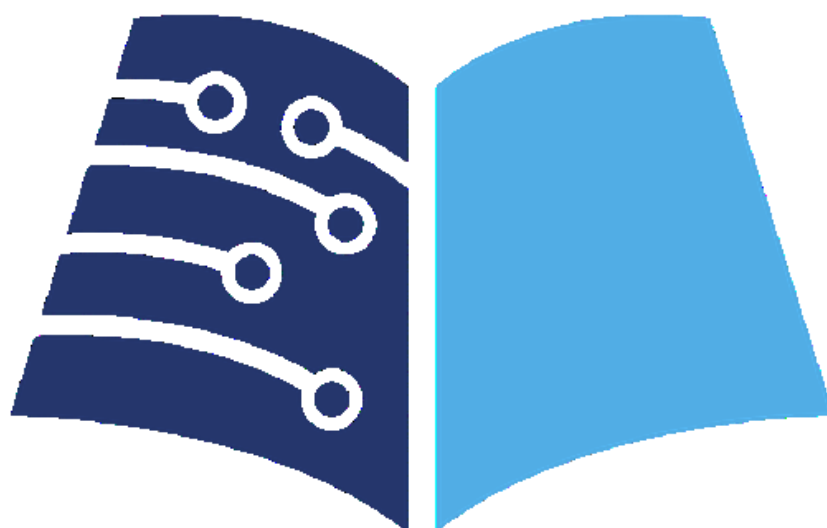




DIGITABILITY

Promoting people with disabilities' employment by enhancing their digital skills and competencies to support a remote working scheme.

Creating Content



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the European Union**

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1 Introduction

In completing this Topic You will learn how to make use of the accessibility features in various Office tools (open source and proprietary) and how to create accessible files.

1.1 The Learning Objectives Covered by the Topic

In completing this topic, the learner will be able to:

- Use Office tools to create and access accessible content.
- Use the accessibility features of MAC OS and use them to create content.
- Know some examples of resources for the preparation of accessible educational materials, based on the reference guide.
- Apply theoretical knowledge in practical exercises.
- Test theoretical knowledge and practical skills with tests.

2 MS Office

2.1 Summary of the Sub Subtopic and the Learning Objectives Covered

By the end of the unit, you will have learned:

- To create accessible documents in Word, Power Point and Excel.
- To incorporate the latest updates in Microsoft Office accessibility
- To review the accessibility of the generated documents and solve problems.

The contents of the unit are presented:

- Accessibility in Word.
- Accessibility in Power Point.
- Accessibility in Excel.
- Accessibility in Paint.
- How to write alternative texts, or make images accessible.

-Other tools that will be useful to know: Accessible Templates, How to run the Microsoft Accessibility Checker.

2.2 Accessibility for People with Visual Impairments

2.2.1 Accessibility in MS Word

Some of the most relevant aspects to take into account to create accessible documents in Word are the following.

Language. The first thing to consider is the language of the text to be included in the document. This practice benefits immersive readers for improving the pronunciation of the text. In addition, the software used will be allowed the function of automatic spelling correction. To indicate the language of the text, you must select or click on the location of the text and go to the top menu and click on "Review". Then, in the "Language" block, select "Set correction language". More information: Check spelling and grammar in another language with Microsoft Word

Typography. List of the most suitable: Sans Serif: Calibri, Century Gothic, Tahoma, Verdana (excluding Arial and Helvetica because they pose differentiation problems between the "i", the "l" and the number 1). These font families are recommended for screen reading (due to the different qualities and definition of the screens).

-Serif: Times New Roman, Georgia. These font families are recommended for reading on paper.

-Slab serif: Arvo, Slab Museum, Rockwell. These font families are recommended when creating section titles.

However, if you want to choose another type of typography, it is recommended to follow the following guidelines.

Other aspects of consideration regarding the type of letter chosen:

- Prominent ascending and descending lines (for example, in the case of ascenders, the vertical line of the letter "d" and in the case of descenders, the vertical line of the letter "y").
- The combination of letters d/b and p/q must not be a mirror of each other.
- The capital letter "i", lower case "l" and the number 1 must be clearly distinguishable.

- The space between letters cannot be very narrow.
- The “Kerning” (defined as the raised part that has the shape of the letter) is important since letters like “r” and “n”, in words like “modern” could be changed to “modem”.
- Regarding the size of the font, it is recommended that at least it have a minimum size of 12px, although it will depend on the type of font chosen, becoming recommended, in some situations, a size of 14px. the size of the font it should not suffer multiple variations throughout the content of a document.
- The use of design variations such as italics, bold or capital letters should be limited, since they negatively influence reading. The inclination of the letters in italics makes it difficult to read, the thickness of the text must be normal or 5 semi-bold (better than bold) and the use of capital letters must be reduced at the beginning of words such as names, beginning of paragraph or titles.
- Regarding the alignment of the texts, justified text makes reading difficult because spaces are generated between words so that the lines are aligned on the edges. These spaces interrupt reading and can even cause unintentional line breaks. Therefore, it is recommended to align the texts on the left edge of the document. In general, it is considered that the optimal number of characters per line should be between 45 and 75 and allowing justification in the event that there are at least 50 characters per line to be readable.

Colour and contrast. In the case of people with colour blindness, reduced vision or even total loss of vision, the choice of text colour is very important for the accessibility of the document. The colour of the background on which the content is written should be taken into account. For example, writing on this document in a light grey would not look as good as if you chose a darker grey. In addition, it must be taken into account that the document can be read on different screens with different levels of light, therefore, it must be noted that a good contrast will avoid visualisation problems. You can check the contrast ratio of text colours online from Contrast Checker or by downloading Colour Contrast Analyser 6

Cover and headers. When including a cover page in your document, keep in mind that the main templates offered by Word are not fully accessible. However, you can find other templates

that are. Entering from Get accessible templates or directly from Collection of accessible Office templates you can get templates for the different Office 365 applications. Within Word, in the top menu, in the "Insert" tab, go to "Cover" and select a cover among all those offered by Word. We must bear in mind that not all covers are fully accessible and when fixing those accessibility problems, the distribution of our cover may be misplaced. For this, simple tables are used, although it is not recommended because the true function of a table is to collect data. However, by using the tables, it will allow us to maintain the layout of our cover. It must be taken into account that the tables must be as simple as possible so that an immersive reader can read them without difficulty. For example, if the "Ion (clear)" template is chosen and its accessibility is checked, objects not aligned to the text will appear as a warning. If you want to keep the cover structure, one of the easiest ways is to include the objects inside a table from which different cell sizes can be given. Before moving the objects within their respective table cells, they must be brought "in line with the text". To do this, by selecting the object to be aligned, the "Design options" option appears, in which "In line with the text" should be marked. When performed on the two objects on this cover, you can see that both have been placed on the left margin of the document, one after the other. Next, a two-row, two-column table is inserted into which both objects must be entered. Subsequently, the objects are placed inside the table. To hide the table, place the pointer over one of the borders and, clicking on the right button, select the "Borders" option and then the "No borders" option. In this way, the errors of the objects disappear, but there will be two new accessibility errors of the table indicating that alternative text is missing and defining the header row. This will be explained in the "Tables" point.

Regarding the headers and footers, the same procedure must be followed as when inserting a table when you want to add images or text in a custom location. It must be taken into account that the table that we include must be as simple as possible and that it can be read in order.

Glossary. A glossary makes it easier for people with some difficulty understanding the text (people who are deaf or people with cognitive impairment) or anyone unfamiliar with the subject. It is recommended to add a glossary of terms to the document and structure it in list format where you must indicate all the words that may entail a certain difficulty.

Boards. If you want to insert a table in the document, you must take into account the possibility that it will be read by a screen reader or by the "immersive reader" mode offered by Word. First of all, the tables are read by rows, so it is necessary to take into account the placement of the cells common to a subject, by columns. Once the table has been created, its ease of navigation must be checked, as previously mentioned. You have to place the pointer in the first cell and go tabulating (TAB key) through the table. It must be verified that the cells follow a reading order from left to right and from top to bottom and that there are no jumps due to vertically merged cells or multiple cells within the same cell. In the case of having a cell divided into several sections in a row, both cells must be selected and with a right click of the mouse select the option "combine cells" to facilitate reading for the screen reader. The first row of the table should be the header. One way to do this would be to select the header row and in the top menu, go to the "Layout" tab. Once inside, go to the "Data" section and select "Repeat title rows. Another way to do it would be to select the entire row and right-click on it, select the "Table Properties" option. Once inside "Table properties", go to the "Row" tab and, in the options that are displayed, uncheck "Allow dividing rows between pages" and check the option "Repeat as header row on each page". Next, you have to go to the "Alternative Text" tab and include a title and description about the data that the table includes.

Images. An image is usually the most visual means of explaining a concept. When including images in a document, it must be taken into account that there are people who cannot see the images and need the help of support products that describe them. In order for them to do so, you must enter a title and descriptive text for each of the images added. Alternative text should be able to replace the function that the image performs within the content. That is, the reader of the document must be able to understand the context of the image, listening to that text instead of seeing the image. Once an image is inserted in the document, you have to right click on it and click on the option "Edit alternative text". Word will open a right panel called "Alternative Text" where you must include some text that describes the image for a blind person. It must be taken into account that, for a person with visual difficulties, a title and a description according to what is shown in the image will be of great help.

Hyperlinks. When including links or hyperlinks in the document, it must be taken into account that they are well defined and clearly specify the destination to which it leads. When faced with a URL such as <https://www.COCEMFE.es>, the difficulty that a screen reader has because it is a short link may not be appreciated. However, if the URL is long, occupying several lines of the document, the screen reader will read the letters or words that make up the link one by one, complicating the comprehension of its reading. To create a hyperlink correctly, a descriptive text of the hyperlink must be generated. Once the text is created, select it and right click on it and select the "Link" option. At the top of the window that appears, there is the "Text" box with the full URL. Next, you select the URL and type a title that specifies the web address to which the hyperlink leads.

Mathematical formulas. In the event that mathematical formulas need to be included in the document, they should not be included as an image but as mathematical text. Most text editors allow you to include mathematical content. To add a formula using Microsoft Word, go to the top menu and click on "Insert". In the blocks, click on the "Equation" block and indicate the type of mathematical equation that you want to insert.

Accessibility check. If you want to check if the structure of the document meets the minimum requirements for it to be accessible, you can use the Office 365 Word tool. To check the accessibility of the document, the "Review" tab appears in the top menu of Word. Among the blocks that appear, select "Check accessibility". This option generates a block, to the right of the document, with the list of accessibility problems in the document structure. If a problem appears in the results, clicking on it. The reason for the error and how to solve it is explained at the bottom of the results.

NOTE: It is recommended to keep the option "Keep the accessibility checker running while I work" active to check the accessibility of the document as it is generated.

Transfer the document to pdf. Once the Word document is finalised and the accessibility errors in the document structure checked, it can be converted to PDF format. To do this, from Word, access "File" and in the left menu, on "Save as". Next, you must select the location where you want to save the document in PDF format. Once the location has been selected, if we click

on "More options", a pop-up window will appear, in which the following information will be filled in:

- File name: Name of the PDF file (it is not necessary to include the .pdf extension).
- Type: Select "PDF (*.pdf)".
- Authors: Include the authors of the document.
- Tags: Add keywords related to the content of the document, separated by semicolons";".
- Title: Write the title of the document (it can be different from the name of the file).

In the "Options" button, check that the boxes "Document structure tags for accessibility" and "Create bookmarks using: Titles" are checked. Filling in this series of data favours the indexing of the document, either at the level of a personal computer or for the Internet. The rest of the options can be left as they appear by default. Once all the data has been filled in, you must click on the "Save" button to generate the document in PDF format.

NOTE: If you use the Adobe Acrobat program, it is recommended to check the accessibility of the document to correct errors during conversion to PDF format

2.2.2 Accessibility in MS Excel

In addition to different more specific requirements, there are general recommendations that must be taken into account when generating textual content:

- To facilitate the understanding of the text, write in clear and simple language, and even include a glossary in the document.
- Do not use serif fonts. Within the sans-serif fonts, the use of "Verdana" is recommended and not "Arial", since the latter does not distinguish between the uppercase Latin i and the lowercase "el". Make sure that the font size is 12 or higher.
- Provide the expanded form or meaning of an abbreviation or acronym the first time it appears in the document.
- The primary language of the document must be specified.

- Provide alternative text for all non-text elements (for example, in graphics and images)
- Apply sufficient contrast (at least 4.5:1) between foreground and background colour combinations in text, in images of text, and also in any information-bearing or functional graphic, such as a button graphic.
- Clearly specify the destination of the links and that they are not too small in size that present difficulties when clicking on them.
 - Use and apply cell styles for different types of text instead of selecting the text and modifying it directly.
 - It is preferable to apply the predefined styles that Excel defines instead of styles created by us. This makes it easier to understand similar content.
- Use of styles consistently, that is, apply the same styles for the same uses within the document, for example, in the case of headings.
- Do not merge or split cells. This practice makes it difficult for supporting products to interpret the cell structure.
- Try not to use floating elements because, in general, they hinder access to their content, generating accessibility problems.
- Do not use colour as the only means of transmitting information. For example, to transmit the increase or decrease of a variable, we do not use only the colour to show it but, in addition to the colour, we add an alternative that can be "textualised", for example, adding the symbol (-) in negative cases or with an icon with its corresponding text alternative.

2.2.3 Accessibility in MS Power Point

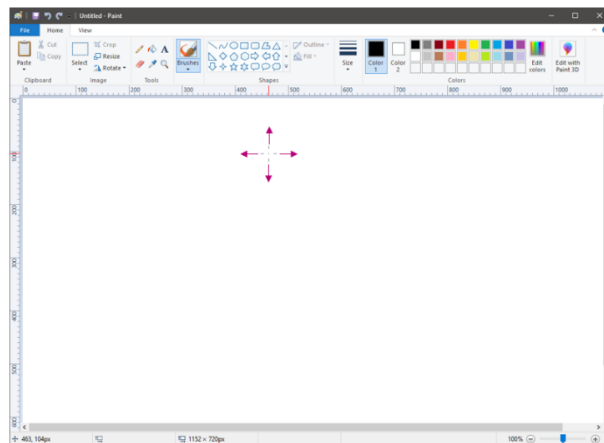
In addition to different requirements that should be known in more detail, there are general recommendations that must be taken into account when generating textual content:

- To facilitate the understanding of the text, write in clear and simple language, and even include a glossary in the document.

- Do not use serif fonts. Within the sans-serif fonts, the use of "Verdana" is recommended and not "Arial", since the latter does not distinguish between the uppercase Latin i and the lowercase "el". Make sure that the font size is 18 or higher.
- Provide the expanded form or meaning of an abbreviation or acronym the first time it appears in the document.
- The primary language of the document must be specified.
- Provide alternative text for all non-text elements (for example, in graphics and images)
- Apply sufficient contrast (at least 4.5:1) between foreground and background colour combinations in text, in images of text, and also in any information-bearing or functional graphic, such as a button graphic.
- Clearly specify the destination of the links and that they are not too small in size that present difficulties when clicking on them.
- Use of styles consistently, that is, apply the same styles for the same uses within the document, for example, in the case of headings.
- Try not to use floating elements because, in general, they hinder access to their content, generating accessibility problems.
- It is recommended to use a predefined design in order to ensure the correct reading order of all the support elements that we use.
- Do not use colour as the only means of transmitting information. For example, in titles it is recommended to use bold or a larger font size; in the links you can add an underline; in graphics use textures instead of colours.
- Avoid using the colours red, orange and green.
- It is recommended to use a font with a minimum size of 22 points.
- It is recommended to include a title on each slide, even if it is not visible

2.2.4 Accessibility in MS Paint

Microsoft Paint is already fully functional with mouse and multi-touch tablet input, but customers will now be able to use the app to draw with only their keyboard.



Use the *arrow keys* to move the onscreen cursor

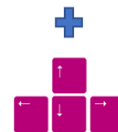
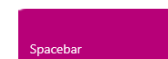
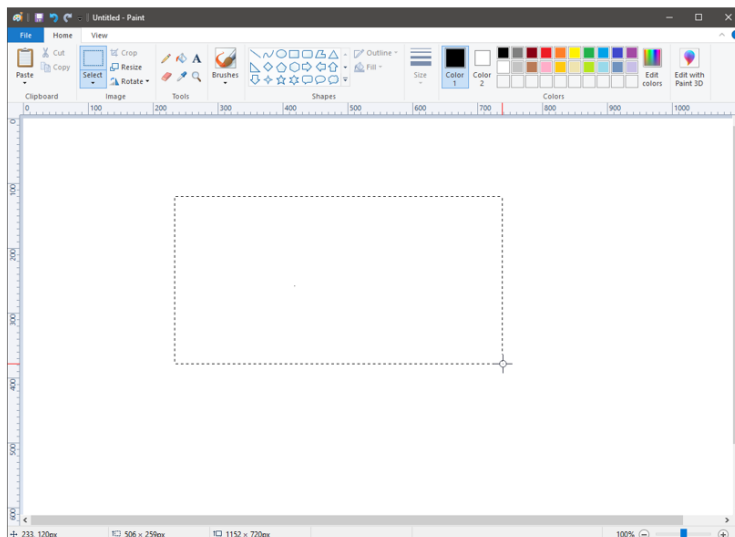


Use the *space bar* to activate the tool



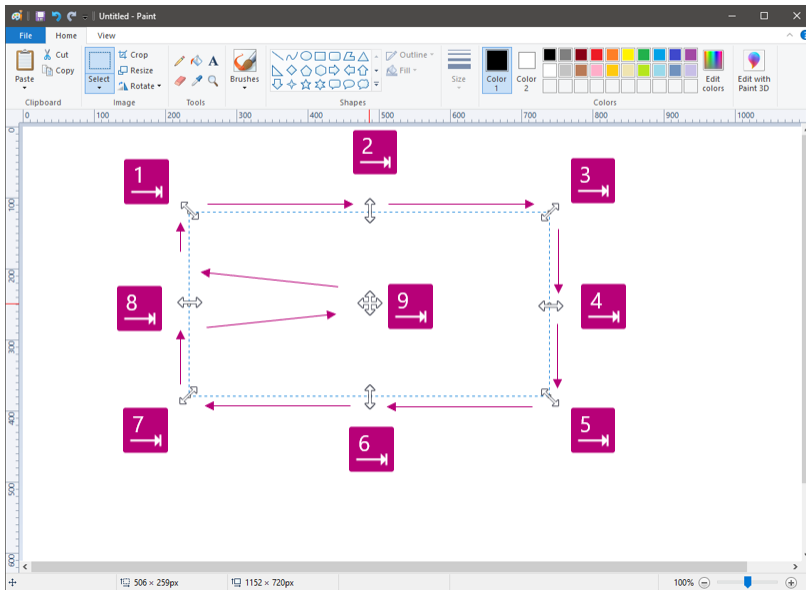
Hold *control* to scroll the canvas

Figure 2-1 Screenshot of the MS Paint window with the accessibility via keyboard 1



Hold *space bar* and move the cursor to select a part of the canvas

Figure 2-2 Screenshot of the MS Paint window with the accessibility via keyboard space bar



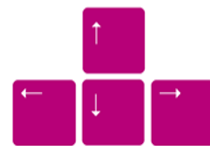
When a selection is made...



Cycle through 9 control points using the *tab* key

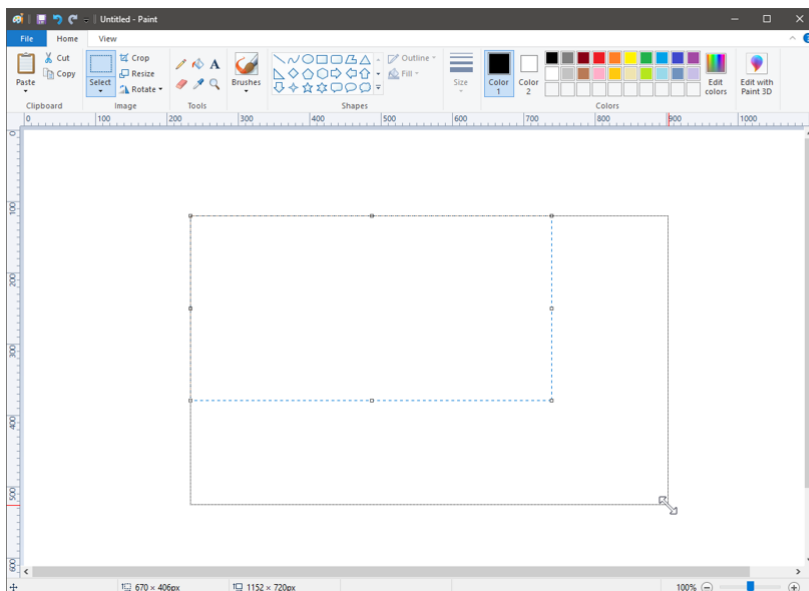


Cycle in counter clockwise order by holding *shift*



Use the *arrow keys* to modify the control point

Figure 2-3 Screenshot of the MS Paint window with the accessibility via keyboard with selected canvas 1



When manipulating a selection...

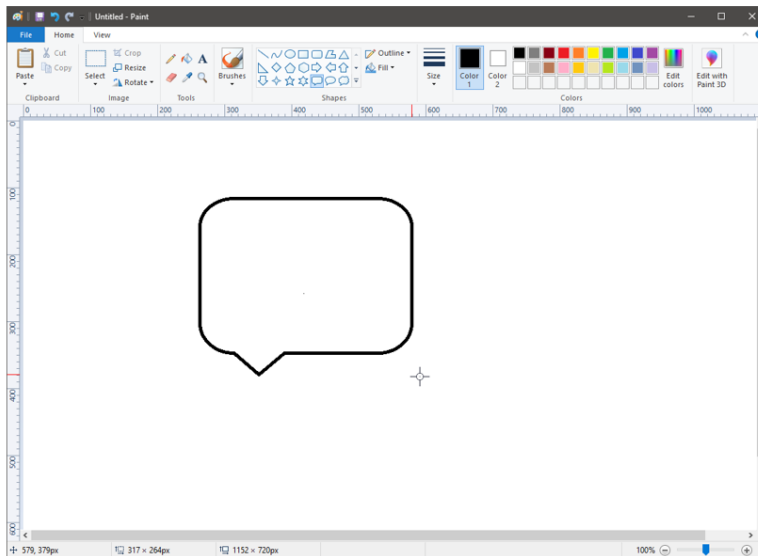


Commit the operation by holding *control* and *space bar* keys

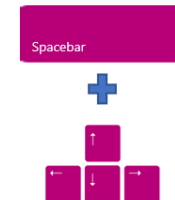


Cancel an operation by pressing the *escape key*

Figure 2-4 Screenshot of the MS Paint window with the accessibility via keyboard with selected canvas 2

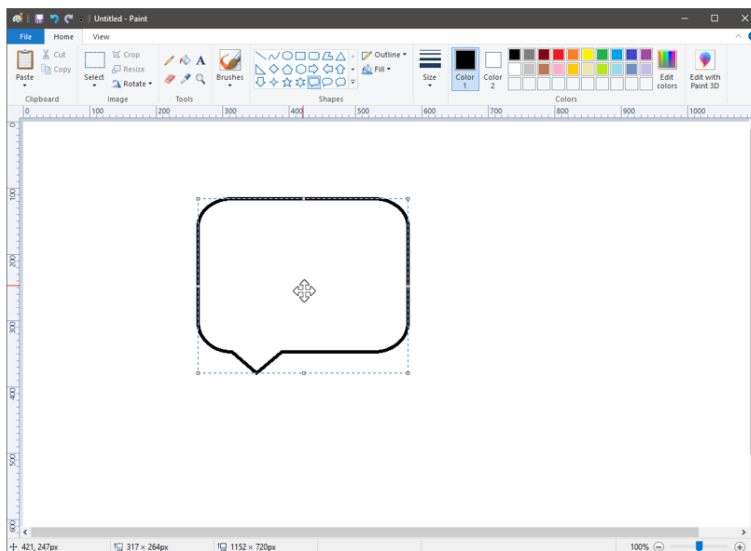


Shape controls behave in the same way as selection controls



Hold *space bar* and move the cursor to select a part of the canvas

Figure 2-5 Screenshot of the MS Paint window with the accessibility via keyboard with shape controls



A selection area will appear after the user releases the *space* key...

All keyboard shortcuts of a selection can now be used. However, note...



Places the shape on the screen directly (any control point)



Cancels the operation and erases the shape

Figure 2-6 Screenshot of the MS Paint window with the accessibility via keyboard 2

Along with full keyboard input support, we have made improvements to the way Paint interacts with screen readers, like Windows Narrator, which some users might find improves their overall experience with the app.

2.2.5 Write Effective Alternative Texts

Alternative text (Alt Text) is a textual description of a **visual** in a document or website that helps users of screen readers understand the content of the images. When using a screen reader to view the document or save it to a file format, such as HTML or DAISY (Digital Accessible Information System), alt text appears when you move the pointer over an image in most browsers.

Here we explain how to add alt text in Word, Excel, and Power Point to a shape, picture, chart, table, SmartArt graphic, or other object, and show how to make the Alt Text command always available.

You can add the Alt Text command to the Quick Access Toolbar to create a shortcut to it.

STEP 1 In the upper left corner, above the ribbon, click Customise Quick Access Toolbar.

STEP 2 Click More Commands.

STEP 3 Click Commands Not on the Ribbon.

STEP 4 Click Alt Text, then Add.

To use the Alt Text command on the Quick Access Toolbar, before clicking the toolbar button, select the shape, picture, chart, table, SmartArt graphic, or other object, and add alt text.

How to make it really effective?

- Alternative text should be easy to read and understand so that people using reading software can continue with the rest of the message. Try not to be more than one or two sentences.
- Correct punctuation. Because screen readers use punctuation to know where to pause when reading content, it's important to use proper punctuation in alt text.
- Do not use quotes. The ALT attribute added to the raw HTML uses quotation marks to identify where the campaign alt text begins and ends. If more quotes are entered, this could cause errors.

- Repeat the text that appears in the images. It is always better to keep important information in the main text of a message than in an image. However, if an image includes text, repeat that information in the alt text so that people using reading software don't miss it.
- Do not repeat the same image caption. Image captions are read by screen readers and are displayed even when images are locked. That is why it is not convenient to repeat them in the alternative text. Alternative text should provide different information than the image caption.
- Take context into account. Context is the most important thing when it comes to writing alt text for an image. What is the relationship between the image and the content that surrounds it? Ask yourself what information people using reading software will be able to extract from the content around the image.
- Identify decorative images. If an image is purely decorative, briefly indicate this in the alt text so people using reading software can jump right into the rest of the message. For example, writing "Decorative image" is enough.
- Content test. When you're done with your document, test that all the elements you've added alt text to display it correctly. You can use the text reading tool of the Adobe reader program for this.

2.2.6 Other Useful Tools and Knowledge

Checking accessibility in Office apps is very simple if you follow these instructions:

<https://support.microsoft.com/en-us/office/check-accessibility-while-you-work-in-officeapps-ae9e8ea7-1f22-41af-ad04-cc2919daebae>

There are also accessible templates for Office, which you can get here:

<https://support.microsoft.com/en-us/office/get-accessible-templates-for-office-ca086caa-2bd2-4ac8-8c12-4cd495bd4d76>

Screen reader support for Word: <https://support.microsoft.com/en-us/office/screen-reader-support-for-word-c014d8b8-4ef3-4a7a-935d-295663f3343c>

Use Immersive Reader in Word desktop video training: <https://support.microsoft.com/en-us/office/use-immersive-reader-in-word-a857949f-c91e-4c97-977c-a4efcaf9b3c1>

Use a screen reader to save a document in Word: <https://support.microsoft.com/en-us/office/use-a-screen-reader-to-save-a-document-in-word-2e3df620-c7e6-47e3-8892-f14e75575cfc#PickTab=Windows>

Finally, in this link you can see how to run the Microsoft Accessibility Checker:
<https://support.microsoft.com/en-us/office/improve-accessibility-with-the-accessibilitychecker-a16f6de0-2f39-4a2b-8bd8-5ad801426c7f#:~:text=In%20Word%2C%20Excel%2C%20and%20PowerPoint,to%20add%20it%20there%20manually>

2.2.7 Exercises using a screen reader with MS Word

Task 1

Please, correct the editing and make the content accessible.

Grades

Grades will be assigned on a ten-point scale (90 to 100 is an A, 80 to 89 is a B, etc.). Homework, exams, and projects will be weighted as follows:

Homework	Exams			Projects		
	1	2	Final	1	2	Final
15%	15%	15%	20%	10%	10%	15%

Welcome to the course!



Task 2

Please turn on screen reader on your computer NVDA press ctrl+alt+n or find it in the start menu, jaws press ctrl+alt+j or find it in the start menu.

Task 3

Basic tasks using a screen reader with Word: https://support.microsoft.com/en-us/office/basic-tasks-using-a-screen-reader-with-word-3e47346a-7876-450e-bcbf-0a4fe6576981#bkmk_openwordwin

This task is for people with visual or cognitive impairments who use a screen reader program such as Windows Narrator, JAWS, or NVDA with Microsoft 365 products.

Task 4

Basic tasks to create a presentation in PowerPoint with a screen reader:

<https://support.microsoft.com/en-us/office/basic-tasks-to-create-a-presentation-in-powerpoint-with-a-screen-reader-1ada02d7-2f1c-496e-92fd-6a811547a7c3>

Task 5

Basic tasks using a screen reader with Excel: <https://support.microsoft.com/en-us/office/basic-tasks-using-a-screen-reader-with-excel-6b275296-a377-4608-af7b-1571e2924a7c>

2.2.8 Resources

1. Accessibility in Word: <https://support.microsoft.com/en-us/office/make-your-word-documents-accessible-to-people-with-disabilities-d9bf3683-87ac-47ea-b91a-78dcacb3c66d#PickTab=Windows>
2. Accessibility in Power Point: <https://support.microsoft.com/en-us/office/make-your-powerpoint-presentations-accessible-to-people-with-disabilities-6f7772b2-2f33-4bd2-8ca7-dae3b2b3ef25>
3. Accessibility in Excel: <https://support.microsoft.com/en-us/office/make-your-excel-documents-accessible-to-people-with-disabilities-6cc05fc5-1314-48b5-8eb3-683e49b3e593>

4. Write effective alternative texts: <https://support.microsoft.com/en-us/office/everything-you-need-to-know-to-write-effective-alt-text-df98f884-ca3d-456c-807b-1a1fa82f5dc2>
5. Create accessible PDFs: <https://support.microsoft.com/en-us/office/create-accessible-pdfs-064625e0-56ea-4e16-ad71-3aa33bb4b7ed>
6. Video: Check the accessibility of your document: <https://support.microsoft.com/en-us/office/video-check-the-accessibility-of-your-document-9d660cba-1fcd-45ad-a9d1-c4f4b5eb5b7d>
7. Excel video training: <https://support.microsoft.com/en-us/office/excel-video-training-9bc05390-e94c-46af-a5b3-d7c22f6990bb>
8. PowerPoint for Windows video training: <https://support.microsoft.com/en-us/office/powerpoint-for-windows-training-40e8c930-cb0b-40d8-82c4-bd53d3398787>
9. Create slides with an accessible reading order video training: <https://support.microsoft.com/en-us/office/video-create-slides-with-an-accessible-reading-order-794fc5da-f686-464d-8c29-1c6ab8515465>

2.3 Accessibility for People with Hearing Impairments

2.3.1 Create closed captions for a video

In PowerPoint for Windows you can create closed caption files and add them to the videos or audio files in your presentations. Adding subtitles makes your presentation accessible to a wider audience, including people with hearing impairments and people who speak other languages.

Closed captions can be stored in a text file with a .vtt filename extension. You can create a closed caption file yourself or use a caption-creation tool. This part describes how you can create a closed caption file yourself in Notepad.

To search online for available tools and detailed instructions, type "create vtt file" in your search engine.

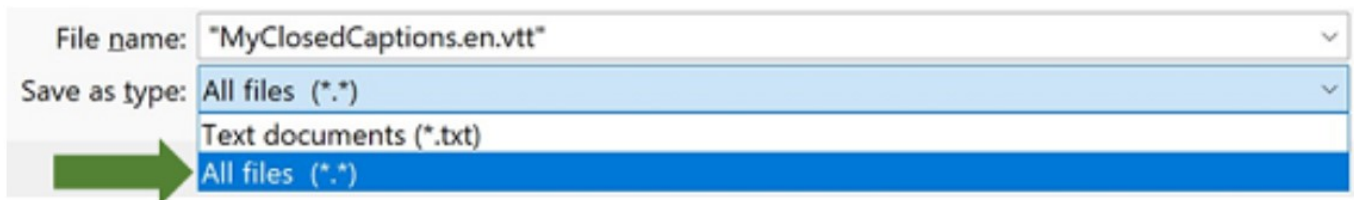
Create a closed captions text file

Notepad is automatically installed with Windows. When Notepad is open, save your closed-caption file with a name in the following format:

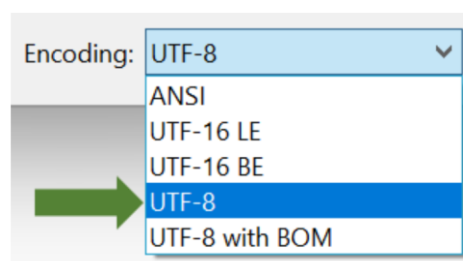
MyClosedCaptions.en.vtt

Include the standard locale name such as "en" (for English) or "es" (for Spanish). The file name extension must be ".vtt".

- In the **Save As** dialog box in Notepad, enter a name in the **File name** box including the .vtt filename extension and enclose the entire name in quotation marks.
- In the **Save as type** box, select **All Files (*.*)**. These actions ensure that the file is saved with the required .vtt filename extension (rather than a .txt extension).



- In the Encoding box, select **UTF-8**. (This option ensures that any complex characters, such as international characters will be displayed accurately on the screen.)



Add content to the file

The first line in the file must be: WEBVTT

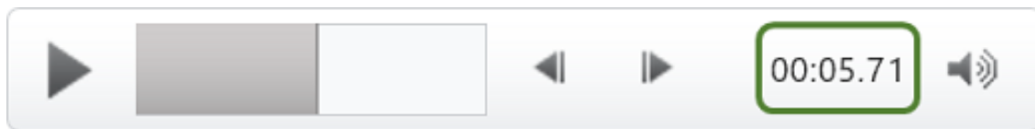
Subsequent entries in the file are called "cues," and they consist of:

- A time marker (beginning time and end time, separated by an "arrow," -->).

Each time marker is designated in the following format: hh:mm:ss.ttt

Use two digits each for hours (hh), minutes (mm), and seconds (ss). Insert colons (:) to separate the hours, minutes, and seconds without a space in between. Include a period after ss, followed by three digits for thousandths of a second (ttt). Ensure that there is no space in the time format.

In PowerPoint, the timer in the Edit view of the toolbar for playing videos can help you to ascertain the starting and ending times to be specified in the caption file:



Ensure that you add the hours (00:) at the beginning and a third digit after the period to comply with the required time format.

- Text that needs to appear on the screen during that particular segment of time. (Limit yourself to a maximum of three lines of text to ensure all the words fit on the screen.)

Example:

WEBVTT

00:00:01.000 --> 00:00:05.330

Good day everyone, my name is June Doe.

00:00:07.608 --> 00:00:15.290

This video teaches you how to
build a sandcastle on any beach.

In the example above, the first caption appears after the video has played for one second, and it remains on the screen until 5.330 seconds of the video have elapsed. The next caption appears after the video has played for 7.608 seconds, and it remains on the screen until 15.290 seconds of the video have elapsed. The second caption is split into two lines to ensure that the statement is not too wide to fit on the screen.

Add the caption file to the video

When your closed caption file is ready, save it. You can now add it to your media, refer to section "Add closed captions to a video" in [Add closed captions or subtitles to media in PowerPoint](#).

2.3.2 Resources

1. Create closed captions for a video: <https://support.microsoft.com/en-us/office/create-closed-captions-for-a-video-b1cfb30f-5b00-4435-beeb-2a25e115024b#PickTab=Windows>
2. Add closed captions or subtitles to media in PowerPoint: https://support.microsoft.com/en-us/office/add-closed-captions-or-subtitles-to-media-in-powerpoint-df091537-fb22-4507-898f-2358ddc0df18#OfficeVersion=Newer_versions

2.4 Accessibility for People with Cognitive Impairments

2.4.1 Dictate your documents in MS Word

Dictation lets you use speech-to-text to author content in Office with a microphone and reliable internet connection. Use your voice to quickly create documents, emails, notes, presentations, or even slide notes.

Open a new or existing document and go to Home > Dictate  while signed into Microsoft 365 on a mic-enabled device.

Wait for the **Dictate** button to turn on and start listening.



Start speaking to see text appear on the screen.

If you can't see the button to start dictation:

- Make sure you're signed in with an active Microsoft 365 subscription.
- Dictate is not available in Office 2016 or 2019 for Windows without Microsoft 365.

2.4.2 Design slides for people with dyslexia in MS Power Point

The elements that make presentations clearer and easier to comprehend for people with dyslexia also make them better in general.

Fonts:

- Use simple, sans serif fonts with adequate spacing between letters. Use at least an 18-point font size. Good sans serif font examples include: Calibri, Franklin Gothic Book, Lucida Sans, Segoe UI.
- Avoid compressed, fancy, italic, or underlined fonts or fonts with uneven line weights.

Text: To keep your text easily readable, leave some space in your slides. Ideally, limit the number of lines on each slide to 7. Ideally, limit the number of words on each line to 6. Leave plenty of space above and below each line.

Speaker notes:

- Instead of adding all the content on a slide, use speaker notes to provide more in-depth information. By default, speaker notes are formatted in a readable, sans serif font.
- Distribute your slides after your presentation, so your audience can refer to the slides and notes later to recall the verbal presentation delivery.

Layout and design: Thought-out slide design and layout can make your content more accessible to all audiences.

- Background.

- Bright white slide backgrounds can make text harder to read. Choose an off-white or cream background. Text should be dark, with lots of space around the letters. A dark background and white text also work.
- To set the background colour, select Design > Format Background > Colour. Then pick a colour that suits your purposes.
- Images. Images are a great way to break up blocks of text and make your slide easier to scan. Add alt text to every image in your presentation.
- Layout. A colourful, high-contrast graphic layout, combined with pictures and text, creates a structured design. Structured layouts are easier for people with dyslexia to understand.



2.4.3 Exercises

Task 1

Please correct the editing and make the content accessible in ppt!

Grades

Grades will be assigned on a ten-point scale (90 to 100 is an A, 80 to 89 is a B, etc.). Homework, exams, and projects will be weighted as follows:

Homework	Exams		
	1	2	Final
15%	15%	15%	20%

Welcome to the course!

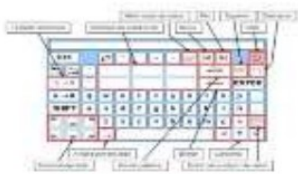


2.4.4 Resources

1. Dictate your documents in Word: <https://support.microsoft.com/en-us/office/dictate-your-documents-in-word-3876e05f-3fcc-418f-b8ab-db7ce0d11d3c>
2. Dictate your presentations and slide notes in PowerPoint: <https://support.microsoft.com/en-us/office/dictate-your-presentations-and-slide-notes-in-powerpoint-97f3373e-58b9-4e39-b413-83d6d2c09055>
3. Design slides for people with dyslexia video training: <https://support.microsoft.com/en-us/office/video-design-slides-for-people-with-dyslexia-a2158953-84d7-4894-8f6c-1c9968709041>

2.5 Brief repository of online tools for the development of accessible materials

	European standards to facilitate reading and understanding https://easy-to-read.eu/wpcontent/uploads/2023/01/EN_Information_for_all.pdf
---	--

	This page allows you to translate a Word document to speech (audio) https://www.robobrasille.org/
	To go from speech to text on the computer https://talktyper.com/en/index.html
	PowerTalk 1.2.14 is speech-enabled software for PowerPoint presentations; it's free and automatically speaks any presentation or slideshow. It runs in Microsoft PowerPoint for Windows. https://prevenirlaceguera.blogspot.com/2010/09/powerpoint-ahora-accesible-muy-bueno.html
	Virtual keyboard http://robotica.udl.cat/catedra/virtualkeyboard/version10/virtualkeyboard1.html
	Automatic video captioning https://www.getsubly.com/
	Catalog of ICT solutions for students with NEAE http://www.ticne.es/index.php?lang=en
	How to generate information accessible to all people https://www.euroblind.org/publications-andresources/making-information-accessible-all Interesting blog for the resources and programs it offers. http://projectefressa.blogspot.com/



Accessibility by disability: Find products and tools based on your needs:

<https://support.microsoft.com/en-us/accessibility>

3 LibreOffice Accessibility

3.1 The Learning Objectives Covered by Module

In completing this Module, the learner will be able to:

- Use Libreoffice tools to create and access accessible content.

3.2 Summary of the Sub Subtopic and the Learning Objectives Covered

In Unit #1, you are expected to learn about LibreOffice accessibility options, assistive technologies, how to create accessible files and how to check their accessibility.

In completing this unit, the learner will be able to:

- Use and adjust keyboard shortcuts;
- Use and adjust colours and fonts;
- Learn about supporting assistive technologies;
- Create accessible documents;
- Use documents accessibility checker.

3.3 About LibreOffice

LibreOffice is community-driven and developed software, and is a project of the not-for-profit organization. LibreOffice is free and open source software.

3.4 Accessibility for People with Visual Impairments

3.4.1 Keyboard Navigation

Keyboard navigation and control is useful for people who cannot see the mouse pointer on the screen or who cannot physically control a mouse on the desk, so a mouse is not very useful.

Full keyboard navigation gives the users the ability to perform all input via a keyboard, without using a mouse or other pointing device.

The features that most notably enhance accessibility include:

- Comprehensive definitions of keyboard shortcuts in the different applications;

- Full keyboard access to toolbars;
- Keyboard-enabled switching between document windows, menus, toolbars, modeless dialogs and floating windows;
- Enhanced keyboard navigation in text documents and online help to navigate and activate hyperlinks;
- Menu and toolbar items for accessing functions which were only accessible via mouse device;
- Disabled menu items are displayed by default;
- You can access help tips via keyboard;
- You can set the duration for the display of help tips;
- Keyboard access for Drawing Objects:
 - Drawing objects can be inserted via toolbar with default position and size;
 - Each handle of a drawing object can be selected and controlled via keyboard separately, so even polygon manipulation is possible;
- Particular attention has been given to accessibility in dialog boxes, including:
 - the toolbar customization dialog;
 - extensive CSV import control for spreadsheets.

3.4.1.1 Exercise – Common navigation without a mouse in the LibreOffice

1. Open every item in LibreOffice's main menu using the **Alt** key followed by a trigger letter in the menu's name. You don't see these trigger letters by default, but they appear when you press the **Alt** key.
 - a. Open the **File** menu, press and hold **ALT+F**. To open the **Format** menu, press and hold **ALT+O**. Once the menu is open, you may release the keys.
 - b. After you open a menu, each item in that menu has a trigger letter, or you can use the **Arrow** keys on your keyboard to navigate to the item and press **Enter**.
 - c. Close a menu without doing anything, press the **Esc** key.
2. Change the font by selecting text and then opening the Format menu and selecting Character to open the Character dialog. You can navigate this dialog using the Tab, Arrows, and Enter keys.

3. Access LibreOffice documentation by pressing **Alt+H** or **F1** from the keyboard.
4. Customize how to interact with LibreOffice by setting your own keyboard shortcuts.
 - a. Go to the **Tools** menu and select **Customize** (or just press **Alt+T** followed by **C**.)
 - b. Select the **Keyboard** tab by pressing the **Arrow** key as necessary or click it with the mouse (if you're still using the mouse.).

3.4.1.2 Exercise – Navigation without a mouse in the Writer

1. Try some Writer shortcut keys:
 - c. **F2**: Formula bar
 - d. **Ctrl+F2**: Insert fields
 - e. **F3**: Auto text
 - f. **F5**: Navigator on/off
 - g. **Shift+F5**: Moves the cursor to its position when you last saved the document
 - h. **Ctrl+Shift+F5**: Navigator on, **Go to Page**
 - i. **F7**: **Spelling**
 - j. **F8**: **Thesaurus**

3.4.1.3 Exercise – Navigation without a mouse in the Calc

1. Try some shortcut keys for Calc:
 - a. **Ctrl+Home**: Returns you to cell A1
 - b. **Ctrl+End**: Moves you to the last cell that contains data
 - c. **Home**: Moves the cursor to the first cell in the current row
 - d. **End**: Moves the cursor to the last cell in the current row
 - e. **Shift+Home**: Selects cells from the current cell to the first cell of the current row

3.4.2 Colours and Fonts adjustment

LibreOffice provides many colours and font adjustment possibilities for people with visual impairments. These adjustments are useful for people with cognitive impairments as well.

3.4.2.1 Use of System Colour Schemes, High Contrast

LibreOffice adapts to the colour schemes and contrast display settings of the operating system.

In addition, LibreOffice offers additional settings for colours which are not specified in any system colour schemes, as well as the possibility to overwrite colours from the current colour scheme. You can also create and store your own colour schemes in LibreOffice.

The help system respects the colours from the current colour scheme, but also provides different predefined styles. Users can customize the formatting of the help content via the XSL transformation file, as well as via the custom style sheet file located in the help directory.

3.4.2.2 Automatic Text Colour

All LibreOffice applications support automatic text colour for documents and use this by default, so the text is always distinguishable from the background colour.

The text will be displayed in the system text colour. If this leads to dark text on a dark background, or bright text on a bright background, the text will switch to black or white (according to whichever provides better contrast).

For reading old or imported documents which use hard-formatted text colours, you can use the option "Use automatic font colour for screen display". All text content as well as table borders and some other elements will be displayed in the automatic font colour.

3.4.2.3 Icons and Bitmaps

LibreOffice has icon sets for small and large toolbar icons in normal and in high contrast mode, so the icons are more easily identifiable in the different modes.

All UI elements displaying a graphic offer an alternative graphic for high contrast mode.

LibreOffice automatically chooses the set of icons and graphics appropriate for the current system settings.

3.4.2.4 High Contrast Mode for Impress and Draw

Impress and Draw offer a high-contrast mode, in which objects are displayed without fill colours or text colours. This mode will automatically be used when high contrast is chosen in the system settings. You can turn off this automatic detection in the LibreOffice options under **Accessibility**.

3.4.2.5 System Font

LibreOffice can use the operating system font for the user interface, so that LibreOffice appears in the same font as your other applications and can be manipulated via the system settings. There is special handling to ensure that dialogs do not become larger than the screen when schemes with large fonts are chosen.

3.4.2.6 Other Legibility Features

- Highlighted toolbar and menu items are easily perceptible;
- There is distinct highlighting of current column and row in spreadsheets;
- You can turn on/off animations for graphics and text.

3.4.2.7 Support for Comfortable Reading of Read-Only Documents

Screen reader users sometimes have difficulty reading read-only documents because they cannot navigate with the cursor through the document. For this, there is the feature "Use text selection cursor in read-only text documents".

3.4.2.8 Exercise – Adjusting LibreOffice Accessibility Settings

1. Adjust accessibility settings.

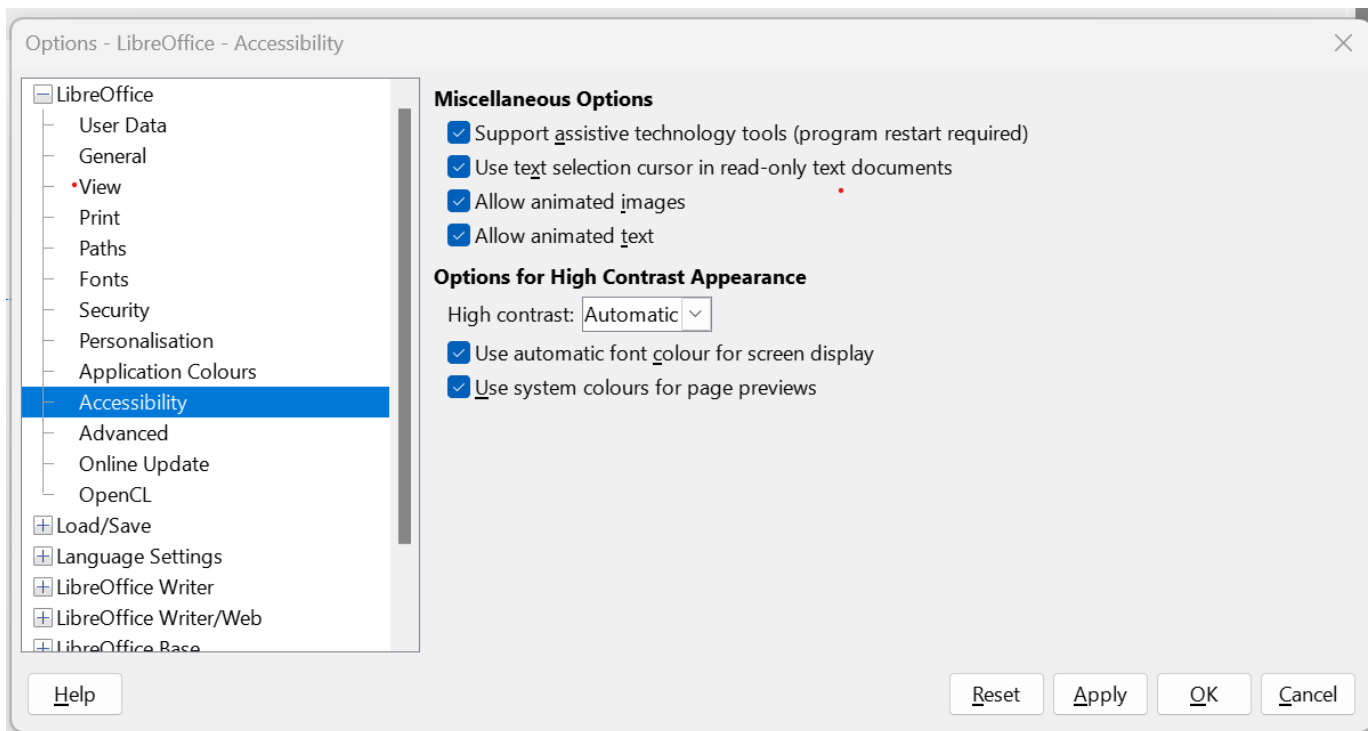


Figure 1. Screenshot of the options window with the accessibility menu.

- a. Go to the **Tools** menu and select **Options**. In the **Options** dialog, expand the **LibreOffice** category in the column on the left and then click **Accessibility**.
- b. Try options:
 - i. **Use text selection cursor in read-only text documents:** This allows screen reader users to move through a read-only document as if you could edit it, limiting what you can actually do to select and copy text.
 - ii. **Allow animated images:** Not everyone wants moving images in their documents as they work. You can adjust that here.
 - iii. **Allow animated text:** As with images, animated text styles can be fun for some and distracting or confusing to others.
 - iv. There are also options for a **high contrast** theme. If you use a high contrast mode on your operating system, LibreOffice automatically detects it and changes its theme to match.

3.4.3 More Accessibility Features

Other features helpful for accessibility are also available:

- **Zoom in or zoom out** in a document;
- Position mouse to default button or center in dialogs;
- **Configuration:**
 - Assign a shortcut key to a command;
 - Show all commands on menus;
 - Change the size of toolbar buttons;
 - Customize menus and toolbars;
 - Display or hide a toolbar;
 - Create a custom toolbar;
- **Task automation:**
 - Correct misspelled words as you type;
 - Quickly set AutoCorrect and Paste options;
 - Add AutoCorrect entries for misspellings and typing errors;
 - Use AutoComplete;
 - Automatically make AutoText entries for frequently-used text.

3.4.4 Assistive Technology

3.4.4.1 API for Supporting Assistive Technologies

Assistive Technology (AT) tools such as screen readers and magnifiers, as well as other tools, connect to LibreOffice using the native accessibility APIs of the corresponding platform (Microsoft Active Accessibility API (MSAA)/IAccessible2 on Windows, AT-SPI2 on GNU/Linux, NSAccessibility on macOS).

LibreOffice UI elements and documents expose all the information about themselves and their contents via those accessibility APIs.

An enormous effort has been made to have UI elements and document contents fully support the accessibility interfaces; for example: providing text with attributes and character bounds

information, and sending all the necessary notifications and providing names and descriptions of controls.

Some AT tools send key events to the applications, or simply control the mouse, so it makes no difference for the application if the input comes from a user or from an AT tool.

This way, a lot of AT tools such as simple on-screen keyboards, head mice, eye tracking devices and single switches can be used with LibreOffice.

3.4.4.2 LibreOffice AT support

- Windows, Screen Reader: ZoomText (7.11, 8.12, 9.x); JAWS (6.2, 7.x); NVDA (open source). Available here [NV Access](#)
- Windows, Screen Magnifier: ZoomText (7.11, 8.12, 9.x).
- Windows, On Screen keyboard.
- GNOME, Screen Reader: Orca.
- GNOME, Screen Magnifier: Universal Access ► Zoom.
- GNOME, On Screen keyboard: Universal Access ► Screen Keyboard.
- OS X: VoiceOver.

3.4.4.3 LibreOffice DAISY support

An Extension for exporting ODT to DAISY / DTBOOK is available here: [odt2dtbook LibreOffice Extension](#)

3.4.4.4 AT Support While Giving a Presentation

For making slide shows accessible, people should use the [Presenter Console](#).

3.4.5 How to Create Accessible files

3.4.5.1 Exercise – How to save a tagged PDF

1. Saving a tagged PDF using LibreOffice (PC and Mac).
 - a. Open the original in LibreOffice.
 - b. Click **File** from the menu and select **Export as PDF**.

2. In the **PDF Options** dialog box, make sure the **Tagged PDF (add document structure)** and the **Export bookmarks** boxes are selected.
3. Click **Export**.

3.4.5.2 Exercise – How to add headings in the Writer

1. Adding headings in LibreOffice Writer (PC and Mac) Turning text into headings.
 - a. Open the original in LibreOffice Writer.
 - b. Select the text that should become a heading.
 - c. In the **Formatting** bar, open the **Apply Paragraph Style** dropdown and select the appropriate heading level. If you don't see the heading level you are looking for, click **More options**.
 - d. Repeat this for all the text that should become headings.
2. Styling headings in LibreOffice Writer. Customizing the visual appearance of a heading style.
 - a. Open the **Apply Paragraph Style** dropdown. Click the arrow next to the heading style of which you want to change the visual appearance.
 - b. Click **Edit Style** from the menu.
 - c. Make any formatting changes that you would like to make (e.g. Font, font size, etc) in the **Font** and **Font Effects tabs** and click OK. All text which has that heading applied will automatically be updated.
 - d. **Save** the document.

3.4.5.3 Exercise – How to add headings in the Impress

1. Adding titles in LibreOffice Impress (PC).
 - a. Open the original in LibreOffice Impress.
 - b. Click the first slide which contains a title.
 - c. Open the **Properties** menu on the right side. Open the **Layouts** section. As your slide contains a title, choose one of the layouts that best fit the structure of your slide.

- d. If the already existing title and content show up nicely within the provided title and content boxes, it means the slide uses the layout correctly.
- e. If an empty title and text box show up on top of the already existing text boxes, it means the title and text have to be transferred to these boxes. Transfer the text for the title to the title box, and content to the content boxes.
- f. Repeat these steps for all the slides that appear to have titles and save the document.

2. Adding titles in LibreOffice Impress (Mac).

- a. Open the original in LibreOffice Impress.
- b. Click the first slide which contains a title.
- c. Open the **Properties** menu on the right side. Open the **Layouts** section. As your slide contains a title, choose one of the layouts that best fit the structure of your slide.
- d. If the already existing title and content show up nicely within the provided title and content boxes, it means the slide uses the layout correctly.
- e. If an empty title and text box show up on top of the already existing text boxes, it means the title and text have to be transferred to these boxes. Transfer the text for the title to the title box, and content to the content boxes.
- f. Repeat these steps for all the slides that appear to have titles and save the document.

3.4.5.4 Exercise – How to add alternative descriptions to images in a document in the Writer

1. Adding an image description in LibreOffice Writer (PC).

- a. Open the original in LibreOffice Writer.
- b. Double click the image. The **Image** dialog box shows up.
- c. Click the **Options** tab in the **Image** dialog box.
- d. Enter a brief description for the image in the **Name** field.

2. Adding an image description in LibreOffice Writer (Mac)

- a. Open the original in LibreOffice Writer.

- b. Double click the image. The **Image** dialog box shows up.
- c. Click the **Options** tab in the **Image** dialog box.
- d. Enter a brief description for the image in the **Name** field.

3.4.5.5 Exercise – How to add alternative descriptions to images in a document in the Impress

1. Adding an image description in LibreOffice Impress (PC).
 - a. Open the original in LibreOffice Impress.
 - b. Select the image. Click **Format** in the menu bar and select **Description** from the list.
The **Description** panel shows up.
 - c. Enter a brief description for the image in the **Description** box. If the description is long, a summarized **Title** should also be provided.
 - d. Click **OK** to save your changes.
 - e. Repeat these steps for all images in the document. **Save** the document.
2. Adding an image description in LibreOffice Impress (Mac).
 - a. Open the original in LibreOffice Impress.
 - b. Select the image. Click **Format** in the menu bar and select **Description** from the list.
The **Description** panel shows up.
 - c. Enter a brief description for the image in the **Description** box. If the description is long, a summarized **Title** should also be provided.
 - d. Click **OK** to save your changes.
 - e. Repeat these steps for all images in the document. **Save** the document.

3.4.5.6 Exercise – How to add headers to a table in the Writer

1. Adding headers to a table in LibreOffice Writer (PC).
 - a. Open the original in LibreOffice Writer.
 - b. Ensure the text in the first-row functions as a title and identifies what each column is for. E.g: Week, Topic, Date and so on.
 - c. Right-click the table and select **Table Properties**. Or, select **Table Properties** from the bottom or top menu. The **Table Format** dialog box shows up.

- d. In the **Table Format** dialog box, select the **Text Flow** tab. Make sure the Repeat heading check box is selected and that at least the first row is filled out.
 - e. Repeat these steps for tables in the document. Save the document.
2. Adding headers to a table in LibreOffice Writer (Mac).
 - a. Open the original in LibreOffice Writer.
 - b. Ensure the text in the first row functions as a title and identifies what each column is for. E.g: Week, Topic, Date and so on.
 - c. Right-click the table and select **Table Properties**. Or, select **Table Properties** from the bottom or top menu. The **Table Format** dialog box shows up.
 - d. In the **Table Format** dialog box, select the **Text Flow** tab. Make sure the Repeat heading check box is selected and that at least the first row is filled out.
 - e. Repeat these steps for tables in the document. Save the document.

3.4.5.7 Exercise – How to add headers to a table in the Impress

1. Adding headers to a table in LibreOffice Impress (PC).
 - a. Open the original in LibreOffice Impress.
 - b. Ensure the text in the first row functions as a title and identifies what each column is for. E.g: Week, Topic, Date and so on.
 - c. Right-click the table and select **Table Properties**. Or, select Table Properties from the bottom or top menu. The **Table Format** dialog box shows up.
 - d. In the **Table Format** dialog box, select the **Text Flow tab**. Make sure the Repeat heading check box is selected and that at least the first row is filled out.
 - e. Repeat these steps for tables in the document. Save the document.
2. Adding headers to a table in LibreOffice Impress (Mac).
 - a. Open the original in LibreOffice Writer.
 - b. Ensure the text in the first-row functions as a title and identifies what each column is for. E.g: Week, Topic, Date and so on.
 - c. Right-click the table and select **Table Properties**. Or, select Table Properties from the bottom or top menu. The **Table Format** dialog box shows up.

- d. In the **Table Format** dialog box, select the **Text Flow tab**. Make sure the Repeat heading check box is selected and that at least the first row is filled out.
- e. Repeat these steps for tables in the document. Save the document.

3.4.5.8 Exercise – How to set a language in the Writer

1. Setting the document language in LibreOffice Writer (PC).
 - a. Open the original in LibreOffice Writer.
 - b. Determine the main language of the text. When a lot of text is underlined with red squiggly lines, this is often an indication that the language isn't set correctly.
 - c. Set the correct document language by clicking on **Tools > Language > For all Text > More....** The **Options - Language Settings - Languages** dialog box shows up.
 - d. Under **Default Languages for Documents**, select the correct document language from the dropdown. If you check **For the current document only**, your choice will only apply to the current document.
 - e. Click **OK** and save the document.
2. Choosing a language for selected text in LibreOffice Writer (PC). Text that is still underlined with red squiggly lines or paragraphs in a different language need their language set separately.
 - a. Select all the text in specific text boxes that need changing.
 - b. Right-click the selected text, and choose **Character...** from the menu.
The **Character** dialog box shows up.
 - c. On the **Font** tab, select the correct language for the selected text and click **OK**.
 - d. Repeat these steps for all the text that needs changing.
 - e. **Save** the document.
3. Setting the document language in LibreOffice Writer (Mac).
 - a. Open the original in LibreOffice Writer.
 - b. Determine the main language of the text. When a lot of text is underlined with red squiggly lines, this is often an indication that the language isn't set correctly.

- c. Set the correct document language by clicking on **Tools > Language > For all Text > More....** The **Options - Language Settings - Languages** dialog box shows up.
 - d. Under **Default Languages for Documents**, select the correct document language from the dropdown. If you check **For the current document only**, your choice will only apply to the current document.
 - e. Click **OK** and save the document.
4. Choosing a language for selected text in LibreOffice Writer (Mac). Text that is still underlined with red squiggly lines or paragraphs in a different language need their language set separately.
- a. Click on the **View** tab and select **Outline**. Select the text from all the slides that need changing.
 - b. Right-click and choose **Character...** from the menu. The **Character** dialog box shows up.
 - c. On the **Font** tab, select the correct language for the selected text and click **OK**.
 - d. Repeat these steps for all the text that needs changing.
 - e. **Save** the document.

3.4.5.9 Exercise – How to set a language in the Impress

1. Setting the document language in LibreOffice Impress (PC).
 - a. Open the original in LibreOffice Impress.
 - b. Determine the main language of the text. When a lot of text is underlined with red squiggly lines, this is often an indication that the language isn't set correctly.
 - c. Set the correct document language by clicking on **Tools > Language > For all Text > More....** The **Options - Language Settings - Languages** dialog box shows up.
 - d. Under **Default Languages for Documents**, select the correct document language from the dropdown. If you check **For the current document only**, your choice will only apply to the current document.
 - e. Click **OK** and save the document.

2. Choosing a language for selected text in LibreOffice Impress (PC). Text that is still underlined with red squiggly lines or paragraphs in a different language need their language set separately.
 - a. Select all the text in specific text boxes that need changing.
 - b. Right-click the selected text, and choose **Character...** from the menu.
The **Character** dialog box shows up.
 - c. On the **Fonts** tab, select the correct language for the selected text and click **OK**.
 - d. Repeat these steps for all the text that needs changing.
Save the document.
3. Setting the document language in LibreOffice Impress (Mac).
 - a. Click on the **View tab** and select **Outline**. Select the text from all the slides that need changing.
 - b. Right-click and choose **Character...** from the menu. The **Character** dialog box shows up.
 - c. On the **Fonts** tab, select the correct language for the selected text and click **OK**.
 - d. Repeat these steps for all the text that needs changing.
 - e. **Save** the document.
4. Choosing a language for selected text in LibreOffice Impress (Mac). Text that is still underlined with red squiggly lines or paragraphs in a different language need their language set separately.
 - a. Select all the text in specific text boxes that need changing.
 - b. Right-click the selected text, and choose **Character...** from the menu.
The **Character** dialog box shows up.
 - c. On the **Fonts** tab, select the correct language for the selected text and click **OK**.
 - d. Repeat these steps for all the text that needs changing.
 - e. **Save** the document.

3.4.5.10 Exercise – How to use Accessibility checker in the Writer

1. Checking documents accessibility.
 - a. **Open** the document in the Writer.

- b. **Choose Tools > Accessibility Check.** This will open either a popup or a sidebar.
- c. Click **Fix** and a new pop-up will appear, where you can add necessary fixes.
- d. If you leave the Accessibility Check sidebar (or pop-up) open it automatically will check new additions to the document and inform you of errors.
 - i. With a blank document open the check and it will report the document title is not set. Click Fix and a pop-up will appear where you can set the document title.
 - ii. Add an image to our document. If you've left the Accessibility Check sidebar (or pop-up) open, once you've added the image, you'll find that it automatically checks the new addition and informs you that you've not added the necessary alt text (so screen readers can read a description of the image). Click Fix and a new pop-up will appear, where you can add the necessary descriptive text.
 - iii. When you add new items, the accessibility check will let you know if there are any problems.
 - iv. Alternatively, you can open the completed document, run the check and correct any problems if necessary.

3.5 Resources

1. [Accessibility/Accessibility-dev - The Document Foundation Wiki](#)
2. [How to Create Accessible LibreOffice files - The Document Foundation Wiki](#)
3. [Creating accessible PDF with LibreOffice - Accessibility Consulting - Training & Support \(netz-barrierefrei.de\)](#)
4. [ways LibreOffice supports accessibility | Opensource.com](#)
5. [English documentation | LibreOffice Documentation - LibreOffice User Guides](#)
6. [Accessibility | LibreOffice - Free Office Suite - Based on OpenOffice - Compatible with Microsoft](#)
7. [How to use LibreOffice Accessibility Check to ensure your documents are readable by all | ZDNET](#)

4 Desktop Office. Mac OS Office Apps Accessibility Management

4.1 Summary of the Sub Subtopic and the Learning Objectives Covered

Unit #4 is expected to help adjust accessibility settings for people with visual, hearing, cognitive impairments and physical disabilities.

In completing this unit, the learner will be able to:

- use Pages, Numbers and Keynotes Mac OS X applications as effectively as accessibility could it provide by every type of impairments.

Resources needed: Mac OS X, Pages, Numbers and Keynotes are required as a software.

MacBook (Air or Pro) or Mac PC (Mini, Pro or Studio) is required as a hardware.

4.2 Pages

You can use Pages to create any kind of document you want, from a simple word processing document that is mainly text, to a page layout document with graphics, interesting font treatments and more.

Word processing: Used to create documents that include mainly text, like reports or letters.

These documents have a body text area where you type, and the text flows from one page to the next, with new pages created automatically when you reach the end of the page.

Page layout: Used to create documents with a more custom design, like newsletters, books or posters. A page layout document is like a canvas that you add text boxes, images and other objects to, then arrange the objects on the page however you like.

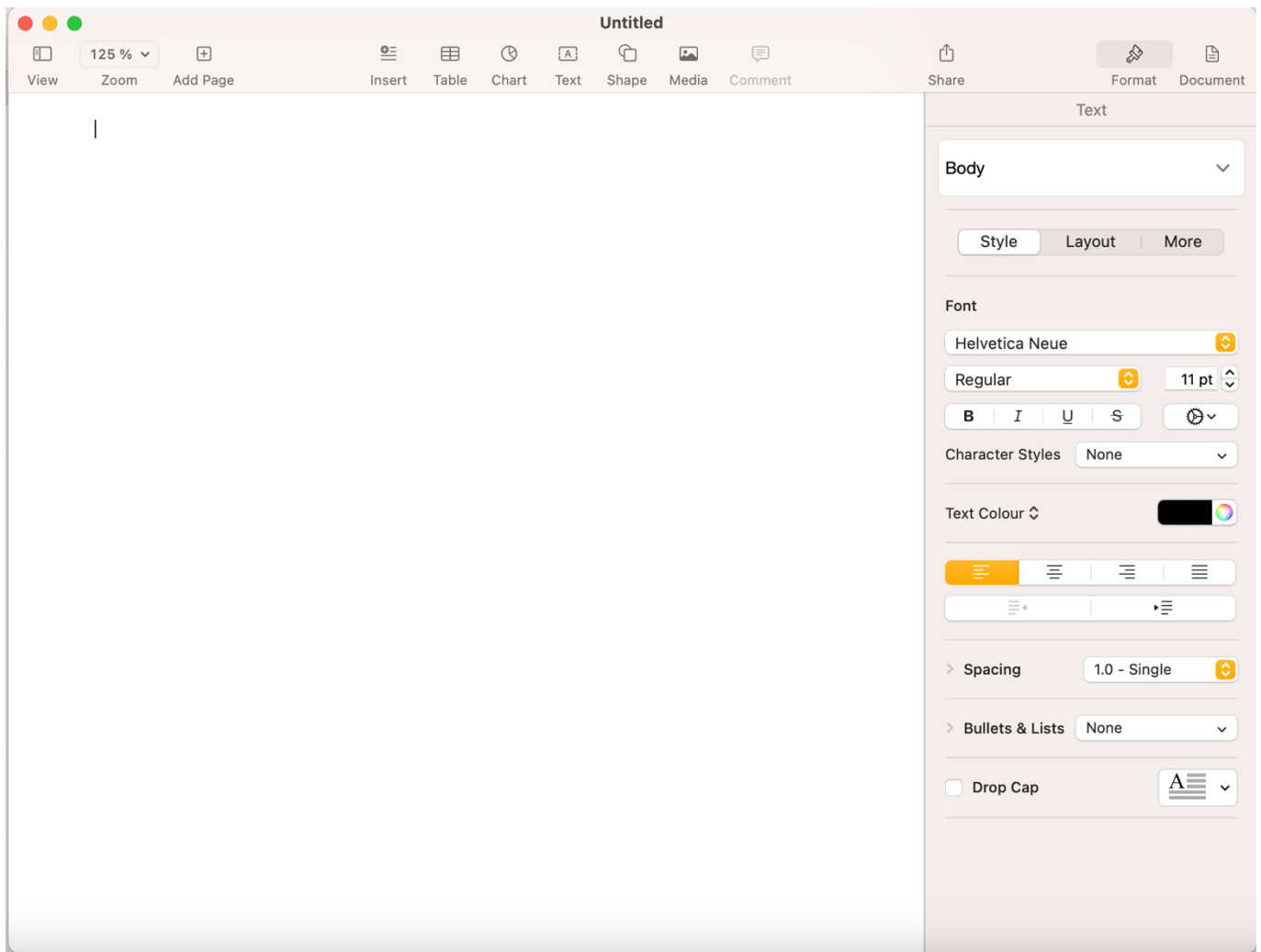


Figure 4.1.1. Pages New Document Layout

4.2.1 Pages Accessibility for People with Visual Impairments

4.2.1.1 VoiceOver in Pages

You can create a Pages document on your Mac using VoiceOver, an advanced screen reader that lets you use your device without seeing the screen. Start with a pre-designed template that includes placeholder data, charts and images, then add your own content. Each template uses coordinated fonts, text styles and colours for a unified look.

Note: VO represents the VoiceOver modifier.

The VoiceOver modifier is a key or set of keys you press with one or more other keys to enter VoiceOver commands. You can set the VoiceOver modifier to be the Caps Lock key or the Control and Option keys pressed at the same time.

To quickly turn VoiceOver on or off [using the Accessibility Shortcuts panel](#), press Option-Command-F5 (or if your Mac or Magic Keyboard has [Touch ID](#), quickly press Touch ID three times), then select or deselect the Enable VoiceOver option.

Use Siri. Say something like: “Turn VoiceOver on” or “Turn VoiceOver off”. [Learn how to use Siri](#).

VoiceOver commands are represented as VO-key, where VO represents the VoiceOver modifier. For example, the VoiceOver command VO-Shift-M means to press the VoiceOver modifier along with the Shift and M keys at the same time.

NB! Each Mac has its own set of keys (as called “shortcuts”) to activate/deactivate VO. You can find this at “System settings”.

To specify which options are available in the panel, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Shortcut on the right. (You may need to scroll down.)



Figure 4.2-1 Example of VO Modifier using Mac keyboard

4.2.1.2 Choose a template

You can choose a template from several categories, such as letters, reports and books. For example, to create a flyer to advertise a special event, you might choose Event Poster Small in the Flyers & Posters category. You choose a template in the template chooser.

- In Pages on your Mac, press VO-M to jump to the menu bar, navigate to File > New, then press Return.
 - The template chooser opens.
- Do one of the following:
 - **Choose from all templates:** Press VO-Left Arrow to navigate to the template chooser collection, then press VO-Shift-Down Arrow to enter it.
 - **Choose a template by category, such as Reports and CVs:** Press VO-Left Arrow to navigate to the table of template categories, then press VO-Shift-Down Arrow to enter it. Press VO-Down Arrow to scroll through the list of categories until you hear the category you want, then press VO-J to jump to the templates in that category.
- To navigate through the template options, press any of the arrow keys, then press Return to choose one.

4.2.1.3 Add your own text

- Document templates include placeholder text for titles, headers, body text and other text elements. You can replace any placeholder text with your own in the document layout area.
- With a document open in Pages on your Mac, press VO-U to open the rotor.
- Press the Left Arrow or Right Arrow key until you hear “Window Spots”, then press the Down Arrow key until you hear “content - Document layout area”.
- To select the document layout area, press Return, then press VO-Shift-Down Arrow to enter it.
- To scroll to the page with the text you want to replace, press VO-Up Arrow or VO-Down Arrow, then press VO-Shift-Down Arrow to enter it.
- Press VO-Right Arrow or VO-Left Arrow until you hear the text you want to edit (for instance, Header or Body), then press VO-Shift-Down Arrow.

If a text group has multiple lines, press VO-Up Arrow or VO-Down Arrow to scroll through the lines.

- To select the text in the VoiceOver cursor, press VO-Shift-A.
- Type to add your own text.

If you want to edit more text in the same group, press VO with any arrow key to navigate to it. If you want to edit a different text group, press VO-Shift-Up Arrow, then press VO-Right Arrow or VO-Left Arrow to navigate to it.

4.2.1.4 Style text

Templates use coordinated fonts, text styles and colours, but you can change the look of your text in the document layout area.

If you are using a template from the Basics category, such as Blank or Blank Landscape, you can set a default font and font size for all new documents. See [Set a default font and font size for Basic templates.](#)

- With a document open in Pages on your Mac, press VO-U to open the rotor.
- Press the Left Arrow or Right Arrow key until you hear “Window Spots”, then press the Down Arrow key until you hear “content - Document layout area”.
- To select the document layout area, press Return, then press VO-Shift-Down Arrow to enter it.
- To scroll to the page with the text you want to style, press VO-Up Arrow or VO-Down Arrow, then press VO-Shift-Down Arrow to enter it.
- Press VO-Right Arrow or VO-Left Arrow until you hear the text you want to style, then press VO-Shift-Down Arrow.
- To select the text in the VoiceOver cursor, press VO-Shift-Down Arrow, then press VO-Shift-A.
- To select only some of the text, press and hold Shift-Option while you press the Left Arrow or Right Arrow key. The text to the left or right of the insertion point is selected.
- Press VO-J to jump to the Text tab of the Format sidebar.

Note: If you jump to a different sidebar instead, you can navigate to the Format sidebar using the toolbar. From your current location, press VO-Shift-Up Arrow, then press VO-Left Arrow to

navigate to the toolbar. To enter the toolbar, press VO-Shift Down Arrow, then press VO-Right Arrow to navigate to the Format button. Press VO-Space to select it, then press VO-J twice to jump to the Text tab.

- If you jump to a different tab in the Format sidebar, press the Left Arrow or Right Arrow key to navigate to the Text tab, then press VO-Space to select it.
- To change the paragraph style, press VO-Down Arrow to navigate to the Paragraph Styles button, then press VO-Space. Press VO-Right Arrow to navigate to the Paragraph Styles table, then press VO-Shift-Down Arrow to enter it. Press VO-Down Arrow until you hear the style you want, then press VO-Space to choose it.
- You can change other text settings in the Text Formatter scroll area. Press VO-Down Arrow to navigate to the Style button, then press VO-Space to select it. Press VO-Down Arrow to navigate to the Text Formatter scroll area, then press VO-Shift-Down Arrow to enter it.

Change any of the following:

- **Font:** Press VO-Down Arrow to navigate to the Font family button, then press VO-Space. Press the Up Arrow or Down Arrow key until you hear the font you want, then press VO-Space to choose it.
- **Font size:** Press VO-Right Arrow to navigate to the Font size text field, then type a new font size.
- **Font style (bold, italic, underline and so on):** Press VO-Down Arrow to navigate to the Font Style group, then press VO-Shift-Down Arrow to enter it. Press the Left Arrow or Right Arrow key to navigate the font styles, then press VO-Space to choose the ones you want.
- To choose options like strikethrough or outline, navigate to advanced options, then press VO-Space.
 - **Text colour:** Press VO-Right Arrow to navigate to the Fill preset picker, then press VO-Space. Press VO with any arrow key until you hear the colour you want, then press VO-Space to choose it.

To learn about advanced colour options, see [Fill shapes and text boxes with colour or an image](#).

- **Alignment:** Press VO-Down Arrow to navigate to the Horizontal alignment group, then press VO-Shift-Down Arrow to enter it. Press the Left Arrow or Right Arrow key to navigate the alignment options, then press VO-Space to choose one.

To learn about aligning text, see [Align and justify text](#).

- **Spacing:** Press VO-Down Arrow until you hear “Spacing” (make sure the disclosure arrow is expanded). Press VO-Right Arrow to navigate to the Line spacing button, then press VO-Space. Press the Down Arrow key until you hear the spacing option you want, then press Return to choose it.

To learn more about spacing, see [Set line spacing](#).

- **List formatting:** Press VO-Down Arrow until you hear “Bullets and lists”. Press VO-Right Arrow to navigate to the Paragraph Styles button, then press VO-Space. Press VO-Right Arrow to navigate to the list styles list, then press VO-Shift-Down Arrow. Press VO-Down Arrow until you hear the list style you want, then press VO-Space to choose it.

To learn more about list formatting, see [Format lists](#).

- Press VO-J to jump back to the text in the document layout area.

4.2.1.5 Add your own media

You can replace the media placeholders in a template to add your own images and video. You do this in the document layout area.

- With a document open in Pages on your Mac, press VO-U to open the rotor.
- Press the Left Arrow or Right Arrow key until you hear “Window Spots”, then press the Down Arrow key until you hear “content - Document layout area”.
- To select the document layout area, press Return, then press VO-Shift-Down Arrow to enter it.
- To scroll to the page with the image you want to replace, press VO-Up Arrow or VO-Down Arrow, then press VO-Shift-Down Arrow to enter it.
- Press VO-Right Arrow or VO-Left Arrow until you hear the name of the image you want to replace.

- Press VO-Shift-M to open a shortcut menu, then press the Down Arrow key until you hear “Replace Image”. Press Return.
- In the Photos menu, navigate to the image or video you want to add, then press VO-Space to select it.

The image appears on the page where the previous image used to be.

You can also insert your own shapes and other objects by selecting the Insert menu in the toolbar.

To add accessibility descriptions to your images, drawings and videos (which are read by VoiceOver and other assistive technology), see [Add an image description](#), [Add a drawing description](#) or [Add a video description](#).

4.2.1.6 Use VoiceOver to preview comments and track changes in Pages on Mac

You can use VoiceOver to read annotations made by other people collaborating on a document. Annotations are separated by VoiceOver into three groups: comments, highlights and tracked changes. VoiceOver reads comments and identifies the person who made the comment, describes highlights (including the colour of the highlight), and when you select a tracked change, VoiceOver says whether a potential change is an addition or deletion, and lets you preview the change before you accept it.

Preview highlights, comments and tracked changes

- Press VO-U to open the rotor, then use the left and right arrow keys to select Highlights, Comments or Tracked Changes.
- Use the up and down arrow keys to navigate among the items in the document that apply to that menu (for example, to navigate among each comment), then press Return to choose one and jump to that point in the document.

Preview text including tracked changes

You can use the “Preview Change” action to preview the result of a tracked change before you accept or reject it. When you choose this action, VoiceOver speaks the text as it would appear if the tracked change was accepted. This action is available when you have selected a tracked change in the document body.

- Press VO-Command-Space to open the Actions menu.
- Use the up and down arrow keys to navigate to “Preview Change”, then press Return to preview the change.

4.2.2 Exercises (Pages)

Write a short topic about your Hobby/Interest

Please, create a new Pages document named “Pages Exercise”. Turn on VoiceOver for it. Dictate a text about your interest or hobby. Text quantity should be at least one paragraph. That document has to have relevant heading. Insert into Pages document at least one picture (it may be chosen from the internet or from your photo gallery on device). Style the text by these requirements: Arial font, 12 pt Font Size, black paragraph Font Colour and dark blue heading Font Colour, justify text (align to the right and the left), 1.5 line spacing between lines. The picture should be vertically centred in the document. Save all changes made for the “Pages Exercise” Pages document and send it to the teacher by e-mail she or he presented.

4.3 Numbers

Numbers makes it easy to create organised, professional-looking spreadsheets. You begin with a template, then modify it however you like. The templates are designed for specific purposes — like budgets and checklists — to give you a great starting point for your work. Each template comes with predesigned styles for text, tables, shapes and other objects that all look good together, so it is easy to give your spreadsheet a coordinated appearance.

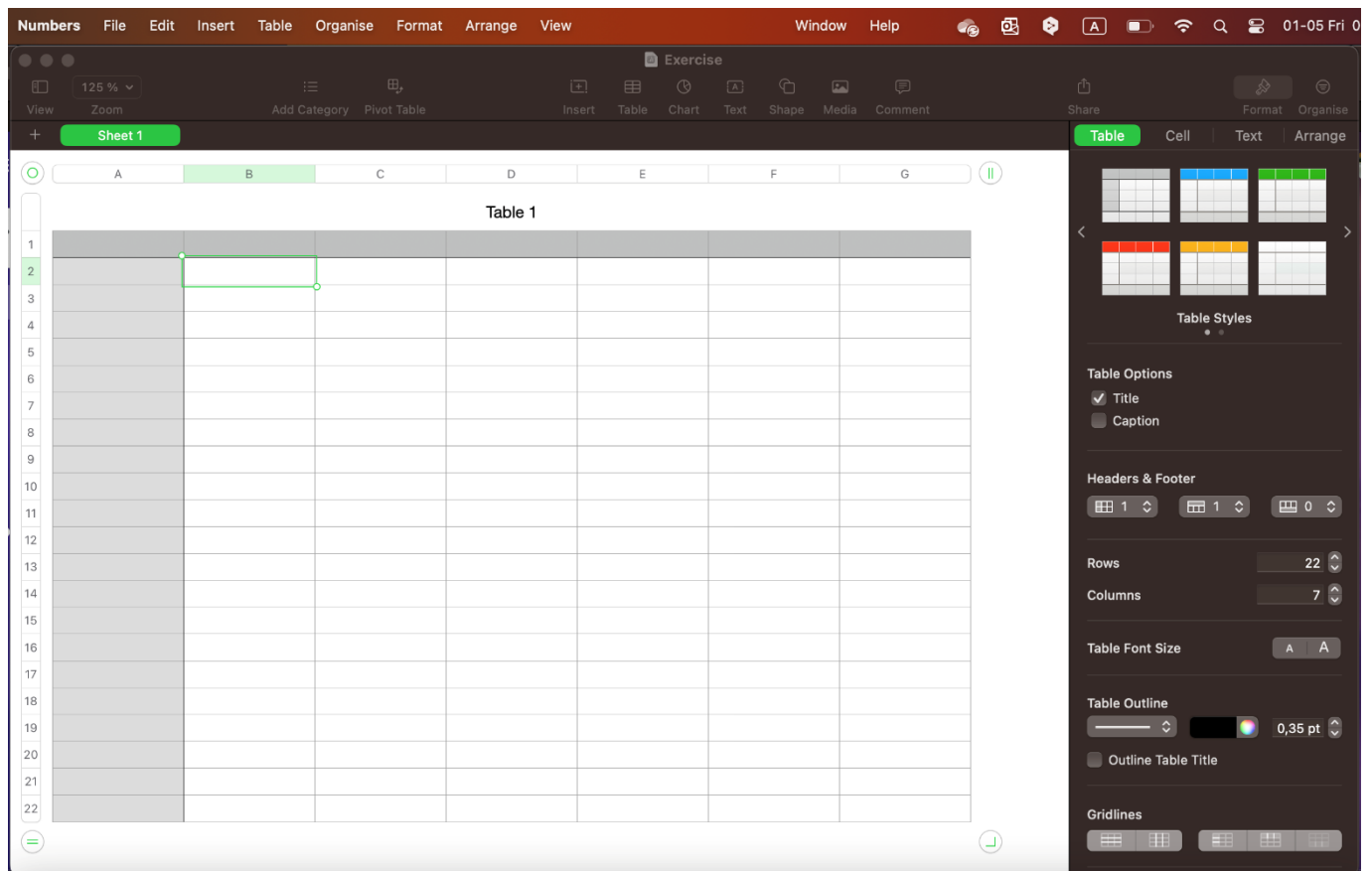


Figure 4.2. Numbers New Sheet Layout

4.3.1 Numbers Accessibility for People with Visual Impairments

4.3.1.1 Voice over in Numbers

You can create and edit Numbers spreadsheets on your Mac using VoiceOver, an advanced screen reader that lets you use your device without seeing the screen. Start with a predesigned template that includes placeholder data, charts and images, then add your own content. Each template uses coordinated fonts, text styles and colours for a unified look.

Note: VO represents the [VoiceOver modifier](#)

How to turn on/off VoiceOver described in “4.4.1. Pages Accessibility for People with Visual Impairments” (p. 3 - 4).

4.3.1.2 Choose a Template

You can choose a template from several categories, such as personal finance, business and education. For example, to create a budget based on income and expenses, you might choose Simple Budget in the Personal Finance category. You choose a template in the template chooser.

- In Numbers on your Mac, press VO-M to jump to the menu bar, navigate to File > New, then press Return.
- The template chooser opens.
- Do one of the following:
 - *Choose from all templates:* Press VO-Left Arrow to navigate to the template chooser collection, then press VO-Shift-Down Arrow to enter it.
 - *Choose a template by category, such as Personal Finance and Business:* Press VO-Left Arrow to navigate to the table of template categories, then press VO-Shift-Down Arrow to enter it. Press VO-Down Arrow to scroll through the list of categories until you hear the category you want, then press VO-J to jump to the templates in that category.
- To navigate through the template options, press any of the arrow keys, then press Return to choose one.

4.3.1.3 Add or Remove Table Row and Column

All Numbers templates include at least one table. You can change the number of rows and columns in each table to better suit your data. You do this in the Table tab of the Format sidebar.

- With a spreadsheet open in Numbers on your Mac, press VO-U to open the rotor.
- Press the Left Arrow or Right Arrow key until you hear “Window Spots”, then press the Down Arrow key until you hear “content - Sheet layout area”.
- To select the sheet layout area, press Return, then press VO-Shift-Down Arrow to enter it.
- Press VO-Right Arrow or VO-Left Arrow until you hear the name of the table you want to edit.

- *Note:* VoiceOver speaks the number of rows and columns in the table.
- Press VO-J to jump to the Table tab of the Format sidebar, then press VO-Space to select it.
- *Note:* If you jump to the Organise sidebar instead, you can navigate to the Format sidebar using the toolbar. From your current location, press VO-Shift-Up Arrow, then press VO-Left Arrow to navigate to the toolbar. To enter the toolbar, press VO-Shift Down Arrow, then press VO-Right Arrow to navigate to the Format button. Press VO-Space to select it, then press VO-J twice to jump to the Table tab.
- To navigate to the Table Formatter scroll area, press VO-Down Arrow, then press VO-Shift-Down Arrow to enter it.
- To change the number of rows, press VO-Right Arrow until you hear “Rows”, press VO-Right Arrow again to select the current number of rows, enter the number you want, then press Return.
- To change the number of columns, press VO-Right Arrow until you hear “Columns”, press VO-Right Arrow again to select the current number of columns, enter the number you want, then press Return.

4.3.1.4 Change the Chart Type

Many Numbers templates include at least one chart. If you want to change the chart type to better suit your data — for example, from a column chart to a pie chart — you can do this in the Format menu.

- With a spreadsheet open in Numbers on your Mac, press VO-U to open the rotor.
- Press the Left Arrow or Right Arrow key until you hear “Window Spots”, then press the Down Arrow key until you hear “content - Sheet layout area”.
- To select the sheet layout area, press Return, then press VO-Shift-Down Arrow to enter it.
- Press VO-Right Arrow or VO-Left Arrow until you hear the name of the chart you want to edit.
- Press VO-M to jump to the menu bar, then navigate to Format > Chart > Chart Type.

- In the Chart Type menu, press the Down Arrow key until you hear the type of chart you want to use, then press Return.
- The chart automatically updates in the sheet layout area and VoiceOver speaks the selected chart type to confirm your change.

4.3.1.5 Add your own data to tables and charts

You can replace the template placeholder data for tables and charts with your own data in the sheet layout area.

Chart data and axis labels automatically update when you change the data in a corresponding table. Chart titles do not update automatically, but you can change them manually.

- With a spreadsheet open in Numbers on your Mac, press VO-U to open the rotor.
- Press the Left Arrow or Right Arrow key until you hear “Window Spots”, then press the Down Arrow key until you hear “content - Sheet layout area”.
- To select the sheet layout area, press Return, then press VO-Shift-Down Arrow to enter it.
- Press VO-Right Arrow or VO-Left Arrow until you hear the name of the table you want to edit, then press VO-Shift-Down Arrow to enter it.
- To navigate through the cells in the table, press VO and any of the arrow keys.
- To add or replace cell data, navigate to the cell, then type.

To change the name of a table, navigate to the table in the sheet layout area, then press VO-Space. Press Command-A to select the current name, then type to enter a new one. To change the name of a chart, navigate to the chart in the sheet layout area, then press VO-Shift-Down Arrow to enter it. VoiceOver should speak the title of the chart. Press VO-Space twice, then type the new title.

4.3.1.6 Add your own Media

To add your own images and videos, you can replace the media placeholders in the template. You do this in the sheet layout area.

- With a spreadsheet open in Numbers on your Mac, press VO-U to open the rotor.

- Press the Left Arrow or Right Arrow key until you hear “Window Spots”, then press the Down Arrow key until you hear “content - Sheet layout area”.
- To select the sheet layout area, press Return, then press VO-Shift-Down Arrow to enter it.
- Press VO-Right Arrow or VO-Left Arrow until you hear the name of the image you want to replace.
- Press VO-Shift-M to open a shortcut menu, then press the Down Arrow key until you hear “Replace Image”. Press Return.
- In the Photos menu, navigate to the image or video that you want to add, then press VO-Space.
- The image appears on the sheet where the previous image used to be.

You can also insert your own shapes and other objects by selecting the menus in the toolbar: Insert, Table, Chart, Text, Shape, Media and Comment.

To add accessibility descriptions to your images, drawings and videos (which are read by VoiceOver and other assistive technology), see [Add an image description](#), [Add a drawing description](#) or [Add a video description](#).

4.3.1.7 Add your own text to text boxes

Spreadsheet templates sometimes include placeholder text boxes outside of tables that describe how to use a spreadsheet containing formulas and functions, such as the Personal Budget template or the Shared Expenses template. You can replace this text with your own in the sheet layout area.

- With a spreadsheet open in Numbers on your Mac, press VO-U to open the rotor.
- Press the Left Arrow or Right Arrow key until you hear “Window Spots”, then press the Down Arrow key until you hear “content - Sheet layout area”.
- To select the sheet layout area, press Return, then press VO-Shift-Down Arrow to enter it.
- Press VO-Right Arrow or VO-Left Arrow until you hear the text box you want to edit.
- Type to add your own text.

If you want to edit another text box, press VO-Shift-Up Arrow, then press VO-Right Arrow or VO-Left Arrow to navigate to it.

4.3.1.8 Use VoiceOver to create formulas and autofill cells in Numbers on Mac

To make calculations using data in your table, you can create a formula using the formula editor. VoiceOver speaks the names of functions, definitions and examples for each function, formula errors and more, to make it easier to insert and edit formulas in your spreadsheet.

You can also use autofill mode to quickly fill cells, or a row or column, with the same formula, data or a logical sequence of data — for example, a series of numbers, letters or dates.

VoiceOver indicates when you are using autofill mode.

Insert a Formula

- To open the formula editor, select the cell where you want to insert the formula, then type the equals sign (=).
- Begin typing your expression, such as 4x3 or C2+C3.
- To add a function to your formula, type the name of the function you want followed by an open parenthesis.

You can also type part of the function's name, then use the left and right arrow keys to cycle through the autocomplete options; use the Return key to choose the function you want.

To complete the function, replace each argument placeholder token with the desired argument value.

- When you finish creating your formula, press the Return key.

You can also edit an existing formula. Press VO-Space to bring up the formula editor, make your changes, then press Return.

4.3.2 Exercises (Numbers)

Make a Shopping List

Please, create a new Numbers spreadsheet named "Numbers Exercise". Turn on VoiceOver for it. Create a table, which has to have these columns names: "Product Name", "Product Price, €", "Product Quantity", "Subtotal, €".

Table 1 Exercise Numbers

	Product Name	Product Price, €	Product Quantity	Subtotal, €
1.	Milk, 1 l	1,5	3	
2.	Weat Bread, 1 pcs.	0,8	2	
3.	Mineral water, 1,5 l	0,7	2	
4.	Eggs, 10 pcs. in box	2,5	4	
5.	Apples, 1 kg	0,8	2	
6.	Oranges, 1 kg	2,4	2	
7.	Total			

Fill the rows of this table with the data represented in Table 1. Using VoiceOver only please calculate each Subtotal and Total. You will need to use multiply formula creation and AutoSum Formula.

Question: How many (€) will you receive in Total?

Answer: 23,9 €.

4.4 Keynote

You can use Keynote to create beautiful and engaging presentations with fun animations, interesting transitions and professional polish.

To create a Keynote presentation, you always start with a [theme](#), then modify it however you want. Slides in a theme include placeholder images and text styled as headlines and body content.

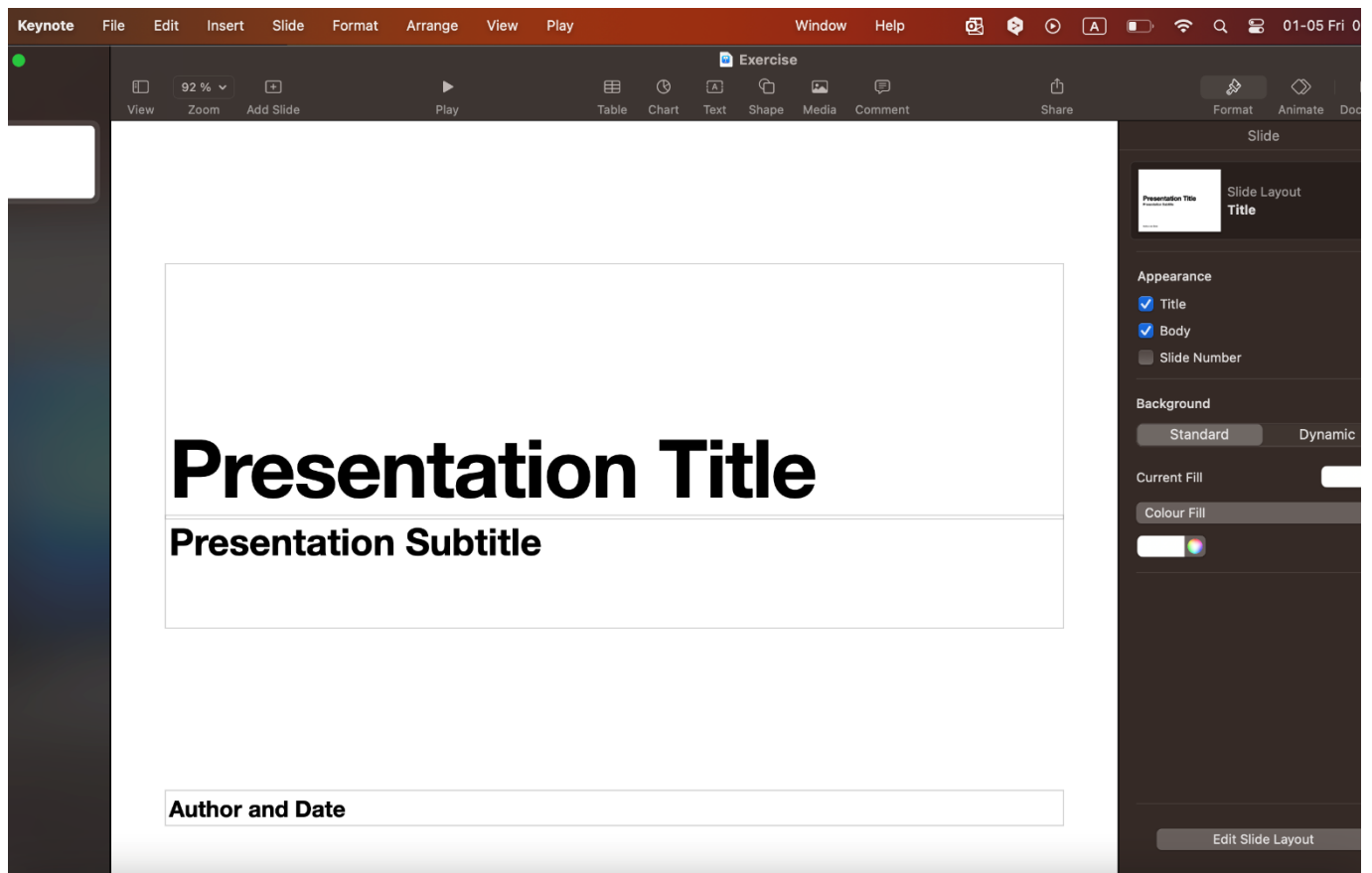


Figure 4.3. Keynote New Presentation Layout

4.4.1 Keynote Accessibility for People with Visual Impairments

4.4.1.1 Use VoiceOver to create a Keynote presentation on Mac

You can create a Keynote presentation on your Mac using VoiceOver, an advanced screen reader that lets you use your device without seeing the screen. Start with a theme — a set of pre-designed slide layouts and elements — then add your own content. Each theme uses coordinated fonts, text styles and colours for a unified look.

Note: VO represents the [VoiceOver modifier](#).

How to turn on/off VoiceOver described in “4.1.1. Keynote Accessibility for People with Visual Impairments”.

4.4.1.2 Choose a Theme

You can choose a theme with standard or wide slide sizes, or a custom theme — a theme you modified and saved to use again later. You choose a theme in the theme chooser.

- In Keynote on your Mac, press VO-M to jump to the menu bar, navigate to File > New, then press Return.

The theme chooser opens.

- To navigate to the theme chooser collection, press VO-Left Arrow or VO-Right Arrow, then press VO-Shift-Down Arrow to enter it.

To choose a wide or standard theme, press VO-Left Arrow or VO-Right Arrow until you hear “Standard (4:3)” or “Wide (16:9)”, then press VO-Space to open the menu. Press VO-Up Arrow or VO-Down Arrow to hear the options, then press VO-Space to select the one you want.

- To navigate through the theme options, press any of the arrow keys, then press Return to choose one.

For example, if you wanted to create a presentation to showcase photographs with a simple black background, you might choose the Photo Essay theme.

4.4.1.3 Change the Slide Layout

You can quickly change the look of a slide by selecting a different slide layout. You do this in the Slide tab of the Format sidebar.

- With a presentation open in Keynote on your Mac, press VO-U to open the rotor.
- Press the Left Arrow or Right Arrow key until you hear “Window Spots”, then press the Down Arrow key until you hear “content navigator - Slide navigator table”.
- To select the slide navigator, press Return, then press VO-Shift-Down Arrow to enter it.
- Press the Up Arrow or Down Arrow key until you hear the slide you want to edit, then press VO-J twice to jump to the Slide tab of the Format sidebar.

Note: If you jump to a different sidebar instead, you can navigate to the Format sidebar using the toolbar. From your current location, press VO-Shift-Up Arrow, then press VO-Left Arrow to navigate to the toolbar. To enter the toolbar, press VO-Shift

Down Arrow, then press VO-Right Arrow to navigate to the Format button. Press VO-Space to select it. To navigate to the Slide tab, press VO-J three times.

- To hear the current slide layout, press VO-Down Arrow. To select the Slide Layout button, press VO-Space.
- To navigate through the slide layout options, press VO-Right Arrow until you hear “Scroll Area”, then press VO-Shift-Down Arrow. Press VO-Right Arrow or VO-Left Arrow until you find the slide layout you want, then press VO-Space to choose it.

4.4.1.4 Add Your Own Text

Slide layouts include placeholder text boxes with text for titles, subtitles, body text and other text elements. You can replace any placeholder text with your own.

- With a presentation open in Keynote on your Mac, press VO-U to open the rotor.
- Press the Left Arrow or Right Arrow key until you hear “Window Spots”, then press the Down Arrow key until you hear “content - Slide layout area”.
- To select the slide layout area, press Return, then press VO-Shift-Down Arrow to enter it.
- Press VO-Right Arrow or VO-Left Arrow until you hear the text you want to edit (for instance, Title or Body).
- Type to add your own text.

If you want to edit another text box on the slide, press VO-Shift-Up Arrow, then press VO-Right Arrow or VO-Left Arrow to navigate to it.

4.4.1.5 Add Your Own media

You can replace the placeholder media on a slide to add your own images and video. You do this in the slide layout area.

- With a presentation open in Keynote on your Mac, press VO-U to open the rotor.
- Press the Left Arrow or Right Arrow key until you hear “Window Spots”, then press the Down Arrow key until you hear “content - Slide layout area”.
- To select the slide layout area, press Return, then press VO-Shift-Down Arrow to enter it.

- Press VO-Right Arrow or VO-Left Arrow until you hear the name of the image you want to replace.
- Press VO-Shift-M to open a shortcut menu, then press the Down Arrow key until you hear Replace Image. Press Return.
- In the Photos menu, navigate to the image or video you want to add, then press VO-Space to select it.

The image appears on the slide where the previous image used to be.

You can also insert your own shapes and other objects by choosing the Insert menu in the toolbar.

To add accessibility descriptions to your images, audio and videos (which are read by VoiceOver and other assistive technology), see [Add an image description](#), [Add an audio description](#), or [Add a video description](#).

4.4.1.6 Play a Presentation

When you play a presentation on your Mac, VoiceOver speaks the text and images on the current slide. The presentation plays in full screen.

To learn how to play your presentation on a separate display, see [Play a presentation on a separate display](#).

- With a presentation open in Keynote on your Mac, press VO-U to open the rotor.
- Press the Left Arrow or Right Arrow key until you hear “Window Spots”, then press the Down Arrow key until you hear “content navigator - Slide navigator table”.
- To select the slide layout area, press Return, then press VO-Shift-Down Arrow to enter it.
- Press the Up Arrow or Down Arrow key until you hear the slide you want to begin with, then press Option-Command-P to play the slideshow.
- To navigate around the slide and hear images and text, press VO and any arrow key.
- To advance through the presentation, do any of the following:
 - Go to the next slide or build: Press the Right Arrow key.
 - Go back a slide or reset the builds on the slide: Press the Left Arrow key.

- Jump to a different slide: Press any number key to make the slide navigator appear, press Command-A to select the current slide number in the text field, then enter the slide number. Press Return.
- To stop playing the presentation, press Esc.

4.4.2 Exercises (Keynote)

Make a Presentation about your VoiceOver experience used for Pages and Numbers

Please, create a new Keynote presentation named “Keynote Exercise”. Turn on VoiceOver for it. Using only VoiceOver Utility, please create presentation with data represented in “Pages Exercise” and “Numbers Exercise” files. Describe your experience with using VoiceOver Utility for Pages and Numbers too. There have to be at least 5 slides in “Keynote Exercise” presentation, the first one should be a Title slide and the last one should introduce all used sources. At least one slide has to have a picture and another one has to have a table. Style the presentation by these requirements: Arial font, 12 pt Font Size, dark text Font Colour, justify text (align to the right and the left). The picture and the table should be vertically centred in the slides. Choose “Dynamic Waves Light” theme for presentation. Save all changes made for the “Keynote Exercise” presentation and send it to the teacher by e-mail she or he presented.

4.5 Accessibility features on Mac

Some Office Program’s accessibility features are common for each Software installed on MacOS. All of them will be reviewed below.

Get started with accessibility features on Mac

macOS accessibility features can help you with vision, hearing, physical motor activities, speech and more. If you didn’t turn on accessibility features when you set up your Mac, you can do so at any time in Accessibility settings.

4.5.1 MacOS accessibility features for People with Visual Impairments

4.5.1.1 VoiceOver in MAC OS

Use VoiceOver, the built-in screen reader on your Mac, to speak what’s on the screen and the text in documents, web pages and windows. With VoiceOver, you can control your Mac with the

keyboard, trackpad gestures or a refreshable braille display. To customise VoiceOver, use VoiceOver Utility. See the [VoiceOver User Guide](#).

How to use VoiceOver with Pages, Numbers and Keynote is described above (1.4.1 Pages, 1.4.2. Numbers, 1.4.3. Keynote). To turn VoiceOver Utility on/off requires the same steps for any Software.

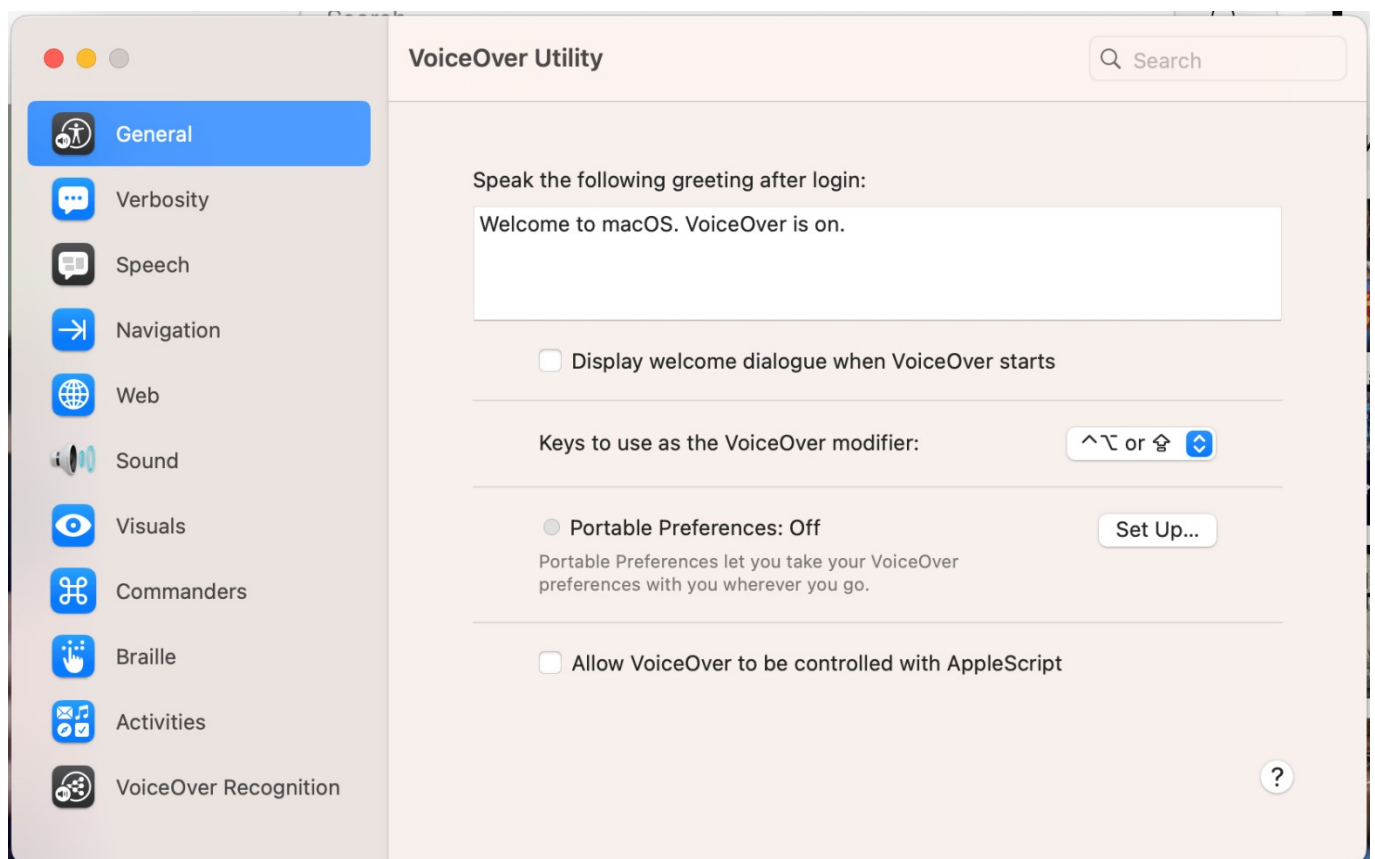


Figure 4.5-1 How to Manage VoiceOver Utility Settings

4.5.1.2 Zoom features

- Make content on the screen larger and easier to see by zooming the entire screen or an area of it. If you are using a second display, you can set the zoom for it separately. See [Zoom in and out on what's onscreen](#).
- Use Hover Text to see a larger version of whatever is under the pointer — for example, text you are reading or typing or text and icons in the user interface. See [Use Hover Text](#).

With Hover Text on your Mac, you can move the pointer over text on the screen to display a larger version of it and display a larger version of text as you type.

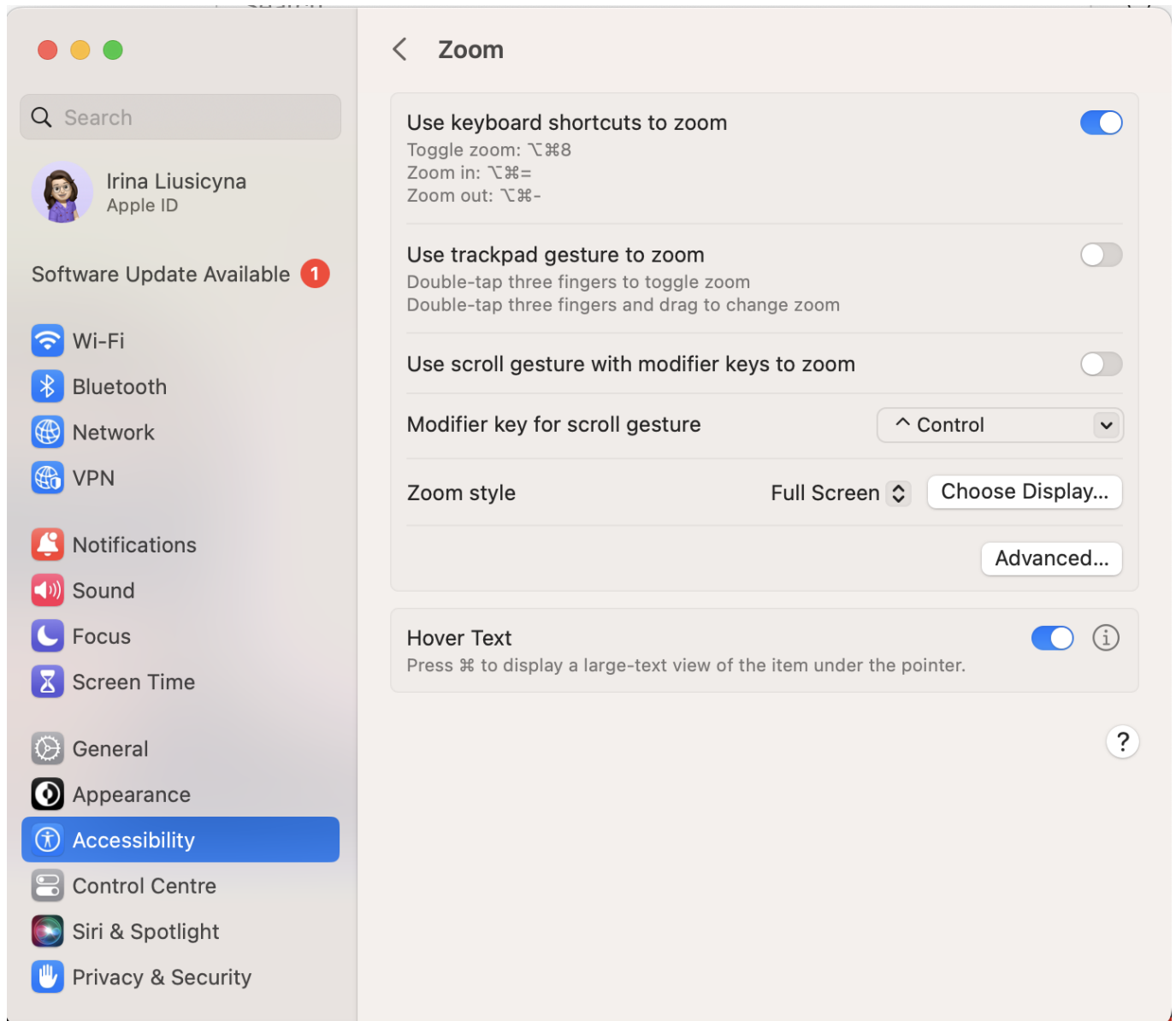


Figure 4.5-2 How to Turn on Hover Text

- Turn on Hover Text

- ✓ On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Zoom on the right. (You may need to scroll down.)
- ✓ Turn on Hover Text.

- Show a larger version of text when you move the pointer over it

- ✓ After you [turn on Hover Text](#), move the pointer over text on the screen, then press the Command key to display a larger version.

Tip: Have the Hover Text window automatically displayed when you move the pointer over text, without needing to press a key every time. Choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Zoom on the right (you may need to scroll down). Click the Info button  next to Hover Text, then turn on Triple-press modifier to set activation lock. To turn activation lock on or off, quickly press the Command key three times. You can change the key you press to activate Hover Text and activation lock. Click the Activation modifier pop-up menu, then choose another key.

- Show a larger version of text as you type

After you [turn on Hover Text](#), you can display a larger version of what you are typing as you type.

- ✓ On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Zoom on the right. (You may need to scroll down.)
- ✓ Click the Info button  next to Hover Text, click the Text-entry location pop-up menu, then choose a location.

As you type, a larger version of what you are typing is displayed in a window at the location you specified.

- Customise the appearance of Hover Text

- ✓ On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Zoom on the right. (You may need to scroll down.)
- ✓ Click the Info button  next to Hover Text, then change any of the following:
 - ✓ The text size and font of the text shown in the Hover Text window
 - ✓ The colours used for the text shown in the window and the window itself
- If your Mac has a [Touch Bar](#) and items in the Touch Bar are hard to see, turn on Touch Bar zoom to display a larger version of the Touch Bar on the screen. See [Zoom in on the Touch Bar](#).

4.5.1.3 Display features

- Use a single slider to adjust the reading size for text across multiple apps and system features. See [Make text and icons bigger across apps and system features](#).

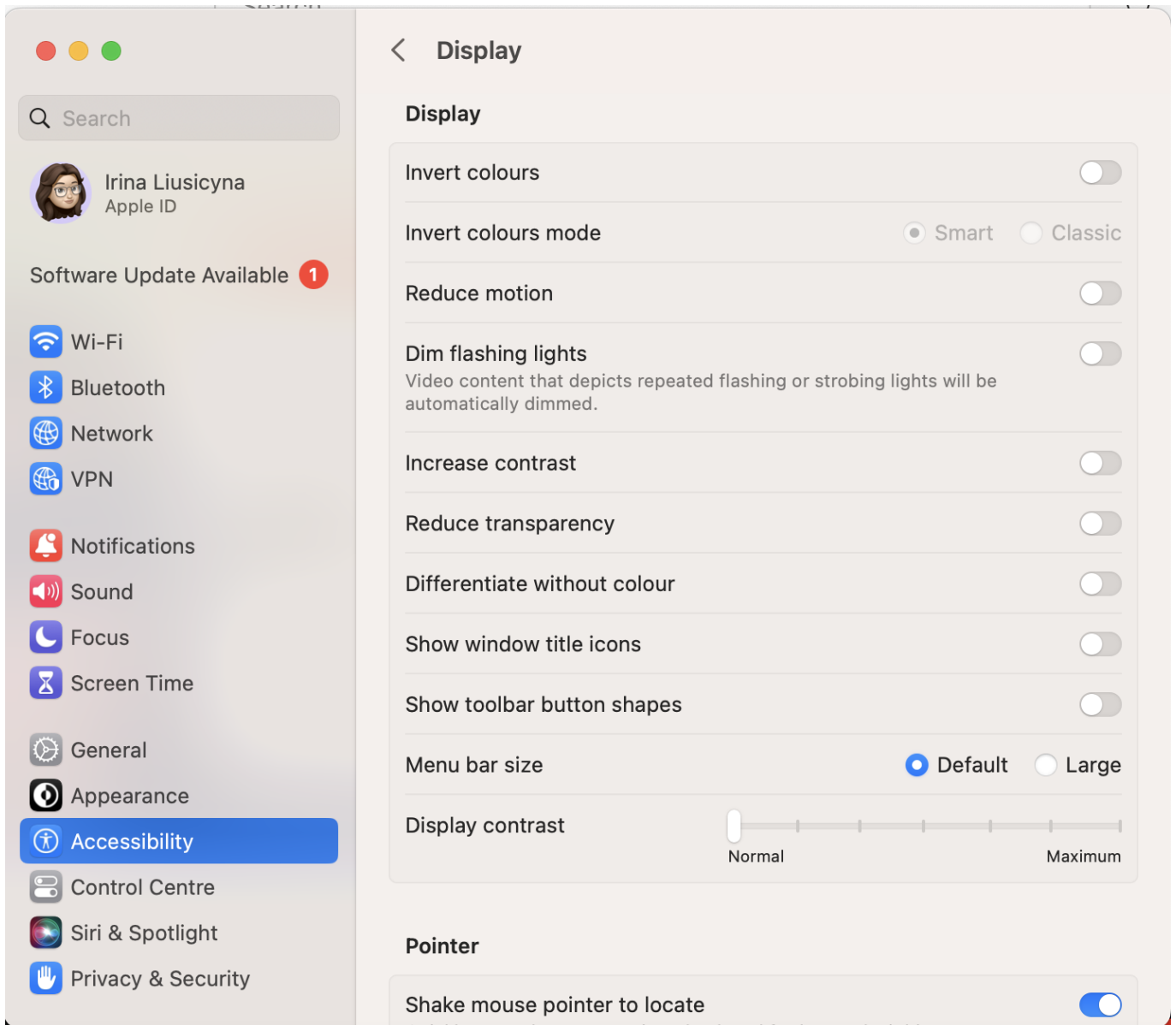


Figure 4.5-3 How to Manage Accessibility Display settings (1 of 3)

- On your Mac, choose Apple menu  > System Settings, then click Accessibility  in the sidebar. (You may need to scroll down.)
- Click Display on the right, go to Text, then click Text size. (You may need to scroll down.)

- Drag the slider to the right to increase the text size on the desktop, in sidebars and in the listed apps (if they are set to Use Preferred Reading Size).

To set a different text size for any of the listed apps, click the pop-up menu next to the app, then choose a size.

Note: If an app is set to Customised in App, a unique text size has been set in that app's settings. If you change the app's text size in System Settings, it replaces the text size customisation you set in the app.

- Make it easier to find the pointer on the screen by changing its size or colour, or making it bigger when you quickly move it. See [Make the pointer easier to see](#).

If you have difficulty seeing or following the pointer, you can change its size and colour so it is easier to locate on the screen.

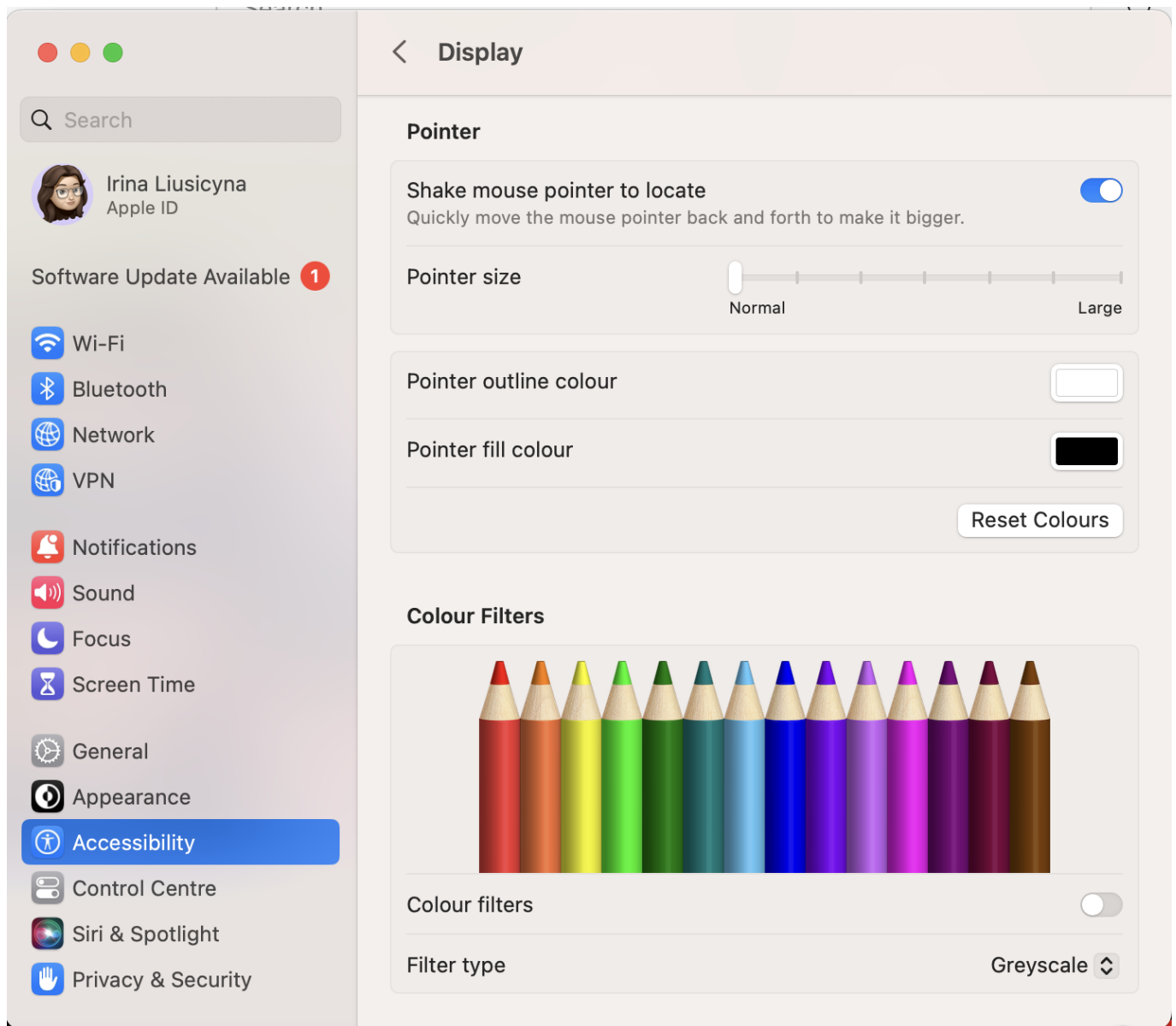


Figure 4.5-4 How to Manage Accessibility Display settings (2 of 3)

- On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Display on the right. (You may need to scroll down.)
- Go to Pointer, then set any of these options:
- **Shake mouse pointer to locate:** Turn this option on to make the pointer larger when you quickly move your finger on the trackpad or quickly move the mouse.
- **Pointer size:** Drag the slider until the pointer size is right for you.

- **Pointer outline colour:** Click the colour well to select a colour for the pointer's outline.
- **Pointer fill colour:** Click the colour well to select a colour for the inside of the pointer.
- **Reset Colours:** Use the default pointer outline colour (white) and fill colour (black).
- Make it easier to view and differentiate what's on the screen by inverting colours, reducing transparency or applying a colour filter or tint. See [Change display colours to make it easier to see what's onscreen](#).

To make it easier to see what's on the screen of your Mac, you can invert display colours, make transparent items solid, and modify display colours with colour filters.

- Invert colours

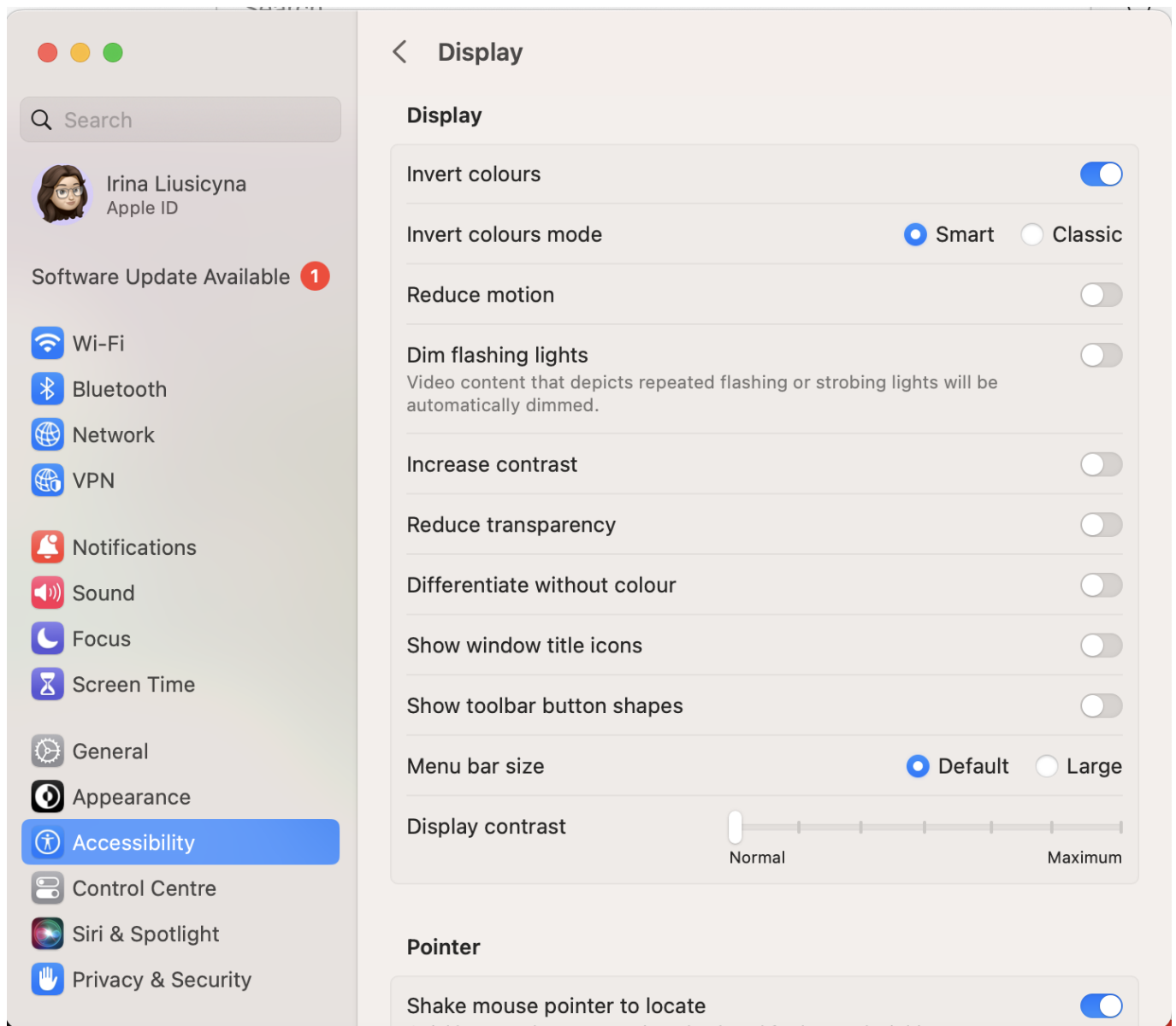


Figure 4.5-5 How to Manage Accessibility Display settings (3 of 3)

You can invert display colours to make the background dark so text and content stand out. This can be especially useful in apps and websites that do not support Dark Mode. (To use Dark Mode on your Mac, see [Use a light or dark appearance.](#))

- ✓ Choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Display on the right. (You may need to scroll down.)
- ✓ Turn on “Invert colours”.

Note: If you turn on [Night Shift](#) or [colour filters](#) (except Greyscale), “Invert colours” is automatically turned off.

- ✓ Choose a mode for inverting colours:
 - **Smart:** Invert colours everywhere except images and video.
 - **Classic:** Invert colours everywhere.

- Make transparent items solid

Some windows and areas of the desktop, such as the Dock and menu bar, appear transparent by default. You can turn these transparent areas a solid grey to make it easier to distinguish them from the background.

- ✓ Choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Display on the right. (You may need to scroll down.)
- ✓ Turn on “Reduce transparency”.

- Differentiate or tone down colours

You can apply a filter to view the entire screen in greyscale, adjust colours for colour vision deficiencies, or tint the screen a colour of your choosing.

- ✓ On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Display on the right. (You may need to scroll down.)
- ✓ Go to Colour Filters, then turn on Colour filters.

The pencils reflect how the filter affects a range of colours.

Note: If you turn on [Night Shift](#) or [invert colours](#), colour filters are automatically turned off (except Greyscale).

- ✓ Click the “Filter type” pop-up menu, then choose a filter.

You can adjust the intensity by dragging the Intensity slider.

If you choose Colour Tint, click the colour well to choose the colour of the tint.

Note: Colour filters can change the look of images and videos.

- Stop or reduce motion on the screen — for example, when you open apps or switch between desktops, view media depicting flashing or strobing lights, or view rapid animated images (such as GIFs). See [Stop or reduce onscreen motion](#).

Note: “Dim flashing lights” is available only for supported media and on Mac computers with [Apple silicon](#). It should not be relied upon for the treatment of any medical condition. Content is processed on device in real time.

4.5.1.4 Spoken Content features

Customise the voice your Mac uses to speak text, and have your Mac speak announcements, items under the pointer and whatever you type or select. See [Change Spoken Content settings for accessibility](#).

On your Mac, use Spoken Content settings to customise the system voice, be notified when an alert or app needs your attention and set other options for content your Mac can speak aloud.

To change these settings, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Spoken Content on the right. (You may need to scroll down.)

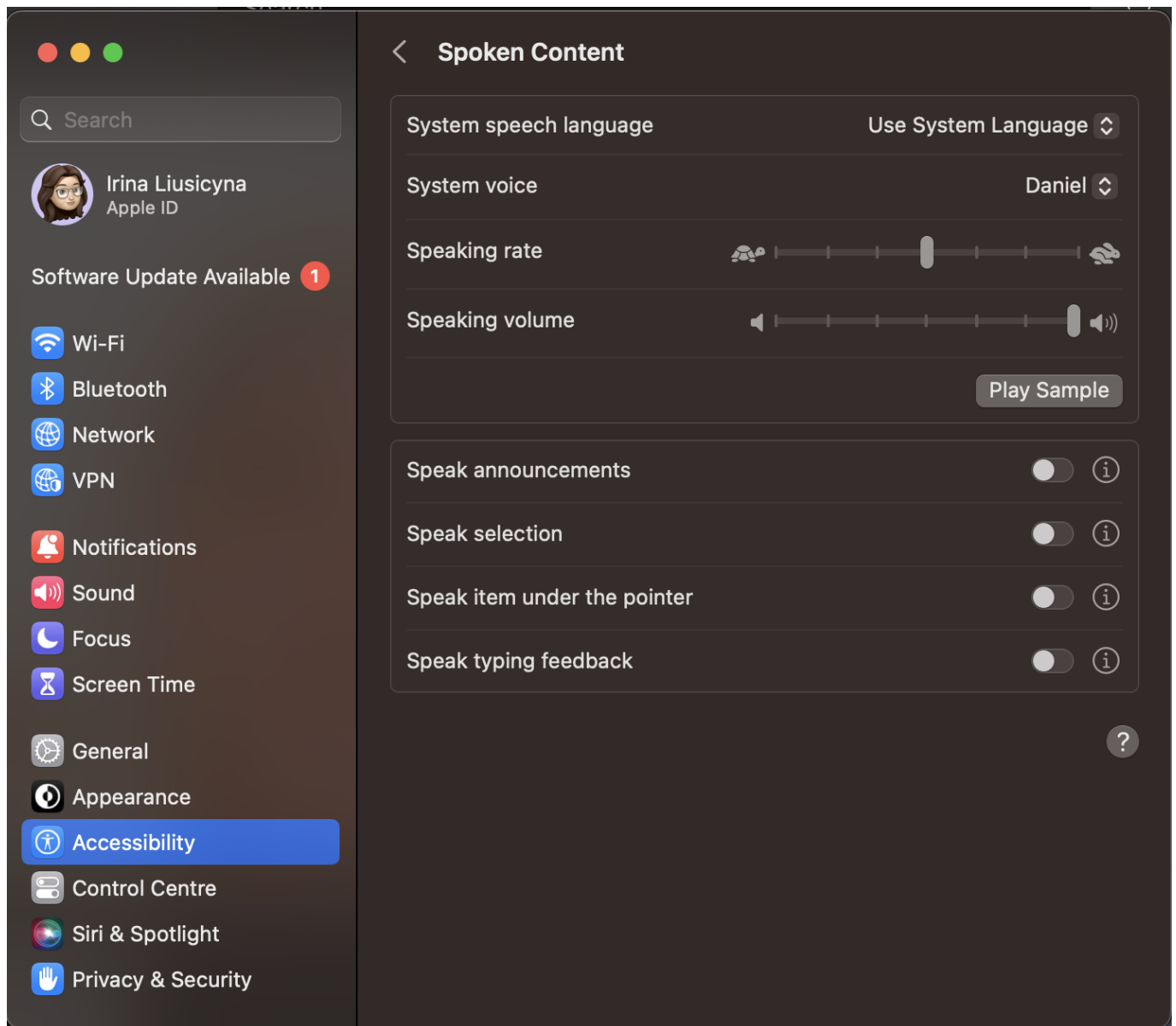


Figure 4.5-6 How to Manage Accessibility Spoken Content Settings

Option	Description
System speech language	Choose the language you want your Mac to use to speak text and alerts, if different from the system language.

Option	Description
System voice	Choose a voice to speak text and alerts; click Play Sample to hear a sample. See Change the voice your Mac uses to speak text .
Speaking rate	Set the speed at which text is spoken.
Speaking volume	Set the volume at which text is spoken. Setting the volume here does not affect the volume set for your Mac in Sound settings.
Speak announcements	Have your Mac announce and speak dialogues and other announcements. See Have your Mac speak announcements. To customize, click the Info button , then select a voice, the phrase you want to hear (such as the app name or “Attention!”) before an announcement is spoken and how long your Mac waits before it speaks. Click Play Sample to hear a sample.
Speak selection	Have your Mac speak selected text when you press the specified keyboard shortcut. See Have your Mac speak text that is on the screen. To customise, click the Info button : • Keyboard shortcut: Press the key combination you want to use. For example, press the Option and Tab keys together to set the keyboard shortcut as Option+Tab. • Highlight content: Choose to have spoken words, sentences or both highlighted. If you do not want spoken content highlighted, choose None.

Option	Description
	• Word colour: Choose the colour to use to highlight words as they're spoken. • Sentence colour: Choose the colour to use to highlight sentences as they're spoken. • Sentence style: Choose how to indicate sentences as they're spoken (Underline or "Background colour"). • Show controller: Choose when to show the controller (Automatically, Never or Always).
Speak item under the pointer	Have your Mac identify items under the pointer. To customise, click the Info button , then choose when your Mac speaks the item (all the time or only when you use zoom), the level of detail (called <i>verbosity</i>) (High, Medium or Low), and how long to have your Mac wait before speaking.
Speak typing feedback	Have your Mac speak what you type or press using the keyboard. To customise, click the Info button : • Echo characters: Your Mac speaks each character you type. • Echo words: Your Mac speaks each word you type. • Echo selection changes: When you use the arrow keys to move the insertion point forward or back, your Mac speaks the character to the right or left of the insertion point. • Echo modifier keys: Your Mac speaks each modifier key you press, including the Caps Lock key.

You can set keyboard shortcuts to quickly turn on or off options like Speak selection, Speak item under the pointer and Speak typing feedback. Choose Apple menu  > System Settings,

click Keyboard  in the sidebar (you may need to scroll down), click Keyboard Shortcuts on the right, then click Accessibility. See [Use macOS keyboard shortcuts](#).

If your Mac is speaking even though you didn't set options for it to do so, you may have inadvertently turned on VoiceOver, the built-in screen reader that describes aloud what appears on your screen. To quickly turn VoiceOver off, press Command-F5. If your Mac or Magic Keyboard has [Touch ID](#), press and hold the Command key while you quickly press Touch ID three times.

4.5.1.5 Descriptions

Listen to a description of the visual content in movies, TV shows and other media, if available. See [Change Descriptions settings for accessibility](#).

On your Mac, use H to listen to a description of the visual content in movies, TV programmes and other media, if available.

To change these settings, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Descriptions on the right. (You may need to scroll down.)

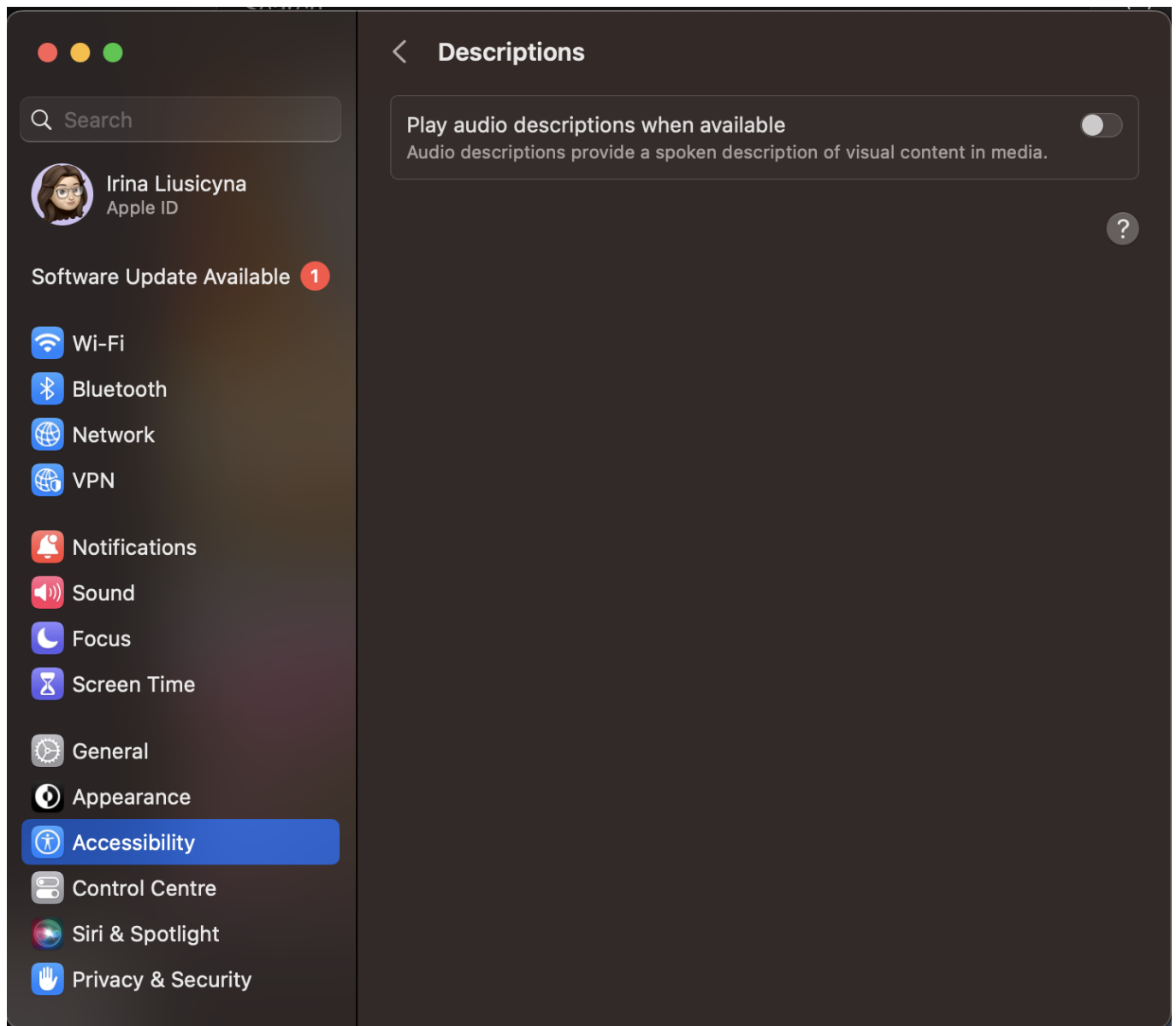


Figure 4.5-7 How to Manage Accessibility Descriptions Settings

Option	Description
Play audio descriptions when available	Automatically play a spoken description of visual content in media.

4.5.2 Exercises (Mac OS Accessibility for People with Visual Impairments)

accessibility features

4.5.3 Accessibility for People with Hearing Impairments

4.5.3.1 MacOS Accessibility Features for Hearing

macOS includes accessibility features to show and customise captions on the screen, make and receive Real-Time Text (RTT) calls and more.

RTT combines voice and typed text during phone calls without needing special devices; this is especially useful if you have difficulties hearing or speaking. With RTT, you can type text during a phone call and your recipients can read your text immediately. You can make and receive RTT calls on your iPhone and other Apple devices (this feature is not available in all countries or regions or supported by all network providers).

4.5.3.2 Hearing Devices Features

- Change Hearing Devices settings for accessibility on Mac

Use Hearing Devices settings to pair Made for iPhone (MFi) hearing aids or sound processors with your Mac and adjust their settings.

Note: Made for iPhone hearing devices can be paired only with select Mac computers with the M1 chip, and all Mac computers with the M2 or M3 chip. The new style inherits the settings of the style that you selected when you clicked the Add button. For a list of supported hearing devices and more information about Mac system requirements, see the Apple Support article [List of Made for iPhone hearing devices](#).

To change these settings, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Hearing Devices. (You may need to scroll down.)

Option	Description
Available Devices	When unpaired hearing devices are in range of your Mac, they appear in the list of available devices. To pair hearing devices with your Mac,

Option	Description
	move the pointer over the devices, then click Connect. See Pair hearing devices with your Mac .

Before you begin, make sure your hearing devices are charged and within range of your Mac. If your hearing devices are already paired to another nearby device, such as an iPhone or iPad, make sure Bluetooth® is turned off on those devices. (When you finish pairing your hearing devices to your Mac, you can turn Bluetooth on again on those devices.)

- On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Hearing Devices. (You may need to scroll down.)
- If prompted, turn on Bluetooth.
- Power your hearing devices off and back on again.

If you are not sure how to power off your hearing devices, refer to the instructions that came with them or check with the audiologist who helped you set them up.

- When your hearing devices appear in the list of available devices, move the pointer over them, then click Connect.

Pairing can take as long as 60 seconds — do not try to stream audio or otherwise use the hearing devices until pairing is finished. When pairing is finished, you hear a series of beeps and a tone.

You need to pair your devices with your Mac only one time. After that, your hearing devices automatically reconnect to your Mac whenever they are on and in range.

Stream to left hearing device	Output your Mac computer's audio to the left hearing device. See Stream audio from your Mac to your hearing devices .
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- Stream audio from your Mac to your hearing devices

You can stream audio from your Mac to your hearing devices.

- Click the Sound module  in the [menu bar](#) or click Control Centre  in the menu bar, then click the Sound module.

If you do not see the Sound module in the menu bar, you can add it. Choose Apple

menu  > System Settings, click Control Centre  in the sidebar, go to Sound, then choose Always Show in Menu Bar. (You may need to scroll down.)

- Below Output, click the name of your hearing device.

Stream to right hearing device Output your Mac computer's audio to the right hearing device.

Adjust independently Adjust settings like microphone level and presets for the left and right hearing device separately. Turn this option off to adjust both the left and right hearing devices at the same time.
Note: Depending on the model of your hearing devices, some settings can only be adjusted separately or for both the left and right devices at the same time.

Control Nearby Devices When your hearing devices are paired with and connected to another device where you are [signed in with the same Apple ID](#), use Hearing Devices settings on your Mac to adjust the settings for that device (such as an iPhone).

Sign in with your Apple ID to access Apple services such as the App Store, Apple Music, iCloud, FaceTime, Apple Books and more.

You can sign in when you set up your Mac or at any time. Choose Apple menu  > System Settings, click "Sign in with your Apple ID" in the sidebar, enter your Apple ID (or a Reachable At email or phone number that you added in Apple ID settings), then enter your password. If you do not have an Apple ID, you can create one.

You can view and change your Apple ID information, including your name, photo, contact information, password, security settings, and payment and shipping information.

Your information and content are available on all your devices where you are signed in with your Apple ID. See the Apple Support article [Sign in with your Apple ID](#).

Main Volume	Adjust the overall volume of your hearing devices (including both audio streamed from your Mac and sound picked up by the microphone from the environment around you).
Microphone Level	Adjust the volume of the sound picked up by your hearing devices from the environment around you.
Hearing Range	Adjust the sensitivity of the microphone on your hearing devices. Set a higher range to pick up sound from farther away, or a lower range to pick up sound only from nearby.
Tone	Adjust the amount of treble (high frequency sound) and bass (low frequency sound) picked up from the environment around you.
Presets	Choose from preprogrammed environmental presets for sound picked up from the environment around you. Preset options vary based on how your hearing devices have been set up. If you are unsure about the options, check with the audiologist who helped you set up your devices.
Streaming Presets	Choose from preprogrammed environmental presets for audio streamed using hearing device accessories. Preset options vary by accessory.
Forget this device	Unpair and disconnect the paired hearing devices from your Mac.

- On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Hearing Devices. (You may need to scroll down.)
- Click Forget this device, then click Forget.

- View the status of your hearing devices and adjust their settings

You can view the status of your hearing devices, such as connection and battery level and adjust settings like microphone level.

- **In System Settings:** Choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Hearing Devices. (You may need to scroll down.)
- **From the desktop:** Click the Hearing module  in the [menu bar](#) or click Control Centre  in the menu bar, then click the Hearing module.
- If you do not see the Hearing module, you can add it. Choose Apple menu  > System Settings, click Control Centre  in the sidebar, go to Hearing, then turn on Show in Menu Bar or Show in Control Centre. (You may need to scroll down.)

4.5.3.3 Audio Features

You can make the screen flash when alerts or announcements occur, and play stereo audio as mono. You can also set accessibility options for Apple earbuds and earphones paired with your Mac and play background sounds. If you have a Mac with Apple silicon, you can choose whether Spatial Audio follows the movement of your head when you listen to Spatial Audio content. See Change Audio settings for accessibility.

A system on a chip (SoC) designed by Apple that integrates multiple computer components onto a single chip for use in Apple hardware.

- To see if your Mac has an Apple silicon chip, choose Apple menu  > About This Mac. If a chip is listed — for example, **Chip Apple M1** — then your Mac has an Apple silicon chip.
- Spatial Audio

Your Mac with Apple silicon supports Spatial Audio, a technology that brings cinema-like sound from the movie or video you are watching, or the Dolby Atmos song you are listening to. With Spatial Audio, while you wear supported headphones, the sound seems to come from all around you. Optional dynamic head tracking keeps the audio fixed as you move — so if there's a track playing on your right and you move around, you can hear it on your left. You can also experience immersive sound in apps supported by iOS, iPadOS, tvOS and macOS. For example, in FaceTime on your Mac, Spatial Audio spreads out voices so they sound as if they're coming from where your friends are positioned in the FaceTime window.

You can also use your iPhone to scan your ear geometry for Personalised Spatial Audio, which syncs across your Apple devices (iOS 16, iPadOS 16, tvOS 16, macOS 13 or later required) when you are signed in with the same Apple ID you use with your AirPods.

To learn about Spatial Audio and dynamic head tracking, and for a list of supported devices, see [Control Spatial Audio and head tracking](#) in the AirPods User Guide, as well as the Apple Support article [Listen with spatial audio for AirPods and Beats](#). For general information about Spatial Audio in Apple Music, see [About Spatial Audio with Dolby Atmos in Apple Music](#).

NB! Spatial Audio is available only for certain devices. Please, check their compatibility [here](#).

- Change Audio settings for accessibility on Mac

On your Mac, use Audio settings to make the screen flash when an alert occurs, play stereo sound as mono, turn [Spatial Audio](#) on or off, set accessibility options for Apple earbuds and earphones paired to your Mac or [play background sounds to mask unwanted environmental noise](#).

To change these settings, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Audio on the right. (You may need to scroll down.)

- General

Option	Description
Flash the screen when an alert sound occurs	Make your screen flash when you receive an alert.
Play stereo audio as mono	Make your Mac play stereo audio tracks as mono audio in the left and right speakers or headphones.
Spatial audio follows head movements	When you watch or listen to content that supports Spatial Audio on your Mac, the audio automatically adjusts as you move your head. A sound that seemed to be behind you may seem like it is beside you when you turn your head. This option is on by default. If you have difficulty controlling head movements or it is uncomfortable to have sounds seem to change location as you move your head, turn the setting off. You are still listening to Spatial Audio but the apparent location of sounds does not change. This option is available only on Mac computers with Apple silicon. Spatial Audio is available with AirPods (3rd generation), AirPods Pro (all generations) and AirPods Max.

- Your AirPods or other compatible headphones

If you have more than one pair of compatible headphones paired with your Mac, click the Info button  next to its name to set options for that pair.

Note: The available options vary based on the model of headphones paired with your Mac.

Option	Description
Press speed	When an action requires pressing the buttons, force sensor or Touch control on your headphones multiple times, adjust how quickly you must press before the action occurs.

Option	Description
Press and hold duration	Adjust the duration required to press and hold the buttons, force sensor or Touch control on your headphones before an action occurs.
Noise Cancellation with One Earbud	Allow noise cancellation mode when you are only wearing one earbud.
Tone volume	Adjust the volume of the sound effects, such as low battery alerts, played by your headphones.
○ Background Sounds	
Option	Description
Background sounds	Play calming background sounds to mask unwanted environmental noise.
Background sound	Choose which background sound — such as Rain or Balanced Noise — to play.
Background sounds volume	Adjust the volume of the background sound.
Turn off background sounds when your Mac is not in use	Automatically turn off background sounds when your Mac is in sleep, the screen saver is on or the screen is locked.

Option	Description
Sound Settings	Adjust the system volume, select a different sound input or output device, and more. See Change Sound settings .

4.5.3.4 RTT Features

- Change RTT settings for accessibility on Mac

On your Mac, use RTT settings to set up your Mac to make and receive [Real-Time Text \(RTT\)](#) calls.

- To change these settings, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click RTT on the right. (You may need to scroll down.)

Note: These settings are shown only when you have [set up your iPhone and Mac](#) for Wi-Fi calling and RTT phone calls are enabled on your iPhone. Wi-Fi calling and RTT are not available in all countries or regions or supported by all network providers.

Option	Description
Enable RTT	Make and receive RTT calls on your Mac without using a special device. When this option is turned on and you make a phone call on your Mac, you can choose to use audio, RTT or RTT relay for the call.
Send immediately	Send characters as you type them. To type full messages before you send them, turn this option off.
RTT relay number	The relay service to use when you make an RTT relay call on your Mac. If a number is not specified, your carrier's default relay service is used.



When RTT phone calls are enabled on your Mac, the RTT button  is shown in Contacts when you move the pointer over a contact's phone number to indicate that you can make an RTT call. Depending on your network environment, an RTT call may be downgraded to a [textphone](#) call.

Important: When making an emergency call in the US on your Mac, special characters or tones are sent to alert the operator. The operator's ability to receive or respond to these tones can vary depending on your location. Apple does not guarantee the operator will be able to receive or respond to an RTT call.

4.5.3.5 Captions Features

Control how subtitles are styled, and whether to use closed captions and SDH instead, when they're available. See [Change Captions settings for accessibility](#).

Change Captions settings for accessibility on Mac

On your Mac, use Captions settings to control how subtitles are styled and whether to use closed captions instead, when they're available. Learn how to [use subtitles and closed captions](#).

To change these settings, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Captions on the right. (You may need to scroll down.)

Option	Description
Styles list	Available built-in styles and styles that you added.
Add 	Create a style.
Remove 	Delete a style that you added.

Option	Description
Prefer closed captions and SDH	If they're available, use closed captions or subtitles for the deaf and hard of hearing (SDH) instead of standard subtitles for content played on your Mac.

4.5.3.6 Live Captions Features

Your Mac can provide real-time captioning of audio using on-device intelligence so you can follow along more easily with conversations, audio and video. See [Use Live Captions](#).

Note: Live Captions (beta) is available only on Mac computers with [Apple silicon](#), and is not available in all languages, countries or regions. The accuracy of Live Captions may vary and should not be relied upon in high-risk or emergency situations.

Use Live Captions on Mac

Live Captions gives you real-time captioning of audio — allowing you to easily follow the audio in any app, such as FaceTime or Podcasts, and in live conversations around you. Audio is processed on device.

Note: Live Captions is currently in beta. Live Captions is available only on Mac computers with [Apple silicon](#), and is not available in all languages, countries or regions. The accuracy of Live Captions may vary and should not be relied upon in high-risk or emergency situations.

- Turn Live Captions on or off
 - On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Live Captions on the right. (You may need to scroll down.)
 - Turn Live Captions (Beta) on or off.

The Live Captions window appears and stays on screen. If you want to hide the window when no audio is detected, click the Live Captions icon in the menu bar , then make sure Keep Onscreen is not chosen.

Note: The first time you turn on Live Captions, language data is downloaded to your Mac. You must be connected to the internet.

You can also [turn on Live Captions in FaceTime](#).

- Use Live Captions

When you turn on Live Captions on your Mac, audio is transcribed in real time in the Live Captions window.

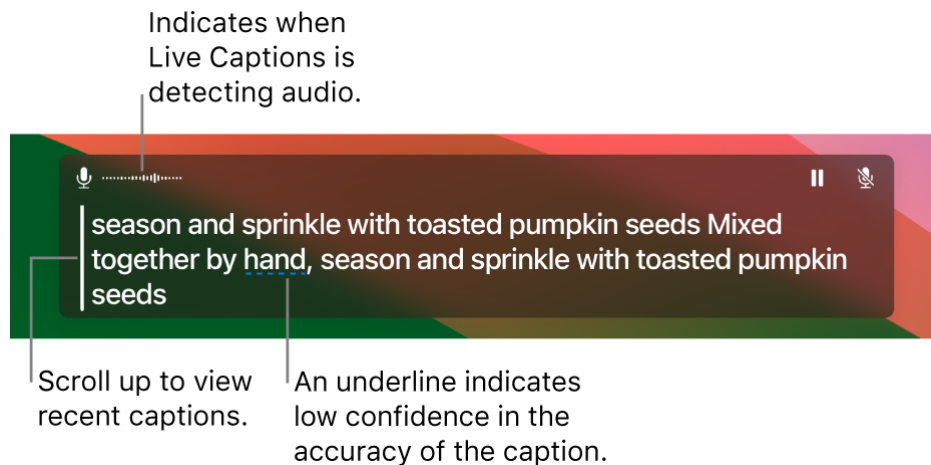


Figure 4.5-8 Live Captions window

You can pause captioning at any time, without turning Live Captions off. Do one of the following:

- Click the Pause  button in the Live Captions window. Click the Play  button to restart captioning.
- Click the Live Captions icon  in the [menu bar](#), then choose Stop Live Captions. Choose Start Live Captions to resume captioning.

If you use a braille display with VoiceOver, when Live Captions is turned on, you can access the Live Captions window from the System Dialogues menu in the Application Chooser. See [Use Live Captions with a braille display](#).

- Have what you type spoken aloud

While in a conversation — for example, during a video call or an in-person conversation — your Mac can speak what you type.

- In the Live Captions window on your Mac, click the Type to Speak field, enter what you want to say, then press the Return key.

To indicate your text is being read aloud, a message is shown in the top-left corner of the Live Captions window.

Note: If you do not see the Type to Speak text field, click the Live Captions icon  in the [menu bar](#), then choose Type to Speak.

- Change the audio source for captioning

When you use Live Captions on your Mac, you can switch between captioning the computer's audio output or its microphone.

- Do one of the following:
 - Click the Microphone icon  in the top-right corner of the Live Captions window to switch between your Mac computer's audio output and its microphone audio.
 - Click the Live Captions icon  in the [menu bar](#), then choose Computer Audio or Microphone.
- Customise the appearance of captions
 - On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Live Captions on the right. (You may need to scroll down.)
 - Change any of the following:
 - ✓ **Font family:** Change the font used in captions.
 - ✓ **Font size:** Increase or decrease the text size used in captions.
 - ✓ **Font colour:** Change the text colour used in captions
 - ✓ **Background colour:** Change the background colour of the Live Captions window.

You can resize the Live Captions window by dragging any edge and change its position on the screen. To restore the window to its default size and position, click the Live Captions

icon  in the [menu bar](#), then choose Restore Default Position.

You can also set an option to show or hide the Live Captions window when no audio is detected. Click the Live Captions icon in the menu bar, then choose Keep Onscreen to always display the Live Captions window. Do not choose that option if you want to hide the window when no audio is detected.

You can use [Accessibility Shortcuts](#) to quickly turn Live Captions on or off.

You can also use keyboard shortcuts for many Live Captions actions, such as turning them on or off and changing the audio source. To view and customise available shortcuts, choose Apple menu  > System Settings, click Keyboard  in the sidebar (you may need to scroll down), click Keyboard Shortcuts on the right, then click Accessibility. See [Use macOS keyboard shortcuts](#).

4.5.4 Exercises (Mac OS Accessibility for People with Hearing Impairments)

accessibility features **Accessibility for People with Physical/ Motor/ Mobility Disabilities**

MacOS includes accessibility features that let you navigate and interact with your Mac using spoken commands, an onscreen keyboard, assistive devices and other alternative methods for controlling the pointer. You can also set options so it is easier to use a mouse or trackpad.

4.5.5.1 Voice Control features

With Voice Control you can speak commands to navigate the desktop and apps, interact with what's on the screen, dictate and edit text, and more. See [Get started with Voice Control](#).

Get Started with Voice Control On Mac

With Voice Control on your Mac, you can use your voice to navigate the desktop and apps, interact with what's on the screen, dictate and edit text, and more. Learn the basics to quickly get started.

- Turn on Voice Control

- Choose Apple menu  > System Settings, click Accessibility  in the sidebar, click Voice Control on the right (you may need to scroll down), then turn on Voice Control.
- When you turn on Voice Control for the first time, your Mac must be connected to the internet so it can complete a one-time download from Apple. Afterward, you do not need an internet connection to use Voice Control.
- Learn and Practice
 - With the interactive Voice Control Guide, you can learn how Voice Control works and practice essential commands.
- Start Using Commands
 - To navigate your Mac and interact with what's on the screen, just say a command.
 - Voice Control: Say, for example, "Open Mail", "Scroll down" or "Click Done".
 - If you say something that is similar to an accepted Voice Control command, suggested commands appear at the top of the screen.
 - Voice Control: Say "Open Voice Control Guide".
- See What Commands You Can Use
 - Display a list of available commands, based on the app you are using and what you are currently doing.
 - Voice Control: Say "Show commands".
- Show Numbers, Names or a Grid
 - If you are not sure what to call something, you can display a name or number next to each item on the screen, or show a numbered grid.
 - Voice Control: Say "Show names", "Show numbers" or "Show grid".
 - To interact with an item or area of the screen, say its name or number or say a command — such as "Click" — followed by the name or number. The grid and item labels disappear after you say the command.
 - If the name of an item on the screen is not apparent or you need to interact with a precise area of the screen, you can [label onscreen items](#) or [show a numbered grid](#) so it is easier to select items or navigate the screen.

- You can make it easier to interact with a precise area of the screen by superimposing a grid.
- Voice Control: Say “Show grid”. To display a grid only over the active window, say “Show window grid”.
- **Interact with a location on the grid:** If a number is at the location you want to interact with, say any command — such as Click — followed by the grid number. The grid disappears after you say the command.
- **Drill down on an area of the grid:** If you need to further refine the location, say a grid number to drill down in that area.
- **Tip:** When item names, numbers or a numbered grid are shown, you can drag and drop an item using the names or numbers of the item and the drop location. Say “Drag <item name or number> to <location name or number>”.
- Say “Hide names”, “Hide numbers” or “Hide grid” to turn the overlay off.
- Dictate Words and Custom Spellings
 - When working in a text input area, you can dictate word by word (using Dictation mode) or character by character (using Spelling mode). Switch to Command mode — Voice Control responds only to commands — when you want to avoid entering text by mistake.
 -  **Voice Control:** Say “Dictation mode” to dictate word by word.
 - Any words you say that aren’t Voice Control commands are entered as text. Dictation mode is on by default.
 -  **Voice Control:** Say “Spelling mode” to dictate character by character.
 - Spelling mode is helpful when you need to enter a password, a web address or another sequence of characters that wouldn’t be recognised as a word in Dictation mode.
 - **Tip:** To increase accuracy when entering letters, you can use the letter’s phonetic alphabet code word (for example, say “Alfa Bravo Charlie” to enter “abc”).
 - When Spelling mode is on, an icon  appears in the text input area.

- **Note:** Spelling mode is not available in all Voice Control languages.
- Commands for working with text are shared between Dictation mode and Spelling mode. For example, while editing text in Dictation mode, you could say “Replace cat with dog”; to do the same thing in Spelling mode, you could say “Replace Charlie Alfa Tango with Delta Oscar Golf”.
- On your Mac, you can see a list of dictation and text editing commands you can use. Choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Voice Control on the right (you may need to scroll down). Click Commands, then scroll down. You can also click the “Dictation mode” or “Spelling mode” command to see a list of characters you can enter and what to say to enter them.
-  **Voice Control:** Say “Command mode” to have Voice Control respond only to commands.
- Words and characters that aren’t commands are ignored and aren’t entered as text. Command mode is helpful when you need to say a series of commands and do not want them inadvertently entered in a text input area.
- When Command mode is on, an icon  appears in the text input area to indicate you cannot dictate to enter text.
- Use Voice Control with VoiceOver
 - To use Voice Control with VoiceOver on your Mac, just say a command.
 -  **Voice Control:** Say, for example, “VoiceOver rotor”, “VoiceOver read all” or “VoiceOver select first item”.
 - To see a list of the Voice Control commands you can use with VoiceOver, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Voice Control on the right. (You may need to scroll down.) Click Commands, then scroll to the set of Accessibility commands.

- **Tip:** If you use Voice Control with VoiceOver, try using headphones to help ensure Voice Control hears only you speaking.
- macOS provides a standard set of Voice Control commands, but you can create your own commands and use a custom vocabulary. See [Customise Voice Control](#).

- Customise Voice Control on Mac

When you [use Voice Control to interact with your Mac](#), you can customise settings such as the language you use with Voice Control, the microphone you want to have listen for commands, options for showing item names, numbers or a numbered grid on the screen and more.

You can also turn standard commands on or off and create your own commands, delete them and import or export custom commands.

- Customise Voice Control

Change the language you use with Voice Control, choose the microphone you want to have listen for commands, set options for showing item names, numbers or a numbered grid on the screen and more.

- On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Voice Control on the right. (You may need to scroll down.)
- Set any of the following:
 - ✓ **Language:** Change the language you want to use with Voice Control or add an additional language.

If you downloaded additional languages to use with Voice Control, you can quickly switch

languages as you work — click the Voice Control icon  in the menu bar, then choose a language.

- ✓ **Microphone:** Choose a microphone to use for spoken commands or choose Automatic to have your Mac listen to the device you are most likely to use.
- ✓ **Show hints:** Display command suggestions when you say something that is similar to an accepted command.
- ✓ **Play sound when command is recognised:** When Voice Control recognises a command, a sound is played.

- ✓ **Overlay:** Always show item names, numbers or a numbered grid on the screen to make it easier to select items or navigate.
- ✓ **Fade overlay after inactivity:** When item names, numbers or a numbered grid are shown, dim the overlay after the specified period of inactivity. Drag the “Fade by” slider to set how much the overlay fades.

Most Voice Control commands are on by default, but you can customise commands to suit your needs. See [Turn standard commands on or off](#) and [Create your own commands](#) below.

If a language supports it, you can [add vocabulary terms](#) to ensure that specialised words or phrases are entered correctly when you use Voice Control.

- Turn standard commands on or off
- ✓ On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Voice Control on the right. (You may need to scroll down.)
- ✓ Click Commands, then do any of the following:
 - **Show commands for a language:** If you added languages to use with Voice Control, click the Show commands for pop-up menu to choose the language whose commands you want to display.
 - **Search for a command:** Enter a word or phrase in the search field.
 - **Show more information about a command:** Click the command in the list. On the right, find a description and examples of how to use the command.
 - **Turn a command on:** Select its tickbox. Voice Control listens only for selected commands.
 - **Turn a command off:** Deselect its tickbox.
- Create your own commands
- ✓ On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Voice Control on the right. (You may need to scroll down.)
- ✓ Click Commands.

If you added languages to use with Voice Control, make sure the language you want to use for the command is chosen from the Show commands for pop-up menu.

- Below the list of commands, click the Add button  .
- In the “When I say” field, enter a name for your command, following these guidelines:
 - ✓ Use two or more words, and avoid names with a single syllable. For example, use “Make text smaller” rather than “Smaller”.
 - ✓ Avoid proper names, names that sound similar to other words, or names that could be confused with other commands.
 - ✓ Do not use names that are used for other commands. If you do, a warning icon appears next to the duplicate commands in the list of commands.
- Indicate whether the command is to be used in any app or in a specific app.
- Choose the action the command performs.

Some actions require additional information. For example:

- ✓ For Paste Text, you must enter the text to be pasted whenever you say your command.
- ✓ For Press Keyboard Shortcut, you must press a keyboard key (you do not need to also press a modifier key). For example, if you want your command to play or pause a video, press the Space key.
- ✓ For Run Shortcut, choose a shortcut or choose Open Shortcuts App to create another shortcut.
- ✓ Click Done.

Your command appears in the Custom section at the top of the commands list.

Tip: You can easily create commands while you are working. Say “Make this speakable” to open the New Voice Control Command window. Then specify the command name, an app and an action. If you select text or an item, such as a file, before opening the window, an action is selected by default; you can change it, if needed.

- Import Custom Commands

- ✓ On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Voice Control on the right. (You may need to scroll down.)
 - ✓ Click the Advanced Actions menu  in the lower-right corner, then choose Import Custom Commands.
 - ✓ Select the file of custom Voice Control commands, then click Import.
 - ✓ **Note:** The file can include both iOS and macOS commands; only macOS commands are imported.
- Export custom commands
 - ✓ On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Voice Control on the right. (You may need to scroll down.)
 - ✓ Click the Advanced Actions menu  in the lower-right corner, then choose Export Custom Commands.
 - ✓ Choose a location, then click Export.

Note: Files referenced by custom commands, such as apps, documents, Shortcuts and Automator Workflows, are not included in the export and must be transferred separately.

- Delete custom commands
 - ✓ On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Voice Control on the right. (You may need to scroll down.)
 - ✓ Do one of the following:

- **Delete one custom command:** Click Commands, select the command to delete in the Custom section at the top of the commands list, click the Remove button , click Delete, then click Done.
- **Delete all custom commands:** Click the Advanced Actions menu  in the lower-right corner, choose Delete All Custom Commands, then click Delete.

4.5.5.2 Keyboard features

When you turn on Full Keyboard Access, you can navigate all UI elements on your Mac using the Tab key and other keys, instead of a mouse or trackpad. See [Navigate your Mac using Full Keyboard Access](#).

Navigate your Mac Using Full Keyboard Access

With Full Keyboard Access enabled, you can use the Tab key and other keys to navigate every UI element on the screen and navigate your Mac, instead of using a mouse or trackpad. Full Keyboard Access highlights the item on the screen that has focus. You can customise the colour, contrast and size of the highlight.

- Turn on Full Keyboard Access
 - ✓ On your Mac, choose Apple menu  > System Settings, then click Accessibility  in the sidebar. (You may need to scroll down.)
 - ✓ Go to Motor on the right, click Keyboard, then turn on Full Keyboard Access.

Click the Info button  to change the appearance of Full Keyboard Access (for example, the colour of the highlight) and to view a complete list of Full Keyboard Access commands.

Tip: When Full Keyboard Access is turned on, press Tab-H to open Commands Help, where you can view the available Full Keyboard Access commands.

- Navigate using Full Keyboard Access

When Full Keyboard Access is enabled on your Mac, do any of the following using the default commands:

- ✓ **Move to the next UI element:** Press the Tab key.
- ✓ **Move to the previous UI element:** Press Shift-Tab.
- ✓ **Select an item:** Press the Space bar.
- ✓ **Move inside a group (such as a list of files in a folder or items in a sidebar):** Press the Up Arrow or Down Arrow key or the Left Arrow or Right Arrow key. Full Keyboard Access highlights the group and the item within the group that has focus.
- ✓ **Search for items:** Press Tab-F.
- ✓ **Open the Window Chooser:** Press Tab-W.
- ✓ **Open the Application Chooser:** Press Tab-A.
- ✓ **Jump to the menu bar:** Press Fn-Control-F2.
- ✓ **Jump to the Dock:** Press Fn-A.
- ✓ **Open Control Centre:** Press Fn-C.
- ✓ **Open Notification Centre:** Press Fn-N.
- ✓ **Move the pointer to where the keyboard focus is:** Press Tab-C.

Many additional default and advanced commands are available when navigating with Full Keyboard Access. To see a complete list of Full Keyboard Access commands, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Keyboard on the right (you may need to scroll down). Click the Info button  next to Full Keyboard Access, then go to Commands.

- Customise default and advanced Full Keyboard Access commands

You can change the keyboard shortcuts associated with the default Full Keyboard Access commands. You can also set keyboard shortcuts for additional advanced commands.

- ✓ On your Mac, choose Apple menu  > System Settings, then click Accessibility  in the sidebar. (You may need to scroll down.)

- ✓ Go to Motor on the right, then click Keyboard.
- ✓ Click the Info button  next to Full Keyboard Access, then go to Commands.
- ✓ Do any of the following:
 - **Set a custom keyboard shortcut for a default command:** Click the command you want to customise the shortcut for, then press the keyboard key or keys you want to use as the shortcut.
 - **Set a keyboard shortcut for an advanced command:** Scroll to Advanced, click the command you want to set a shortcut for, then press the keyboard key or keys you want to use as the shortcut.
 - **Restore default keyboard shortcuts:** Scroll to the bottom, then click Restore Defaults. This also removes keyboard shortcuts for advanced commands, if any.
- ✓ Click Done.

- Pause Full Keyboard Access

When Full Keyboard Access is on, you can use Pass-Through Mode to temporarily turn it off — for example, if you are playing an online game and do not want Full Keyboard Access to interfere with game interaction — then turn it back on.

- ✓ **Turn Pass-Through Mode on or off:** Press Control-Option-Command-P.

If the default Full Keyboard Access commands described above aren't working as expected,

you may need to restore the default commands. On your Mac, choose Apple menu  >

System Settings, click Accessibility  in the sidebar, then click Keyboard on the right (you may need to scroll down). Click the Info button  next to Full Keyboard Access, scroll to the bottom, then click Restore Defaults.

- ✓ Sticky Keys and Slow Keys make it easier to press keys on a physical keyboard. See [Change Keyboard settings for accessibility](#).

Change Keyboard settings for accessibility on Mac

On your Mac, use Keyboard settings for accessibility to enable Full Keyboard Access to [navigate UI elements on the screen and your Mac using the Tab key and other keys](#), and change the appearance of the Full Keyboard Access cursor, enable and set options for Sticky Keys and Slow Keys, and enable and set options for using the Accessibility Keyboard, an onscreen keyboard that lets you type and interact without using a physical keyboard. [Learn how to use the Accessibility Keyboard](#).

To change these settings, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Keyboard on the right. (You may need to scroll down.)

Option	Description
Full Keyboard Access	Turn on Full Keyboard Access to use the Tab key and other keys to navigate the screen. To customise, click the Info button : Set any of the following options for the appearance of the cursor: Auto-hide: Automatically hide the Full Keyboard Access cursor after the specified number of seconds. Increase size: Make the Full Keyboard Access cursor wider so it is easier to see. High contrast: Increase the contrast of the Full Keyboard Access cursor so it is easier to see. Colour: Choose a colour for the Full Keyboard Access cursor.

Option

Description

You can also view a complete list of Full Keyboard Access commands, customise keyboard shortcuts for default commands, set shortcuts for advanced commands or restore default shortcuts.

Keyboard Settings

Set additional keyboard shortcuts, options for keyboard and function keys, and more. See [Keyboard settings](#).

Sticky Keys

Press a set of modifier keys one at a time in sequence instead of all at once. For example, enter the key combination Option-Command-F5 by pressing each key in sequence.

To customise, click the Info button :

Press the Shift key five times to toggle Sticky Keys: Use your keyboard to turn Sticky Keys on or off.

Beep when a modifier key is set: Have your Mac make a sound when you press a modifier key.

Display pressed keys on screen: Display symbols to indicate which modifier keys you press.

Screen area for display: If you turn on “Display pressed keys on screen”, choose the area of the screen where you want to display the symbol for the pressed modifier key.

Slow Keys

Adjust the delay between when you press a key and when it is activated.

To customise, click the Info button :

Option

Description

Use click key sounds: Have keys make a sound when pressed. One sound plays when you press a key and a different sound plays when the key press is accepted.

Acceptance delay: Set the delay between when you press a key and when it is accepted.

Accessibility Keyboard

Display and use the Accessibility Keyboard.

Click the Info button  to set General, Hot Corners and Dwell options for the Accessibility Keyboard. See below for more information about the options.

Panel Editor

[Use the Panel Editor](#) to create custom panels that are available from the Accessibility Keyboard.

○ General options for the Accessibility Keyboard

Set general options for using the Accessibility Keyboard.

Option

Description

Appearance

Use a light or dark appearance for the keyboard.

This setting is independent of whether you use a light or dark appearance on your Mac.

Fade panel after inactivity

After the specified period of inactivity, fade the keyboard by the specified percentage (at a lower percentage the keyboard is more visible, while at a higher percentage it is less visible; at 100% it is hidden). To make the keyboard fully visible again,

Option

Description

move the pointer over the faded keyboard or, if it is hidden, move the pointer.

This option is useful when you do not need the keyboard for a while, for example, when watching a film or when you want to see the part of the desktop that is under the keyboard.

Play sounds for keys and dwell actions

Hear a sound when you select a key on the keyboard or when a dwell action is performed. (Selecting the Caps key makes a sound even when this option is not selected.)

Keys should be entered on

Choose whether input is entered or action is taken on mouse up or mouse down.

Keep your work private and secure

Select keys on the keyboard using either a left click or right click of the mouse or trackpad.

Insert and remove spaces automatically

Let the Accessibility Keyboard manage spaces when you are writing text. For example, it automatically corrects spacing after a full stop or between sentences, based on context.

Capitalise sentences automatically

Let the Accessibility Keyboard manage capitalisation when you are writing text. For example, it

Option	Description
	automatically capitalises letters after a full stop (end of sentence), based on context.

- Hot Corners options for the Accessibility Keyboard
Set options for using Hot Corners with the Accessibility Keyboard.

Option	Description
Hot Corners	The action to take when you keep the pointer in a corner of the screen. Choose an action, such as Left Click.
Panel follows hide/show home panel	When you use a hot corner to show or hide the Accessibility Keyboard or a custom panel, have the keyboard or panel move to the hot corner. If you do not want the keyboard or panel to move to the hot corner, turn this option off.

- Dwell options for the Accessibility Keyboard
Set options that determine when to show Dwell action menus, which action to perform when you dwell on an item, how long to dwell on items, and more.

Option	Description
Allow dwell actions toolbar in panels	Make the toolbar available in the Accessibility Keyboard and custom panels.
Show dwell actions in menu bar	Show a status menu for dwell actions in the menu bar.

Always dwell in panels

Always use Dwell to select items in the Accessibility Keyboard and custom panels, even when Dwell is paused. Left-click is the default action when dwelling in panels.

Dwell colour

Choose the colour, such as green, of the dwell pointer  when it is shown.

Enable zoom

Show the zoom window after the pointer is idle for the specified amount of time. The window magnifies the area you dwell on and the pointer.

The size of the zoom window is based on the size set for Picture-in-Picture zoom. To change that setting, see [Zoom in and out on what's onscreen](#).

Note: Avoid changing other options in Zoom settings for accessibility. They could interfere with the Dwell zoom window.

Hide dwell time indicators

Hide the dwell pointer  and the countdown when dwelling.

Default dwell action

Choose the default action to perform when you dwell on an item — for example, right click, show the Scroll Menu, or drag and drop an item. Or choose to show the Options menu, which lets you switch between actions for once-only use.

You can also choose an action from the dwell status menu, if it is showing in the menu bar.

Auto revert to left click	After you select an action to perform, always make left click the next action performed. This option is useful if you left-click items more often than you perform other actions.
Default dwell time	The amount of time to dwell on an item on the screen before an action is performed.
Panel dwell time	The amount of time to dwell on an item in a panel before a left-click action is performed.
Dwell movement tolerance	The distance, in pixels, you can move while dwelling on an item. If you move beyond this limit, the countdown starts again.
Post-action movement tolerance	The distance, in pixels, you need to move after performing an action for a new countdown to start.

To quickly turn Full Keyboard Access, Sticky Keys, Slow Keys or the Accessibility Keyboard on or off [using the Accessibility Shortcuts panel](#), press Option-Command-F5 (or if your Mac or Magic Keyboard has Touch ID, quickly press Touch ID three times).

To specify which options are available in the panel, choose Apple menu  >

System Settings, click Accessibility  in the sidebar, then click Shortcut on the right. (You may need to scroll down.)

- ✓ When you turn on the Accessibility Keyboard, an onscreen keyboard lets you use your Mac without a physical keyboard. It provides advanced typing (such as

typing suggestions) and navigation features that you can customise for using your favourite apps. See [Use the Accessibility Keyboard](#).

4.5.5.3 Use the Accessibility Keyboard on Mac

The Accessibility Keyboard is an onscreen keyboard that lets you use your Mac without a physical keyboard. It provides advanced typing (such as typing suggestions) and navigation features that you can customise to make it easier to use your favourite apps.

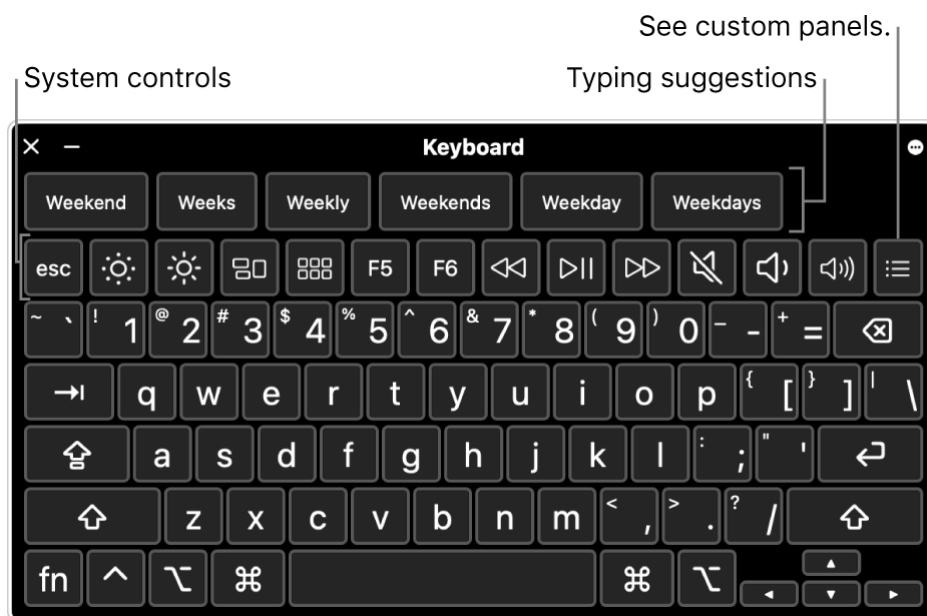


Figure 4.5-9 Accessibility Keyboard on Mac

When you use the Accessibility Keyboard, you can also turn on Dwell, which lets you perform mouse actions using eye- or head-tracking technology.

Tip: The Accessibility Keyboard is used for the macOS Keyboard Viewer, which lets you type in different languages when you change input sources. See [Use the Keyboard Viewer](#).

- Turn the Accessibility Keyboard on or off

- ✓ **Turn it on:** On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, click Keyboard on the right, then turn on Accessibility Keyboard. (You may need to scroll down.)

You can also turn on the Accessibility Keyboard by clicking the Input menu in the menu bar, then choosing Show Keyboard Viewer. (The Input menu is identified in the menu bar by either

the Character Viewer icon  or — if you use more than one input source — an icon representing the currently active input source.)

If you cannot see the menu in the menu bar, [set the option to show the Input menu in the menu bar](#).

- ✓ **Turn it off:** In the top-left corner of the Accessibility Keyboard on your Mac, click

the Close button .

- Use the Accessibility Keyboard

While you are using the Accessibility Keyboard on your Mac, do any of the following in the keyboard:

- ✓ **Adjust system settings:** Click the system control buttons to adjust display brightness, sound volume, and video or music playback, or to access features such as Mission Control.
- ✓ **Use typing suggestions:** As you type, suggested words are shown. Click a suggestion to insert it in your text.
- ✓ **Enter alternative characters:** Click Option or Option-Shift, then click a character. Or click Option to highlight the dead keys (a dead key is a modifier key pressed with another key to enter a letter with a diacritical mark), click a dead key, then click a letter.

See [Enter characters with accent marks](#).

- ✓ **Simplify typing:** In the top-right corner of the keyboard, click the Panel Options button , choose Typing, then choose to automatically insert and remove spaces or capitalise sentences (a tick indicates an option is on).
- ✓ **Use Dwell:** In the top-right corner of the keyboard, click the Panel Options button, choose Dwell, then choose an option. See [Control the pointer using Dwell](#).
- Show additional items in the Accessibility Keyboard

While you are using the Accessibility Keyboard on your Mac, do any of the following in the keyboard:

- ✓ **Show or hide toolbars:** In the top-right corner of the keyboard, click the Panel Options button , choose Toolbars, then choose toolbars to show or hide (a tick mark indicates that a toolbar is shown). For example, you can show the Current Text toolbar, which displays text as you are typing it in a document or text field, or the Suggestions toolbar, which displays suggested words based on what you are typing.

To [use the Panel Editor](#) to change where the toolbars appear in the keyboard, choose Customise Toolbar Ordering.

- ✓ **Show custom panels:** Click the Custom button  to display available custom panels created using the Panel Editor. To return to the Accessibility Keyboard, click the Home icon  in the top-right corner of the custom panel.

- Resize the Accessibility Keyboard

While you are using the Accessibility Keyboard on your Mac, do any of the following:

- ✓ **Make the keyboard bigger or smaller:** Drag a corner of the keyboard.

To resize it without keeping the proportions, click the Panel Options button  in the top-right corner of the keyboard, then choose Resize Proportionally (to remove the tick).

- ✓ **Reset the keyboard to the default size:** Click the Panel Options button  in the top-right corner of the keyboard, choose Zoom, then choose 100%.

- Change Accessibility Keyboard options

While you are using the Accessibility Keyboard on your Mac, do any of the following to change options for it:

- ✓ In the top-right corner of the Accessibility Keyboard, click the Panel Options button , then choose options (a tick mark indicates that an option is on). For example, you can change the appearance of the keyboard to use dark text on a light background, fade the keyboard after a period of inactivity, or turn Dwell on or off.
- ✓ [Use the Panel Editor](#) on your Mac to customise the Accessibility Keyboard for use with your favourite apps.

If you set the option to fade or hide the Accessibility Keyboard after a period of inactivity, you can make the keyboard fully visible again by moving the pointer over the faded keyboard or, if it is hidden, moving the pointer.

- ✓ When you use the Accessibility Keyboard, you can turn on Dwell to perform mouse actions using eye- or head-tracking technology. See [Control the pointer using Dwell](#).

4.5.5.4 Control the pointer using Dwell on Mac

If you [enable the Accessibility Keyboard](#), you can use Dwell, which lets you perform mouse actions using eye- or head-tracking technology. You can easily access dwell actions, such as Left Click, in the Accessibility Keyboard and custom panels or in the menu bar.

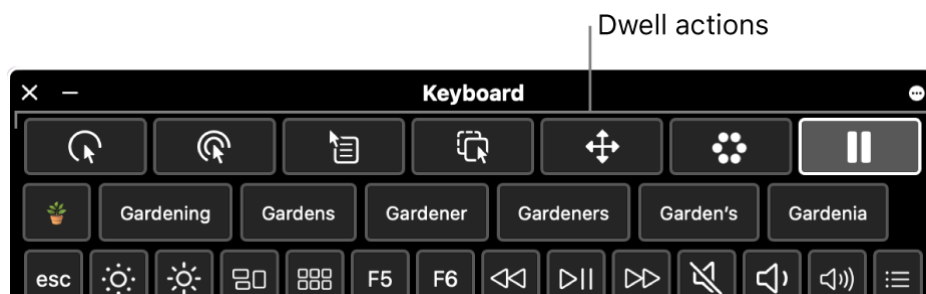


Figure 4.5-10 Dwell on Mac

After you select a dwell action, you rest, or **dwell**, for a set amount of time (called the **dwell time**) on the item that you want to click, drag or scroll, before the action is performed.

- Turn on Dwell

- ✓ On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Keyboard on the right. (You may need to scroll down.)
- ✓ Turn on Accessibility Keyboard.

For information about the Accessibility Keyboard options, click the Help button  in the lower-right corner of the window.

- Click the Info button , go to Dwell, then turn on any of the following:
 - ✓ **Allow dwell actions toolbar in panels:** A Dwell toolbar appears across the top of the Accessibility Keyboard and custom panels.
 - ✓ **Show dwell actions in menu bar:** A Dwell status menu appears in the menu bar.
 - ✓ **Always dwell in panels:** Always use Dwell to select items in the Accessibility Keyboard and custom panels, even if Dwell is paused.

You can also turn on these options from the Accessibility Keyboard. In the top-right corner of the keyboard, click the Panel Options button , choose Dwell, then choose an option.

- Use Dwell actions

If you are using Dwell with the Accessibility Keyboard on your Mac, you can access dwell actions from the Accessibility Keyboard and custom panels or from the Dwell status menu in the menu bar, depending on how you set Dwell options.

- On your Mac, select one of the following dwell actions:
 - ✓ **Left Click**  : Performs a left click when you dwell on an item.
 - ✓ **Double Click**  : Performs a double click when you dwell on an item.
 - ✓ **Right Click**  : Performs a right click when you dwell on an item.
 - ✓ **Drag & Drop**  : Drags and drops the item you dwell on.

When the countdown is over, the pointer indicates the item can be dragged. As you dwell where you want to drop the item, the item moves there, the countdown begins, and when it is over, the item is dropped.

- ✓ **Scroll Menu**  : Scrolls the item you dwell on.

Make sure you dwell on content that can be scrolled — for example, a web page or a document. When the countdown is over, scroll indicators appear at the top, bottom and sides of the content (depending on how it can be scrolled). Dwell on a scroll indicator to scroll in that direction.

Note: The colour of the scroll indicators in the Scroll Menu is determined by the highlight colour set in Appearance settings. To change the highlight colour, on your Mac choose Apple

menu  > System Settings, then click Appearance  in the sidebar. (You may need to scroll down.)

- ✓ **Options Menu** : Shows the Options menu when you dwell on an item.

When you choose an action from the Options menu, it is used once only — the action is not repeated. See [Use the Options menu](#) below.

- ✓ **Pause** : Pause and take no action as you move around the screen or dwell on items. This action is useful when you want to take a break from actions — for example, to read a web page or watch a movie.

When you are ready to resume and perform dwell actions again, dwell on any dwell action in the Accessibility Keyboard. If the Accessibility Keyboard is hidden, dwell on the hot corner assigned to show it (as set in [Keyboard settings for accessibility](#)).

- ✓ Dwell on the spot where you want the action performed — for example, on a tickbox or an image.

The dwell pointer  appears over the item and the dwell time countdown begins (the pointer circle starts to empty). When the countdown is over, the action is performed.

Tip: You can assign a colour, such as green, to the dwell pointer  so it is easier to spot during the dwell time countdown. If you do not want to see the dwell time countdown, turn on Hide dwell time indicators in Dwell settings.

- Use the Dwell status menu

If you are using Dwell with the Accessibility Keyboard on your Mac and you chose to show dwell actions in the menu bar, you can easily access the actions using the Dwell status menu. The icon shown in the menu bar changes as you use different dwell actions.

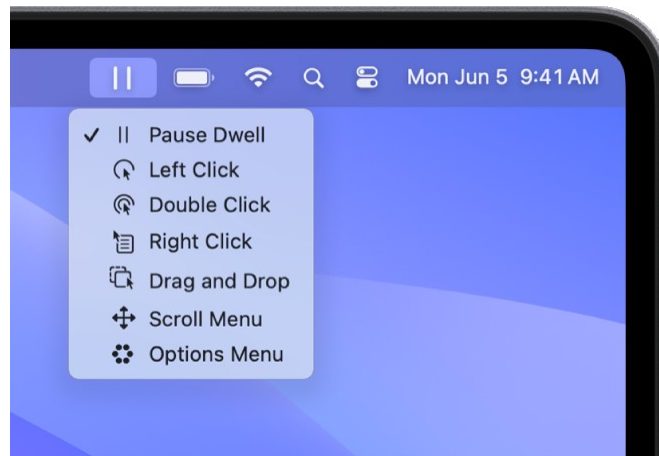


Figure 4.5-11 Dwell status menu

The Dwell status menu on your Mac is useful for changing dwell actions when the Accessibility Keyboard or a custom panel is hidden. A left click to select an action is always performed in the status menu, regardless of the current dwell action.

- ✓ **Open the menu:** On your Mac, dwell on the status menu in the menu bar. The pointer  appears over the status menu and the dwell time countdown begins (the pointer circle starts to empty). When the countdown is over, the menu opens.

Note: If you do not want to see the dwell time countdown on the screen, turn on Hide dwell time indicators in Dwell settings.

- ✓ **Choose an action from the menu:** On your Mac, dwell on an action. When the countdown is over, the action is selected.
 - Use the Options menu

If you are using Dwell with the Accessibility Keyboard on your Mac, you can use the Options menu to quickly switch between various dwell actions. When you select an action from the Options menu, it is used once only — the action is not repeated.

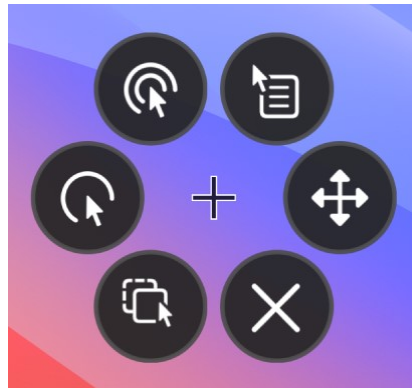


Figure 4.5-12 Options menu

Tip: The crosshair in the middle of the Options menu indicates the target location where the action will be performed.

- ✓ **Select an action:** In the Options menu on your Mac, dwell on the action you want to select — for example, the double-click action. The pointer  appears over the button and the dwell time countdown begins (the pointer circle starts to empty). When the countdown is over, the button is selected and the action is performed at the target location.

Note: If you do not want to see the dwell time countdown on the screen, select “Hide dwell time indicators” in Dwell Options.

- ✓ **Close the menu:** In the Options menu on your Mac, dwell on the close button  at the bottom of the menu. When the countdown is over, the Options menu closes.

If you are in a custom panel and want to return to the Accessibility Keyboard or the home panel, click the Home button  in the upper-right corner of the panel.

You can [use the Panel Editor](#) to create custom panels to streamline common tasks and actions for apps.

Tip: You can set an option to have the Accessibility Keyboard or home panel shown when you dwell on a corner of the screen. See [Change Keyboard settings for accessibility](#).

4.5.5.5 Pointer Control features

Set options to make it easier to use the mouse and trackpad. For example, adjust the mouse or trackpad's reaction time when you double-click an item. Or drag items with or without drag lock, or with a three-finger drag.

Alternate pointer actions let you perform mouse actions (such as a left-click or drag-and-drop action) using keyboard keys, assistive switches or facial expressions (such as a smile or an open mouth). See [Change Pointer Control settings for accessibility](#).

Change Pointer Control settings for accessibility on Mac

On your Mac, use Pointer Control settings to make your mouse and trackpad easier to use, turn on Mouse Keys, perform certain mouse actions using keyboard shortcuts, assistive switches or facial expressions, or to move the pointer using head pointer. The options available depend on the Mac you are using.

To change these settings, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Pointer Control on the right. (You may need to scroll down.)

- Mouse & Trackpad

Option	Description
Double-click speed	Adjust the mouse or trackpad's reaction time when you double-click an item.
Spring-loading	When dragging and dropping, drag an item to a folder and hold to open the folder.
Spring-loading speed	With Spring-loading turned on, adjust how long after you drag an item to a folder and hold before the folder opens.

Option	Description
Ignore built-in trackpad when mouse or wireless trackpad is present	Disable the built-in trackpad on your Mac when you use a mouse or wireless trackpad. If you use a non-Apple mouse, the driver software that came with your mouse may prevent this option from working as expected. For information, see the documentation for your mouse.
Trackpad Options	Set options for your trackpad: Use trackpad for scrolling: Turn scrolling on or off. Use inertia when scrolling: Control what happens when you lift your finger from the trackpad. With this option turned on, scrolling comes to a gradual stop. Otherwise, scrolling stops immediately. Scroll speed: The speed at which you scroll through documents and windows using the trackpad. Use trackpad for dragging: Turn dragging on or off. Dragging style: Choose an option to control dragging. ✓ Without Drag Lock: Double-tap an item, then drag it without lifting your finger after the second tap; when you lift your finger, the item stops moving. The item can still be dragged for a fraction of a second (so you can reposition your finger if it is at the edge of the trackpad). To immediately prevent further dragging, tap the trackpad once. ✓ With Drag Lock: Double-tap an item, then drag it without lifting your finger after the second tap; dragging continues when you lift your finger, and stops when you tap the trackpad once.

Option	Description
	✓ Three Finger Drag: Drag an item with three fingers; dragging stops when you lift your fingers.

Mouse Options

Click to set options for your mouse:

Use mouse for scrolling: Turn scrolling on or off (for a mouse such as a Magic Mouse).

Use inertia when scrolling: Control what happens when you lift your finger from the mouse (a mouse such as a Magic Mouse). With this option turned on, scrolling comes to a gradual stop. Otherwise, scrolling stops immediately.

Scroll speed: The speed at which you scroll through documents and windows using the mouse.

○ Alternative Control Methods

Option	Description
Mouse Keys	Move the pointer and press the mouse button using the keyboard or a numeric keypad. See Control the pointer using Mouse Keys. Note: When Mouse Keys is on, you cannot use the keyboard or numeric keypad to enter text.

To customise, click the Info button :

- ✓ **Press the Option key five times to toggle Mouse Keys:** Use your keyboard to turn Mouse Keys on or off.
- ✓ **Ignore built-in trackpad when Mouse Keys is on:** Disable the trackpad on your Mac when you use Mouse Keys.
- ✓ **Initial delay:** Set how quickly the pointer starts moving when you press a key.

Option	Description
	✓ Maximum speed: Set the maximum speed at which the pointer moves.
Alternate pointer actions	Perform a left-click, right-click, double-click or drag-and-drop action using keyboard keys, assistive switches or facial expressions (such as a smile or an open mouth). To specify keys, switches and facial expressions or to see the ones currently specified, click the Info button : ✓ To change the name or action assigned to a key, switch or facial expression, double-click the item in the list, then follow the onscreen instructions. ✓ To add a new key, switch or facial expression to the list, click the Add button , then follow the onscreen instructions. ✓ To remove a key, switch or facial expression from the list, select it, then click the Remove button . ✓ To hear confirmation that your switch is recognised, turn on Play sounds. ✓ To see onscreen confirmation that your switch is recognised, turn on Show actions visually. ✓ To choose the camera to use to detect facial expressions, click Camera Options, then click the Camera pop-up menu. To customise the level of expressiveness the camera needs to detect in your facial expressions for an action to be taken, click the pop-up menu for an expression, then choose Slight, Default or Exaggerated.

Option	Description
Head pointer	(The same camera and level of expressiveness are used for both alternative pointer actions and head pointer.) Note: A left-click, right-click or double-click action occurs as soon as you use the specified switch. For example, if you set the switch for Left Click to the facial expression Stick Out Tongue, a left click occurs as soon as you stick out your tongue. A drag-and-drop action requires you to use a switch twice: once to drag, then again to drop. For example, when you stick out your tongue, drag is activated; to drop, you must stick out your tongue again. Move the pointer using the movement of your face or head as detected by the camera that is built into or connected to your Mac. See Move the pointer using head pointer. To customise, click the Info button : ✓ Pointer moves: Choose how you want the pointer to follow the movement of your face or head: When facing screen edges: The pointer follows the direction in which you turn your face away from the centre of the screen, similar to how you move a joystick. To stop the pointer, turn your face to the centre of the screen again. For example, if you turn your face towards the bottom right of the screen, the pointer moves towards that end of the Dock. Relative to head: The pointer follows the direction in which you move your head (regardless of where your face is turned), similar to how you move a mouse. To stop the pointer, stop moving your head. For example, if you move your head left (even though your face is turned to the right), the pointer moves to the left.

Option	Description
	✓ Pointer speed: The speed at which the pointer moves when you turn your face or move your head. The lower the number, the slower the pointer moves; the higher the number, the faster it moves. ✓ Distance to edge: If head pointer is set to “When facing screen edges”, specify how far your face must be turned away from the centre of the screen before the pointer starts moving. Set a higher number to help the camera differentiate between intentional and accidental movements. ✓ Use a switch or facial expression to pause or resume: To specify a facial expression to use to pause or resume head pointer, click the Info button , then follow the onscreen instructions. Pausing head pointer can be useful if you are going to be away from your Mac for a while. ✓ Use a switch or facial expression to recalibrate: To specify a facial expression to use to recalibrate head pointer, click the Info button , then follow the onscreen instructions. See Recalibrate head pointer. ✓ Camera Options: To choose the camera to use to detect movement of your face or head, click Camera Options, then click the Camera pop-up menu. To customise the level of expressiveness the camera needs to detect in your facial expressions for an action to be taken, click the pop-up menu for an expression, then choose Slight, Default or Exaggerated. (The same camera and level of expressiveness are used for both head pointer and alternative pointer actions.)

Tip: You can use [Accessibility Shortcuts](#) to quickly turn Mouse Keys or head pointer on or off.

- With Mouse Keys, you can move the pointer and press the mouse button using the keyboard or a numeric keypad. See [Control the pointer using Mouse Keys](#).

4.5.5.6 Control the Pointer Using Mouse Keys on Mac

With Mouse Keys on your Mac, you can move the mouse pointer and press the mouse button using the keyboard or a numeric keypad. To use Mouse Keys, choose Apple menu  >

System Settings, click Accessibility  in the sidebar, click Pointer Control on the right, then turn on Mouse Keys. (You may need to scroll down.)

The following illustration shows the keys to use on a keyboard (the keys on the left) and on a numeric keypad (the keys on the right) when Mouse Keys is on.

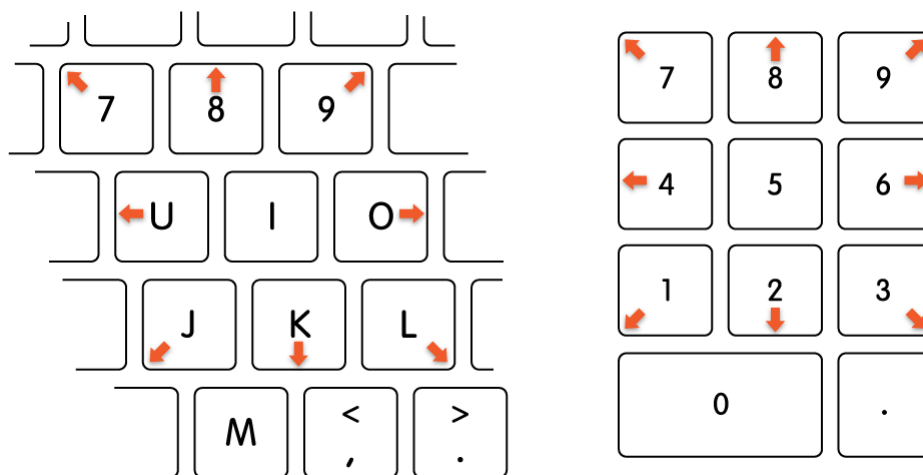


Figure 4.5-13 The keys to use on a keyboard (the keys on the left) and on a numeric keypad (the keys on the right) when Mouse Keys is on

Note: When Mouse Keys is on, you cannot use the keyboard or a numeric keypad to enter text.

- ✓ Move the mouse pointer:

With a numeric keypad: Use the 7, 8, 9, 4, 6, 1, 2, 3 keys on the keypad.

With the keyboard: Use the 7, 8, 9, U, O, J, K, L keys.

- ✓ Click a mouse button:

With a numeric keypad: Press 5 on the keypad.

With the keyboard: Press I.

- ✓ Press and hold the mouse button:

With a numeric keypad: Press 0 (zero) on the keypad.

With the keyboard: Press M.

- ✓ Release the mouse button:

With a numeric keypad: Press “.” (full stop) on the keypad.

With the keyboard: Press “.” (full stop).

Tip: You can use [Accessibility Shortcuts](#) to quickly turn Mouse Keys on or off.

You can also use keyboard shortcuts, assistive switches or facial expressions to perform mouse actions, such as left, right or double clicks. Choose Apple menu  > System Settings, click Accessibility  in the sidebar, click Pointer Control on the right, then turn on “Alternate pointer actions”. (You may need to scroll down.) To customise the actions, click the Info button .

- Use head pointer to move the pointer based on the movement of your face or head, as detected by the camera that is built into or connected to your Mac. See [Move the pointer using head pointer](#).

4.5.5.7 Move the Pointer Using Head Pointer on Mac

If you have difficulty using a mouse or trackpad, you can use head pointer on your Mac. Head pointer lets you move the pointer on the screen using the movement of your face or head, as detected by the camera that is built into or connected to your Mac. For example, if you move your head to the left, the pointer follows in that direction on the screen.

- Turn on and customise head pointer
 - ✓ On your Mac, choose Apple menu  > System Settings, then click Accessibility  in the sidebar. (You may need to scroll down.)
 - ✓ Go to Motor on the right, then click Pointer Control.
 - ✓ Turn on “Head pointer”.

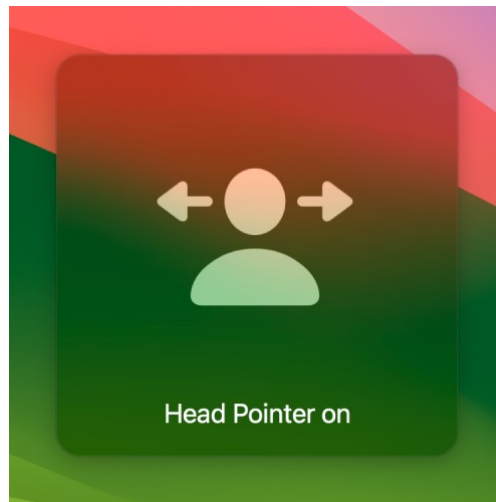


Figure 4.5-14 Head pointer is turned on

- ✓ Click the Info button .

You can set options to specify the way the pointer moves, how fast it moves, which switches to use for head pointer actions and which camera to use. For information about the options, see [Change Pointer Control settings](#).

- Use head pointer
 - ✓ On your Mac, make sure the camera you [selected in head pointer options](#) is on.
 - ✓ If you are using your Mac computer's built-in camera, a green light beside the camera (at the top of the display) glows to indicate the camera is on.
 - ✓ Centre yourself in front of the screen, making sure your head is not too far to the left or right.
 - ✓ Depending on the options you set for how the pointer moves, either turn your face away from the centre of the screen or move your head in the direction you want the pointer to move; you do not need to exaggerate movements or move your shoulders or body.
 - ✓ For example, to move the pointer to the right, turn your face towards the right edge of the screen or move your head to the right. The farther you turn your face to the right or the faster you move your head, the faster the pointer moves across the screen.

- ✓ To stop the pointer, either turn your face to the centre of the screen or stop moving your head.

When the pointer is at the location you want, you can perform left-click, right-click, double-click or drag-and-drop actions using [Mouse Keys](#), [switches](#) (such as keyboard keys, assistive switches or facial expressions) or [Voice Control](#).

If you specified a switch to pause or resume head pointer in head pointer options, use the switch to pause it at any time. For example, if you specified the keyboard key “z” as the switch, use the key to pause head pointer when you are away from your Mac for a while.

- Troubleshoot head pointer

If you cannot move the pointer the way you expected using head pointer on your Mac, try these suggestions.

- ✓ **If head pointer does not seem to work:** Make sure it is [turned on in Pointer Control settings](#). If it is turned on but still is not working, make sure it is not paused. Also check that the camera you are using is turned on, facing you, and unobstructed.
- ✓ **If the pointer does not move:** If you or someone else is moving the pointer using a mouse or trackpad, head pointer pauses; when you stop using the mouse or trackpad, head pointer automatically resumes.
- ✓ **If the pointer moves erratically:** Adjust the lighting around you to ensure your face and head are clearly detected by your camera.
- ✓ **If the pointer moves too far or not far enough:** Adjust the pointer speed you set for head pointer. The lower the speed, the less distance the pointer moves when you move your face or head; the higher the speed, the farther the pointer moves.
- ✓ **If the pointer moves too slowly or quickly:** Turn your face or move your head more quickly or more slowly.
- ✓ **If the pointer seems stuck on an edge of the screen:** Make sure you are centred in front of the screen and that your head is not too far to the left or right. You may need to adjust the position of your display or camera.
- ✓ **If a message appears that head pointer failed:** It is possible the lighting is too bright or dark, that you are too close to or far from the camera, or not centred in

front of the screen. Try adjusting the lighting or repositioning yourself in front of your display or camera.

✓ **If the pointer is difficult to locate on the screen:** Try [recalibrating head pointer](#).

- Recalibrate head pointer

You can recalibrate head pointer to reposition the pointer in the middle of the screen and reset your default face or head position, depending on the option you set to control how the pointer moves.

- ✓ On your Mac, choose Apple menu  > System Settings, then click Accessibility  in the sidebar. (You may need to scroll down.)
- ✓ Go to Motor on the right, then click Pointer Control.
- ✓ Turn on “Head pointer”, then click the Info button .
- ✓ Turn on Use a switch or facial expression to recalibrate, then click the Info button  to choose a switch to perform the action.
- ✓ Adjust the position of your face or head, then use your switch to start recalibration.

The onscreen countdown is displayed and counts down from 3. When the countdown is at 1, refrain from moving so you are still during recalibration.

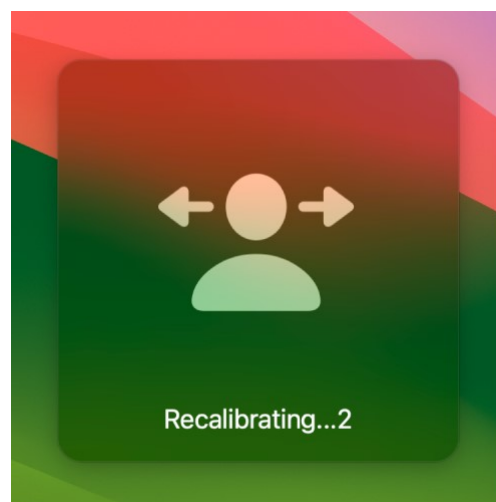


Figure 4.5-15 Head pointer is recalibrating

- ✓ When the onscreen countdown disappears, head pointer is recalibrated and you can continue to use head pointer.

You can repeat these steps anytime you want to recalibrate head pointer.

4.5.5.8 Switch Control

Switch Control lets you use one or more adaptive accessories to enter text, interact with items on the screen and control your Mac. Switch Control scans a panel or the user interface until you select an item or perform an action using a switch. See [Use Switch Control](#).

Use Switch Control on Mac

With Switch Control, you can use an adaptive device (such as a switch or joystick) to enter text, interact with items on the screen and control your Mac. You use controls in the Switch Control Home panel to scan a panel or the user interface until you use a switch to select an item or perform an action.

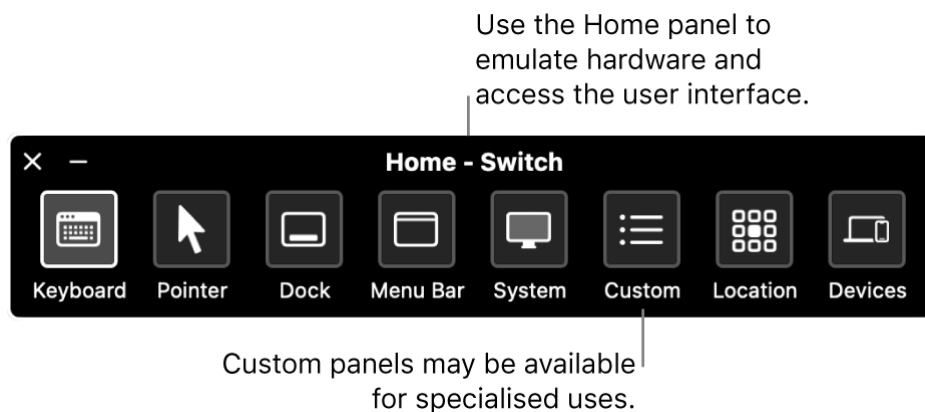


Figure 4.5-16 Switch Control Home panel

- Turn on Switch Control

- ✓ On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Switch Control on the right. (You may need to scroll down.)
- ✓ Turn on Switch Control.

The Switch Control Home panel is shown on your desktop.

By default, the Switch Control panel uses white text on a dark background. If you prefer dark text on a light background, choose a light appearance in Switch Control settings.

- Set up switches

You can use Switch Control settings on your Mac to set up one or more adaptive switches to perform an action when pressed, or assign an existing switch a different action.

- ✓ On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Switch Control on the right. (You may need to scroll down.)
- ✓ Scroll down to Switches, then do any of the following:
 - **Add a switch:** Click the Add button , then press your adaptive switch. Enter a name, then select an action, such as Stop Scanning. To have the switch run a script or open an app, click Custom, then select a script or an app.
 - **Remove a switch:** Select a switch in the list, then click the Remove button .
 - **Change a switch:** Select a switch in the list, click the Edit Switch pop-up menu , then change the name or action. To use a different switch for the action, click Reassign.

- Use the Home Panel

While you are using Switch Control on your Mac, the Home Panel is shown on the desktop. The Home Panel contains the following items:

- ✓ **Keyboard:** Shows the default keyboard. Type text in a document or field by scanning the keyboard in the panel, opening a group of keys, then selecting a key. Keep an eye on the group across the bottom of the keyboard; it contains suggested words, based on the keys pressed so far. You may save typing time by selecting a suggested word.

- ✓ **Pointer:** Provides buttons to move and click the pointer. To move the pointer to an area of the screen, select Move. To automatically click the pointer when you get to an area of the screen, select Move & Click.

For both the Move and the Move & Click options, a *vertical* blue line starts to glide across the screen. When you press the Select Item switch, the line stops and a *horizontal* blue line starts to glide across the screen. The pointer moves to the intersection of the two blue lines; if you used Move & Click, the item located at the intersection of the two blue lines is selected.

If you want even more precision, set Pointer precision to High in Switch Control settings. Then, after the first vertical and horizontal lines stop, press the Select Item switch. A slower vertical (or horizontal) line moves across the screen, and you can stop exactly where you want.

- ✓ **Dock:** Scans the items in the Dock.
- ✓ **Menu Bar:** Scans the menu bar group, then the menu extras group.
- ✓ **System:** Provides buttons to control the volume or display brightness of your Mac and control media playback.

If your Mac has a Touch Bar, System includes Toggle Touch Bar, which shows the Touch Bar across the bottom of the screen. This allows you to use Switch Control to point to and select items in the Touch Bar.

- ✓ **Custom:** Shows custom panels that are available. You can create custom panels ([using the Panel Editor](#)) to streamline common tasks and actions for apps.
- ✓ **Location:** Provides buttons to reposition the Switch Control panel on the screen.
- ✓ **Devices:** Shows available Apple devices — such as iOS and iPadOS devices or Apple TV — that you can control using Switch Control on your Mac, without having to pair your switch with the other device. Your Mac, iOS and iPadOS devices, and Apple TV must be on the same Wi-Fi network and you must be signed in with the same Apple ID on all the devices.

If you turned on “Allow platform switching to control your computer” in Switch Control settings, you can also use your other devices to control your Mac.

See the Apple Support article [Use Switch Control on your device to control another Apple device](#).

- Scan and select items

While you are using Switch Control on your Mac, do any of the following:

- ✓ **Scan items with auto scanning:** Press the Select Item switch to start auto scanning. For groups and user interface items, Switch Control highlights each item or group as it scans. For panels, it either highlights each button or group, or sets of buttons in an overlapping sequence, depending on how the panel was designed.

If you select an item, the scan pauses, unless Auto scanning is turned on in Switch Control settings. To resume the scan, press the switch. Switch Control repeats (or loops) a scan, as set in Switch Control settings.

- ✓ **Scan items without auto scanning:** If you turned auto scanning off, press the Move To Next Item switch.
- ✓ **Select an item:** When an item is highlighted, press the Select Item switch. If the selected item is a group, press the switch again to scan the items in the group, then press the switch once more to select an item. To exit a group, press the switch when the group is highlighted (or when step out is announced, if you set the option to have Switch Control speak while navigating).

If you turn on Resume auto scanning after selection in Switch Control settings, Switch Control automatically starts scanning the items in the group when you select it.

- Use panels

While you are using Switch Control on your Mac, do any of the following:

- ✓ **Set panel options:** In a panel, press the Select Item switch when the Panel Options button  in the top-right corner is highlighted. Then press the switch again when the option you want to set is highlighted. You can decrease or increase the size of the panel, and increase or decrease its transparency.
- ✓ **Return to the Home Panel:** In a panel, press the Select Item switch when the Home button  in the top-right corner is highlighted. In the user interface, press the switch when the Home Panel is highlighted.

- Control the pointer

While you are using Switch Control on your Mac, you can use panels to move and control the pointer. For example, the Pointer panel in the Home Panel offers Move and Move & Click. The following methods may also be used in panels:

- ✓ **Glide:** The action is the same as Move in the Pointer panel.
- ✓ **Rotate:** When you press the Select Item switch, a sector (shaped like a pie slice) starts to rotate around the screen from the current location of the pointer, or around the frontmost window from the centre of the window (depending on how Boundary was set in the Panel Editor). When you press the switch a second time, the sector stops on the screen, then a blue line starts to glide across the sector. When you press the switch a third time, the blue line stops, then the pointer starts to glide along the blue line. Press the switch again to stop the pointer on the blue line.

If you set Pointer precision to High in Switch Control settings, Switch Control adds intermediate stages to provide greater control of the pointer. For example, the third time you press the Select Item switch, the blue line moves much slower as it glides across the sector. Press the switch a fourth time to start the pointer gliding along the blue line. Press it a fifth time to slow the pointer even more. Press the switch a sixth time to stop the pointer on the blue line.

- ✓ **Directional Move:** When you press the Select Item switch, the pointer moves across the screen from its current location in one of several ways: It either moves in one direction (for example, left, down or diagonally). Or, it repeats or reverses the last directional move it made. If you press the switch, the pointer stops moving; if you do not, the pointer continues until it reaches a boundary, where it reverses direction, or stops if Reverse cursor direction after hitting edge is turned off in Switch Control settings.

4.5.6 Exercises (Mac OS Accessibility for People with Physical Impairments)

accessibility features **Mac OS Accessibility for People with Speech Impairments**

4.5.7.1 Mac OS Accessibility Features for Speech

Mac OS includes accessibility features to have what you type spoken out loud, create a synthesised voice that sounds like you and more.

- Live Speech

If you are unable to speak or have lost your speech over time, you can have what you type spoken out loud using synthesised speech in in-person conversations or in apps like FaceTime. See [Have what you type spoken out loud](#).

Have What You Type Spoken Out Loud on Mac

If you are unable to speak or have lost your speech over time, you can use Live Speech on your Mac. With Live Speech, have what you type spoken out loud in in-person conversations and in apps like FaceTime. You can create and select from a list of phrases you use often so you can chime in quickly in a conversation.

You can choose from dozens of system voices or use a [Personal Voice you create](#).

- Have what you type spoken out loud

You can have what you type spoken out loud.

- ✓ On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, go to Speech on the right, then click Live Speech. (You may need to scroll down.)
- ✓ Turn on Live Speech.
- ✓ By default, the system voice from Spoken Content settings is used to speak what you type out loud. To choose another voice, including a Personal Voice you created, click the Voice pop-up menu.
- ✓ Click the Type to Speak text field in the Live Speech window, enter the text you want spoken aloud, then click the Speak button  or press Return.

You can hide or show the Live Speech window as needed by clicking the Live Speech

icon  in the [menu bar](#).

- Have saved phrases spoken out loud

With Live Speech, you can select from a list of phrases you use often. This can be useful when you want to quickly chime in during conversation.

- ✓ On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, go to Speech on the right, then click Live Speech. (You may need to scroll down.)
- ✓ Turn on Live Speech.
- ✓ Click the Saved Phrases icon  in the Live Speech window, then click one or more of your saved phrases.
- ✓ To have the text spoken out loud, click the Speak button  or press Return.

You can click the Saved Phrases icon  again to hide your saved phrases.

- Add or remove saved phrases

Add or remove phrases from the list of saved phrases that you use often.

- ✓ On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, go to Speech on the right, then click Live Speech. (You may need to scroll down.)
- ✓ Do any of the following:
 - **Add a saved phrase:** Click the Add button , enter your phrase in the text field, then press Return.
 - **Remove a saved phrase:** Select a phrase, then click the Remove button .

- Personal Voice

If you are at risk of losing your ability to speak, you can create a synthesised voice that sounds like you. See [Create a Personal Voice](#).

Create a Personal Voice on Mac

If you are at risk of losing your ability to speak, you can use Personal Voice on Mac to create a synthesised voice that sounds like you and speaks what you type using Live Speech. See [Have what you type spoken out loud](#).

Note: Personal Voice is available only on Mac computers with [Apple silicon](#) and is not available in all languages. Personal Voice can be used only with Live Speech and with third-party apps that you allow, such as Augmentative and Alternative Communication (AAC) apps. You can use Personal Voice only to create a voice that sounds like you on device, using your own voice and for your own personal, non-commercial use.

- Create a Personal Voice

- ✓ On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, go to Speech on the right, then click Personal Voice. (You may need to scroll down.)
- ✓ Click Create a Personal Voice, then enter your login password.

Note: To create a Personal Voice on your Mac, you must have a login password set.

See [Change the login password](#).

- Follow the onscreen instructions to record your voice. You can save and close your recording session at any time. To resume recording, click the Info button  next to the name of your Personal Voice, enter your login password, then click Continue Recording.

You can have what you type spoken out loud using the Personal Voice you created.

To use the voice you created on all devices where you are [signed in with the same Apple ID](#), turn on Share across devices in Personal Voice settings.

- Delete a Personal Voice

- ✓ On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, go to Speech on the right, then click Personal Voice. (You may need to scroll down.)
- ✓ Click the Info button  next to the name of a Personal Voice, click Delete Voice, then click Delete Voice and Recordings.

If you turned on Share across devices in Personal Voice settings, the voice is deleted from all devices where you are signed in with the same Apple ID.

4.5.8 Exercises (Mac OS Accessibility for People with Speech Impairments)

Please, Using Live Speech create at least 5 (five) of your favourite phrases, insert these phrases into an e-mail and send it to your teacher (learning course consultant).

4.5.9 MacOS General Accessibility Features

Mac OS includes accessibility features to make it easier to turn various accessibility features on or off and to type your Siri requests.

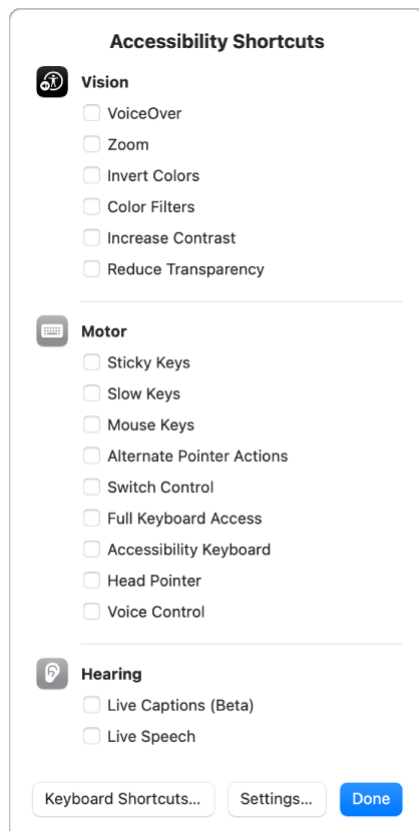


Figure 4.5-17 Accessibility Shortcuts on Mac Computers

4.5.9.1 Siri

Type your Siri requests instead of speaking them. See [Change Siri settings for accessibility](#).

Change Siri Settings for Accessibility on Mac

On your Mac, use Siri settings for accessibility to type your requests to Siri instead of speaking them. This feature can be useful if speech is difficult or you do not want others to hear your Siri requests.

To change these settings, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Siri on the right. (You may need to scroll down.)

Option	Description
Type to Siri	Type your requests to Siri instead of speaking them. If a headset with a microphone is connected to your Mac, Siri speaks your typed command.
Siri Settings	Additional options, such as setting a keyboard shortcut to activate Siri and showing what Siri says on screen, are available in Siri & Spotlight settings .

4.5.9.2 Shortcut

Quickly turn various accessibility features on or off using Accessibility Shortcuts. See [Quickly turn accessibility features on or off](#).

Quickly Turn Accessibility Features On or Off on Mac

You can quickly turn many accessibility features on or off using a keyboard shortcut, the [menu bar](#), [Control Centre](#) or Siri.

- Use a keyboard shortcut

You can use a keyboard shortcut to open the Accessibility Shortcuts panel, where you can turn accessibility features on or off.

- ✓ Press Option-Command-F5.

Or, if your Mac or Magic Keyboard has [Touch ID](#), quickly press Touch ID three times.

- ✓ In the panel, select the features you want to turn on or off, then click Done. Or, click anywhere outside the panel to close it.

Additional accessibility shortcuts you can use and customise can be found in Keyboard settings.

On your Mac, choose Apple menu  > System Settings, then click Keyboard  in the sidebar. (You may need to scroll down.) Click Keyboard Shortcuts on the right, then in the dialogue that appears, click Accessibility in the sidebar. See [Use macOS keyboard shortcuts](#).

- Use the menu bar or Control Centre

To turn accessibility features on or off right from the desktop, add the Accessibility Shortcuts or module to the menu bar or Control Centre.

- ✓ On your Mac, choose Apple menu  > System Settings, then click Control Centre  in the sidebar. (You may need to scroll down.)
- ✓ Go to Accessibility Shortcuts on the right, then turn on Show in Menu Bar or Show in Control Centre.

You can also add the Hearing module to play calming sounds right from the desktop. See [Play background sounds](#).

- Add or remove features from Accessibility Shortcuts

You can change which features appear when you use the Accessibility Shortcuts panel or the Accessibility Shortcuts module in the menu bar or Control Centre.

- ✓ On your Mac, choose Apple menu  > System Settings, click Accessibility  in the sidebar, then click Shortcut on the right. (You may need to scroll down.)
- ✓ Select or deselect the tickbox next to a feature to show or hide it when you use Accessibility Shortcuts.

If you select only one feature, the Accessibility Shortcuts panel is not displayed when you press the keyboard shortcut; instead, the feature is immediately turned on or off.

4.5.10 Exercises (Mac OS General Accessibility Features)

4.6 Resources

4.6.1. Use VoiceOver to create a Pages document on Mac. [Link](#);

- 4.6.2. Use VoiceOver to preview comments and track changes in Pages on Mac. [Link](#);
- 4.6.3. Use VoiceOver to create a Numbers spreadsheet on Mac. [Link](#);
- 4.6.4. Use VoiceOver to create formulas and autofill cells in Numbers on Mac. [Link](#);
- 4.6.5. VoiceOver User Guide. [Link](#);
- 4.6.6. Use VoiceOver to create a Keynote presentation on Mac. [Link](#);
- 4.6.7. VoiceOver modifier. [Link](#);
- 4.6.8. macOS accessibility features for vision. [Link](#);
- 4.6.9. Use Voice Control commands to interact with your Mac. [Link](#);
- 4.6.10. AirPods User Guide (for Using Spatial Audio). [Link](#);
- 4.6.11. macOS accessibility features for hearing. [Link](#);
- 4.6.12. Use Voice Control commands to interact with your Mac. [Link](#);
- 4.6.13. Customise Voice Control on Mac. [Link](#);
- 4.6.14. Navigate your Mac using Full Keyboard Access. [Link](#);
- 4.6.15. Use the Accessibility Keyboard on Mac. [Link](#);
- 4.6.16. Change Keyboard settings for accessibility on Mac. [Link](#);
- 4.6.17. Control the pointer using Dwell on Mac. [Link](#);
- 4.6.18. Change Pointer Control settings for accessibility on Mac. [Link](#);
- 4.6.19. Use Switch Control on Mac. [Link](#);
- 4.6.20. Have what you type spoken out loud on Mac. [Link](#);
- 4.6.21. Mac OS general accessibility features. [Link](#);

5 Tests

5.1 Tests for MS Office

5.1.1 Accessibility for People with Visual Impairments

True or false:

- 1.- In Word documents, it is advisable to avoid the use of tables and present the data in another way. **T**
- 2.- To reduce the reading load, it is recommended to use capital letters and italics or excessive underlining. **F**
- 3.- In PowerPoint presentations, it is recommended that the videos be accessible to people who have a visual or hearing disability. **T**

Simple single selection:

- 4.- To create accessible PDF files it is recommended: **(correct answer: a)**
 - a.- To include accessibility tags in the files.
 - b.- To save the presentation in a format that can be transferred to a Braille reader.
 - c.- All of the above.
- 5.- Establishing the reading order of the contents of the slides is important to: **(correct answer: b)**
 - a.- Make the presentation look more beautiful.
 - b.- Make the slide understandable for users of screen readers
 - c.- Make the objects readable regardless of the order in which they appear on the panel.
- 6.- The Accessibility Checker is: **(correct answer: a)**
 - a.- A tool that checks its content and marks the accessibility problems it finds.
 - b.- A potential barrier for someone with a disability.

c.- A tool that does not suggest how to solve the problems that appear.

Simple multiple selection:

7.- Mention 3 elements that make templates accessible: **(correct answer a, b, c)**

- a.- Better colour contrast.
- b.- Meaningful alt text.
- c.-Simple table structures.
- d.-Larger font size.

5.1.2 Accessibility for People with Hearing Impairments

Simple single selection:

1. In which format you need to save the file using Notepad in order to create a closed caption text file: **(correct answer b)**

- a. The file name extension must be ".doc".
- b. The file name extension must be ".vtt".
- c. The file name extension must be ".txt".
- d. No matter what the File name extension is.

2.- The Accessibility Checker is: **(a)**

- a.- A tool that checks its content and marks the accessibility problems it finds.
- b.- A potential barrier for someone with a disability.
- c.- A tool that does not suggest how to solve the problems that appear.

Inline:

3. In the Encoding box, select _____. (This option ensures that any complex characters, such as international characters will be displayed accurately on the screen.) **(Correct answer: UTF-8)**

True or false:

4.- In PowerPoint presentations, it is recommended that the videos be accessible to people who have a visual or hearing disability. **T**

5.1.3 Accessibility for People with Cognitive Impairments

True or false:

1. I can quickly create documents, emails, notes, presentations or even slides using the Dictation button. **(T)**

Simple multiple selection:

2. The elements that make presentations clearer and easier: **(a, b, c, e, f)**

- a. Using a font size of at least 18 point
- b. Using a sans serif fonts, examples: Calibri
- c. Limiting the number of lines per slide to 7
- d. A bright white background for the slides can improve the readability of the text.
- e. A dark slide background can improve the readability of the text.
- f. A cream slide background may improve the reading of the text.

3.- Mention 3 elements that make word templates accessible: **(a, b, c)**

- a.- Better colour contrast.
- b.- Meaningful alt text.
- c.- Simple table structures.
- d.- Larger font size.

Simple single selection:

4.- The Accessibility Checker is: **(a)**

- a.- A tool that checks its content and marks the accessibility problems it finds.
- b.- A potential barrier for someone with a disability.
- c.- A tool that does not suggest how to solve the problems that appear.

5.2 Tests for LibreOffice

5.2.1 Accessibility for People with Visual Impairments

Simple single selection:

1. How to navigate in the LibreOffice main menu without a mouse?
 - a. Open every item in LibreOffice's main menu using the **Alt** key followed by a trigger letter in the menu's name. **(correct answer)**
 - b. Open every item in LibreOffice's main menu using the **Shift** key followed by a trigger letter in the menu's name.
2. What type of the assistive technology benefits from the accessible documents?
 - a. Screen readers,
 - b. Screen magnifiers.
 - c. All the above. **(correct answer)**.
 - d. None.

Simple multiple selection:

3. What can be adjusted in LibreOffice Accessibility Settings?
 - a. Use text selection cursor in read-only text documents. **(correct answer)**
 - b. Allow animated images. **(correct answer)**
 - c. Allow animated text. **(correct answer)**
 - d. Use high contrast theme. **(correct answer)**

True or false:

4. The Accessibility Checker checks the accessibility of documents only once - at the time of opening. True or False? (Correct answer -False).

Inline:

5. The _____Checker checks the accessibility of documents. (**correct answer: Accessibility**)

5.3 Tests for MacOS and Mac Office

5.4 Tests for Mac OS

5.4.1 Mac OS Accessibility Features for People with Visual Impairments

Simple single selection:

Question Nr. 1. What is the VoiceOver using for?

Answers:

- A. The VoiceOver lets you use your device without seeing the screen.
- B. The VoiceOver lets you listen your playlist on your device.
- C. The VoiceOver lets you create different sounds on your device.

The correct answer is A.

Question Nr. 2. How to quickly turn VoiceOver on or off?

Answers:

- A. You can use the Accessibility Shortcuts panel by pressing Option-Command-F5.
- B. You can use the Accessibility Shortcuts panel by quickly pressing Touch ID three times (if your Mac or Magic Keyboard has Touch ID).
- C. You can use Siri by saying the command.
- D. All, A, B and C answers, are correct.
- E. Only A and C answers are correct.
- F. Only A and B answers are correct.
- G. Only B and C answers are correct.

The correct answer is D.

Question Nr. 3. Is the set of keys (as called “shortcuts”) to activate/deactivate VoiceOver (VO) the same for any Mac?

Answers:

- A.** Each Mac has its own set of keys (as called “shortcuts”) to activate/deactivate VoiceOver (VO).
 - B.** Every Mac has the same set of keys (as called “shortcuts”) to activate/deactivate VoiceOver (VO).
 - C.** You can specify which options are available in the panel (for the set of keys to activate/deactivate VoiceOver (VO)).
 - D.** All, A, B and C answers are correct.
 - E.** Only A and C answers are correct.
 - F.** Only A and B answers are correct.
 - G.** Only B and C answers are correct.
- The correct answer is E.**

Simple multiple selection:

Question Nr. 4. (Multiply Choice) Which macOS accessibility features for vision impairments do you know?

Answers:

- A.** Description features
- B.** Spoken Content features
- C.** VoiceOver
- D.** Zoom features
- E.** Display features

The correct answer is when all, A, B, C, D and E, have been chosen. Every single choice of A or B, or C, or D, or E has 0.2 value.

Mac OS Hearing Accessibility Features

Question Nr. 5. (Multiply Choice) Which Mac OS Accessibility feature is for Hearing impairment?

Answers:

- A.** RTT features;

- B. VoiceOver;
- C. Captions features;
- D. Spoken Content features
- E. Live Captions features;
- F. Siri.

The FULL correct answer is A+C+E. Each single choice of A, C or E has 0,33 value.

Question Nr. 6. Does Live Captions availability depend on Mac computer's model, language, and country or region?

Answers;

- A. Yes, it does;
- B. No, it doesn't;
- C. Live Captions is beta and available only on Mac computers with Apple silicon and is not available in all languages, countries or regions.

The FULL correct answer is C. Partially correct answer is A and it has 0,5 value.

5.4.2 Mac OS Speech Accessibility Features

Simple multiple selection:

Question Nr. 7. (Multiply Choice) Which macOS accessibility features for speech impairment do you know?

Answers:

- A. Live Speech;
- B. Spoken Content features;
- C. Personal Voice;
- D. VoiceOver

The FULL correct answer is A+C. Each single choice of A or C has 0,5 value.

Simple single selection:

Question Nr. 8. Is Personal Voice feature available on each Mac computers?

Answers:

- A.** Personal Voice is available only on Mac computers with Apple silicon
- B.** Personal Voice is available is not available in all languages.
- C.** Personal Voice feature available on each Mac computers.
- D.** Correct answers are A and B.
- E.** Correct answers are B and C.
- F.** Correct answers are A and C.

The correct answer is D.

5.4.3 MacOS Accessibility Features for People with Physical Disabilities

Simple multiple selection:

Question Nr. 9. Which MacOS accessibility feature do you know as physical/mobility/motor accessibility feature?

Answers:

- A.** Voice Control features;
- B.** Shortcut;
- C.** Keyboard features;
- D.** Pointer Control features;
- E.** Siri;
- F.** Switch Control.

The FULL correct answer is A+C+D+F. Each single choice of A, C, D or F has 0,25 value.

Simple single selection:

Question Nr. 10. Is it possible to create your own command using Voice Control feature?

Answers:

- A.** No, you have to use only standard commands for Voice Control feature.
- B.** Yes, you can create your own commands for Voice Control feature

C. There is no clearly described if it possible to create commands for Voice Control feature at all.

The correct answer is B.

Question Nr. 11. Is Spatial Audio available on each Apple device?

Answers:

- A. Yes, it is possible to use Spatial Audio on each Apple device.
- B. No, Spatial Audio support only device with Apple silicon.
- C. No, you have to check if your device supports Spatial Audio before start to use it.
- D. Only B answer is correct.
- E. Only B and C answers are correct.

The correct answer is E.

5.4.3.1 Mac OS General Accessibility Features

Simple single selection:

Question Nr. 12. Can you use Siri for creating and editing:

1. Pages document;
2. Numbers spreadsheet;
3. Keynote presentation?

Answers:

- A. It is possible to create and edit only Pages document, using Siri.
- B. It is possible to create and edit only Numbers spreadsheet, using Siri.
- C. It is possible to create and edit only Keynote presentation, using Siri.
- D. It is possible to create and edit all, Pages document, Numbers spreadsheet, Keynote presentation, using Siri.
- E. It is impossible to create and edit either Pages document, or Numbers spreadsheet, or Keynote presentation, using Siri.

The correct answer is D.

Simple multiple selection:

Question Nr. 13. How many features Mac OS General Accessibility Features do you know?

Answers:

- A.** There are uncountable Mac OS general accessibility features.
- B.** There are only 2 (two) Mac OS general accessibility features.
- C.** There are Siri and Shortcut Mac OS general accessibility features.

The FULL correct answer is C. Partially correct answer is B and it has 0,5 value.