InSIDE: Including Students with Impairments in Distance Education

Deliverable DEV2.4	Guide on educational material in fully accessible form

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Project Partners

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	Johannes Kepler University, Austria		**University of Aboubekr Belkaid Tlemcen, Algeria**
	Blida 2 University, Algeria		**Mouloud Mammeri University of Tizi-Ouzou, Algeria**
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	Abdelmalek Essaadi University, Morocco		**University of Tunis El Manar, Tunisia**
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Contents

Abbreviations

Acronym	Term
HE	Higher education
HEI	Higher education institution
ICT	Information and communications technology
InSIDE	Including Students with Impairments in Distance Education
IwI	Individual with impairments
JKU	Johannes Kepler University
LMD	Licence, Master, and Doctorate
UABT	University of Aboubekr Belkaid Tlemcen
UAE	Abdelmalek Essaadi University
UB2LA	Blida 2 University
UCA	Cadi Ayyad University
UIT	Ibn Tofail University
UM5R	University of Mohammed V in Rabat
UMMTO	Mouloud Mammeri University of Tizi-Ouzou
UOA	National and Kapodistrian University of Athens
UOM	University of Macedonia
US	University of Sousse
USFAX	University of Sfax
USTO	University of Sciences and Technology of Oran Mohamed Boudiaf

Acronym	Term
UTM	University of Tunis El Manar
ViHeMo	Visual, hearing, mobility/physical
WP	Work Package

About InSIDE

The aim of the project is to develop accessible DE programmes for individuals with ViHeMo impairments. The concrete aims are to: a) develop an accessible, inclusive and educationally effective model of DE that will deliver key competences for vocational rehabilitation, and provide opportunities for lifelong learning, skills enhancement, and personal fulfilment with the ultimate aim of suggesting an intelligent solution against the problems of limited access or high percentage of dropouts in HE in IwI, b) structure a strong cooperation between organisations with sound expertise in accessible and inclusive HE and organisations where both the modernisation of HE and the promotion of the right to education of IwI is imperative, and c) widen the horizons of local HE towards an international and intercultural education through DE programmes.

The overall objectives of the project are to:

1) Develop new and innovative, accessible and inclusive DE programmes improving the quality of HE for individuals with ViHeMo impairments and offering flexible learning and virtual mobility
2) Upgrade the facilities through establishing accessibility offices and acquiring assistive technology resulting in modernization of university services
3) Build capacity and professional development in administrative and teaching staff in developing and carrying out accessible and inclusive DE programmes, and operating the accessibility offices
4) Involve individuals with ViHeMo impairments in a user-center design so that accessibility and usability are achieved in conjunction, and the links between education and society are strengthened

The specific objectives of the project are:

- The preparation of the development stage through an extended literature review for precedent trials in DE for IwI
- The development of the most suitable educational material for IwI (ViHeMo) in terms of accessibility, usability and educational efficacy through the study of end-user requirements
- The adaptation of a course delivery system that best serves the needs of IwI (ViHeMo) in DE
- The foundation of accessibility services in HE so that SwI would be supported during their attendance in HE
- The training of advisors in the services of the accessibility offices, and the training of the trainers (advisors and representatives) so that they will be able to train the end-users (teaching staff and IwI)
- The examination of the regular co-operation of all the above to deliver inclusive DE courses effectively when learning and skill enhancement are concerned, considering end-users feedback too

- The dissemination and exploitation of the project deliverables on an international level.

Executive summary

The **Guide on educational material in fully accessible form** is the result of core activities that were realized in the context of InSIDE project. Specifically, in WP2 the adapted educational material was initially designed, developed in a preliminary version, assessed in two ways – through pilot testing and through examining the end-users' requirements – and then developed in its final version. The present guide constitutes the manual in which anyone who wishes to develop adapted educational material for individuals with visual, hearing or mobility impairments could find the necessary guidelines per kind of material, i.e. accessible e-books (MS-Word, ePub and DAISY), accessible presentation using Power Point, accessible PDF files, videos, mathematical and chemical equations, verbal descriptions of pictures, tactile pictures, and audio-tactile pictures. In addition, the guide could be used to explore the adapted educational material per impairment: blindness, residual vision, mobility impairments and hearing impairments.

Important note: It is strongly recommended to use the present guide in combination with the deliverable *2.3 Final adaptations on the educational material* where additional suggestions by the end-users themselves have been included. In this way, whoever wishes to find and develop a more tailor-made solution of accessible educational material should fulfill his/her needs.

1. Guidelines for developing accessible texts/e-books

1.1. MS-WORD

1.1.1. Specify Document Language

- Screen readers can read text in many languages but they do not automatically specify the language of your document.
- If your document has text written in more than one language, you must make certain that every section of your text that appears in a different language is properly identified.

To Specify Document Language:

1. Select the text written in a different language.

2. Go to the **Review** tab in the ribbon.

3. In the language section, select **Language**.

4. Select **Set Proofing Language**.

5. Choose the appropriate language from the list.
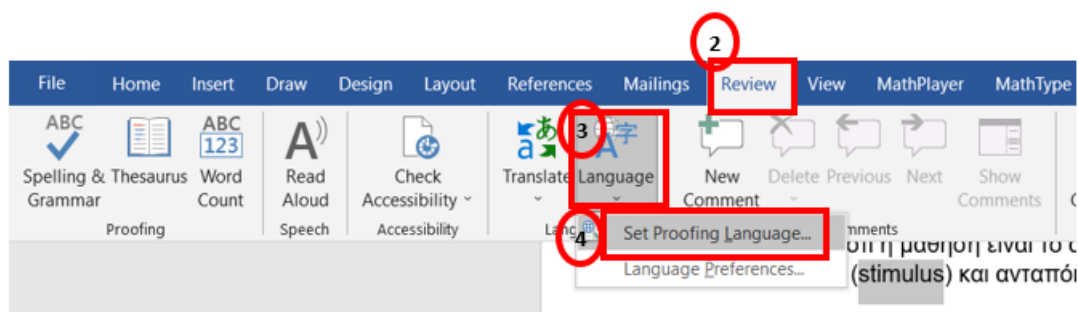
6. Select the OK button.

Figure 1:The initial four steps (Steps 1 to 4) for specifying the document language.

Συμπεριφοριστική μάθηση (behaviourist learning): Η προσέγγιση αυτή υποστηρίζει ότι η μάθηση είναι το αποτέλεσμα μιας αιτιατής σχέσης μεταξύ ερεθίσματος (stimulus) και ανταπόκρισης (response).

Figure 2: Steps 5 and 6 for specifying the document language.

1.1.2.   Add headings

- Headings are one of the main ways that screen reader users navigate through the document.
- Use a separate style for each heading level. For example, heading 1 is the highest or main level of heading, heading 2 is a subheading of Heading 1, heading 3 is a subheading of heading 2, and so on through heading 4 and 5.

To add headings

1. Select the text you want to turn into a heading.

2. Go to the **Home** tab in the ribbon.

3. In the **Styles** group, select the heading level that you wish to apply.

4. Press Enter on your keyboard to move your cursor to the next line. The heading formatting will automatically turn off.
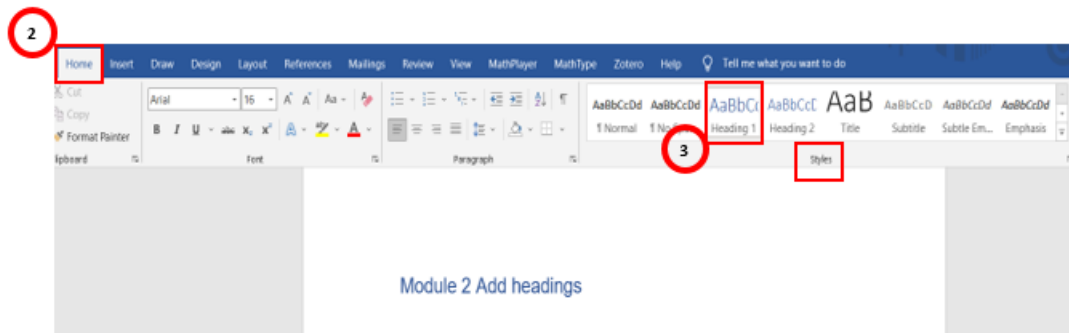
Figure 3: Steps 2 and 3 for including headings.

1.1.3.   Create lists

- Utilize Word's formatting tools instead of manually typing numbers or dashes to indicate list items.

To create an ordered or unordered list

1. Go to the **Home** tab in the ribbon.

2. In the **Paragraph** section, select the **Bullets** icon for unordered lists or select the **Numbering** icon for ordered lists.

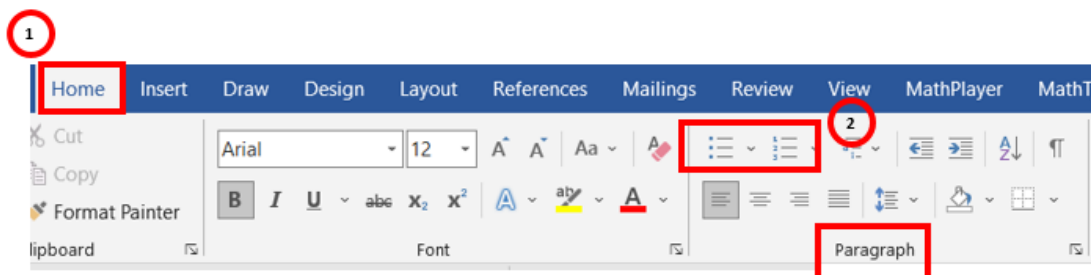That will start your list. Each time you press Enter you'll start a new list item.

Figure 4: Steps 1 and 2 for creating lists

1.1.4.   Use meaninigful link text

- Hyperlinks are more effective navigation aids when users understand the purpose of the link.

- Ensure that all links have text that describe the purpose of the link.

Tips

- Links should make sense out of context.
- Links do not need to include "link" in the link text.
- Don't duplicate link text.
- Avoid link text that's longer than a sentence.
- Avoid phrases like "read more" or "click here".
- If you want to link to something that isn't a website – such as a PDF file – you should refer this information in the link text.

To add hyperlinks with meaningful text

1. Copy the hyperlink that you would like to replace with meaningful text.

2. In Word, place your cursor where you want the hyperlink to appear.

3. Go to the **Insert** tab. In the **Links** group, select Links or Right-click and Select Link.

4. Enter the descriptive link text in Text to Display.
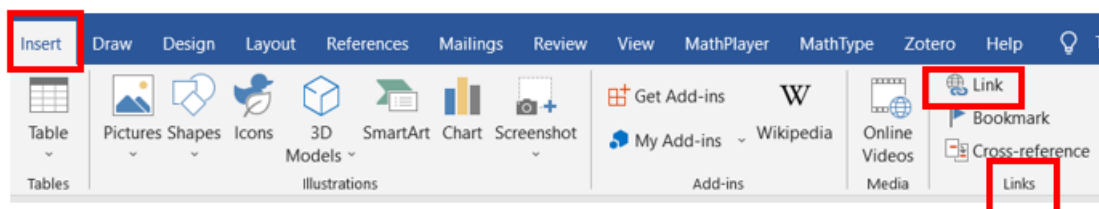
5. Enter the URL in the Address.

6. Select Ok.

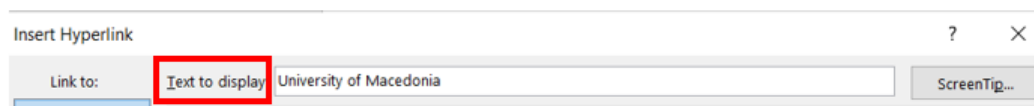*Figure 5: Step 3 for adding hyperlinks with meaningful text.*

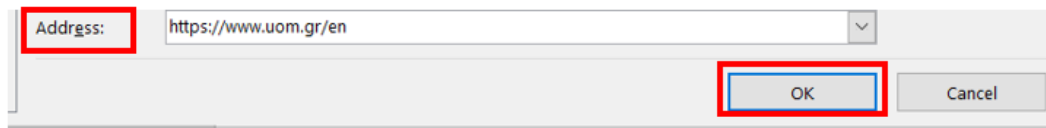*Figure 6: Step 4 for adding hyperlinks with meaningful text.*

Figure 7: Steps 5 and 6 for adding hyperlinks with meaningful text.

1.1.5.   Create Accessible Tables

- Screen readers read tables horizontally—cell by cell, row by row.

- Row and column headers help give context to the data in each cell for people with visual impairment.

Tips

- Tables should be used only for data or information that requires organization with rows and columns, not for layout or lists.

- Keep tables simple by avoiding merged cells and splitting complex tables into separate smaller tables.

- Write "left blank" or "blank" in tables with missing data.

- Use "real tables" rather than text formatted to look like tables using the TAB key or space bar. It could be difficult or impossible to understand for people using screen readers.

- If tables split across pages, set the header to show at the top of each page.

- Define the start and end of the figure. For example,

Table start

Insert table

Table end

To add table

1. Go to the **Insert** tab in the ribbon

2. In the **Tables** section, choose Insert Table. (Do NOT use the Draw Table feature because this feature will not create an accessible table.)

3. Choose the Number of columns and the Number of rows you would like your table to have.
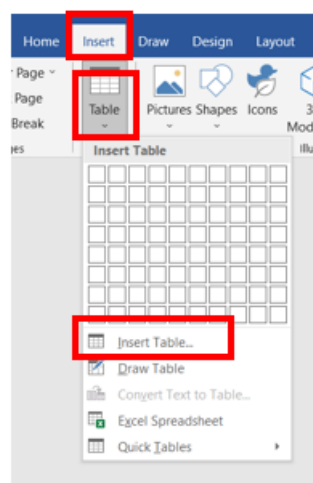
4. Select the OK button.

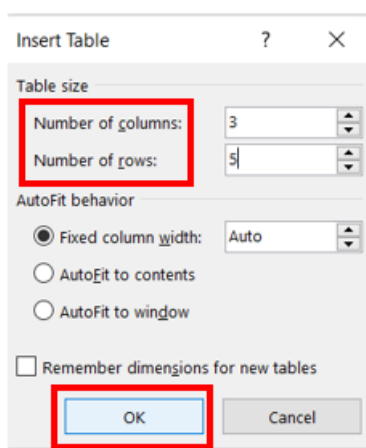*Figure 8: Steps 1 and 2 for creating accessible tables.*

Figure 9: Steps 3 and 4 for creating accessible tables

To make the first row a header row

1. Select the first row of your table that you would like to make into the heading row.
2. Right-click the row and select **Table Properties**.
3. Select the Row tab.
4. Uncheck Allow row to break across pages.
5. Check Repeat as header row at the top of each page.
6. Select OK.

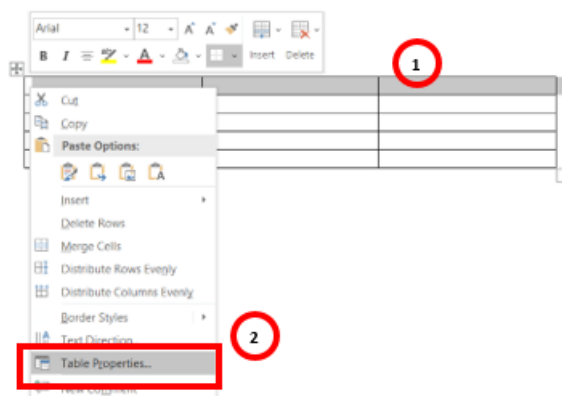| **InSIDE** project	Page	WP2: Adapted Educational Material
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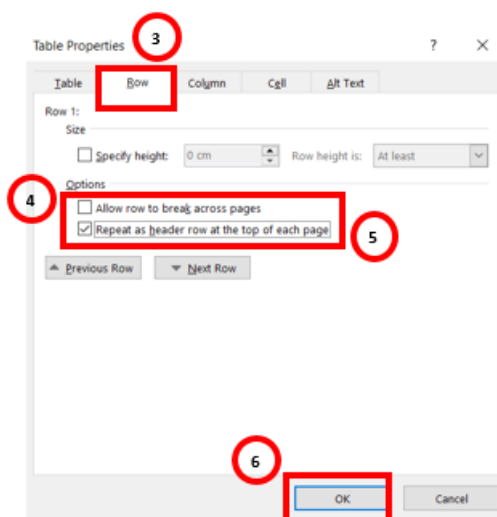*Figure 10: Steps 1 and 2 for making the first row as a header row*

Figure 11: Steps 3 to 6 for making the first row as a header row.

To add alternative text to a table

(Alternative text, or "alt text" describes the content of a table, if needed)

1.   Right-click the table
2.   Choose Table Properties.
3.   Select the Alt Text tab
4.   In the Description area, write a summary of your table's content or structure.
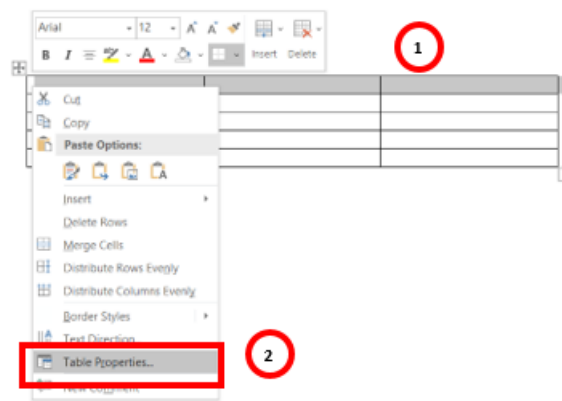5.   Select the OK button.

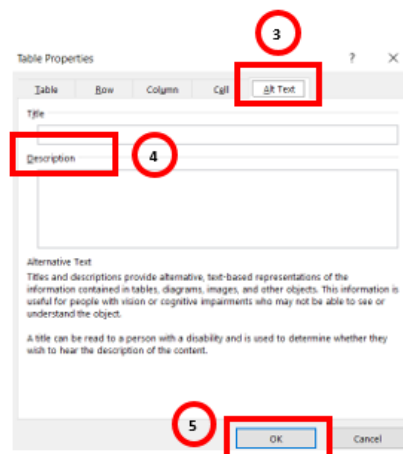*Figure 12: Steps 1 and 2 for adding alternative text to a table.*

Figure 13: Steps 3 to 5 for adding alternative text to a table.

1.1.6. Provide Alternative Texts for Images and other Objects

- What are images? Images are non-text elements that include photographs, illustrations, diagrams, pictures, charts, graphs, and maps.

- Alternative text, or "alt text" describes the content of images.

Tips

- Try to describe the image without making too many of your own assumptions.

- Imagine you are describing the image to a person over the phone.

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- Do not include phrases like "image of ..." or "graphic of ...", etc. If the fact that an image is a photograph or illustration, etc. is important content, it may be useful to include this in alternative text.

- If the object is an image of text, then the alt text must match the text verbatim.

- When an image is too intricate to adequately describe using only alternative text (e.g., artwork, flowcharts, etc.), ensure to provide both a brief text alternative and a more detailed description.

- Long descriptions/verbal descriptions should be used when alternative texts are inadequate in addressing the question: "What information is the image conveying?

- If the image is decorative, check Mark as decorative or type decorative image.

- Do not select the "Generate a description for me" button.

- Define the start and end of the figure. For example,

Figure start

Insert image
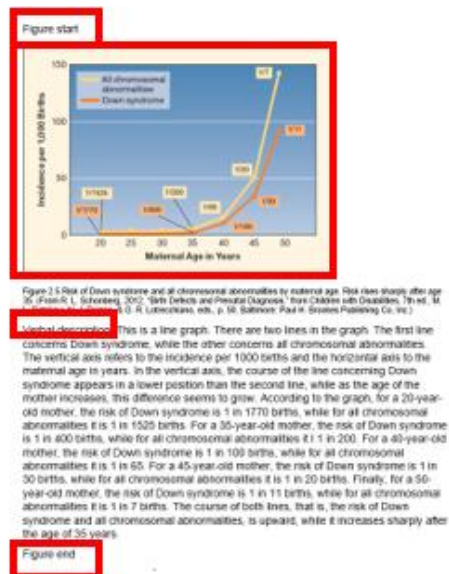
Verbal description: ….

Figure end

Figure 14: An example image illustrating the beginning and the end poimts of the figure.

To add alternative text to images/graphical objects

1.   Insert the image/object you want to use into the document.
2.   Right-click the image/object.
3.   Select Edit Alt text.
4.   The Alt Text pane opens on the right side of the document body. Fill in the field.
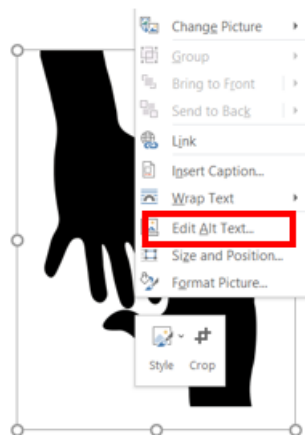

Figure 15: Step 3 for adding alternative text to images

Figure 16: Step 4 for adding alternative text to images.

1.1.7.   Avoid "Floating" Elements

- When specific elements (such as images or objects) are inserted into Word documents, they are initially set as "inline objects." Inline objects maintain their position on the page relative to the text.
- However, Word also offers the option to have these elements "float" outside of the text order, allowing text to flow around, under, or over them.

To prevent an image or object from "floating"

1.   Select the image/object.

2.   Go to Layout tab in the ribbon.

3.   Select Position from the Arrange section.
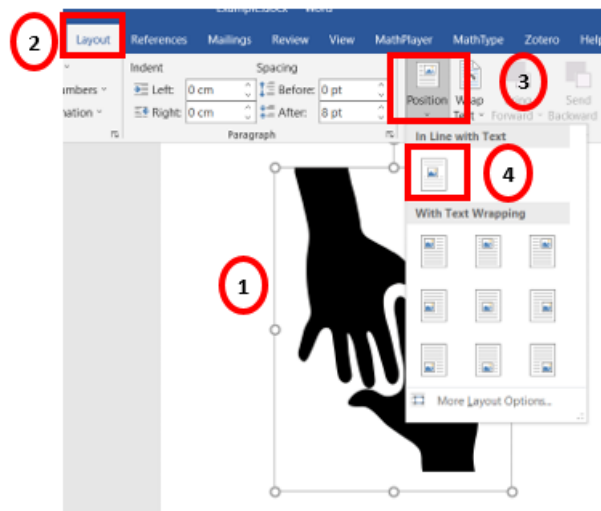
4.   Select in Line with Text.

Figure 17: Steps 1 to 4 for preventing an image or object from "floating"

1.1.8.   Check Accessibility

- If you wish to check the accessibility of your document, Word offers an "Accessibility Checker".

- Please note that no checker can identify every type of accessibility issue comprehensively.

The "Accessibility Checker" classifies issues as

- Error.
- Warning.
- Tip.

To use the "Accessibility Checker"

1. Make sure the file is saved as a DOCX. (Note: Older DOC files are not compatible with the checker).

2. Go to **File** tab in the ribbon.

3. Select **Info** in the left window pane.

4. Select the **Check for Issues** dropdown.

5. Select the **Check Accessibility** item. An Accessibility Checker task pane will open, showing the inspection results.

6.   Select a specific issue to see Additional Information.

7.   Follow the steps provided to fix or revise the content.

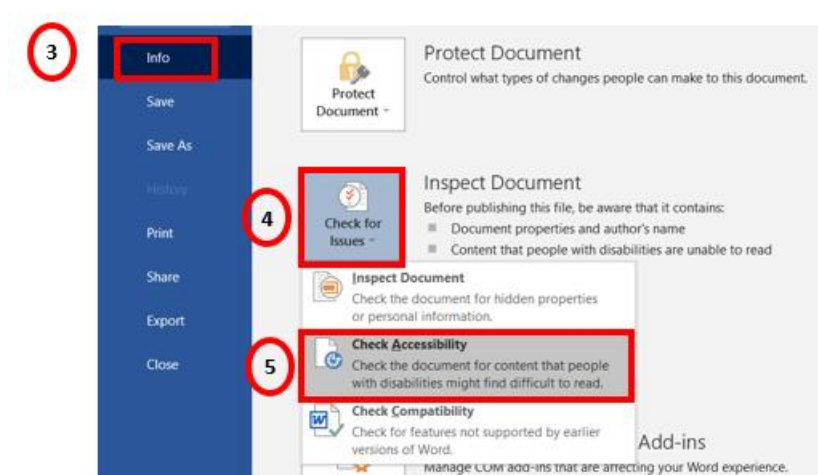*Figure 18: Step 2 for using the Accessibility Checker*

Figure 19: Steps 3 to 5 for using the Accessibility Checker

1.1.9.   Use Built-In Document Structuring Features

Table of contents

- It gives users an overview of the document's organization and contents.

- The best way to generate a table of contents is after applying the predefined heading styles (e.g., "Heading 1," "Heading 2," "Heading 3").

To insert a table of contents

1.   Place the cursor in your document where you want to create the table of contents.

2.   Go to the **References** tab in the ribbon.

3.   In the **Table of Contents** section, select Table of Contents.

4.   Select the style that you want to use.

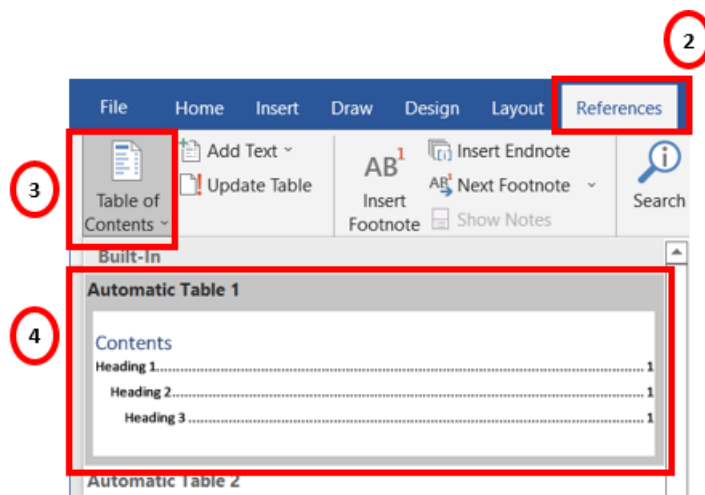| InSIDE project	Page	WP2: Adapted Educational Material
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Figure 20: Steps 2 to 4 for inserting a table of contents.

To update a table of contents

1. Select the table of contents.

2. Go to the **Reference** tab in the ribbon.

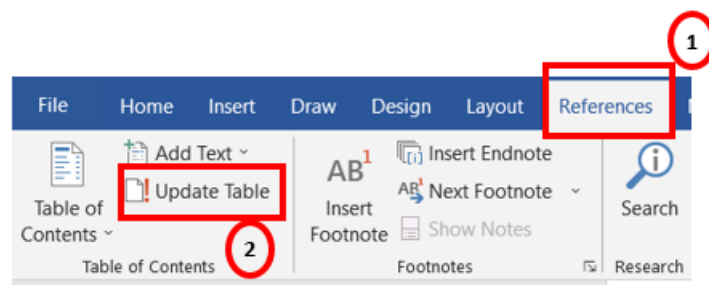3. In the **Table of Contents** section, choose the **Update Table** button.

Figure 21: Steps 1 and 2 for updating a table of contents.

Page numbering

- Numbering the pages of you document helps readers in efficiently navigating and referencing its content.

- Select the top left option as the page number location.

To insert page numbers

1. Go to menu item: Insert.

2. In the Header & Footer section, select Page Number.
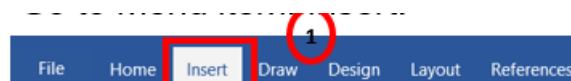
3. Select Top of page.

4. Select top left page numbering.
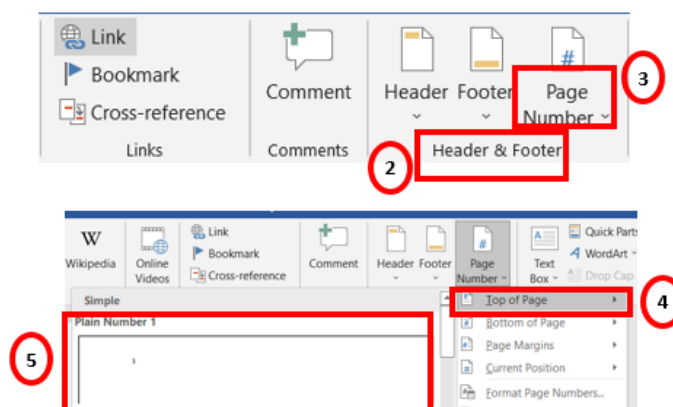

Figure 22: Step 1 for inserting page numbers

Figure 23: Steps 2 to 5 for inserting page numbers.

Page break

- To begin a new page with consistent page layout (including page orientation, headers, page numbering, etc.), use a page break instead of using multiple hard returns consecutively.

To add a page break

1. Go to the Insert tab in the ribbon.

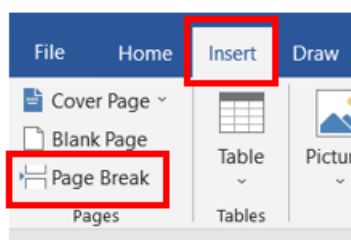2. In the Pages section, select Page Break.

Figure: 24. Steps 1 and 2 for adding a page break.

1.1.10. Use bookmarks & cross-references to link to other parts of a document

- In Word, a bookmark functions similarly to a physical bookmark in a book, allowing you to mark a specific location for easy retrieval.
- For lengthy documents, you can improve organization and navigation by inserting bookmarks within rich content fields and creating cross-references to those bookmarks.
- A cross-reference serves as a hyperlink to a bookmark within a document and is stored as a URL in the rich content field of an item. It appears as a blue, underlined hyperlink within the rich content field and can be accessed exclusively in the Document view.

To add bookmarks

1. Select the text or a place in your document where you want to insert a bookmark.

2. Go to the **Insert** tab in the ribbon.

3. In the **Links** section, choose **Bookmark**.

4. Under Bookmark name, type in a name. (Names must not contain spaces.)
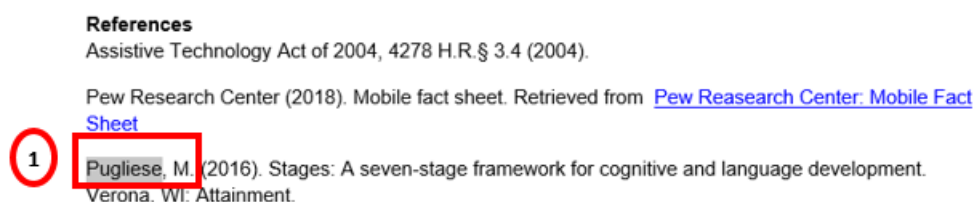
5. Select **Add**.

The bookmark is created.

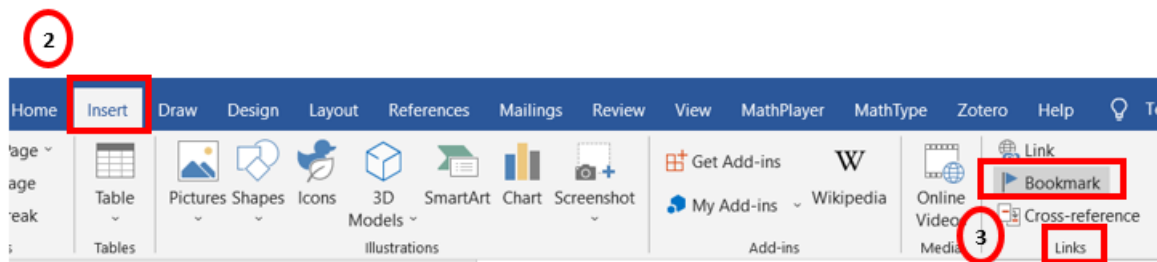*Figure 25: Step 1 for adding bookmarks.*

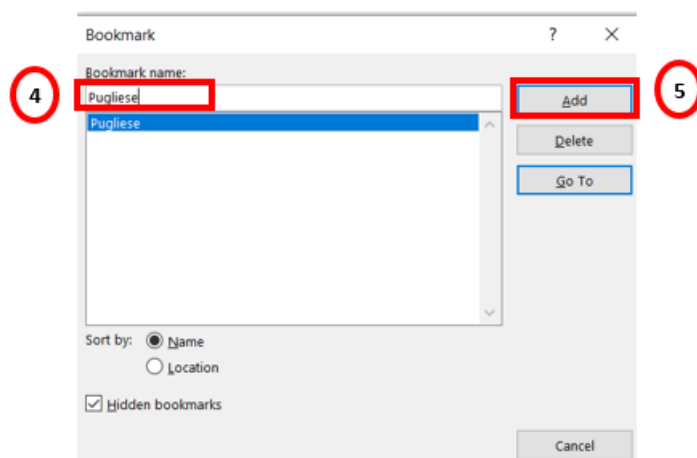*Figure 26: Steps 2 and 3 for adding bookmarks.*

Figure 27: Step 4 for adding bookmarks.

Link to a bookmark

1. Select the text or object you want to use as a hyperlink.

2. Right-click and select link.

3. In the Insert Hyperlink dialog box, under link to, click **Place in this Document**.

4. In the list, choose the **bookmark** that you want to link to.

5. Select the ok button.

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Much has been researched and written about cognitive and language development. If you would like to learn more about this topic, you may find this publication of interest: Stages: A Seven-Stage Framework for Cognitive and Language Development (Pugliese, 2016; Attainment Company).
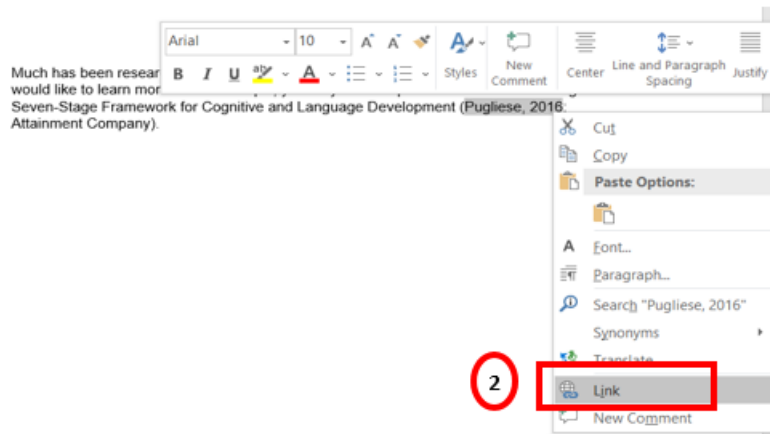
Figure 28: Step 1 for linking to a bookmark.

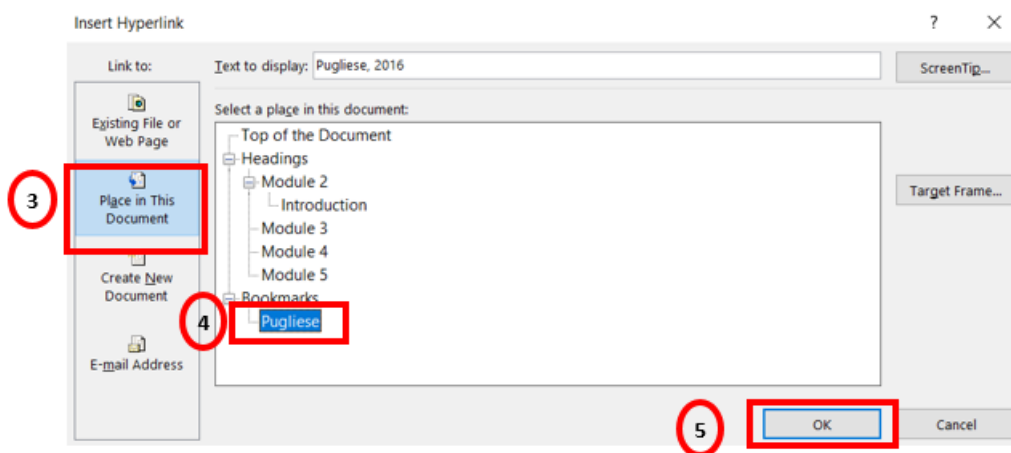*Figure 29: Step 2 for linking to a bookmark.*

Figure 30: Steps 3 to 5 for linking to a bookmark.

Much has been researched and written about cognitive and language development. If you would like to learn more about this topic, you may find this publication of interest: Stages: A Seven-Stage Framework for Cognitive and Language Development (Pugliese, 2016; Attainment Company).

Figure 31: An illustration of a reference linked to a bookmark.

1.1.11. Make Content More Accessible

Tips

- Use font size **12** points for body text.
- Use Sans serif fonts (e.g., **Arial**) which are typically easier to read than serif fonts (e.g. Times New Roman, Garamond).
- Use high contrast colors for text and background. For example, black text on a white background or white text on a black.
- Use bold fonts for emphasizing words and phrases instead of underlining.
- Only use underlining as the standard option to emphasize links for websites and email addresses.
- Left alignment is recommended for all the document.
- Do not use enter, space or tab keys to add white space.
- Use the Page Break tool to start a new page. Do not press Enter repeatedly to start a new page.
- Ensure that color is not the only means of conveying information.
- For headings, consider adding bold and using a larger font.

1.2. DAISY

- DAISY, an international standard for digital talking books (DTBs) and multimedia representation of print publication, facilitates easy navigation through structured text, such as by headings or pages.
- A DAISY book can consist of text only, audio only, or a blend of audio and text. The audio component can be recorded speech or computer-generated speech. By synchronizing audio, images, and text, DAISY multimedia accommodates various learning styles and preferences.

Converting a WORD file into a DAISY DTB using the Dolphin EasyConverter

1. Start the conversion process by selecting "New Project." This action will direct you to the "Project Information" screen.

2. In the "Project Information" section, provide a name for your project. Utilize the "Browse" button to choose the desired saving location. Click "Next" once you're done.

3. Select the "Open a file" radio button under "Choose your input document," then click "Browse."

4. Proceed by selecting "Next."

5. Under "Document settings," opt for "No" for "Use heading detection during conversion" as you will manually handle this later in the tutorial. If you wish to delegate this task to EasyConverter in the future, choose "Yes."

6. In "Document settings," choose either "Yes" for "Edit the intermediate document in Microsoft Word during conversion" or "No." Click "Next" to proceed.

7. For "Choose your alternative format," select "DTB" from the dropdown list of "New output type." From "DTB Type," choose "Daisy 2.02."

8. In "Choose your alternative format," select the "Yes" audio button to generate a DTB with a built-in voice. Alternatively, select "No." Choose your preferred voice and lexicon from the respective dropdown menus.

9. Navigate to "Choose settings > Page numbers > Word page numbers." Select the OK button, then click "Next" to continue.

10. Determine your desired output name for the DTB. Provide a name and consider adding extra information, such as the format type (DTB), creation date, built-in voice name, and lexicon name. To exclude this additional information, uncheck the "Append selected item to the output name" box.

11. Save your alternative format. By default, the project will be saved to the designated location. If you wish to create an additional copy in another location, CD/DVD, or USB device, select the appropriate option from the "Copy it to" dropdown list. Alternatively, choose "No copy to" to skip saving an extra copy.

12. Initiate the conversion process by selecting "Finish."

13. To view the DTB, choose "View Output" or open the file from its saved location.
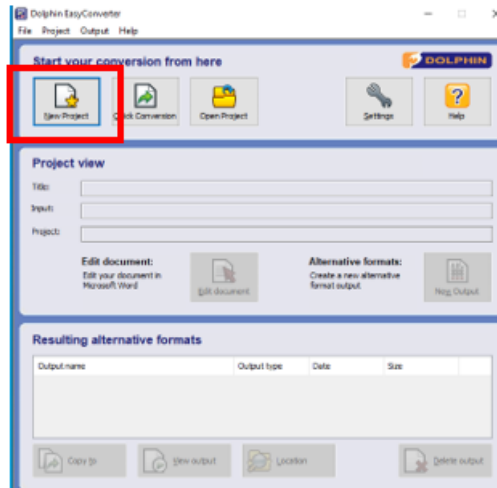
Figure 32: Step1 for converting a WORD file into a DAISY DTB using the Doplhin EasyConverter.
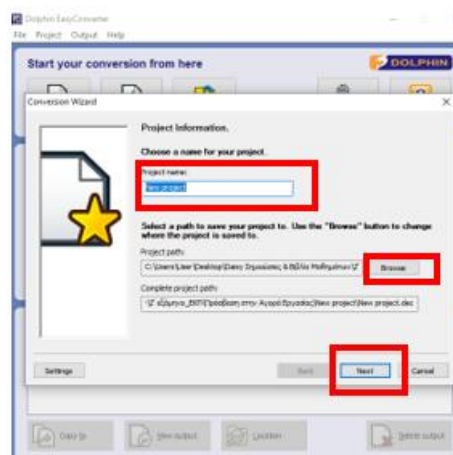
Figure 33: Step2 for converting a WORD file into a DAISY DTB using the Doplhin EasyConverter.
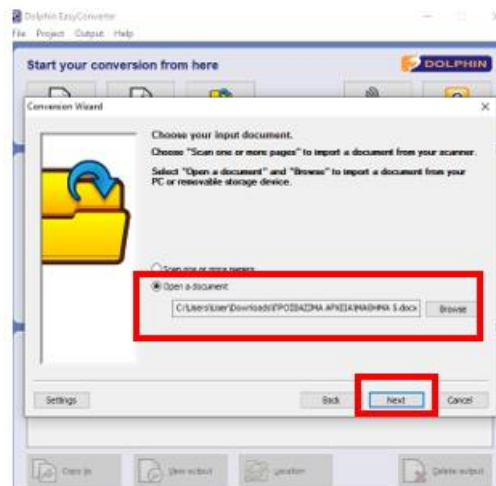
Figure 34: Steps 3 and 4 for converting a WORD file into a DAISY DTB using the Doplhin EasyConverter.
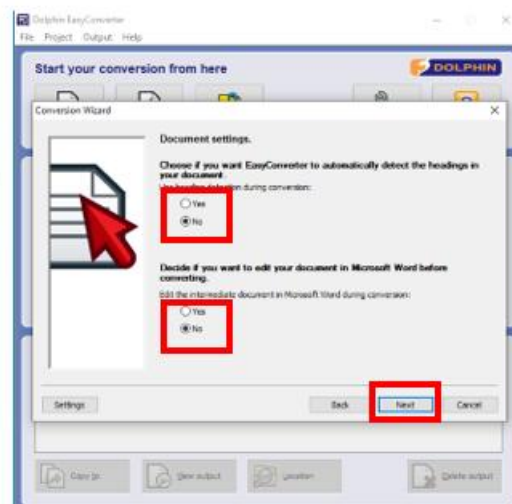
Figure 35: Steps 5 and 6 for converting a WORD file into a DAISY DTB using the Doplhin EasyConverter
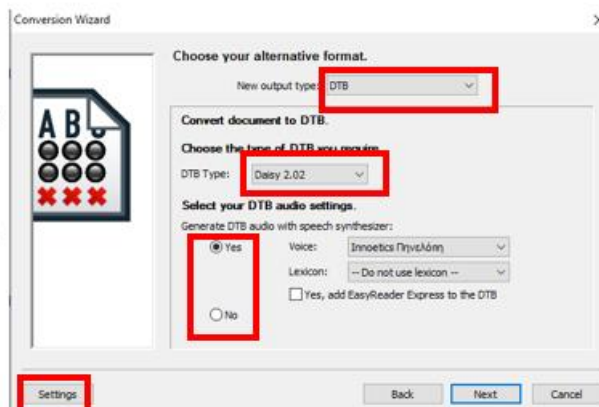
Figure 36: Steps 7 to 9 for converting a WORD file into a DAISY DTB using the Doplhin EasyConverter.
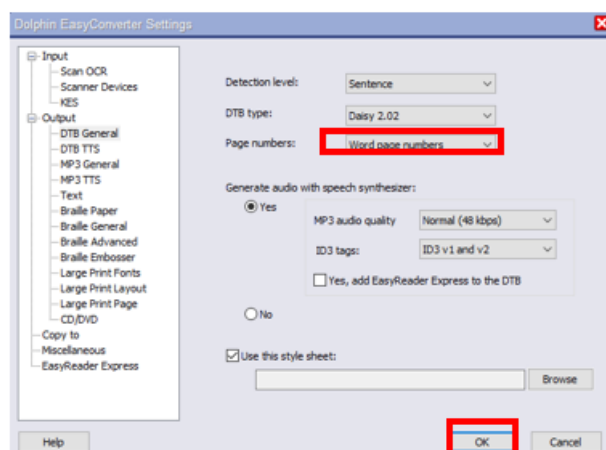

Figure 37: Step 9 for converting a WORD file into a DAISY DTB using the Doplhin EasyConverter.

Figure 38: Step10 for converting a WORD file into a DAISY DTB using the Doplhin EasyConverter

Figure 39: Step11 for converting a WORD file into a DAISY DTB using the Doplhin EasyConverter.
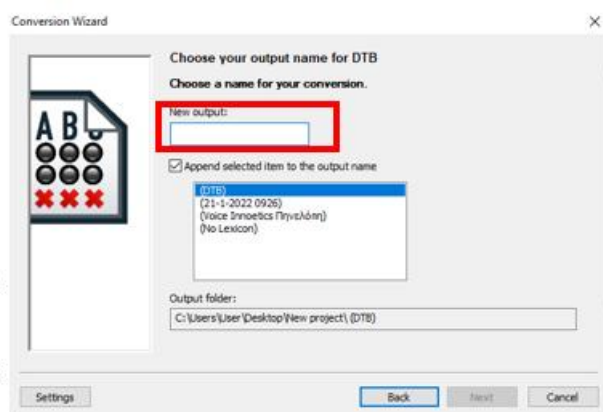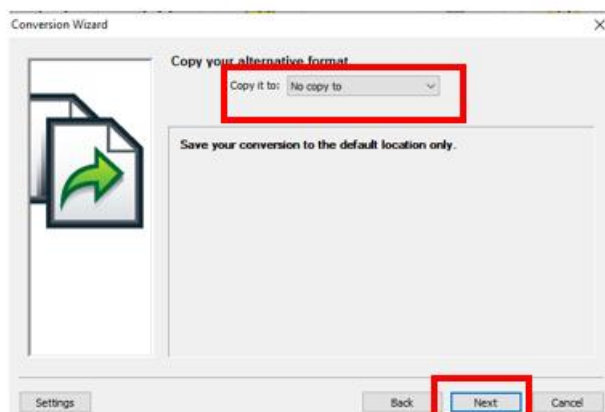
1.3. EPUB

WordToEPUB

- Using WordToEPUB you can convert documents from your word processor to the latest EPUB 3 format.

- The EPUB files created with this tool can be used in a wide variety of reading apps on any platform, with the ability to personalize visual features such as colors, font, text size, and layout.

- WordToEPUB is free to download and use (https://daisy.org/activities/software/wordtoepub/). The app works on Windows 7, 8, 10, and 11.

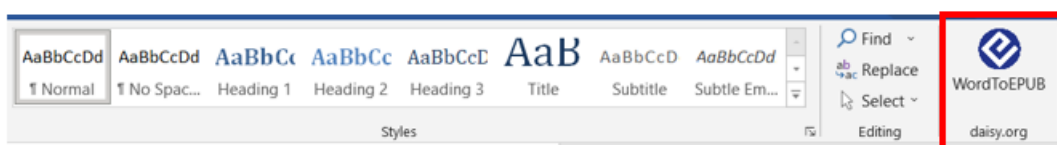*Figure 40: The WordtoEPUB plugin in the Word ribbon after it has been downloaded.*

To convert an accessible Word file to an EPUB file using the WordToEPUB plug-in:

1. Open your Word document that you want to convert to EPUB.

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2. Ensure that your Word document is accessible, meaning it adheres to accessibility guidelines for structure, formatting, and alternative text for images.
3. Install the WordToEPUB plug-in if you haven't already. You can find and download it from the official website (https://daisy.org/activities/software/wordtoepub/).
4. Once installed, the WordToEPUB plug-in should appear as a new tab or option in your Word application.
5. Click on the WordToEPUB button within the plug-in interface.
6. A conversion settings or options window will appear. You can adjust various settings related to the EPUB file, such as metadata, formatting.
7. Adjust the conversion settings according to your preferences, or you can simply use the default settings.
8. After reviewing and configuring the desired options, initiate the conversion process by clicking on the "OK" button within the plug-in.
9. The WordToEPUB plug-in will begin converting your accessible Word document to EPUB format. The duration of the conversion will vary based on the document's size and complexity.
10. Once the conversion is finished, the plug-in will provide a notification or prompt indicating the successful conversion.
11. Locate the newly generated EPUB file in the designated output folder or directory.
12. You can now transfer or distribute the EPUB file for utilization on various e-reader devices or platforms that support EPUB format.

2. PowerPoint

2.1.1. Choose an accessible template

Tips

- Create a presentation with a simple and clean slide layout.

- Avoid using colored or patterned backgrounds.

- Microsoft has identified several Accessible PowerPoint templates

To find an accessible template

1. Select **File** tab in the ribbon.

2. Select **New**.

3. In the Search for Online templates and themes text field, type **accessible templates**

4. Press Enter

5. In the search results, select a suitable template.

6. In the template preview window, select **Create**.

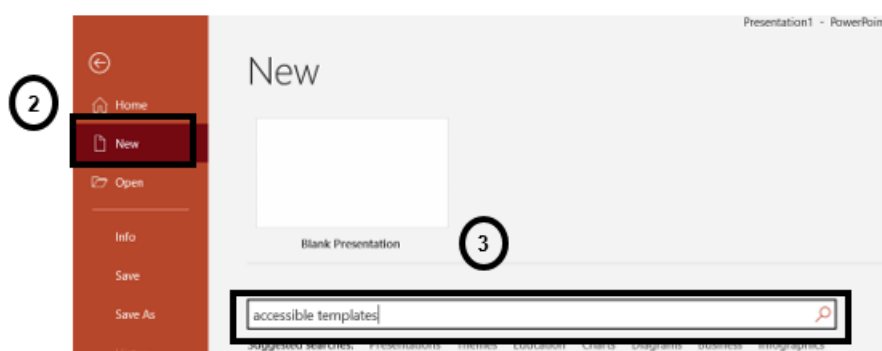
Figure 41: Step 1 for finding an accessible template

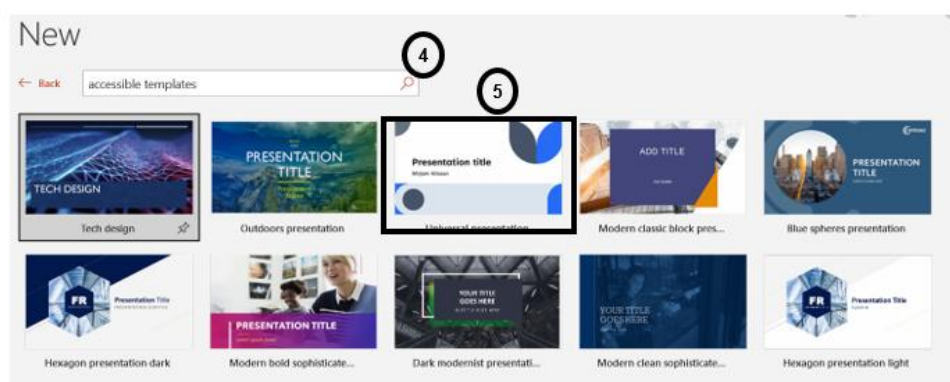*Figure 42: Steps 2 and 3 for finding an accessible template.*

Figure 43: Steps 4 and 5 for finding an accessible template.

Figure 44: Step 6 for finding an accessible template.

2.1.2.   Use Unique Slide Titles

Tips

- Use unique slide titles.

- Avoid using the same title for slides that have spill-over information.

- For example, "Slide Title 1 of 2", 'Slide Title 2 of 2".

2.1.3.   Specify Language

To set a different language

1. Select the text written in a different language.

2. Go to the **Review** tab in the ribbon.

3. In the language section, select **Language**.

4. Select **Set Proofing Language**.

5. Choose the appropriate language from the list.

6. Select the OK button.

Figure 45: Steps 1 to 6 for specifying language.

2.1.4.   Add meaningful link text

Tips

- Raw URLs may not make sense to screen reader users or others, so make the link descriptive.

- Avoid phrases like "read more" or "click here".

- Links should make sense out of context.

To add a hyperlink to a slideshow

1. Copy the hyperlink that you would like to replace with meaningful text.

2. Place your cursor where you want the hyperlink to appear.

3. Go to the **Insert** tab. In the Links group, select **Links** or Right-click and Select Hyperlink.

4. Enter the descriptive link text in Text to Display.

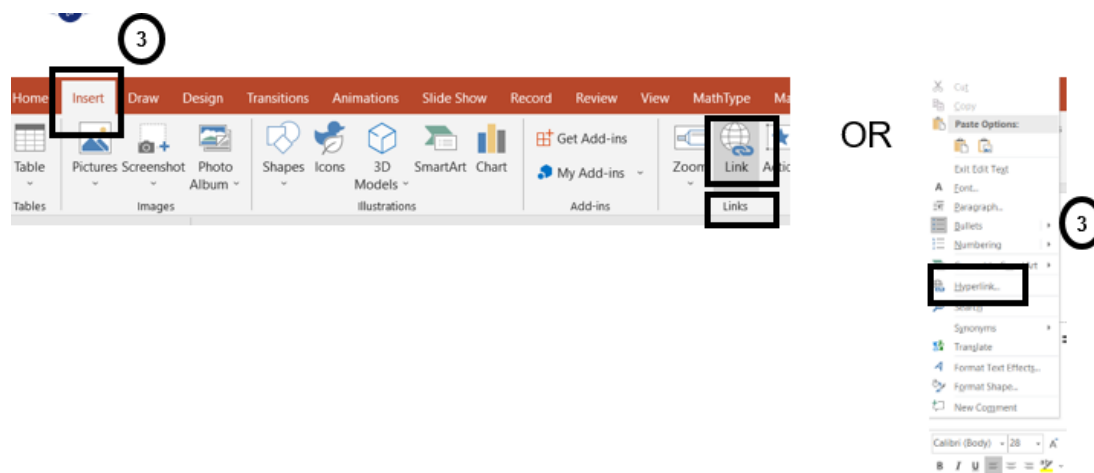5. Enter the URL in the Address.

6. Select Ok.

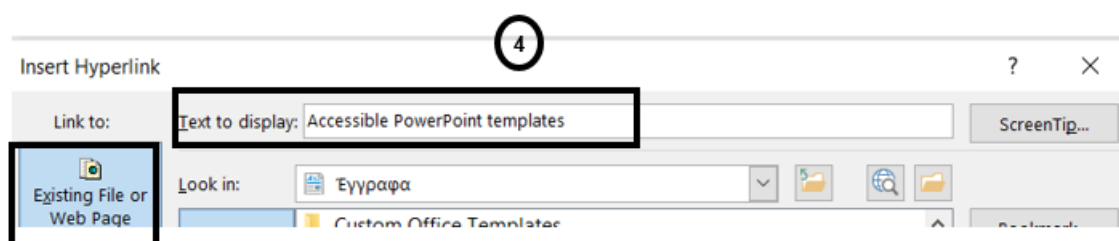*Figure 46: Step 3 for adding meaningful link text.*

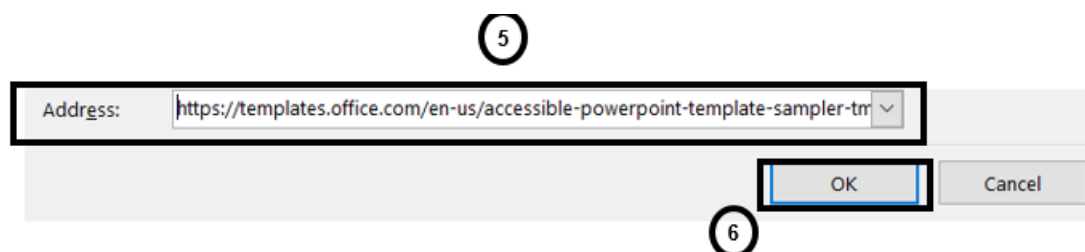*Figure 47: Step 4 for adding meaningful link text.*

Figure 48: Steps 5 and 6 for adding meaningful link text.

2.1.5. Add Alt Text to all images/objects

Tips

- Alt text should convey the meaning of the image.

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- Some versions of PowerPoint have a "Title" and "Description" field. If so, ignore the "Title" field and add alt text to the "Description" field.

- If an image/object is decorative, it should be clearly labeled as decorative or type "decorative".

- If a complex image requires more than 1-3 sentences to describe, add a verbal description of image under the graphic.

To add Alt Text

1. Select the image/object

2. Right-click on the image

3. Select **Edit Alt text** or Select Format Picture

4. If you selected Format Picture, then in the Format Picture sidebar, choose the Alt Text tab. Enter appropriate alt text in the Description field only.

Figure 49: Steps 1 to 3 for adding alt text.

2.1.6.   Use a simple table structure and specify table headers

Tips

- Tables should be used only for data or information that requires organization with rows and columns, not for layout or lists.

- Keep tables simple by avoiding merged cells and splitting complex tables into separate smaller tables.

- Write "left blank" or "blank" in tables with missing data.

- Define the start and end of the table. For example,

Table start

Insert table

Table end

To add table

1. Go to the **Insert** tab in the ribbon.

2. In the Tables section, choose **Insert Table**.

3. Choose the Number of columns and the Number of rows you would like your table to have.

4. Select the OK button.

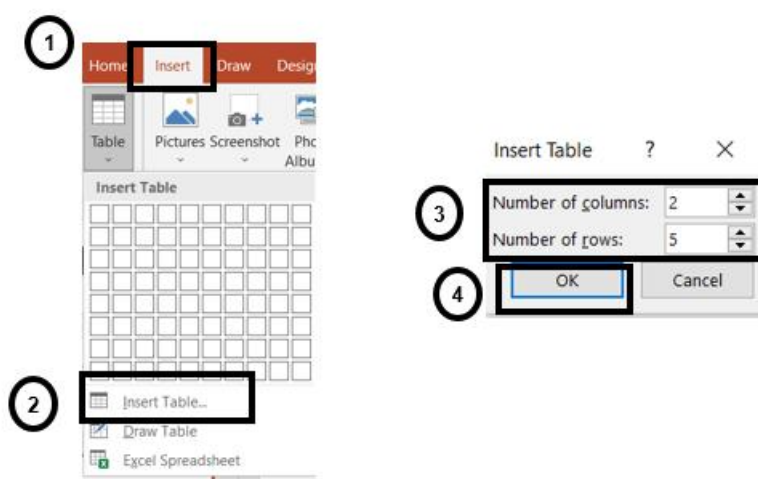Note: Avoid using the Draw Table feature as it does not generate an accessible table.

Figure 50: Steps 1 to 4 for using a simple table structure.

Extra Tips

- Choose Table Design tab > Table styles > Borders > All borders.

- Choose Table Design tab > Table styles > Shading > No fill.

Figure 51: Steps for choosing table design tab.

To add table headers

1. Position the cursor anywhere in the table. The Table Tools will appear.

2. Select the **Table Design** tab.

3. In the **Table Style Options**, choose the **Header Row** check box.
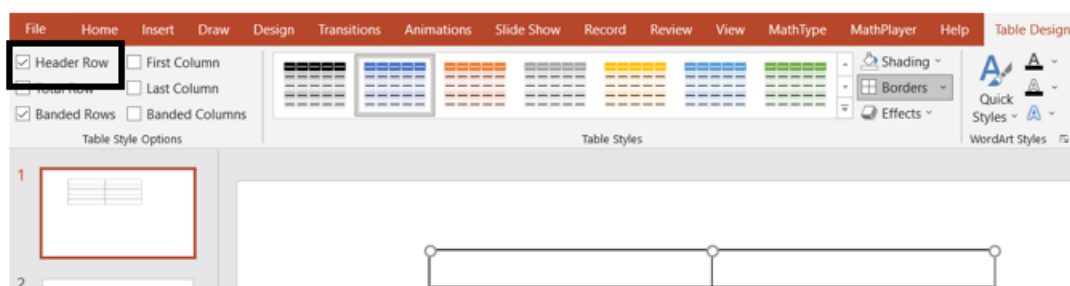
4. In the table, type the column headings.

Figure 52: Choosing the Header Row check box.

To add alt text

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(Alternative text, or "alt text" describes the content of a table, if needed)

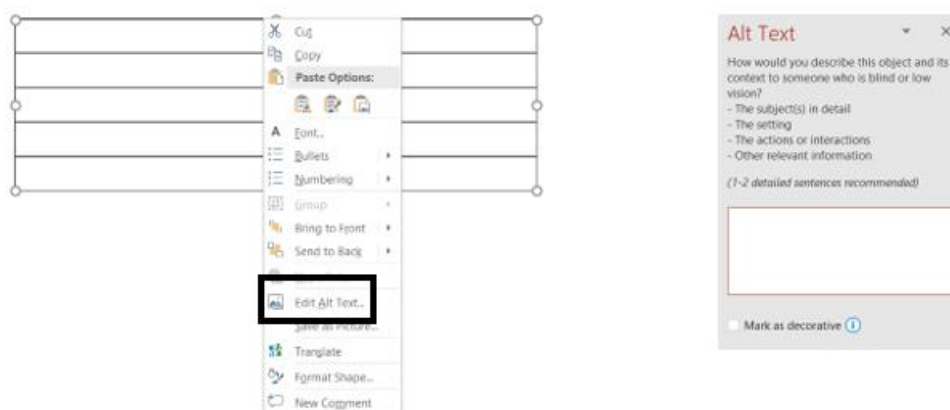1. Right-click the table.
2. Choose Edit Alt Text.

Figure 53: Steps for adding alt text.

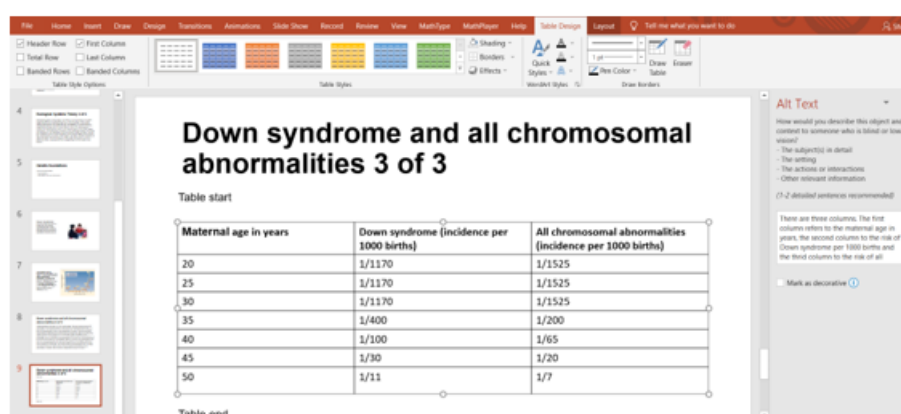
Figure 54: Example of an accessible table.

2.1.7.   Set Reading Order of Slide Contents

Introduction

- Screen readers read the elements of a slide in the order they were added to the slide.

- Check the reading order.

To check the reading order

1. Go to the **Home** tab in the ribbon

2. Go to the Drawing section.

3. Select **Arrange**.

4. Choose **Selection Pane**. The Selection Pane will appear in the right-hand sidebar.

NOTE: The reading order in the Selection Pane should be arranged from the bottom up. The title should be at the very bottom with subsequent content following it.
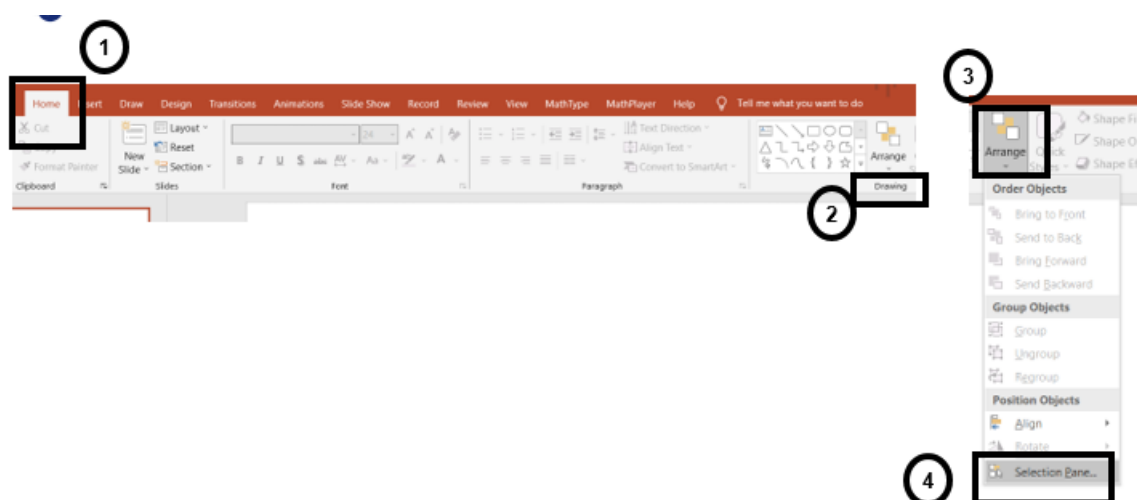

Figure 55: Steps 1 to 4 for checking the reading order.

2.1.8. Use the Accessibility Checker

To use the "Accessibility Checker"

1ˢᵗ way

1. Go to the **Review** tab in the ribbon.

2. In the Accessibility section, choose **Check Accessibility**.

3. Choose again Check Accessibility.

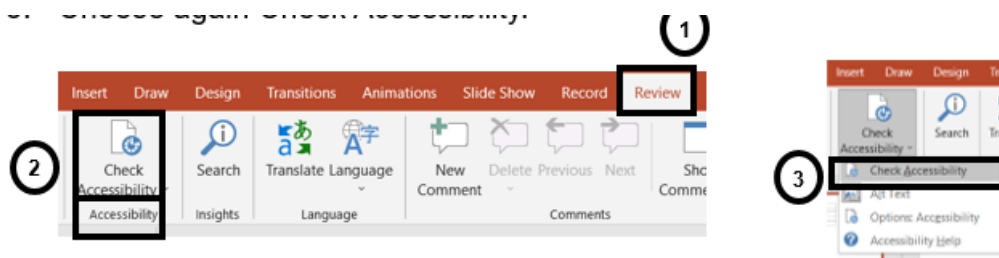*Figure 56: Steps for using the Accessibility Checker (1st way).*

To use the "Accessibility Checker"

2nd way

1. Go to the **File** tab in the ribbon.

2. Select Info.

3. Select the Check for issues button.

4. In the Check for issues drop-down menu, choose **Check Accessibility**.
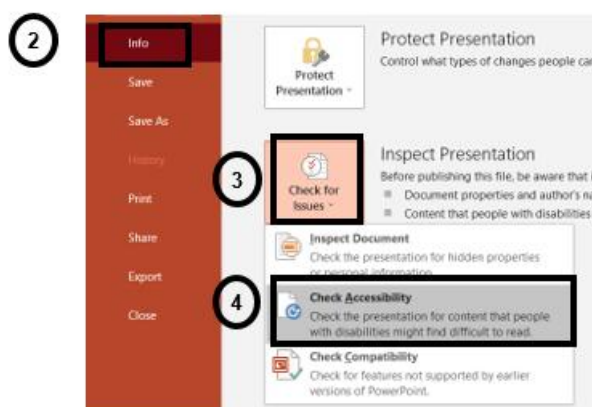

Figure 57: Step 1 for using the „Accessibility Checker".

Figure 58: Steps 2 to 4 for using the „Accessibility Checker".

2.1.9.   Make PowerPoint more Accessible

Tips

- Use font size **12** points for body text.

- Use Sans serif fonts (e.g., **Arial**) which are typically easier to read than serif fonts (e.g. Times New Roman, Garamond).

- Use high contrast colors for text and background. For example, black text on a white background or white text on a black.

- Use bold fonts for emphasizing words and phrases instead of underlining.

- Left alignment is recommended for all the document.

- Only use underlining as the standard option to emphasize links for websites and email addresses.

- Use the list buttons to create lists. Don't just use "-" to manually make a 'fake list'.

3. PDF Documents

By the term accessible pdf, we refer to the pdf (portable document format) files that are created in a way that can be used successfully by individuals with impairments. The accessible pdf files are compatible with various kinds of assistive technology e.g., screen readers, magnifiers, voice dictation software, Braille displays etc.

Pdf files are created in 3 ways:

1. They are created by converting a file from a word processing program (e.g., Microsoft Office, Libre Office, Google docs) into pdf. The accessibility of the pdf depends on the original file. Word processing programs have accessibility checking features that help the authors correct accessibility mistakes. In the case of Microsoft word, when exporting into pdf, the Document structure tags for accessibility checkbox, should be selected.
2. They are extracted from a program/software and the accessibility depends on the program that creates it
3. They are created by scanning or taking a picture of a document. These documents are not accessible and need processing.

There are PDF accessibility standards outlined in the Web Content Accessibility Guidelines. The key information/elements most accessible pdfs include are:

- Document tittle
- Alternative text description for graphics and other non-text elements
- Correct navigational aids (heading, links, etc.)
- Correct color contrast
- No dependence on color when conveying information
- Document language indication
- Appropriate tags

Pdf accessibility audits can be performed by using auditing tools. Either using the native adobe acrobat tool, or by using a commercial tool (e.g., PAC (pdf accessibility checker) 2021).

The link PDF Techniques for WCAG 2.0. discusses the techniques proposed by WCAG for creating accessible PDFs.

4. Video for Individuals with visual impairments

To make a video accessible for people with visual impairments, there are three primary options for providing description of visual information:

a. **Integrated Description**. In this option, the description is included within the main speakers' scripts. The video's dialogue incorporates descriptions of important visual elements, actions, and other relevant details. This integrated approach ensures that the audio description seamlessly blends with the main content, allowing individuals with visual impairments to follow along without the need for separate audio or video tracks.

b. **Alternative video**. This option involves creating a separate video that includes the audio description. The main video remains unchanged, while the audio description is provided in a separate video track. Viewers have the option to access the alternative video, which presents the descriptions of visual elements alongside the original content. This option offers a clear separation between the main video and the audio description, allowing users to choose which version to watch.

c. **Transcripts**. This option involves a text-based document that provides a written version of the spoken content and visual elements in a video. It includes text description of the visual information. Transcripts can be provided as a separate document. By providing the transcript as a separate document, individuals with visual impairments can easily read and navigate the text-based content using screen readers.

5. Mathematical equations

Mathtype is an equation editor that allows us to create accessible math formulas and is available on a variety of platforms.

1. Use the following link to directly [download Mathtype](#) on the preferred platform or browse wiris.com to download it.
2. Depending on the platform the equation editor might differ. In this case we demonstrate the windows desktop editor that is installed in Microsoft office.
3. A mathtype tab is added Microsoft Word's ribbon.
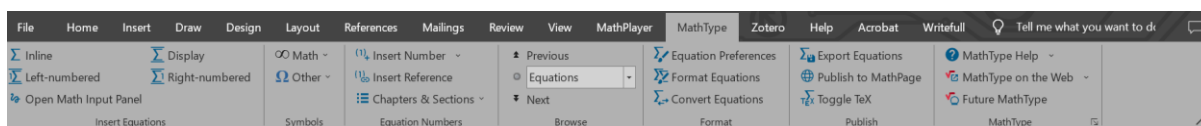4. Upon pressing the following commands are presented.

Figure 59

5. A short description is shown when the mouse hovers on the commands.
6. The commands are grouped in categories, add your first equation by pressing the Inline command. The editor opens in a new window.
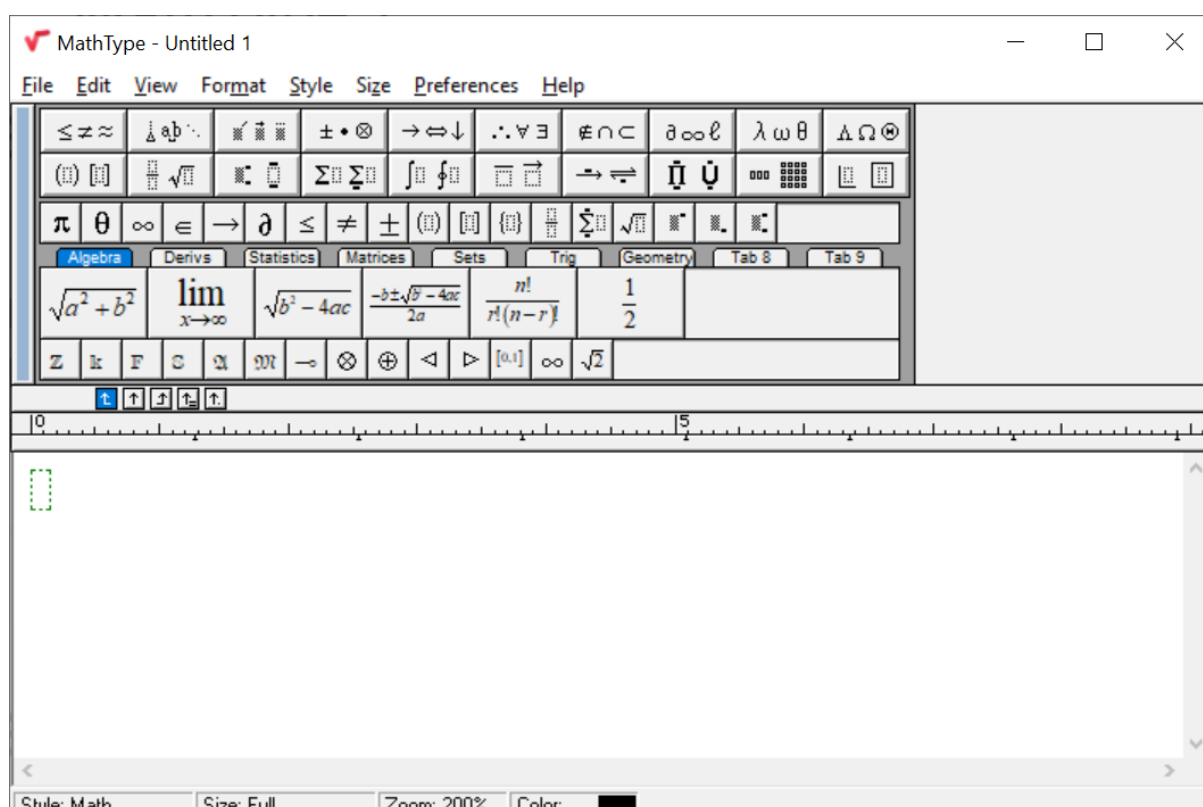
Figure 60

7.   On the top ribbons of the editor all the mathematical expressions are located in the different tabs.

8.   With a combination of the keyboard and the symbols you can create the equation that you need.
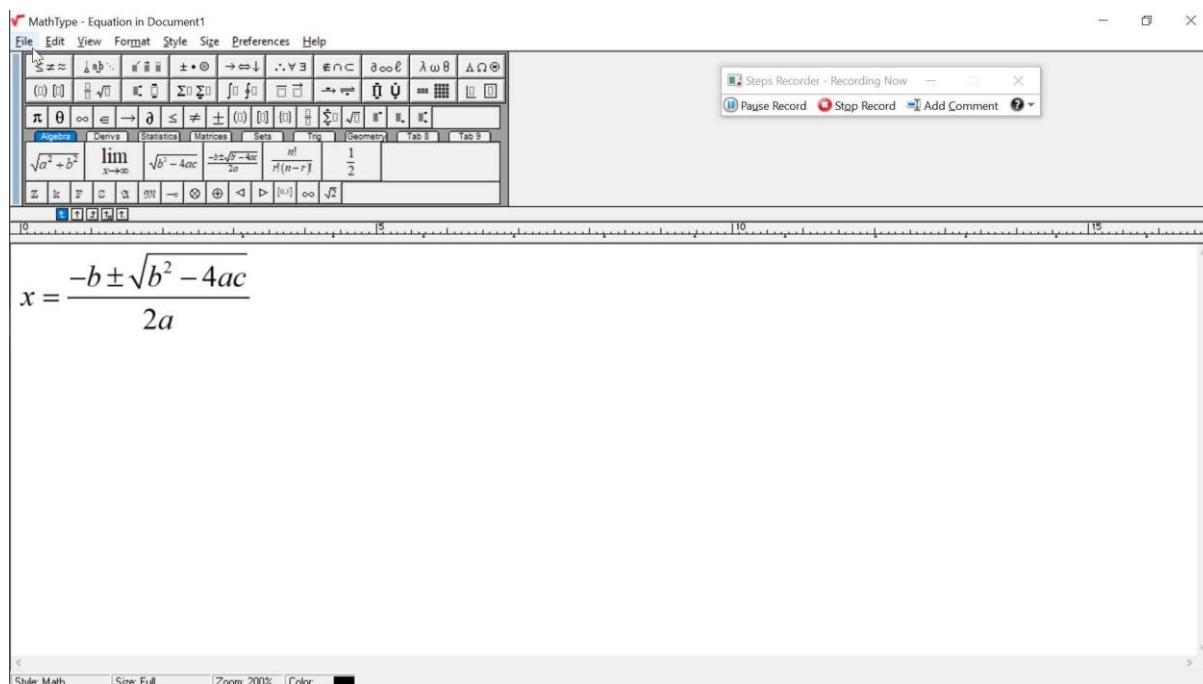
Figure 61

9.   Press Ctl+S or Update Document command in order to insert the equation.
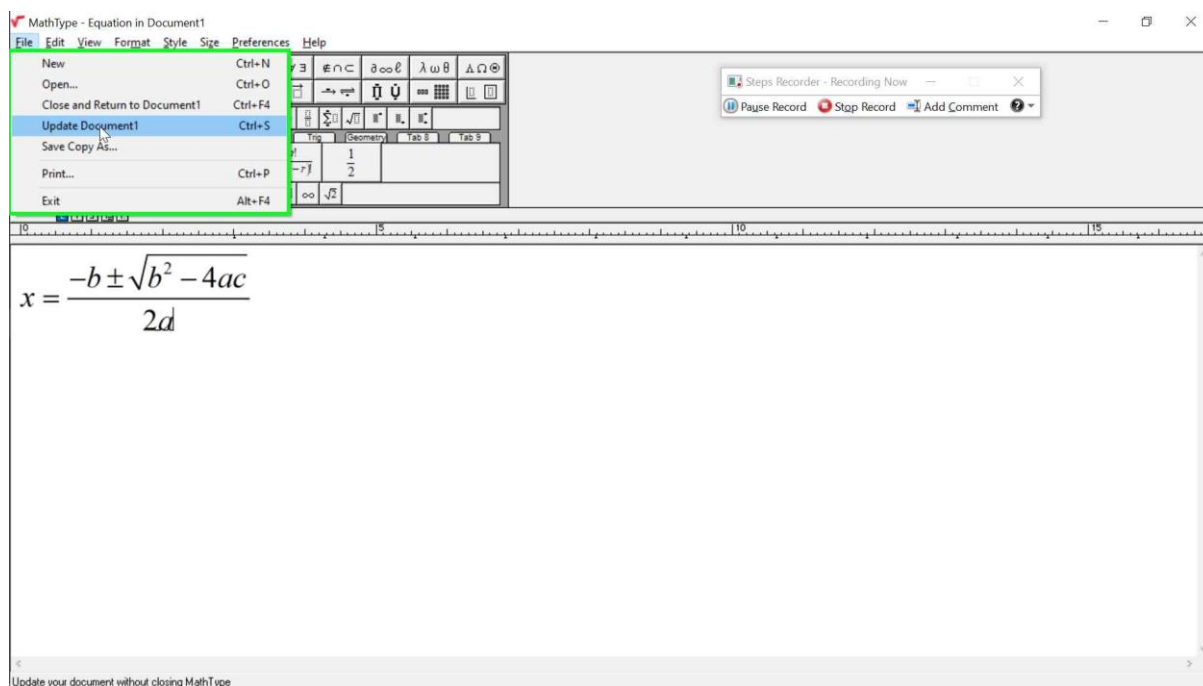
Figure 62

10. The equation is shown as follows $x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

11. If needed, export the document into a web page by saving the file as html or by pressing Publish to Mathpage command on the ribbon.

5.1. Mathplayer

Mathplayer provides the means for assistive technology such as screen readers and screen magnifiers to speak, navigate, and convert to Braille math in the different type of documents or on the web. MathPlayer 4 speaks, navigates, and Brailles math with NV Access' NonVisual Desktop (NVDA) in Microsoft Word & PowerPoint. Many of the most popular Windows screen readers, such as NVDA, Window-Eyes, JAWS, HAL, Supernova, Serotek System Access, MAGic, Read & Write and BrowseAloud, will work with MathPlayer to speak the math in web pages along with the words.

1. Use the following link to [download Mathplayer](#)
2. Mathplayer with word and powerpoint

Math player can speak, navigate and Braille mathematical equations in conjunction with NVDA. After installation a tab is added at the ribbons of word and powerpoint.
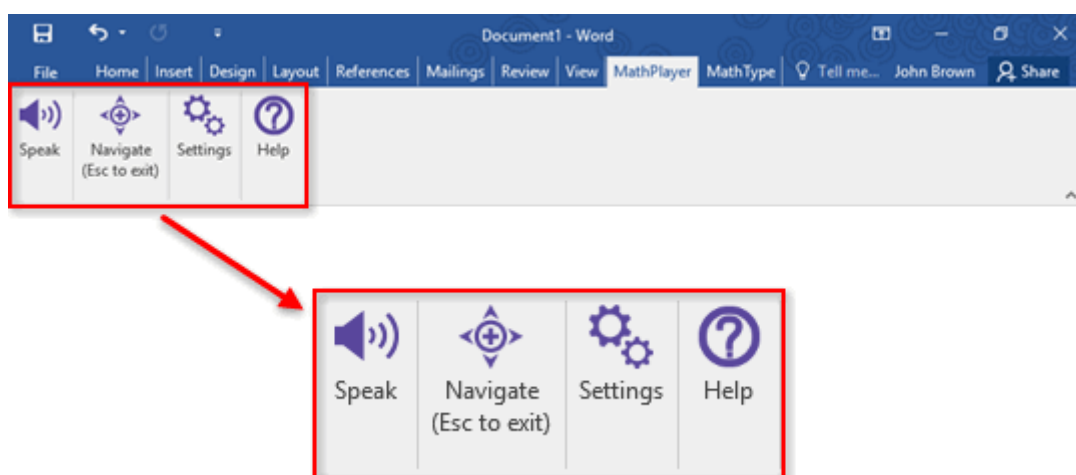

Figure 63

6. Chemical equations

Chemtype is a personalized toolbar with specialized chemistry buttons to edit your inorganic chemistry formulas.

1. Use the following link to [download Chemtype](#). It can be installed as an add-on in the google workspace (docs, slides).
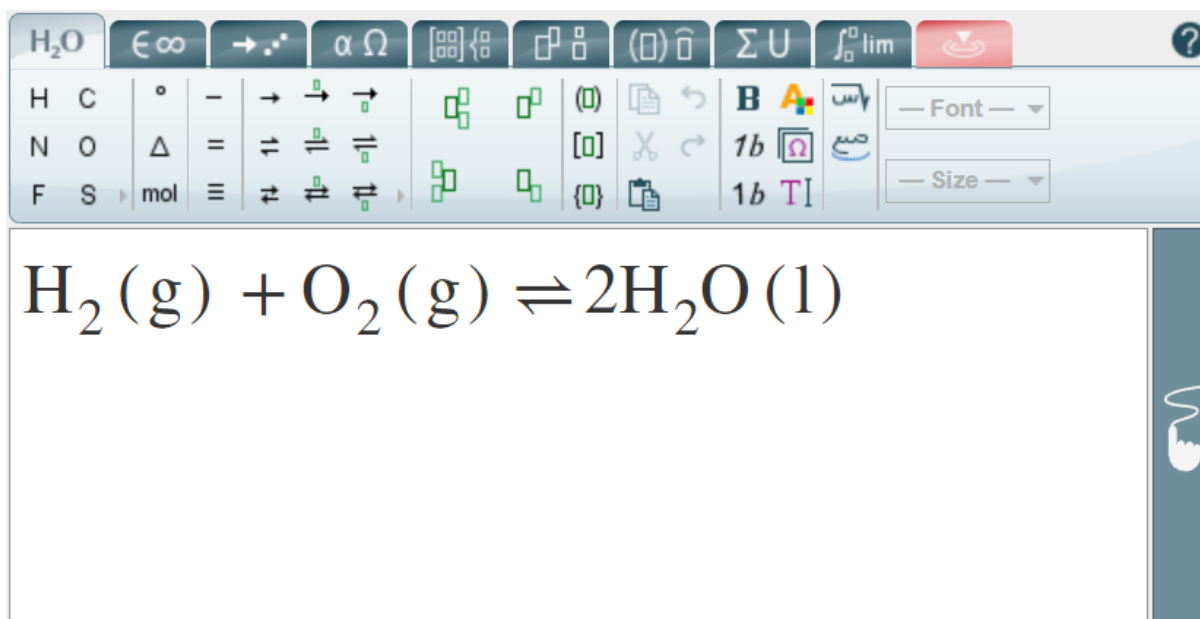2. The editor differs from the mathtype editor.

$$H_2\,(g) + O_2\,(g) \rightleftharpoons 2H_2O\,(l)$$

Figure 64

3. Using a combination of keyboard and commands create the preferred equations.

7. Verbal descriptions

Verbal descriptions are a simple and economical way to provide access to visual information, such as pictures/graphics, to individuals with visual impairment. Verbal descriptions help individuals with visual impairment form their own mental images for the described picture and, thus, allow them to participate in information sharing, education and entertainment equally to sighted individuals. Despite the advantage of not demanding much time, money and equipment, the effectiveness of a verbal description increases when it accompanies a tactile graphic.

Even though there are no standard official rules for verbal descriptions, we must take into consideration that our goal is to describe the picture fully to the individual with visual impairment in order for them to obtain the included information to the same degree as a sighted individual would by looking at it, but we should not exhaust the individual with visual impairment with extensive descriptions of information of little value the image may contain. It is essential that a verbal description provides enough information to the individual on one hand, but does not bombard them with it as it could make comprehension more difficult. A great deal of information cannot be adequately stored in memory in order to be combined for the formation of a mental image.

Some instructions we should follow when creating verbal descriptions are:

- **Start from the general and go towards the specific**. A verbal description must begin with general information describing the picture as a whole and continue with more specific information regarding its content.
- **Mention firstly the main subject of the picture and its context**. When introducing a verbal description, we should mention the main subject of the picture and the context it relates to. For instance, the subject of an picture may be a statue called "The Laocoön Group", which relates to the wider subject of Hellenistic art.
- **If essential, describe general features such as the size or shape**. Describing these may be essential when a picture has the same shape as the object it depicts, for example the shape of a planet, or when the size is such as to emphasize the size of the real object, for instance to emphasize the size of a mural.
- **Mention the focal points of an image**. Before mentioning the details of a picture, we have to mention its focal points. For example, to describe Vermeer's painting "Girl with a pearl earring", we would mention first that the painting shows a girl looking over her shoulder.
- **Mention the positions of the objects when describing them**. After briefly describing the focal points of a picture, we should mention them again and give more information and the position of each in a logical order, for example from the left to the right in order to boost the ability of the reader to create a mental image of the picture. In the description, we also usually mention the relative positions of the objects in relation to two axes (the horizontal and the vertical), if we think it will help readers understand better. For example, the car is on the left of the tree and above it.
- **Omit any information that is irrelevant in relation to the context.** A verbal description may not include some aspects of the picture when these are essentially decorative and do not have any relation to the context of the picture, such as the text an image may accompany.
- **Ensure that the vocabulary used does not include concepts which are more familiar to sighted individuals.** Concepts like brightness or shadows are difficult to understand for individuals with visual impairment so we must employ alternative ways to describe them.
- **Use analogies and / or comparisons between objects.** We can use analogies in a verbal description by employing concrete (not abstract), concepts which are familiar to sighted individuals as well as to individuals with visual impairment. For instance, we could say that, if we had to estimate the height of the boy shown in a picture, he would reach the knee of a grown man or that a giant has the height of five grown men. Regarding the comparisons between the sizes of the objects shown in a picture, in an illustration of "Alice in Wonderland", we could say that Alice has approximately the same height as the mushroom the caterpillar is sitting on.
- **If necessary, describe the feelings a picture provokes.** We can include the feelings an image provokes in a verbal description, when necessary, as long as we take into

account the creator's intentions and not our own personal feelings for the picture. For instance, a creator may have intended to highlight the brutality of war through his work.

Some advantages and disadvantages of verbal descriptions in comparison to other methods of presenting / creating pictures (tactile pictures, audio-tactile pictures) for individuals with visual impairments are presented below:

Advantages: a) low cost, b) easy to produce, as special equipment / software is not needed, c) effective in various occasions, d) does not require expertise on specific software / devices.

8. Tactile graphics

The form of a tactile image is derived from the corresponding visual image, by presenting its basic features in the appropriate tactile form. They are not mere transcriptions of images; information needs to be correctly conveyed from visual to tactile form and designed in a manner that is the most meaningful to the reader.

8.1.1. Key actions of and decisions of the planning process

In the beginning, educators have to decide if the corresponding image is appropriate for tactile graphic. The following questions have to be answered:

- What is the type and purpose of the image?
- Does it provide essential information?
- Does it have description and is it adequate?
- What is the connection between the image and its description, how does the image complement the description.
- Is tactile representation more useful?

Then proceed and create tactile graphics when the image:

- Represents spatial or other information that cannot be described
- Otherwise, inaccessible

Afterwards, the following actions are in place.

Identification of the content that needs to be included

- Determine the scale of the graphic.
- Is it necessary to maintain size relationship between objects?

Generalization and simplification of the image

- Discard unnecessary parts
- Separate the graphics with too many components into sections
- Replace the objects or shapes that are present, if possible, with simpler symbols
- Information coding (keys/legends)

Identify the included components and determine the haptic symbols that will be used

- Areas, Lines, Points, Labels

Tactile graphics can be created by both mechanical methods, as well as with simple handcrafted methods with the usage of simple everyday materials such as wood, fabric, glass, metal, plastic, paper, etc.

A feature that plays major role in tactile graphics is the texture of the elements. Different parts of an image can be presented by using different textures and techniques. The reader with visual impairment distinguishes the changes in texture, connects the stimuli and forms the overall mental picture of the object being depicted.

Adjacent textures must be significantly different from each other to be discriminated. The strength of the texture helps the reader to prioritize information. The most important information is shown with the most important (strongest) textures. White space (also called a dead zone) between areas, around labels within textures enhances contrast between textures.
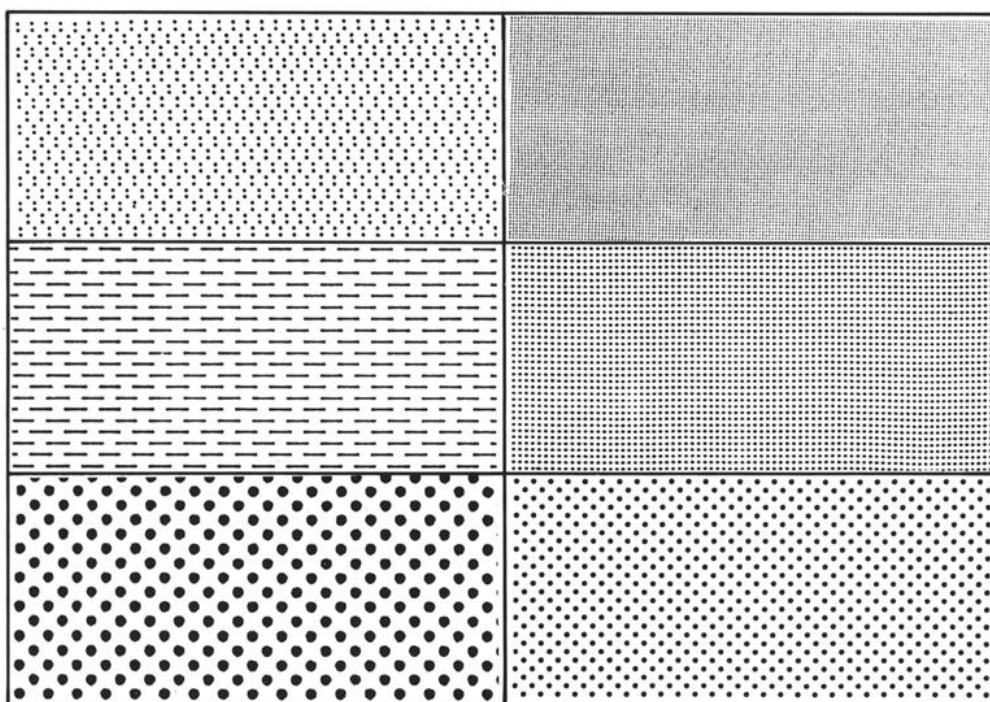
Figure 65: Various textures, which can be used in tactile graphics (Eriksson & Strucel, 1995).

Various objects are represented by different symbols that are then decoded by the individuals with visual impairment. Differences in shape variable as well as size and rise variables are easily discriminated by haptic readers. Thus, two haptic symbols which differ in one of those variables are easily distinguished by the user as different without confusion.

However, to ease the discrimination of haptic symbols, it is necessary to differ more than one haptic variable.

For example, it is easier to distinguish two symbols with different size and shape than two symbols which differ only to the shape, especially if the symbols are small.
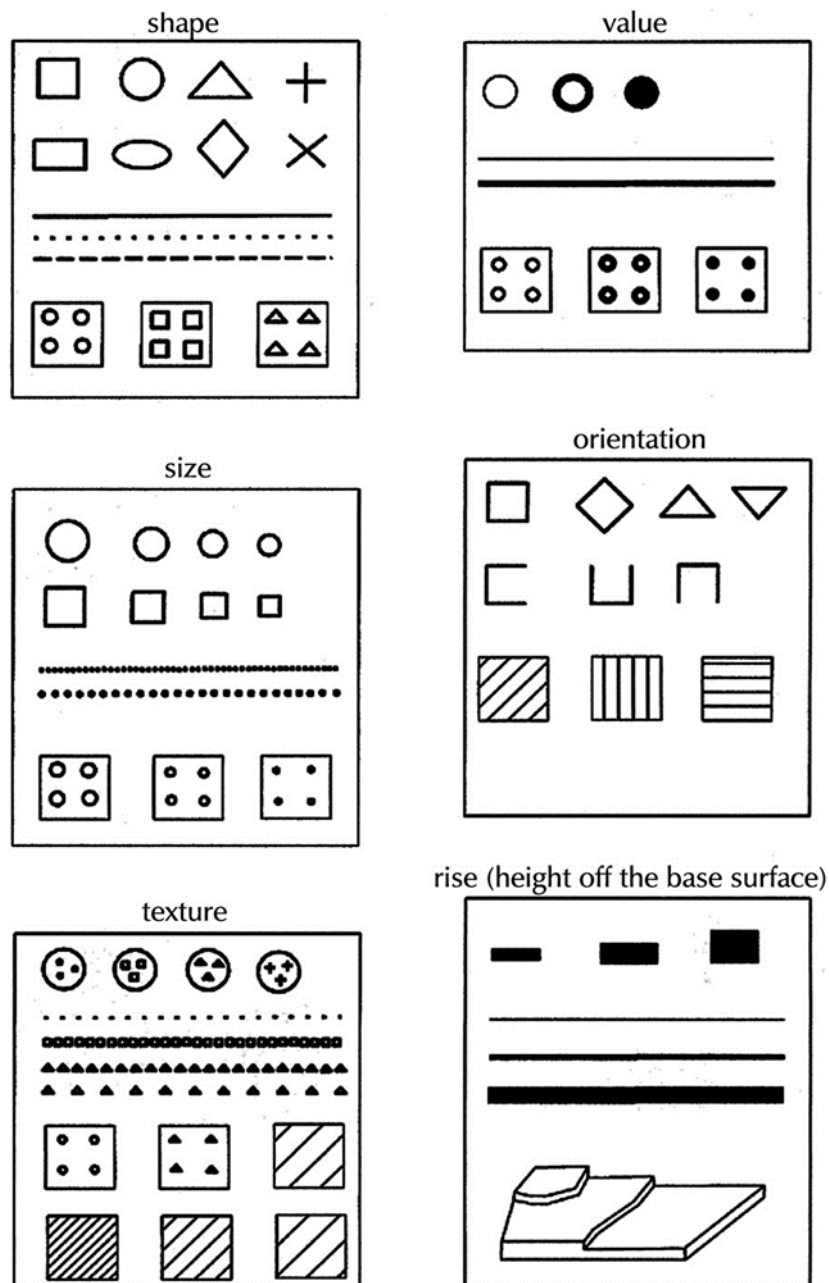
Figure 66: The tactile variables: shape, size, texture, value, orientation and elevation (Papadopoulos & Karanikolas, 2009).

8.1.2. Illustration of tactile graphics using graphics software such as Adobe illustrator, CorelDraw, Inkscape

In this guide we will use the free software Inkscape

Use the following link to directly download Inkscape or browse inkscape.org to download it. Install the program following the instructions.
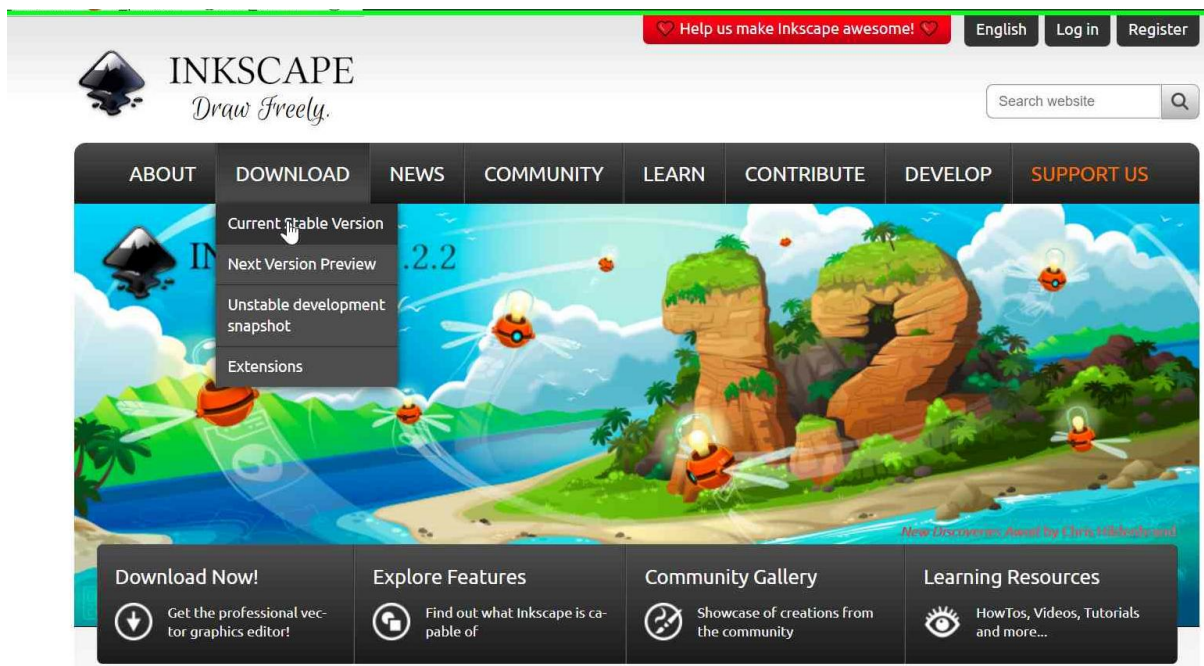
Figure 67: Downloading inkscape from website inkscape.org

Create New document. On the file tab, on the top left, click document properties to select the page size and other properties of the graphic you want to create.
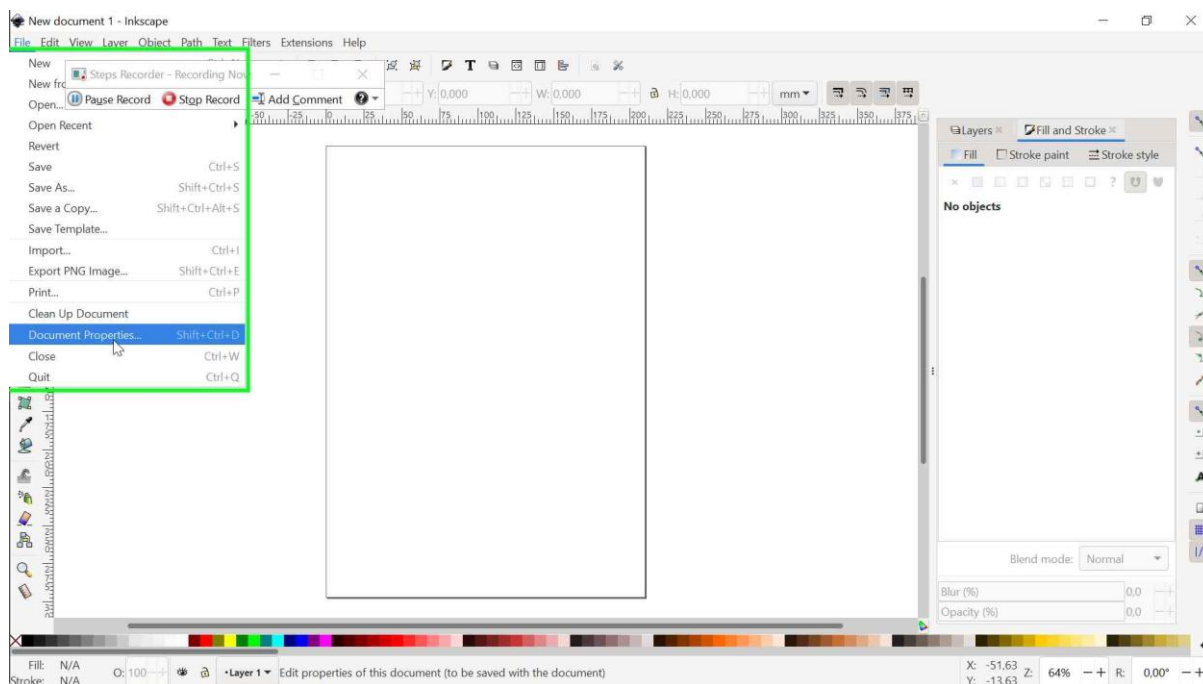
Figure 68: Use the properties to determine the page size (image from inkscape software interface)

On the top of the paper there are several tabs that allow you to edit the whole page or any object you design.
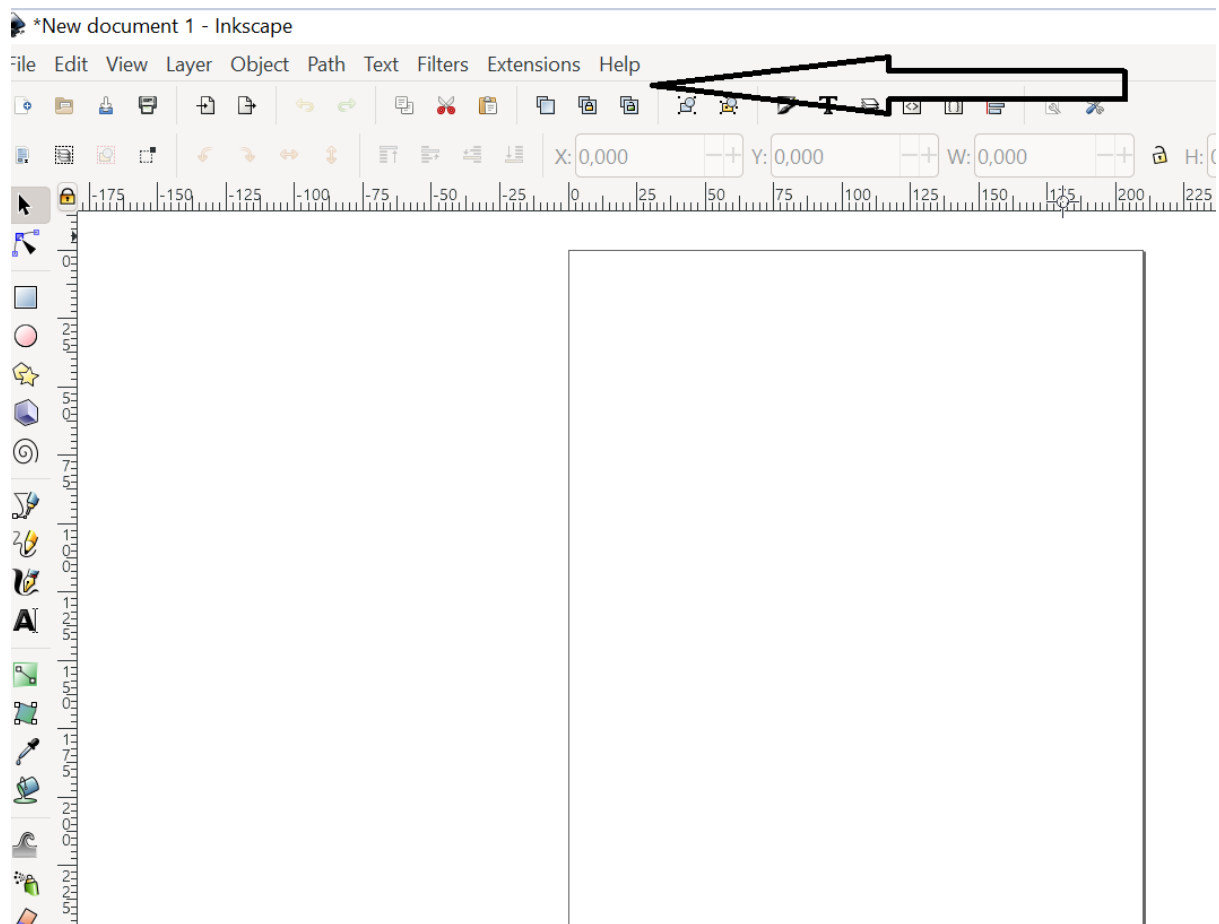
Figure 69: Tabs that allow you to edit the whole page or any object (image from inkscape software interface)

On the left there are the drawing tools you will need to create each object, rectangles, squares, circles, triangles, lines, texts etc.

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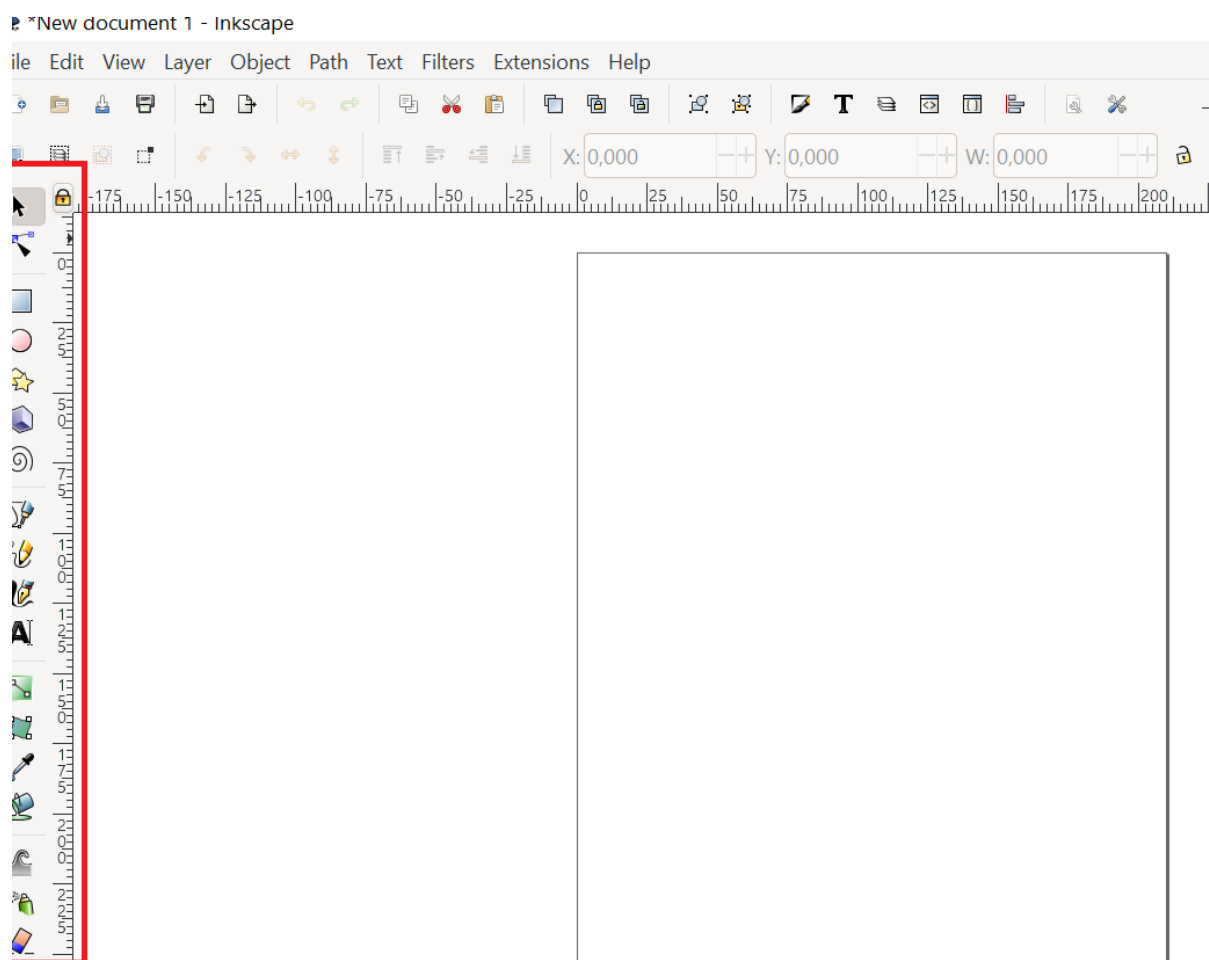
Figure 70: Drawing tools (image from inkscape software interface)

On the bottom there are extra tools, such as color selection, Fill and stroke selection.

On the right there is the auxiliary table with detailed extra properties.

If you create your first object you will notice small white dots (nodes) on different parts of the object. Press the select and transform objects command on the left to edit the objects using these nodes.
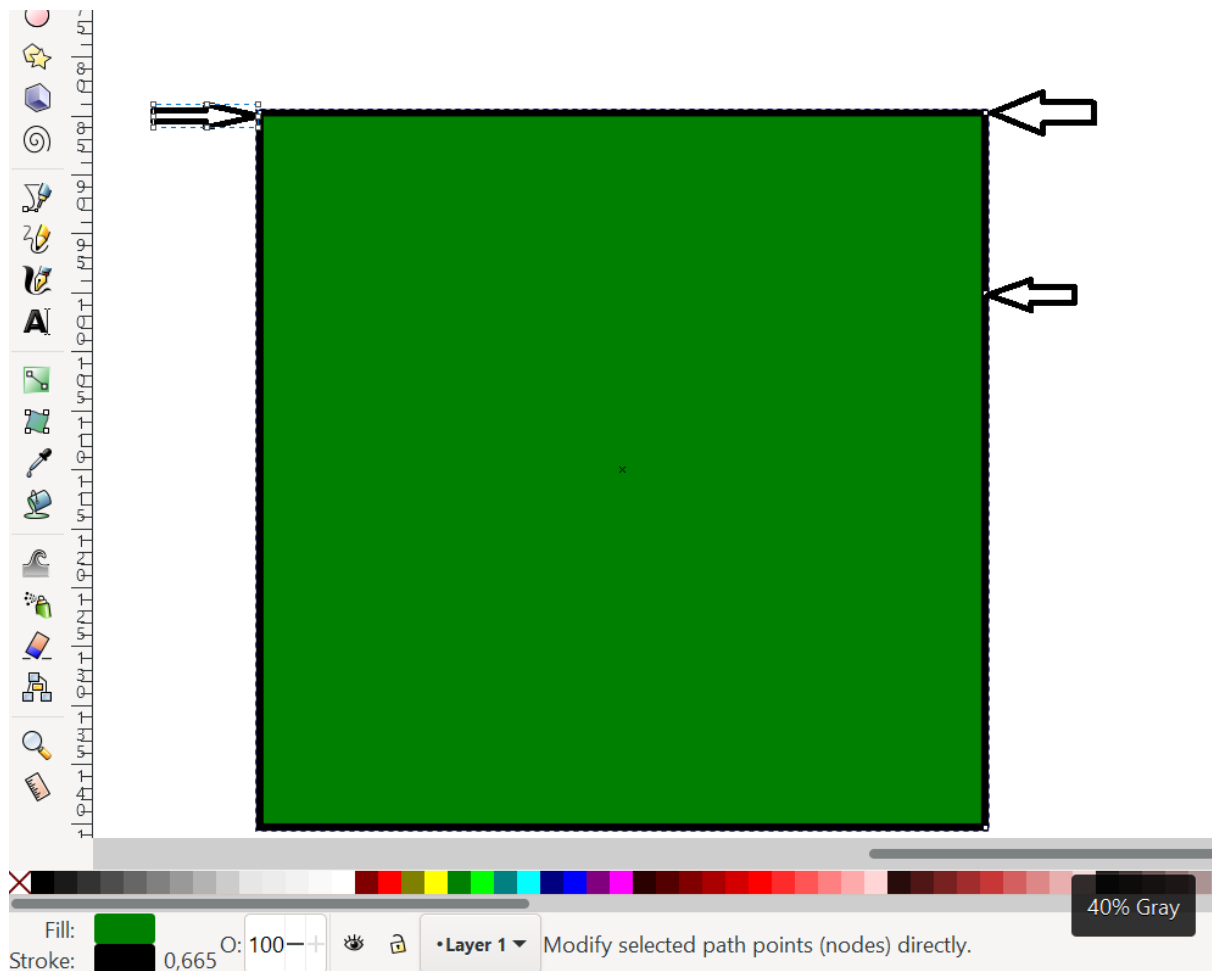
Figure 71: Ability to transform an object through nodes (image from inkscape software interface)

On most drawing programs there is the concept of layers. You can draw objects in different layers in order to group them and use each group when you need it. On the right auxiliary table can edit the layers.
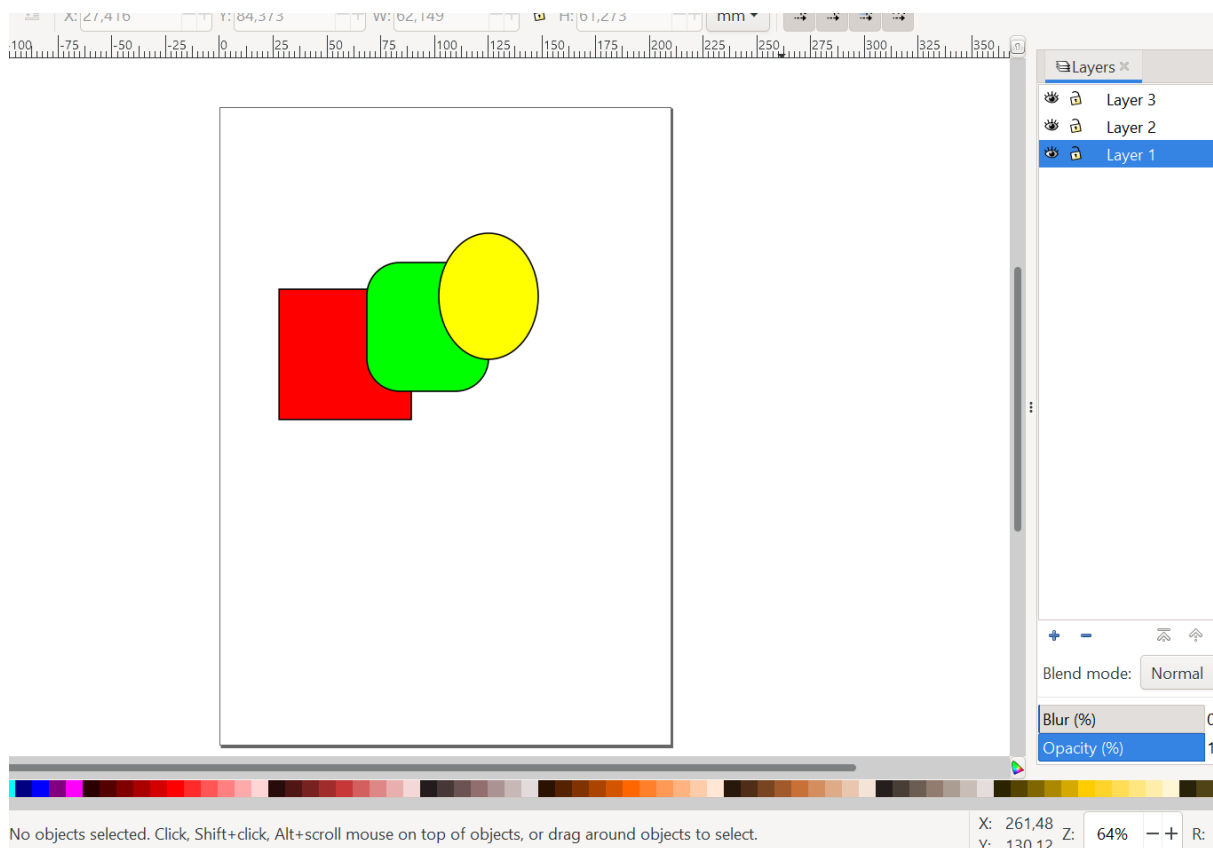
Figure 72: Different objects in different layers (image from inkscape software interface)

Ready-made images can be downloaded online but often they need to be edited in order be acceptable as tactile graphics.

It is better to import an image (such as a jpeg or bitmap) directly into the graphics program and trace (use the image as stencil) rather than drawing with the freehand graphics tools. This ensures that the scale is maintained and that a more accurate rendition of the print image is achieved. This method also allows the designer to make minor changes to the tactile graphic, such as smoothing out any jagged coastlines on a map.

The image will be computer-generated and completed using illustration software.

8.1.3.   Methods of printing/embossing the tactile graphics

Tactile graphic production method - microcapsule paper

Microcapsule, puff or fuser paper is a heat sensitive paper and contains chemical ingredients that swell up to form a raised texture.

Firstly, the image is photocopied on microcapsule paper using a photocopier. Then the microcapsule paper is heated using a special device i.e., Piaf tactile image maker.
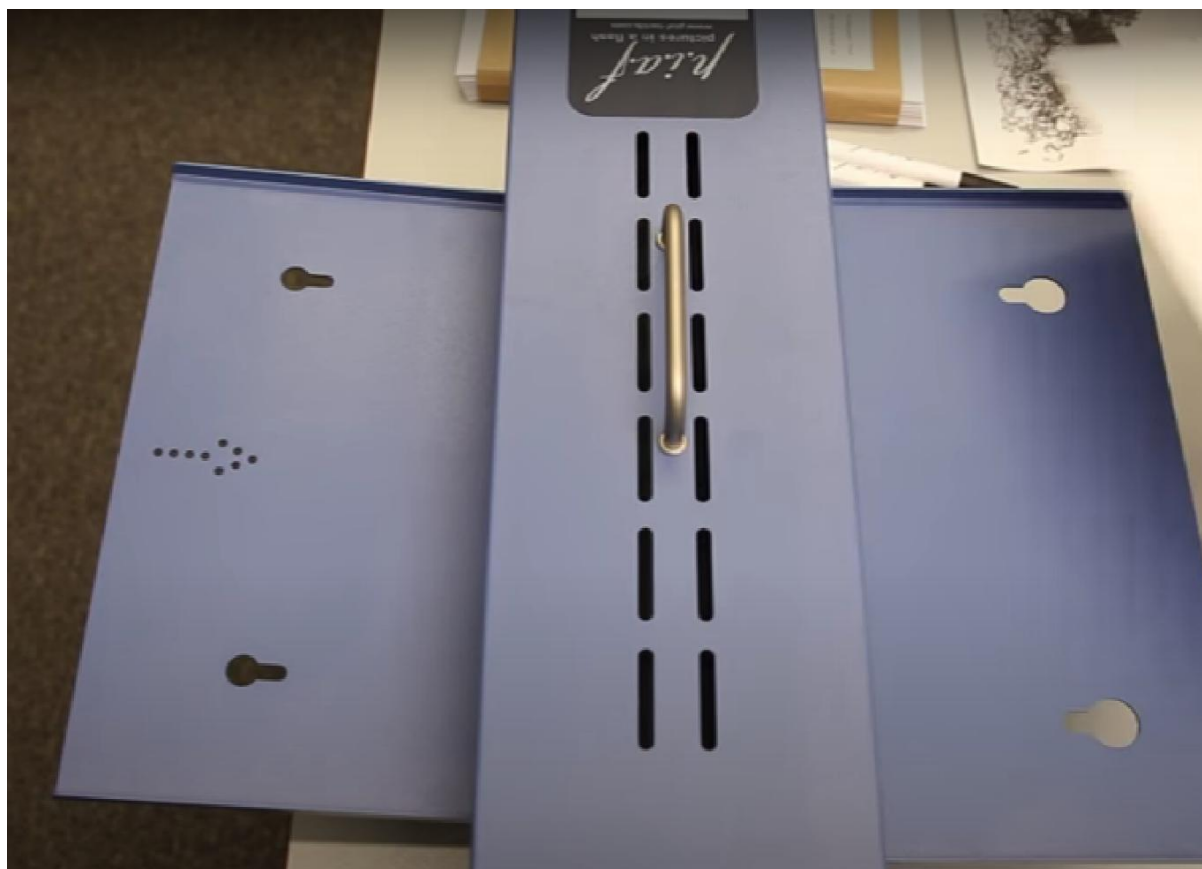

Figure 73: Piaf tactile maker

When the printed microcapsule paper is heated the black ink absorbs heat and the capsules on the surface of the paper expand providing the raised graphics.
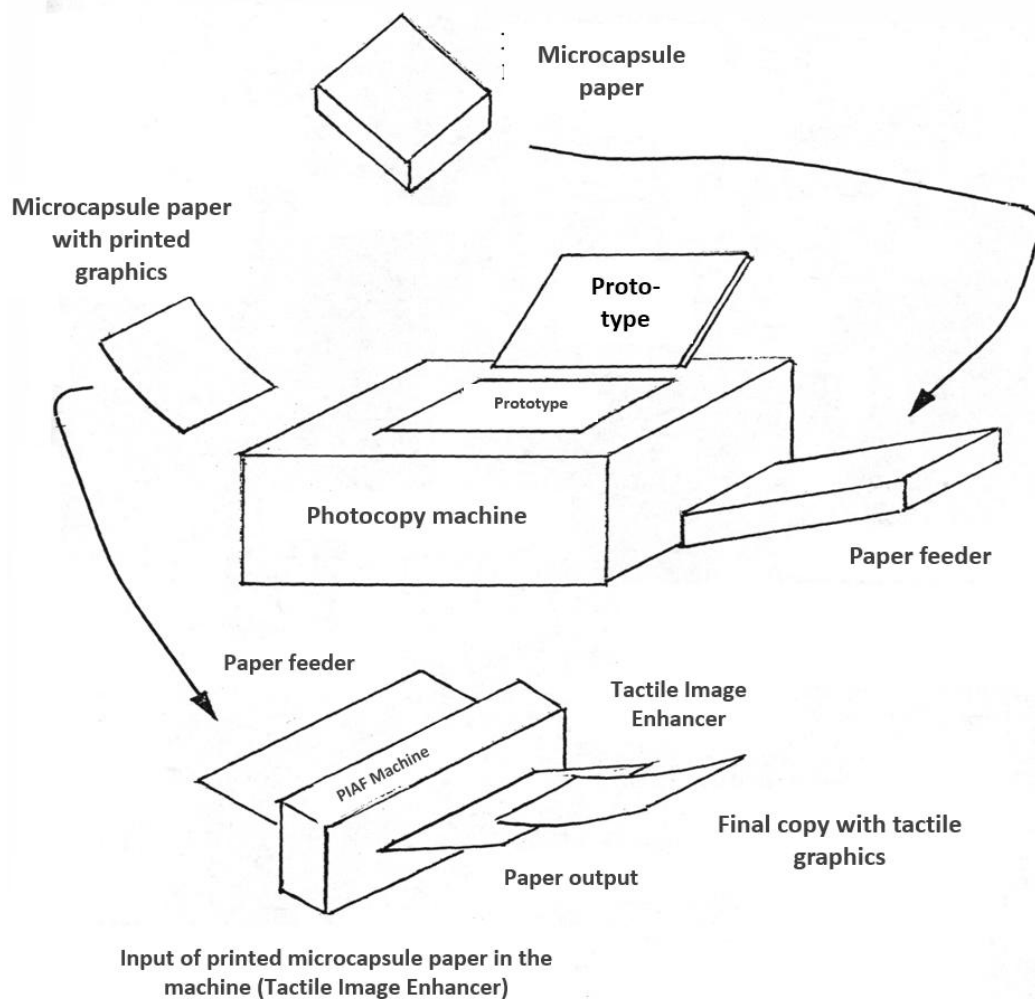
Figure 74: Procedure of creating microcapsule tactile material

Tactile graphic production method Tiger pro embosser

The embosser has the ability to emboss dots of various heights and much smaller than standard Braille embosser. The graphic is then printed directly on plain paper, preferably 160g.

The digitized graphics can be embossed automatically on tiger or by using its native illustration and design program i.e., Tiger designer.

Tiger Designer is a stand-alone program under Windows to edit emboss data before output on paper. It is similar to mainstream paint program. Braille labels and tactile fill patterns can be created. The exported File format are PRN or TDSX.

PRN file format is specific to each embosser model. Tiger Designer can convert PRN to TDSX format, which is generic to all ViewPlus embosser models.

Differences between microcapsule and tiger tactile graphics

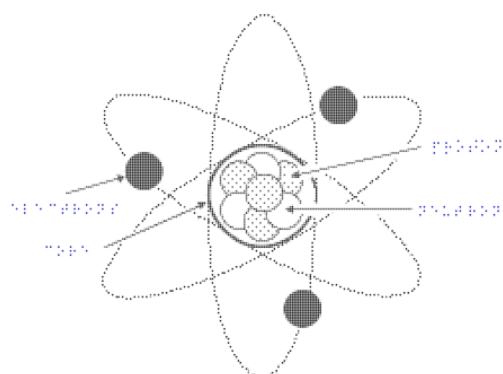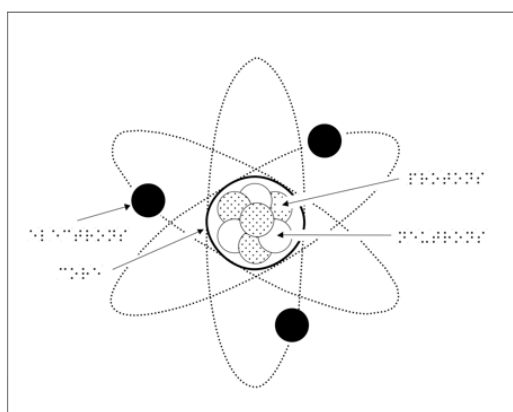| Microcapsule paper and Piaf tactile maker	Tiger pro embosser
Vector graphics	Raster graphics
The capsules on the surface of the paper expand	The paper is punctured
Microcapsule paper cost relatively high	Plain paper (160g/m is preferred)

Figure 75: Difference between the two different methods

9. Audio-tactile graphics using the Viewplus IVEO Hands-On Learning System

9.1.1. Introduction

The **Viewplus IVEO Hands-On Learning System** is a touch sensitive pad (PC peripheral) that can simultaneously provide users with tactile and audio information, while they explore tactile graphics by their fingers. Tactile graphics include raised graphic patterns that are recognizable only by touch. With the use of the touch pad and tactile graphics placed on the touch sensitive pad, information can be represented by audio, tactile symbols, audio- tactile symbols (combined) and Braille labels.

Figure 76

9.1.2.   Installing IVEO

STEP 1:

Open the **setup.exe** file, located on the installation folder. The IVEO installation screen will appear.
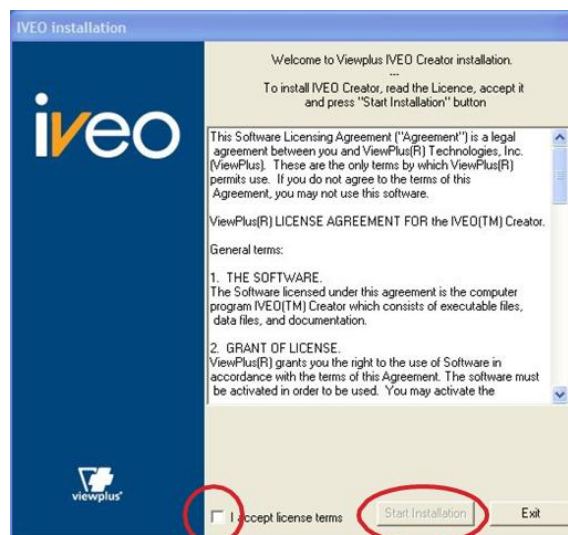
Figure 77

STEP 2:

Read the license agreement and select the "**I accept license terms**" check box if you accept the following conditions. Then, choose **Start Installation** and installation will begin.
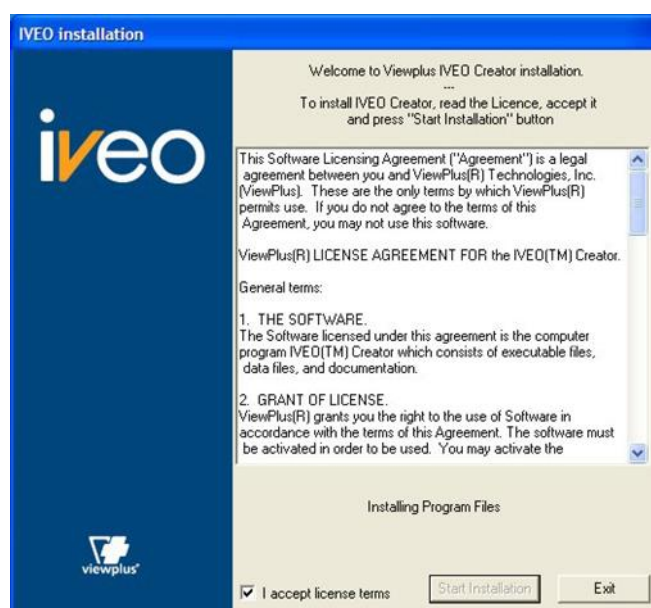

Figure 78

STEP 3:

The **Microsoft Text-to-Speech Engine** agreement dialog box will appear. Choose **Yes** to accept.
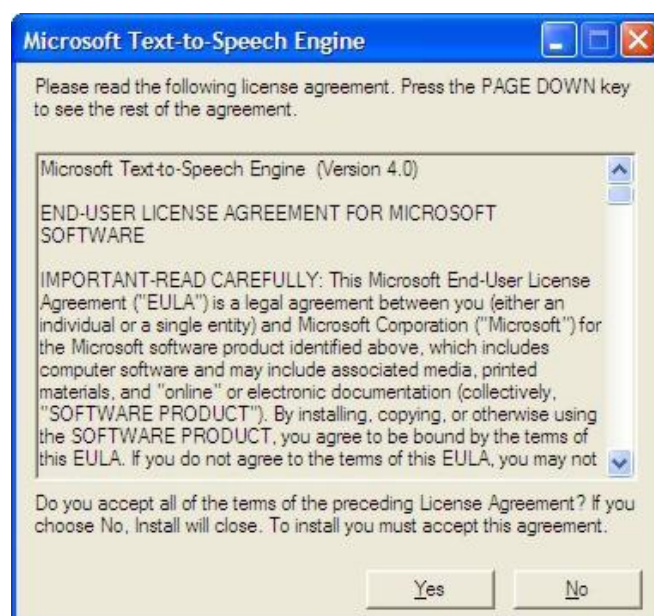
Figure 79

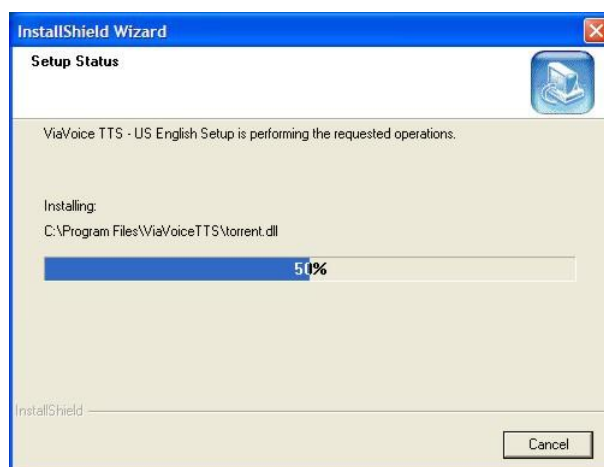Once you accept this agreement, **the files will begin copying to your computer**.

Figure 80

<u>**STEP 4**</u>:

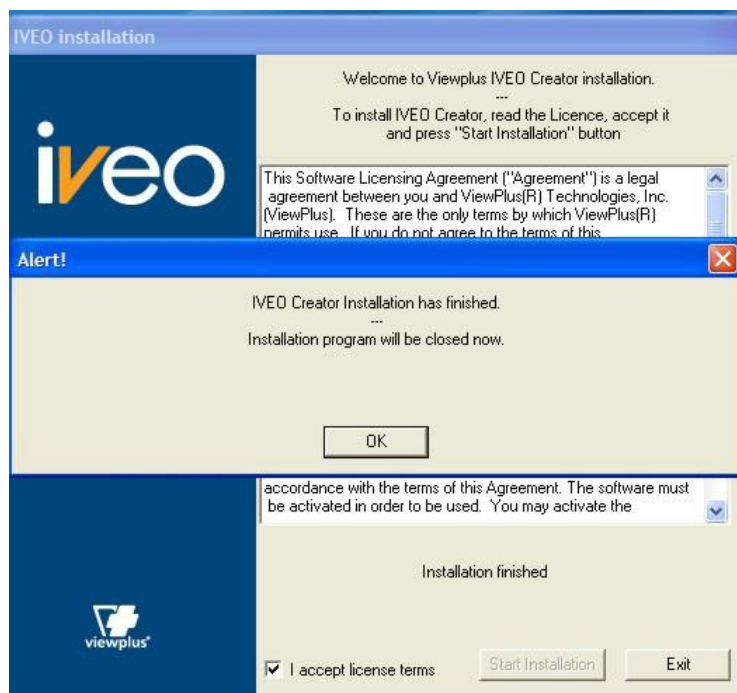IVEO has now been **installed** and is **ready for use**. Choose **OK** to exit the screen.

Figure 81

9.1.3. Getting started with IVEO Creator

Open IVEO Creator

Go to **Start**, **All Programs**, locate your Viewplus folder and select **IVEO Creator**.
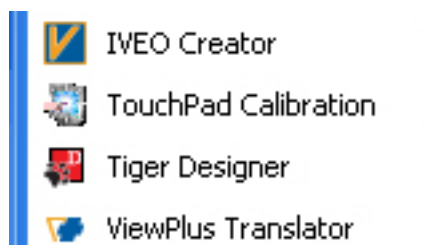

Figure 82

Software interface

Go to **Show** menu and select **Accessible User Interface** or **Shift + A**, in order to uncheck this menu item and switch to **Standard User Interface**.
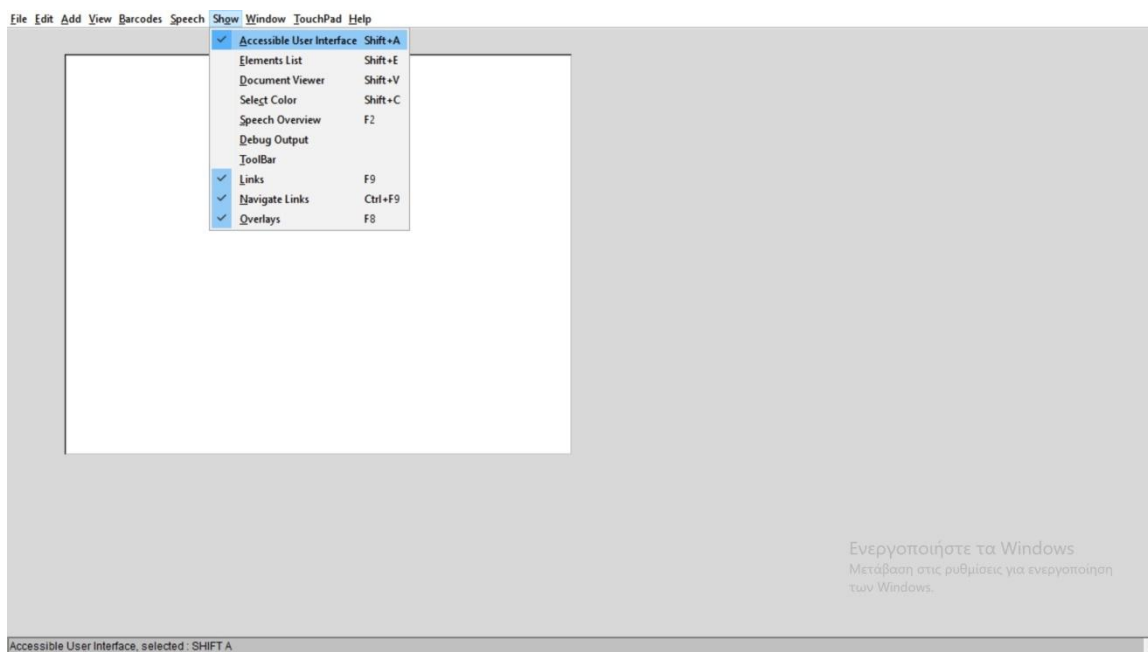
Figure 83

Once again, go to **Show** menu and select **Toolbar**, in order to reveal the toolbar with the basic functions of the software. **Standard User Interface with Toolbar** is now loaded and you may proceed with the initial settings of the software.
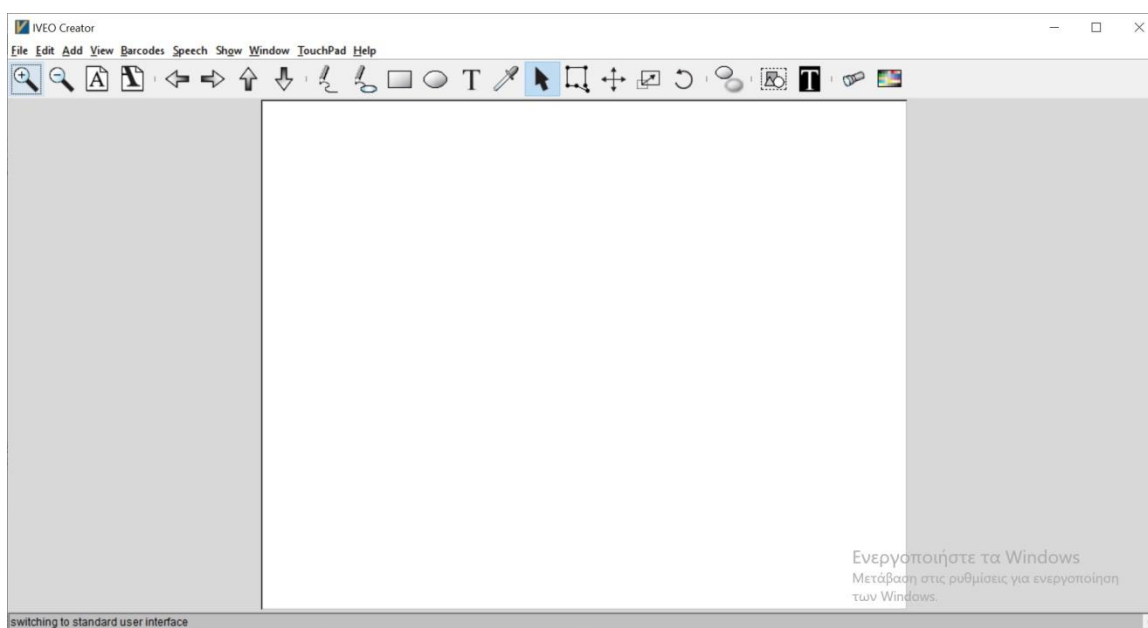

Figure 84

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Initial settings

SETTING 1:

Go to **File** menu and select **Preferences** or **Alt + F + E**. The Preferences Settings Dialog box allows you to adjust current document and screen settings.
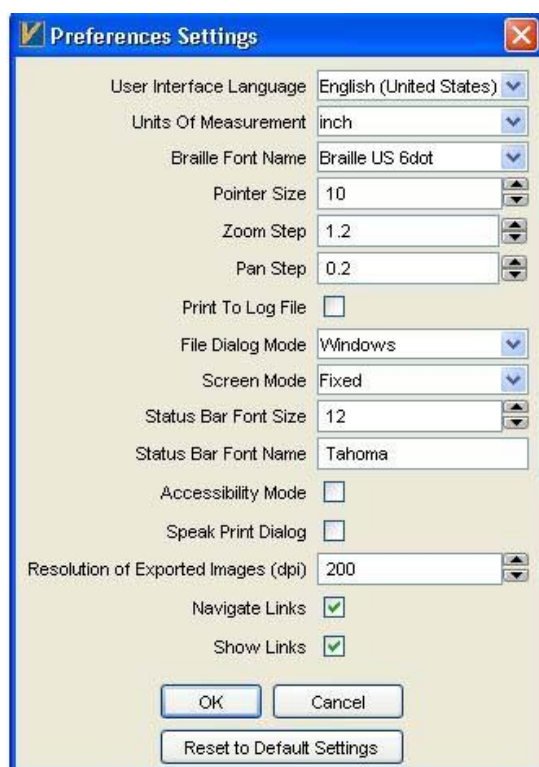

Figure 85

Go to **Units of Measurement** and choose **cm**: This option allows you to change the unit of measurement within your document so that document size and printer settings are familiar.

SETTING 2:

Once again, go to **File** menu and select **Scan and Import Preferences**. The OCR Settings Dialog box allows you to check and make sure OCR Settings are correct, before you import a JPG file.
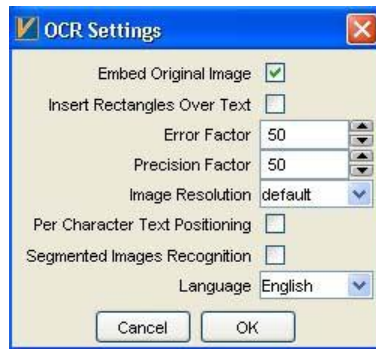
Figure 86

Go to **Language** and choose **Digits**.

SETTING 3:

Finally, go to **Speech** menu and select **Speech Settings** or **Ctrl + Shift + S**, in order to change the voice, speed and pitch. Select the appropriate voice, speed and pitch and use the test button to sample the voice before use.
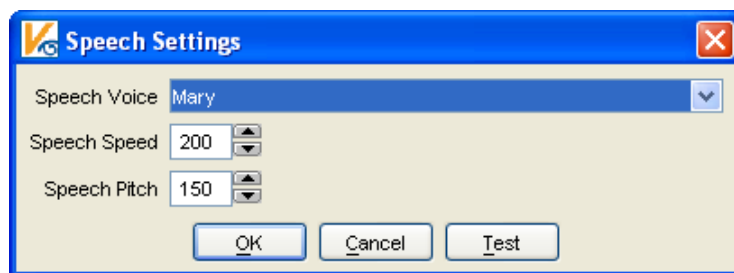

Figure 87

If needed, you can **install extra voices** on your PC, and by the time you restart IVEO Creator, **the new voices will be added on the Speech Voice menu list**.

9.1.4. Creating a new SVG file

Using IVEO Creator software, we can create new **SVG files**. On those SVG files, we can easily **assign audio information** (short message, wav file, link from YouTube, etc.) **to specific positions of tactile graphics** (images, maps, diagrams, etc.), which are intended for use on the touch pad of the IVEO Hands-On Learning System.

STEP 1:

Go to **File** menu and select **New**.

Define the **dimensions** of the frame for which the IVEO touch pad will be calibrated.

The **optimal dimensions** you can use are:

<div align="center">

33.2 (cm) x **26.2** (cm).

</div>

The **optimal margins** you can use are:

<div align="center">

Up: **1.8** cm

Left: **1** cm

Right: **1.5** cm

Down: **0.5** cm

</div>

STEP 2:

Go to **File** menu and select **Import** (This option is active for Creator Pro only).

Select the **digital image** (*.**JPG**). The image should, also, have the **dimensions** of the frame for which the IVEO touch pad will be calibrated.

STEP 3:

Go to **File** menu and select **Save As**. Save the **SVG** file with a specific name.

For each new change, go to **File** menu and select **Save**.

9.1.5.   Adding shapes on a SVG file

The concept of adding shapes on a SVG file, is to **create a shape** (oval, rectangle, polygon) **for each audio information** that we want to assign to the corresponding tactile one. Shapes, which subsequently be edited with audio information, are added **on top of each tactile information**.

For example, a tactile map (JPG file),

Figure 88

imported to IVEO Creator (SVG file) and added with shapes, will seem like the below one.

Figure 89

Adding basic shapes

Use the **Add** menu, or press **Alt + A**, to add different types of shapes:

OVAL:

Select **Oval** or **Ctrl + Shift + V** and use your mouse pointer to draw an oval. To start drawing, drag down in a diagonal line.

You can add a **CIRCLE**, as well, by holding Shift along with the drawing.
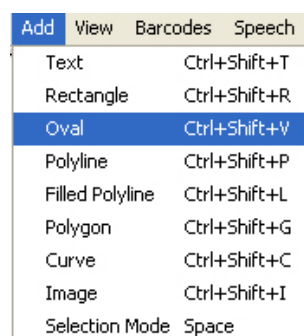

Figure 90

RECTANGLE:

Select **Rectangle** or **Ctrl + Shift + R** and use your mouse pointer to draw a rectangle. To start drawing, drag down in a diagonal line.

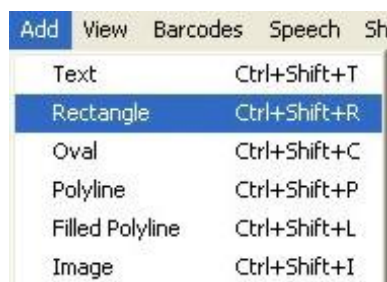You can add a **SQUARE**, as well, by holding Shift along with the drawing.

Figure 91

POLYGON:

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Select **Polygon** or **Ctrl + Shift + P** and use your mouse pointer to draw a rectangle. To start drawing, use the left mouse click for every single edge of the polygon.

<u>HINT</u>: Press the **SPACE** bar when you want to shift modes or shapes. This returns you to **Selection Mode**.

Figure 92

9.1.6.   Editing elements on a SVG file

The concept of editing elements on a SVG file, is to **assign audio information** (short message, wav file, link from YouTube, etc.) **to the added shapes** (ovals, rectangles, polygons, etc.) **and transform them**, when needed.

The **functions** of IVEO Creator which are fundamental for a full production of an audio-tactile SVG file are:

- Selection Mode
- Element Properties (Assign audio to a shape)
- Select Color
- Move Selected Element
- Scale Selected Element
- Rotate Selected Element
- Duplicate Selected Element
- Delete Selected Element
- Arrange Elements
- Document Description (Assign audio to the SVG file)

The Selection Mode allows you to select objects (shapes, etc.) on the SVG file.

Figure 93

Having a shape selected (*Selection Mode*), go to **Edit** menu and select **Element Properties** or **Alt + Enter**, in order to **assign audio to the shape**.

Figure 94

<u>Title</u>: Type the audio message you want to listen when you select the specific space (rectangle, ellipse, polygon, etc.).

<u>Description</u>: Optionally, type a short description for the specific shape.

<u>Add Link/Sound</u>: Instead of a sound message, you can assign a sound file (eg *. wav file) which will be heard when the specific shape will be selected.

Having a shape selected (*Selection Mode*), go to **Show** menu and choose **Select Color** or **Shift + C**.
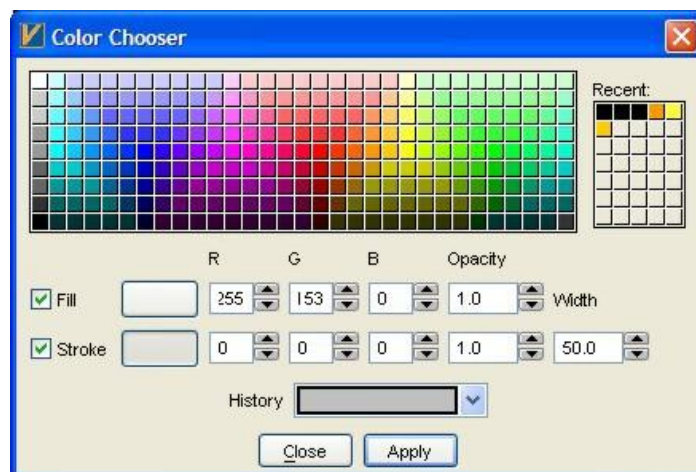
Figure 95

A dialog box will appear with a variety of different colors to choose from. The **Fill** option allows you to edit the color of the entire shape and the **Stroke** option allows you to edit the outside border of the shape by changing the color and thickness of the line.

Move Selected Element

In order to **move a shape** within the SVG file, select the **Move Selected Element** feature. Grab your shape, by holding down the left mouse button, and then drag the shape and release the mouse when desired destination is reached.
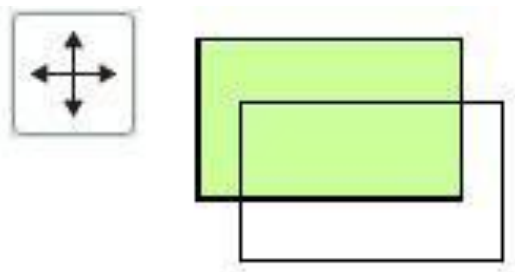

Figure 96

Scale Selected Element

In order to **resize a shape**, use the **Scale Selected Element** feature. Editing points will appear for adjusting purposes. To move your element, select the dark blue middle square, drag and drop. To **preserve the same proportions**, hold down the **Shift** key while scaling.
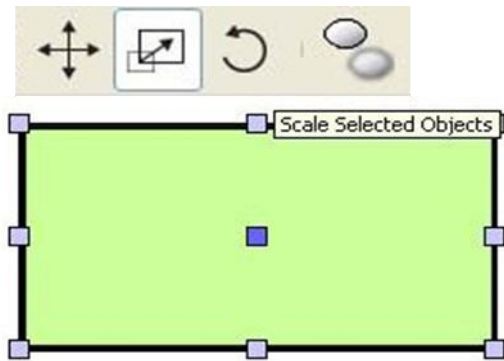
Figure 97

Rotate Selected Element

Select the **Rotate Selected Elements** icon, and then select your shape. Editing points will appear. Use your left mouse button to click and drag the shape in a specific direction. Release when finished.
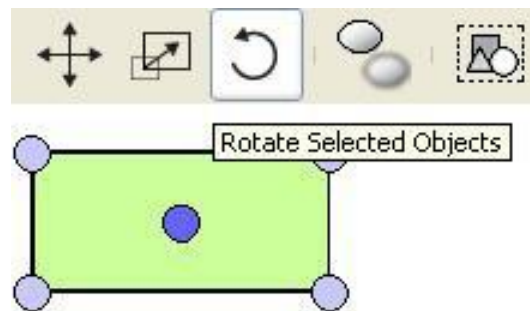

Figure 98

Duplicate Selected Element

Having a shape selected (*Selection Mode*), go to **Edit** menu and select **Duplicate Selected Element** or **Ctrl + Alt + D**.

Move the copy of the element to the desired position (*Move Selected Element*).

Delete Selected Element

Having a shape selected (*Selection Mode*), go to **Edit** menu and select **Delete Selected Element** or **Ctrl + Shift + Delete**.

Arrange Elements

Having a shape selected (*Selection Mode*), go to **Edit** menu and select **Arrange** in order to arrange the shapes that overlap. There are 4 choices:

Move Forward: Move forward one level.

Move to Front: Move to foreground.

Move Backward: Move backward one level.

Move to Back: Move to background.

Document Description (Assign audio to the SVG file)

Go to **Edit** menu and select **Document Description**.

Title: Type the sound message that you want to listen when you open the SVG file.

Description: Optionally, enter a short description for the SVG file.

9.1.7. Calibration of the IVEO touch pad

STEP 1:

Go to **Touchpad** menu and select **Calibrate from current image**.
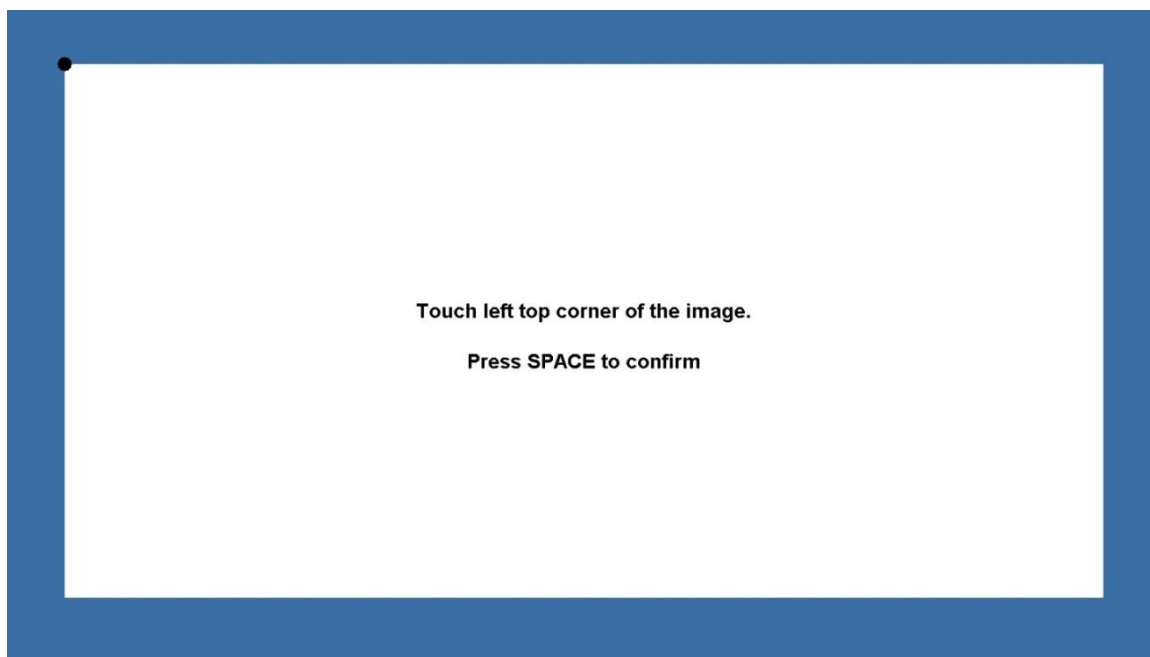
Figure 99

STEP 2:

As long as the **communication window** appears and the initial instructions for the calibration are given (**Touch left top corner of the image / Press SPACE to confirm**), touch the top left corner of the tactile graphic with a pin (e.g. pencil tip, pen cap, etc.) and press the space key (SPACE).

STEP 3:

As long as the **communication window** continues to appear and the following instructions for the calibration are given (**Touch bottom right corner of the image / Press SPACE to confirm**), touch the lower right corner of the tactile graphic with a pin (e.g. pencil tip, pen cap, etc.) and press the space key (SPACE).

STEP 4:

Calibration is **complete**. IVEO Hands-On Learning System is **ready for use**.

9.1.8.   Getting started with IVEO Viewer

Open IVEO Viewer

Go to **Start**, **All Programs**, locate your Viewplus folder and select **IVEO Viewer**.
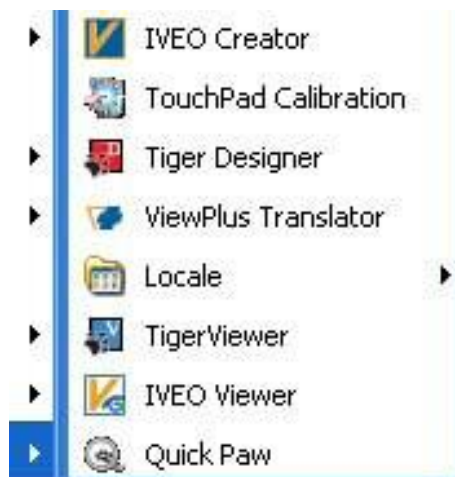
Figure 100

Initial settings

SETTING 1:

Go to **Speech** menu and select **Speech Settings** or **Ctrl + Shift + S**, in order to change the voice, speed and pitch. Select the appropriate voice, speed and pitch and use the test button to sample the voice before use.
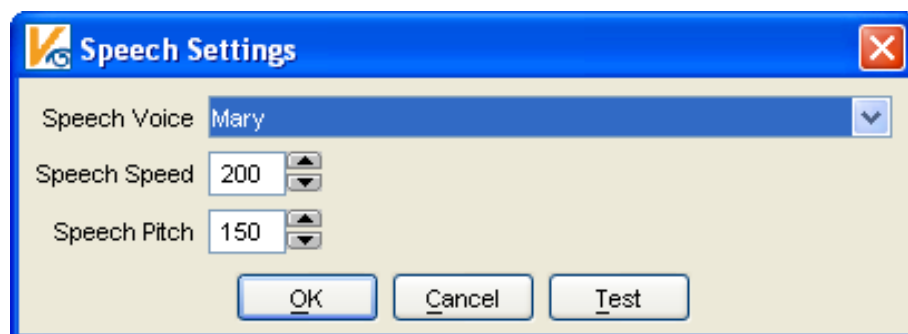

Figure 101

If needed, you can **install extra voices** on your PC, and by the time you restart IVEO Viewer, **the new voices will be added on the Speech Voice menu list**.

SETTING 2:

Go to **File** menu and select **Preferences**. The Preferences Settings Dialog box allows you to set options before a document is viewed.
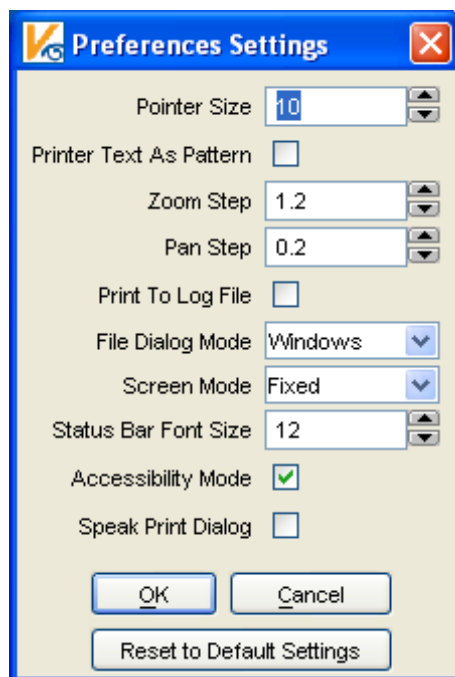
Figure 102

9.1.9.   Exploring an audio-tactile graphic

STEP 1:

Place the tactile graphic on the surface of the IVEO touch pad.

STEP 2:

Open **IVEO Viewer** software. Go to **File** menu and select **Open**.

STEP 3:

Select the relevant audio-tactile **SVG** file you have created.

STEP 4:

Go to **Touchpad** menu and select **Calibrate From Current Image**.

STEP 5:

Follow the **calibration procedure**, described in detail through the "**Calibration of the IVEO touch pad**" instructions.

STEP 6:

Explore the audio-tactile graphic using the IVEO touch pad.

Figure 103