the scanner to each of the four corners of the display on a timer. When the scanner is positioned at the desired corner, activate your switch and the scanner will be positioned there.
	Restores factory default settings for the size and position.

8.9 The About Box

You can access this dialog from the ACAT Main menu.

The **About** box displays the version number of ACAT and attributions/licensing information of 3rd party components. You can access this from the Main Menu. Activate your switch to dismiss the box.

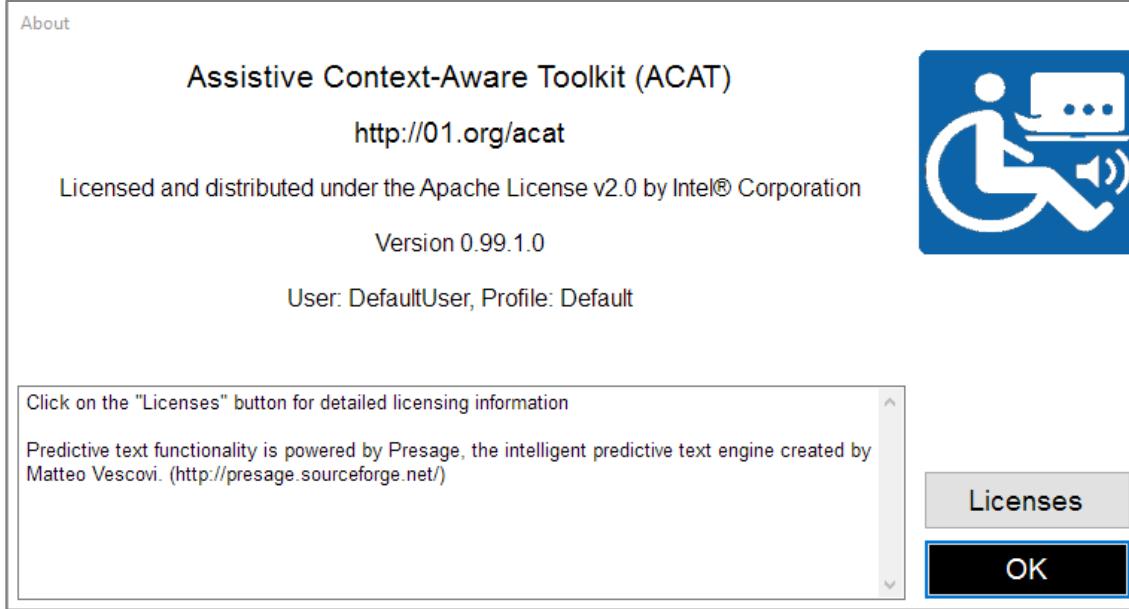


Figure 98: The ACAT About Box

Click on the **Licenses** button to display licensing information of ACAT and its components. This button is only accessible with the mouse.

9 ACAT CONFIG

ACAT Config is a non-assistive application that exposes all the ACAT settings. It requires the use of a keyboard and mouse and can be typically used by a helper to customize ACAT according to the end-user needs.

You can run **ACAT Config** from the **ACAT Dashboard** application. The **ACAT Config** window displays the various categories whose settings can be controlled.

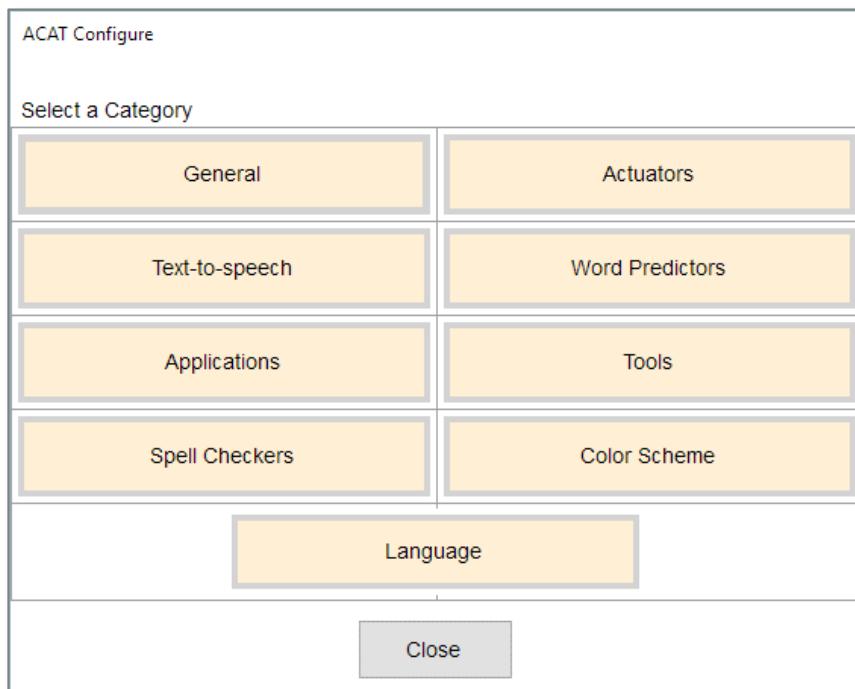


Figure 99: ACAT Config

The following table gives an overview of the categories. Details for each category are covered in the remaining sections.

Category	Description
General	Configure settings such as the scan speed, number of iterations, speed of mouse scanning, etc. See section 9.1 for details.

Category	Description
Actuators	Enable/disable input switch actuators, configure settings and map commands to switches for multi-modal interactions. See section 9.2 for details.
Text-to-speech	Configure settings for text-to-speech. Select preferred voice, change pitch, volume etc. See section 9.3 for details.
Word Predictors	Configure settings for the word predictors. See section 9.4 for details.
Applications	Configure settings for application agents. Every supported application such as MS Word, Notepad, Internet Explorer, Outlook has a corresponding ACAT agent that manages app-specific interactions. See section 7 for details.
Tools	Configure settings for ACAT tools such as the File Browser, Application launcher etc.
Spell Checkers	Configure settings for ACAT spellcheckers. See section 9.7 for details.
Color Scheme	Select the preferred color scheme. See section 9.8 for details.
Language	If ACAT language packs are installed, selected the preferred language. See section 9.9 for details.

9.1 General Settings

Select **General** from the **ACAT Config** window to configure settings such as the scan speed, number of iterations, speed of mouse scanning, etc. Some of these settings are exposed through the ACAT App (see Chapter 7.17).

General Settings				
Setting	Description	Value	Default	Range
RowScanIterations	Number of times the rows in a grid are scanned	1	1	1 to 10
ColumnScanIterations	Number of times the buttons in a row are scanned	1	1	1 to 10
StripScannerColumnIterations	Number of times the buttons in the strip scanner are scanned. Strip scanners are typically used for accented letters in non-English languages	2	2	1 to 10
WordPredictionScanIterations	Number of times the words in the word prediction list are scanned	1	1	1 to 10
WordPredictionFirstPauseTime	Extra time to pause on the first word in the word prediction list (in msec)	600	600	0 to 3000
TimedDialogTimeout	Timeout for timed dialogs. The dialog is dismissed automatically after this timeout expires (in msec)	4000	4000	3000 to 15000
PrefixNumbersInWordPrediction...	Prefix words in the word prediction list with the index number of the word	<input type="checkbox"/>	<input type="checkbox"/>	N/A

Wrap Text

Figure 100: General Settings

9.2 Actuators

Select **Actuators** from the **ACAT Config** window to configure Actuators. You can use this to enable/disable actuators and manipulate settings for the actuators.

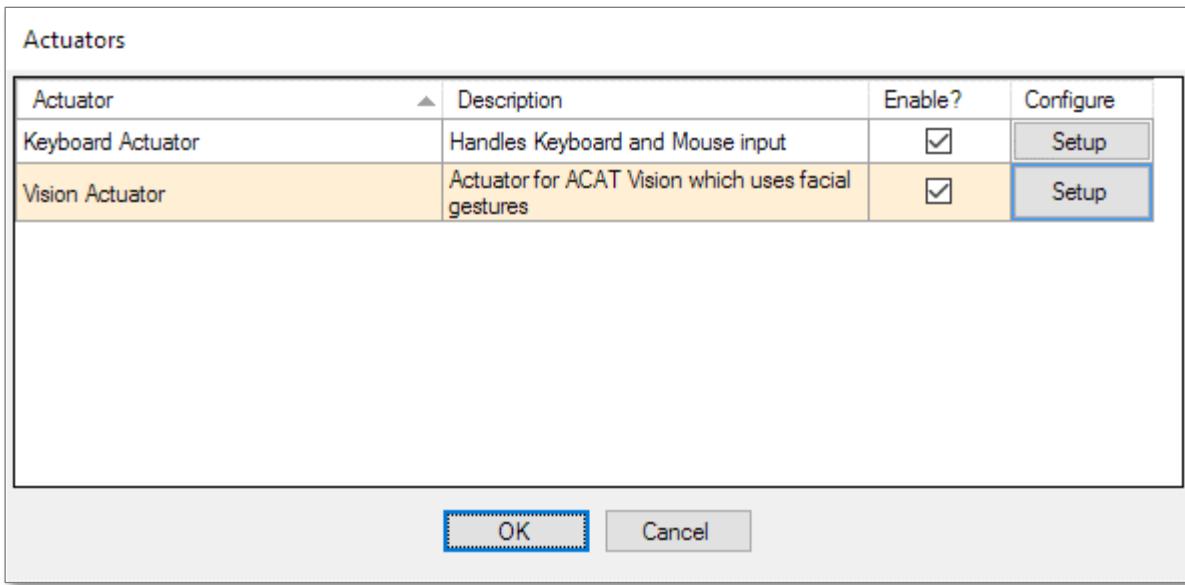


Figure 101: Configure Actuators

9.2.1 Keyboard Actuator Settings

ACAT has several shortcuts for commonly used features and you can map keyboard shortcuts to these commands. If you are using an off-the-shelf switchbox with multiple switches that allows you to map keyboard sequences to each switch, you can trigger the shortcuts activating the assigned switch. For instance, if you are using two switches with the switch box, you can map one switch as the selector (it selects the currently highlighted item when you click), and you can map the other switch to undo the last action.

To define keyboard shortcuts, click on the **Setup** button in the **Keyboard Actuator** row in Figure 101. The following dialog displays.

Configure Keyboard Shortcuts - Keyboard Actuator						
Shortcut	Command	Enable?	Trigger			
F12	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Change	Remove	
Ctrl+Alt+T	CmdTalkWindowToggle	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Change	Remove	
Ctrl+Alt+M	CmdMainMenu	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Change	Remove	
Ctrl+Alt+C	CmdTalkWindowClear	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Change	Remove	
Ctrl+Alt+OemComma	CmdScannerZoomOut	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Change	Remove	
Ctrl+Alt+OemPeriod	CmdScannerZoomIn	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Change	Remove	
Ctrl+Alt+OemQuestion	CmdScannerZoomDefault	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Change	Remove	

Figure 102: Configure keyboard shortcuts

It shows a list of shortcut keys and the commands they are mapped to.

The **Enable** column indicates that the shortcut should be enabled. You can uncheck this to disable a shortcut.

The **Trigger** column indicates whether the keyboard shortcut should be used as a trigger to select. Here, F12 is used as the trigger select.

To change the shortcut, click on the **Change** button. The following dialog is displayed.

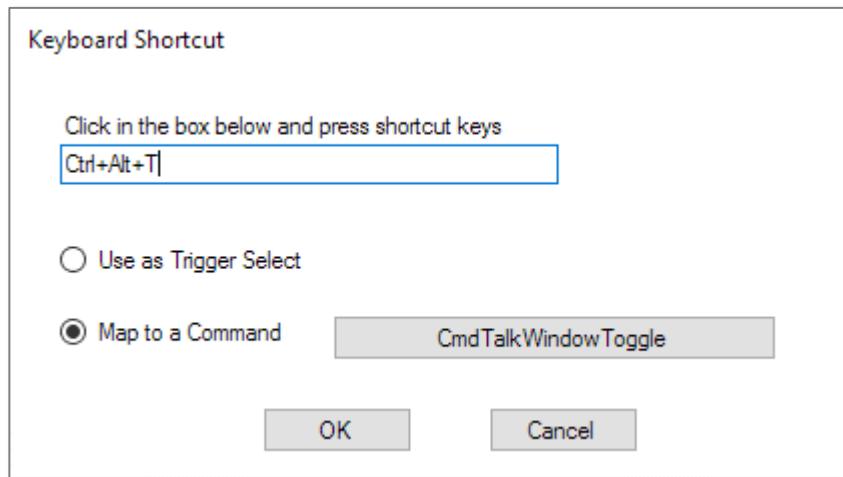
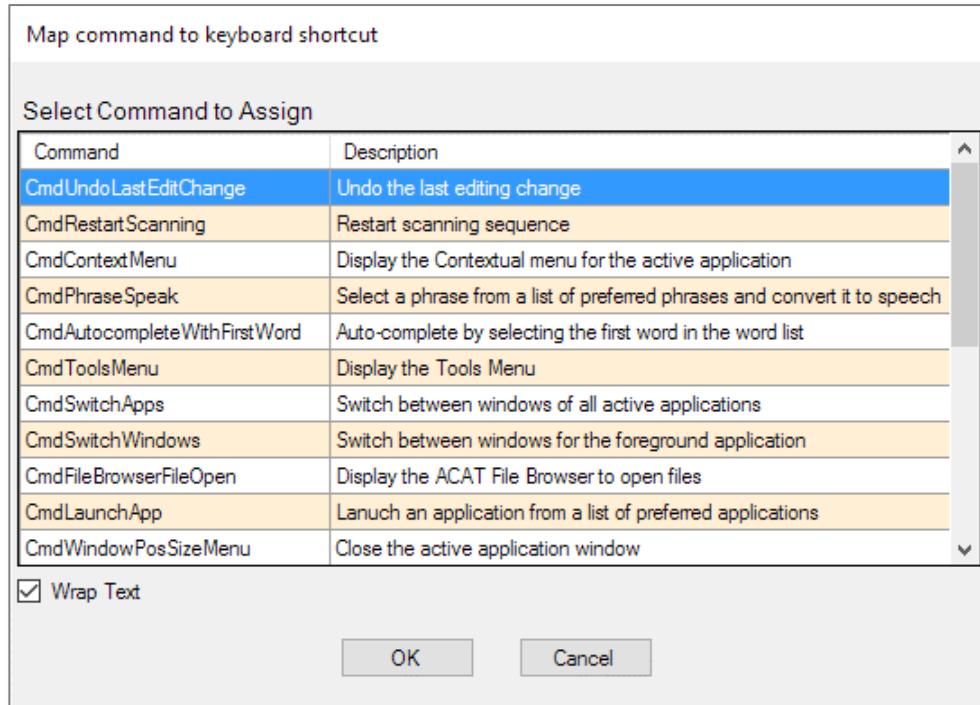


Figure 103: Configure keyboard shortcut

To change the shortcut, click on the box and press the new keyboard sequence.

Select **Use as Trigger Select** to use this keyboard shortcut as the trigger to select the currently highlighted item.

Select **Map to a command** to map this keyboard shortcut to one of ACAT's commands. When you click on the command map button, the following dialog is displayed. Select the command you want to map to, and click OK.



9.2.2 Vision Actuator Settings

If you want to turn off ACAT Vision entirely, uncheck the **Enable** button for Vision Actuator. If you disable ACAT Vision, you must use an alternate switching mechanism like the keyboard or an off-the-shelf switch.

Click on the **Setup** button for **Vision Actuator**. The following dialog will display.

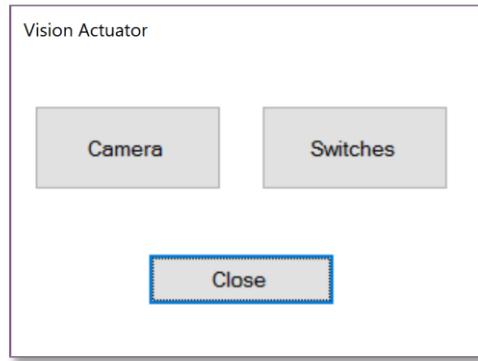


Figure 104: Setup Vision Actuator

Selecting preferred camera: Click on the **Camera** button to select the camera you want ACAT Vision to use, if your system has multiple cameras. A list of cameras detected will be displayed (see figure below). Select the one you prefer to use and press OK to save the setting.

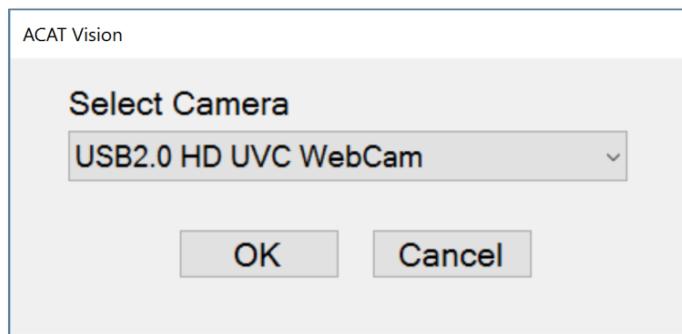


Figure 105: Select preferred camera

Selecting Gestures: Click on the **Switches** button in the dialog in Figure 104 to configure the switches in the Vision Actuator. The following dialog will display.

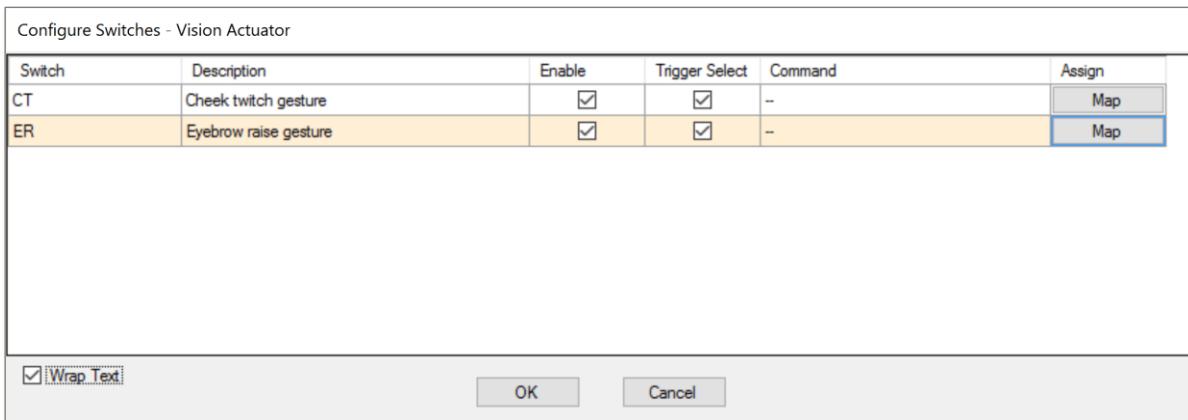


Figure 106: Configure Switches for the Vision Actuator

It displays the two gestures that ACAT Vision recognizes – cheek twitch and eyebrow raise.

Check the **Enable** column to enable the gesture you want to use as the trigger for ACAT. You can enable both cheek twitch and eyebrow raise if you wish.

You must select one of the gestures to act as a trigger for selection. Check the **Trigger Select** checkbox to use the gesture as a trigger for selection.

You may also map the gesture to an ACAT command. Click on the “Map” button. The following dialog will display.

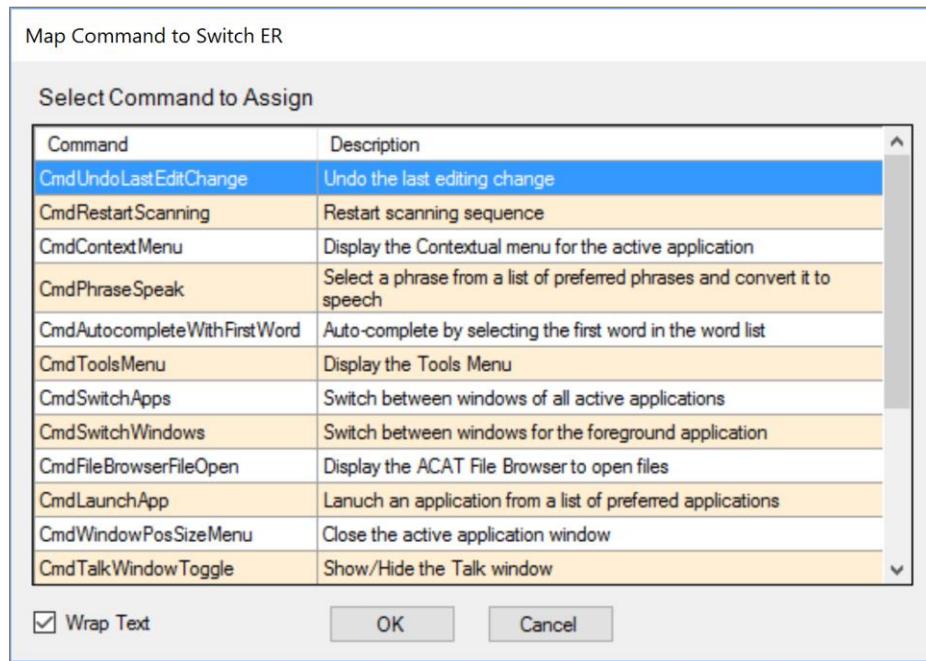


Figure 107: Map a command to a gesture

It shows a list of commands with a description. Select the command you want to map to the gesture and click OK. If you select, say, CmdContextMenu, then every time you raise your eyebrow, the contextual menu will be displayed.

9.3 Text-to-speech

Select **Text to speech** from the **ACAT Config** window to configure settings for text-to-speech.

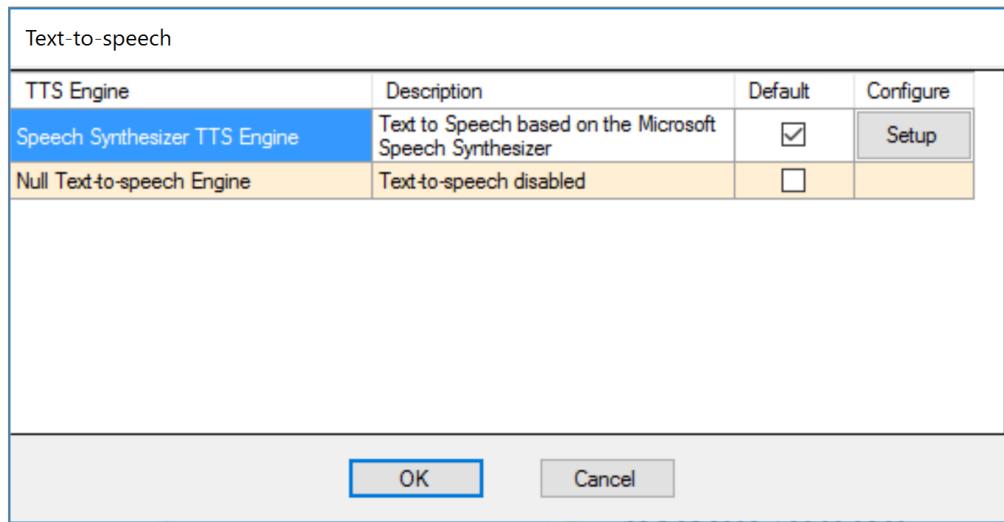


Figure 108: Configure Text-to-speech

To disable text-to-speech, select **Null Text-to-speech Engine** as the default. Click on the **Setup** to select the preferred text-to-speech voice and to adjust other parameters such as the volume and pitch.

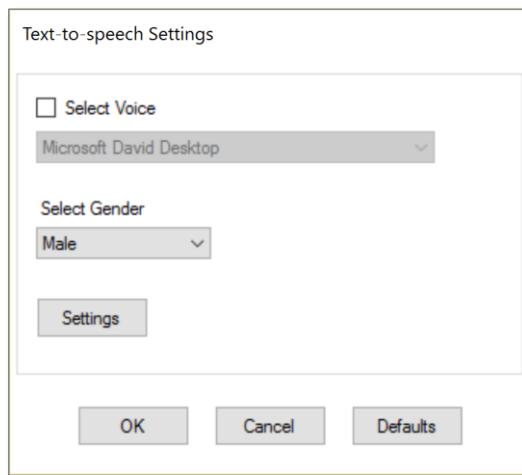


Figure 109: Change TTS Voice

You can select the preferred voice either by name or by gender. By default, Windows has a male voice and a female voice. If you have installed third party voices, they will show up in the list. Check the **Select Voice** box to select the voice by name from the dropdown list. Uncheck the box to select the voice by gender.

To change volume/pitch, click on the **Settings** button.

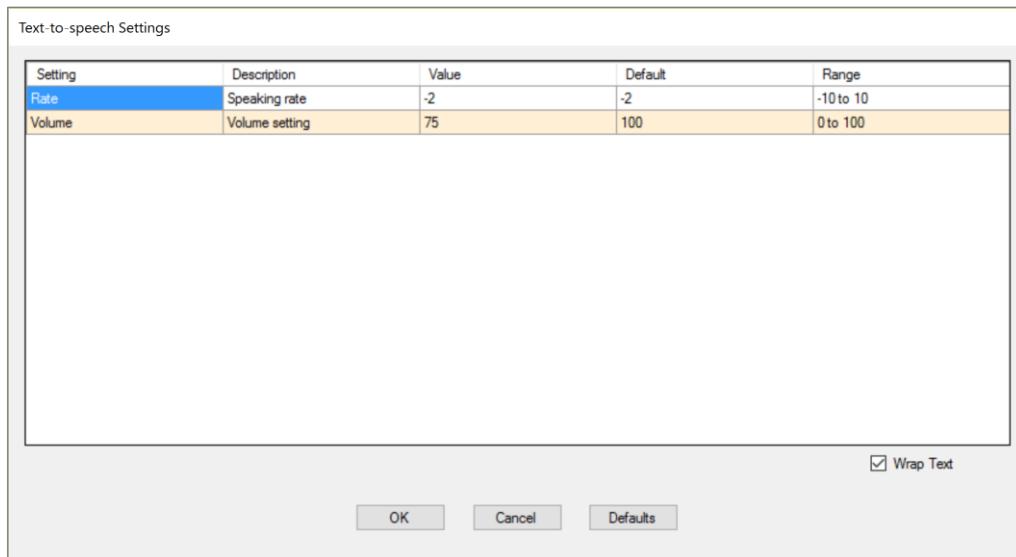


Figure 110: Change other TTS settings

9.4 Word Predictors

Select **Word Predictors** from the **ACAT Config** window to configure settings for the Word Predictors.

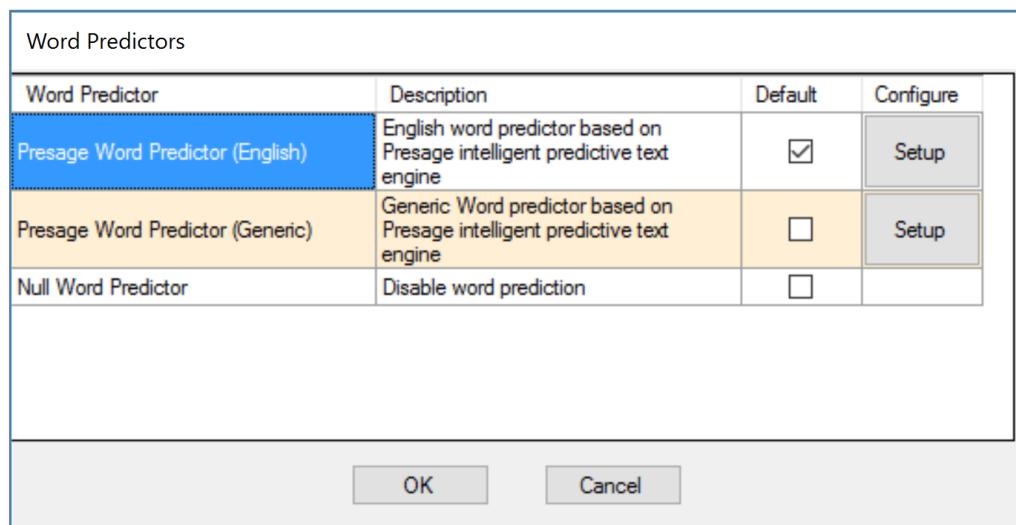


Figure 111: Configure Word Predictors

The **Default** column displays the Word Predictor that will be used. You can change the default by checking the box in the appropriate row. Check **Null Word Predictor** to disable word prediction altogether.

9.5 Applications

Select **Applications** from the **ACAT Config** app to display settings for all the ACAT application agents. Every supported application such as MS Word, Notepad, Internet Explorer, Outlook has a corresponding ACAT agent (a plugin) that provides ACAT with the application-specific contextual information and the means to interact with the application. A **Setup** button is displayed for those agents that have configurable settings and you can manipulate the settings for that agent.

Applications		
Name	Description	Configure
Acrobat Reader Agent	Manages interactions with Adobe Acrobat Reader to browse PDF files	Setup
ApplicationFrameHost Agent (Win10)	Manages interactions with Windows 10 apps such as Photo Viewer, Calculator etc	Setup
Chrome Browser Agent	Manages interactions with Chrome Browser	Setup
Dialog Control Agent	Manages interactions with application dialogs	Setup
DLLHost Agent (Win7)	Manages interactions with Windows 7 apps such as the Photo Viewer	Setup
Firefox Agent	Manages interactions with the Firefox Browser	Setup
Foxit Reader Agent	Manages interactions with the Foxit PDF Reader application	Setup

OK **Cancel**

Figure 112: Configure Application Agents

ACAT monitors the active application and responds accordingly. For instance, if you task switch to Windows Explorer, ACAT automatically displays the contextual menu to enable you to interact with Windows Explorer. If you want to disable the automatic switching of scanners, you can turn it off on a per-application basis. Click on the **Setup** button for the application and the dialog below is displayed. Windows Explorer is used as an example here.

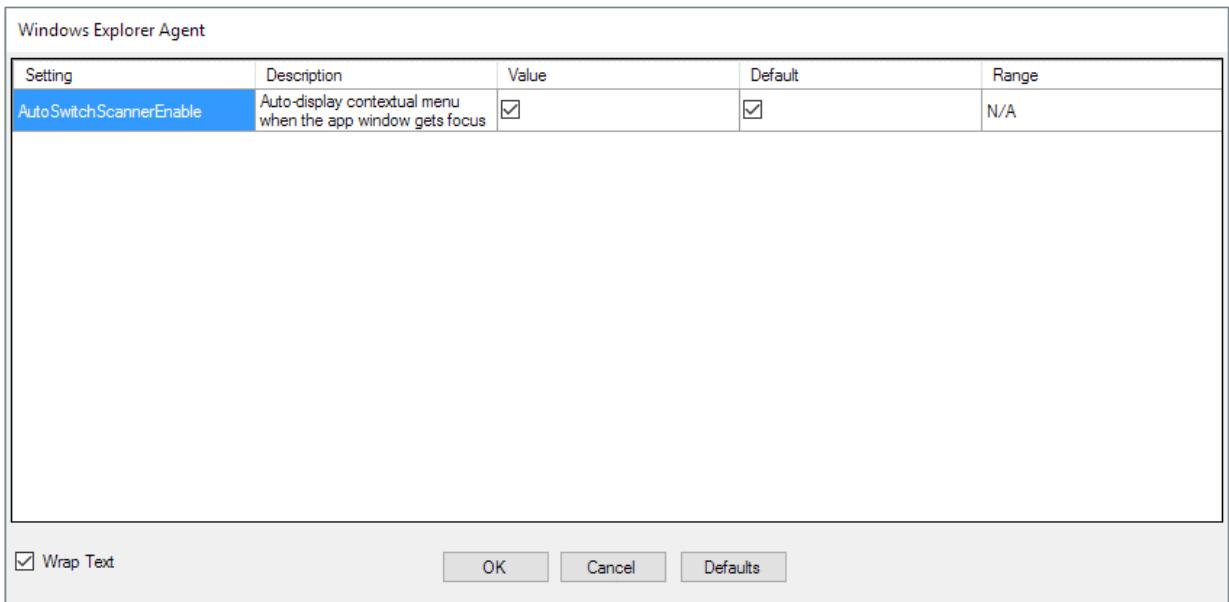


Figure 113: Configure Application Setting

Uncheck the **Value** checkbox for the **AutoSwitchScannerEnable** setting and press **OK** to save the setting.

9.6 Tools

Select **Tools** from the **ACAT Config** app to manage settings for ACAT Tools such as the File Browser, the application launcher etc.

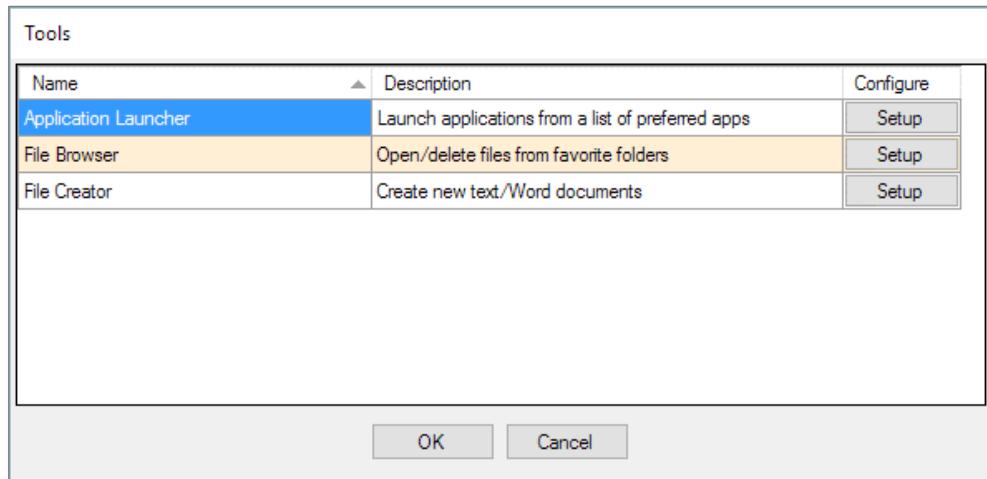


Figure 114: Configure ACAT Tools

9.6.1 Application Launcher

Click on Setup for the Application Launcher to manage the list of preferred applications (see section 6.5) that can be launched from the Tools menu (see section 5.3). The following dialog is displayed that lists the apps. Each row has an app name that is displayed in the application launcher, the path to the application executable and any optional arguments.

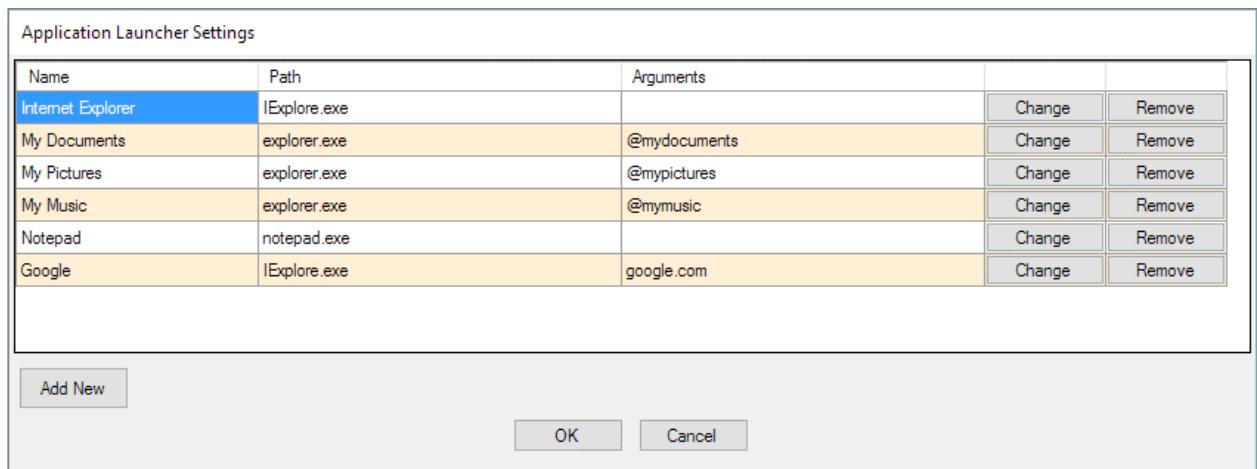


Figure 115: Application Launcher Settings

To add a new application to the list, click on **Add New**.

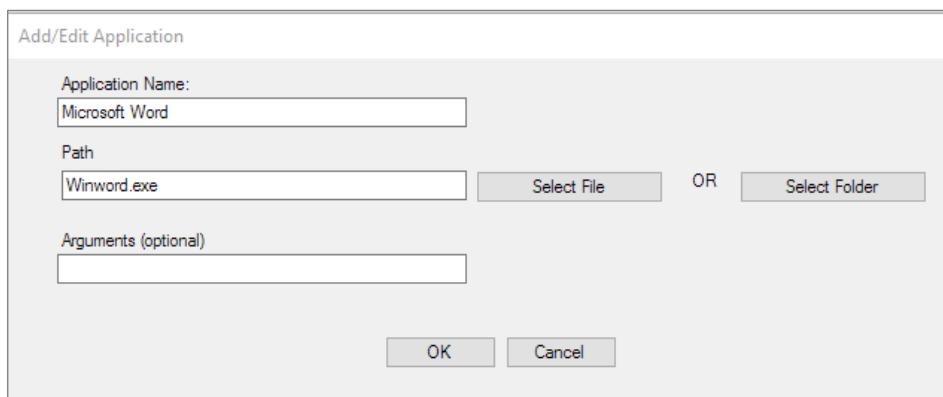


Figure 116: Add new application

In the **Application Name** field, enter a name for the app. This name will be displayed in the Launch Apps dialog (see section 6.5).

The **Path** field can contain:

- The path to an executable. You may or may not need to enter the complete path. If the EXE can be located through Windows Path, just the name of the

EXE is sufficient. Otherwise, click on “Select File”. The Open File dialog will be displayed. Navigate to the desired file and click on OK.

- The path to a file such as a text file, Word doc etc, as long as there is an associated app with the file. Click on **Select File** to navigate to the desired file.
- A website. E.g. <http://intel.com>. If you want to launch the website in your favorite browser such as Google Chrome, click on **Select File** and navigate to the folder where chrome.exe resides. In the “Arguments” field, enter the URL of the desired website.
- A folder. Click on **Select Folder** to navigate to the desired folder.

If the EXE needs any arguments, enter it in the **Arguments** field.

9.6.2 File Browser

Click on **Setup for File Browser** in the dialog shown in Figure 114 to configure settings for the File Browser.

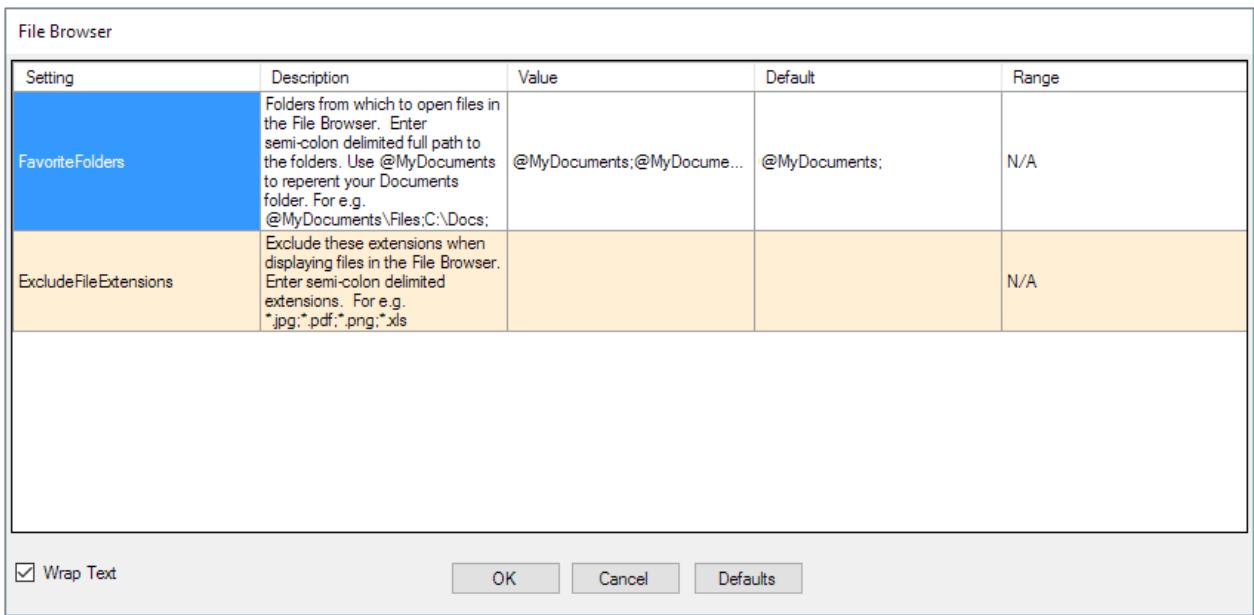


Figure 117: File Browser Settings

The **FavoriteFolders** parameter points to the folders from which files are displayed when you select **Open Files** (section 6.2.1) or **Delete** Files (section 6.2.2) from the **Tools** menu (section 5.3). Specify the complete paths to the folders delimited by a semi-colon. You can use the **@MyDocuments** macro to indicate your Documents folder (which is c:\users\<your userid>\Documents).

The **ExcludeFileExtensions** parameter can be set to extensions you want to exclude from the list. Use semi-colon delimited extensions with wildcards. For instance, if you want to eliminate JPG and PNG files, set this to *.jpg;*.png,

9.6.3 File Creator

The **Create File** (section 6.3) option in the **Tools** menu (section 5.3) enables you to create text files and Word documents. These files are created in your **Documents** folder by default. You can change the locations by clicking on the **Setup** button for the **File Creator** tool in Figure 114.

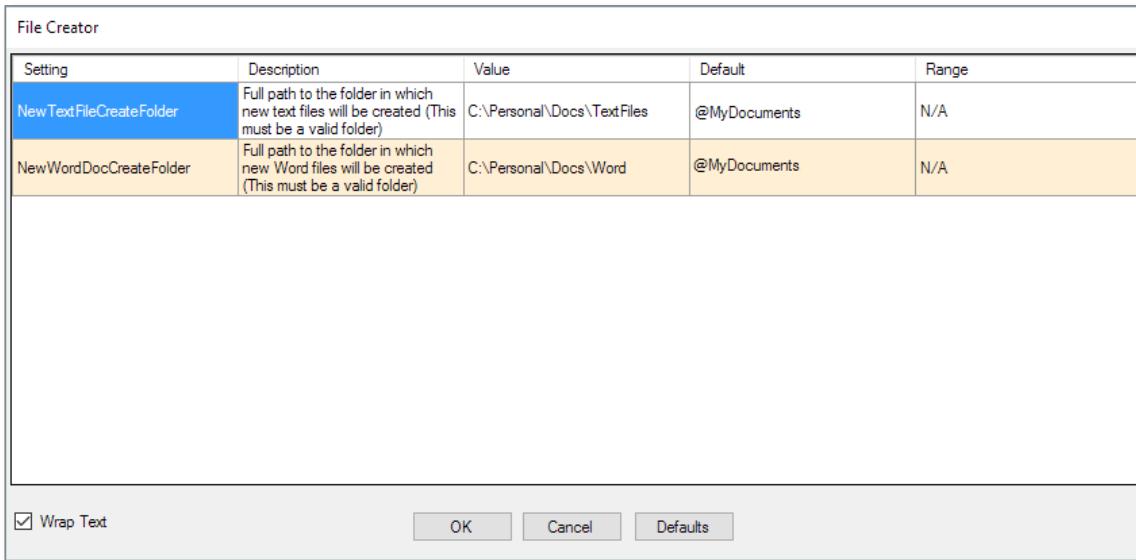


Figure 118: Configure File Creator

Set the **NewTextFileCreateFolder** parameter to the folder where you want to create text files. Set the **NewWordDocCreateFolder** parameter to the folder where you want to create Word documents.

9.7 Spell Checkers

Select **Spell Checkers** from the **ACAT Config** window to configure settings for the ACAT spell checkers. A list of installed spell checkers displayed. The **Default** column shows which one is currently the default.

To disable the Spell Checker functionality altogether, check **Null Spell Checker** in the **Default** column.

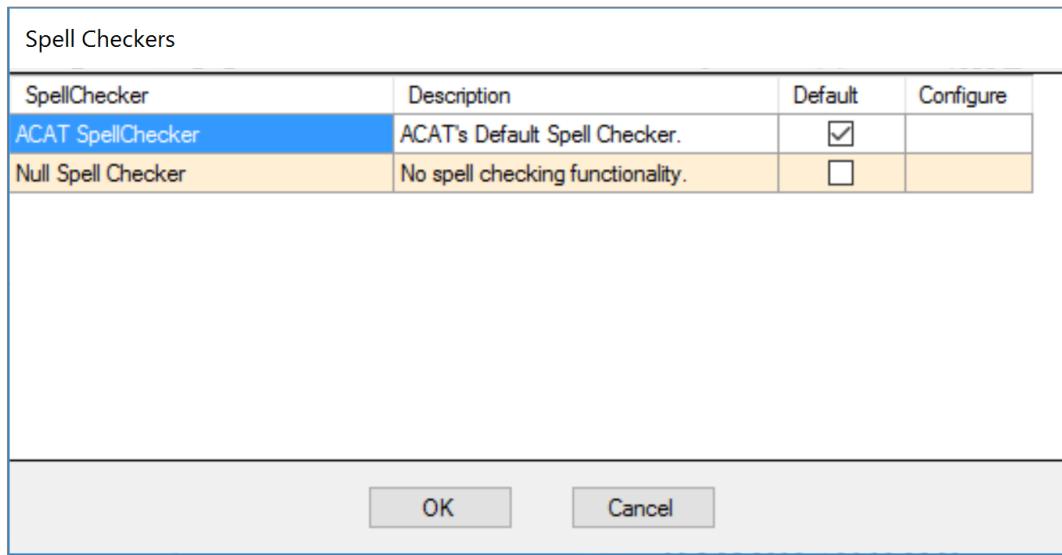


Figure 119: Configure Spell Checkers

9.8 Color Scheme

Select **Color Scheme** from the **ACAT Config** window to pick a color scheme for ACAT.

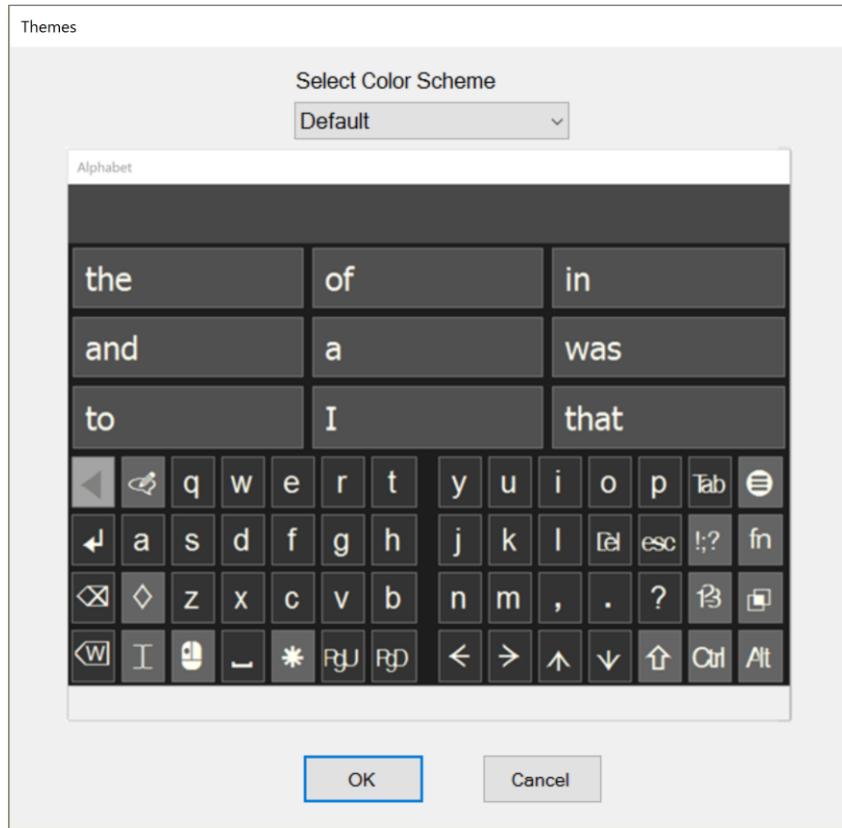


Figure 120: Themes Dialog

Select the theme from the dropdown box and click OK.

9.9 Language

Select **Language** from the **ACAT Config** window to change the language. This option will be enabled only if ACAT language packs are installed (see section 2.3). When you select this option, a list of languages are displayed. Select the one you want to use. The next time you launch any of the ACAT applications, the language you selected will be applied. The alphabet scanner, menus, dialogs and word prediction will all be displayed in the selected language.

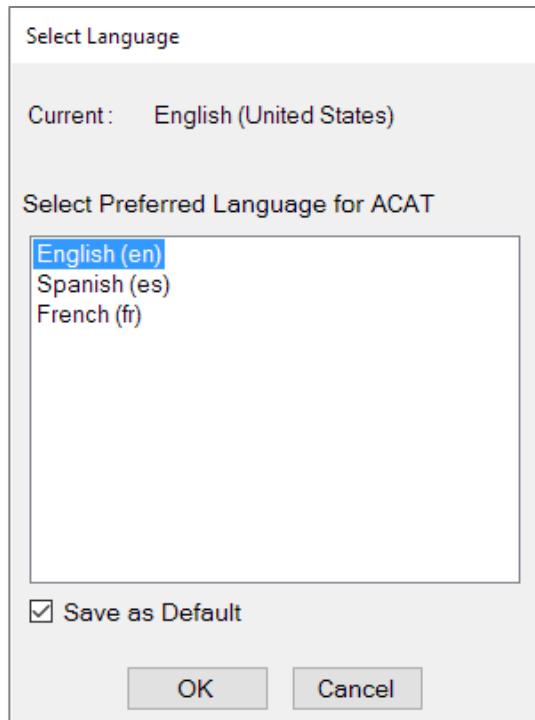


Figure 121: Change Language