ViewPlus IVEO Transformer Pro

User Manual

Revision: 2017 October

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I. Introduction

A. Preface

Welcome to IVEO - a hands-on graphics system that combines touch and sight with audible information and sounds to make graphics more accessible for all, including people with visual or learning disabilities. With IVEO you can view existing accessible graphics, create accessible graphics, or convert inaccessible graphics to accessible ones!

The IVEO system consists of three software components and a choice of hardware component.

> **NOTE: THIS MANUAL WILL EXPLAIN IVEO TRANSFORMER PRO SOFTWARE ONLY. FOR FURTHER REFERENCE REGARDING IVEO SYSTEM, PLEASE GO TO IVEO PLAYER AND CREATOR MANUAL.**

Software:

- **IVEO Player:** End user application to view, explore and learn from existing IVEO files. Included with IVEO Creator and Transformer Pro in the professional package, and available separately for end users.

- **IVEO Creator:** Create your own interactive files using Adobe Illustrator, CorelDRAW, Microsoft Visio, InkScape, or any other program that saves or exports to SVG and complete editing in IVEO Creator.

- **IVEO Transformer Pro**: Import image files or scan printed materials using IVEO's advanced OCR technology, and convert to your own interactive files. Transformer Pro and Creator are separate applications but both are included in the IVEO application set for professional content preparers. A separate user manual is available for Transformer Pro. It is not included within this manual.

Hardware:

- **IVEO Touchpad** – a touch-sensitive pad for reading text labels and graphical object names on tactile-audio images up to a size of 11x14 inch, or 28x35 cm. Multiple touches speak additional descriptive information. IVEO touchpads connect through USB.

- **IVEO Digital Pen** – a digital pen with an IR transmitter whose position is determined by an IR receiver attached to the PC through USB. Standard mode has functionality similar to the touchpad where clicking causes text labels or graphic objects to speak their content. More descriptions available by multiple clicks. Follower mode speaks without clicking when pen passes over a text label or graphic object.

Keep up to date by checking the ViewPlus Technologies, Inc. web site at:
www.ViewPlus.com

B. Specifications

| Operating System	Windows 7, 8, or 10
CPU	Pentium 1 GHz or better
Memory	512 MB or more
Display resolution	800x600 or more
Hard drive use	up to 350 MB of free space

II. IVEO Transformer Pro Setup

A. Software installation and activation

For installation of the IVEO Transformer Pro you will have received an installation file (ending .exe). It's best if it will be copied to the computer locally before executing installation. Please find the installation file using Windows File Explorer and press Enter or double click on the file to start installation.
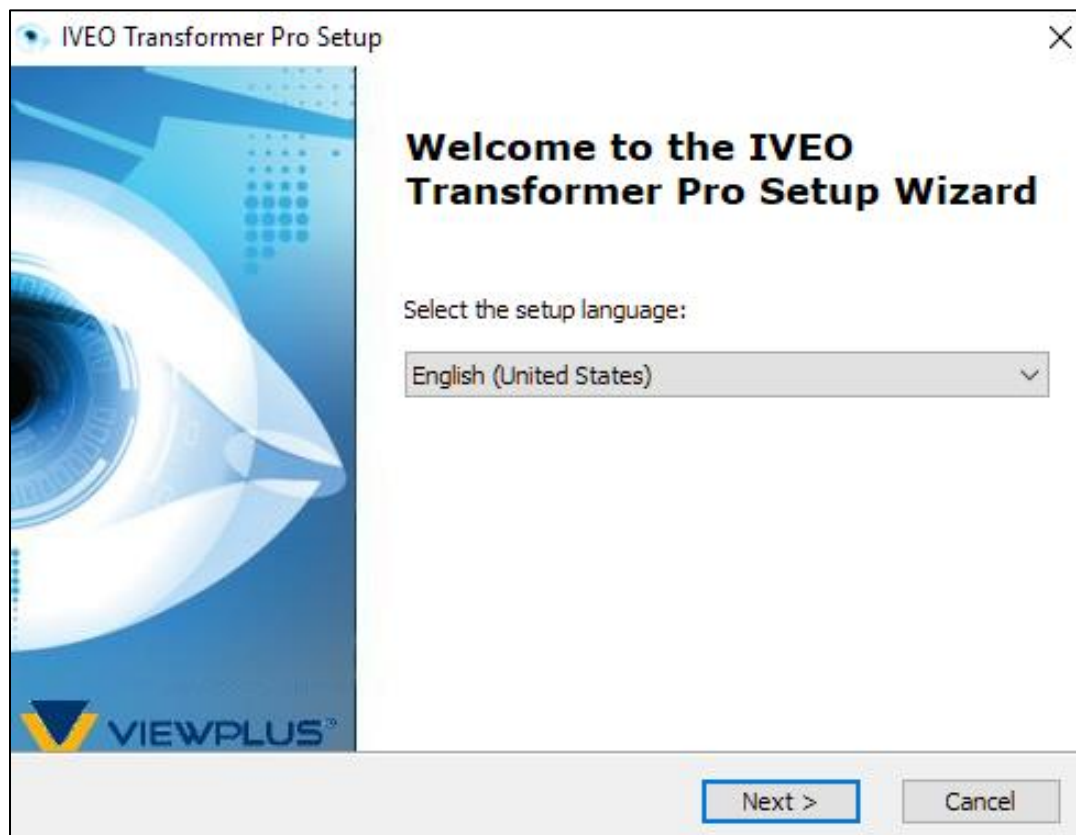

IVEO Transformer Pro installation wizard

The installation program will guide you through software installation with on-screen instructions. Please allow this program to make changes to your computer and follow the instructions to complete IVEO software installation.

After IVEO software installation has completed successfully, it will appear under Windows Programs/Applications list within the ViewPlus section, or find installation files under c:\Program Files (x86)\ViewPlus using the standard Windows file browser.

All IVEO software requires activation using the purchased IVEO license number. Upon startup, the application will ask to activate the software as described below. Without activation the software will stop working after 30 days.

Activation of IVEO Transformer Pro:

When starting IVEO Transformer Pro application, the following window will pop up asking for Product Activation. If cancelling activation, a message will prompt to you how many more days you can use the software without activation. If the software was already running for 30 days, the trial period has expired, and the program will not open at all without activation.
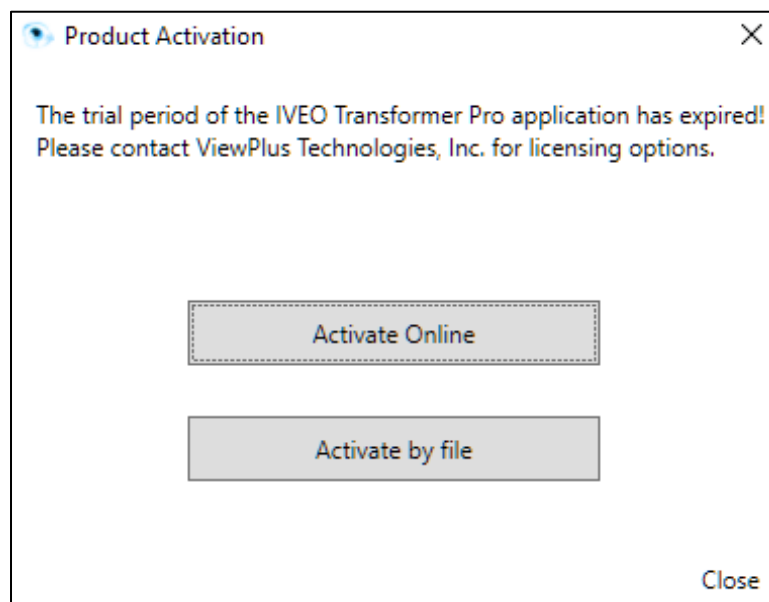
IVEO Transformer Pro software activation options

The window shows two buttons. With an existing internet connection, option **"Activate online"** will be most efficient. Both **"Activate online",** and **"Activate by file"** will open a dialog window for entering registration information, but with different activation buttons at the bottom. Please complete this form.

IVEO software activation form

Online Activation:
If you have entered a valid IVEO license number, the activation process will be done when hitting "Activate Now".

You might get a warning before the form is accepted to not have supplied enough contact information. You can return to the registration form or proceed with activation anyway, but please be aware that this information is important in order for ViewPlus to be able to provide support if any serious problems, such as a computer crash, should occur.

Activation by File:

With "Generate Activation Request" the data entered to this form will be saved to file and you should receive the following message.
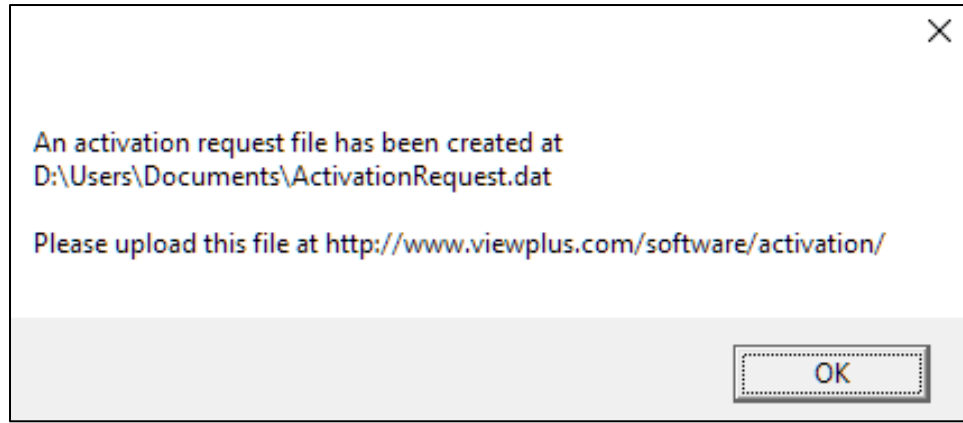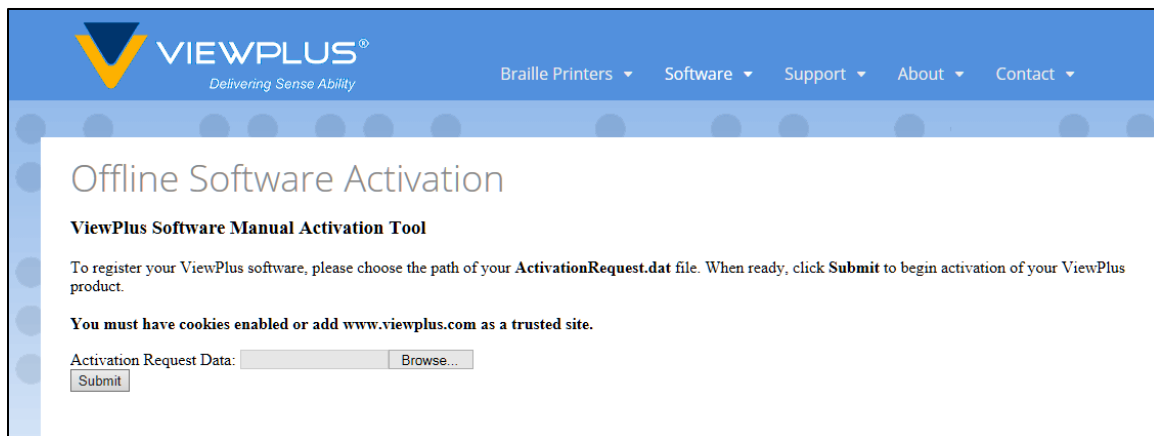

IVEO software activation file successfully saved

Next you should take the file to a computer with internet connection and visit the ViewPlus website software activation page at https://viewplus.com/viewplus-support/activate/

IVEO software activation file upload

Browse to the ActivationRequest.dat file and submit the upload. In return you should receive a request to download the activation response file. It is recommended to save this to the same location as the request file, or at least to a known location.

Now you can return to the computer running the IVEO application to activate. After starting the application, choose "Activate by file" within the first prompt.
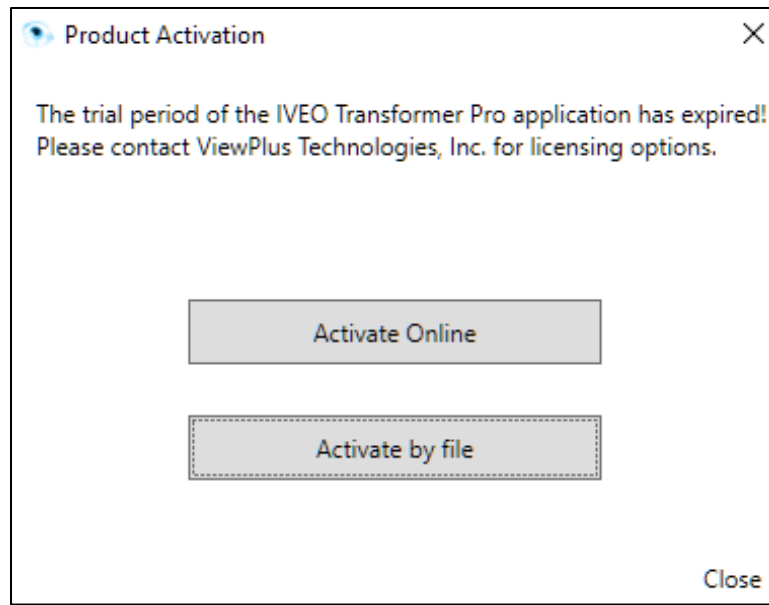
IVEO software activation options

Browse to the IVEOActivationResponse.dat file and open it. Now activation should be completed.
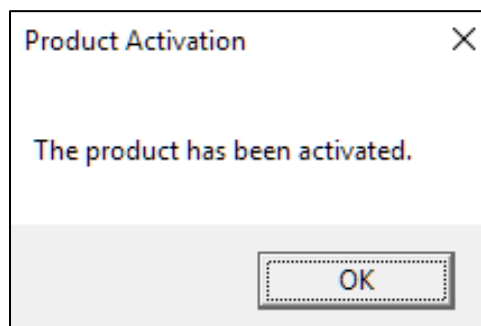
IVEO software activation completed

C. Deactivation and Uninstallation

If you wish to deactivate your IVEO Transformer Pro product license, open your IVEO Transformer Pro application and go to the preferences page and choose "Product Activation …" from that page. See section below for instructions on how to get there.
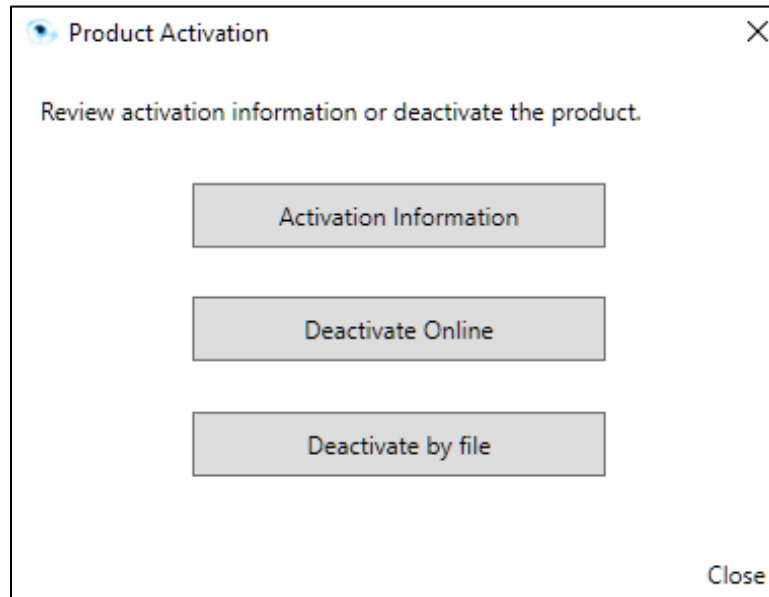
IVEO Transformer Pro "Preferences" option "Product Activation …"

A small window will pop up asking for your preferred method of deactivation. In principal it is the same procedure as explained for the activation procedure explained above. Please refer to that description to accomplish deactivation.

After deactivating your IVEO software you might also want to uninstall it from your computer. Please refer to your Windows system functions to uninstall ViewPlus IVEO software from your Windows PC.

III. Working with IVEO Transformer Pro

A. Transformer Pro Overview

Transformer Pro is a wizard-driven application intended to have a modest learning curve and to be excellently usable. It permits you to import from a scanner or any standard format image file as well as SVG files previously created with IVEO Transformer Pro, or IVEO Creator.

Optical character recognition (OCR) can be performed during the import operation.

The application creates a separate tactile image that can be optimized without affecting the original visual image at all. You are lead through options to quickly and easily

- Correct, delete, or perform OCR on text portions of the tactile image.
- Create title and description annotations for the full image or for any graphical object in the tactile image.
- Simplify the tactile image with preset choices to quickly set for optimal tactile quality. Simplification includes edge detection, line intensification, and reduction/elimination/pattern-replacement of color fill.
- Convert text to braille and/or add braille labels (intended primarily for stand-alone tactile graphics).
- Create and manage different "views" of the same SVG file to give enlarged selected regions of the whole image its own view
- The "views" can be played and explored by the end use in IVEO Player. Therefore, print to any ViewPlus Embosser, save the edited SVG to your data base and/or go to play SVG in IVEO Player directly.
 If printed to a ViewPlus ink embosser, the original visual image is printed combined with the embossed image on one paper.
  "Views" are identified by an index number, editable by the user, which is inserted into the file and optionally embossed on the tactile copy.

B. Transformer Pro Home Window

After successful installation of IVEO Transformer Pro you will be able to start it from the ViewPlus section within your program list on your Windows PC, or you might find a start icon pinned to your start screen.

Upon start-up IVEO Transformer Pro will show the following home window.
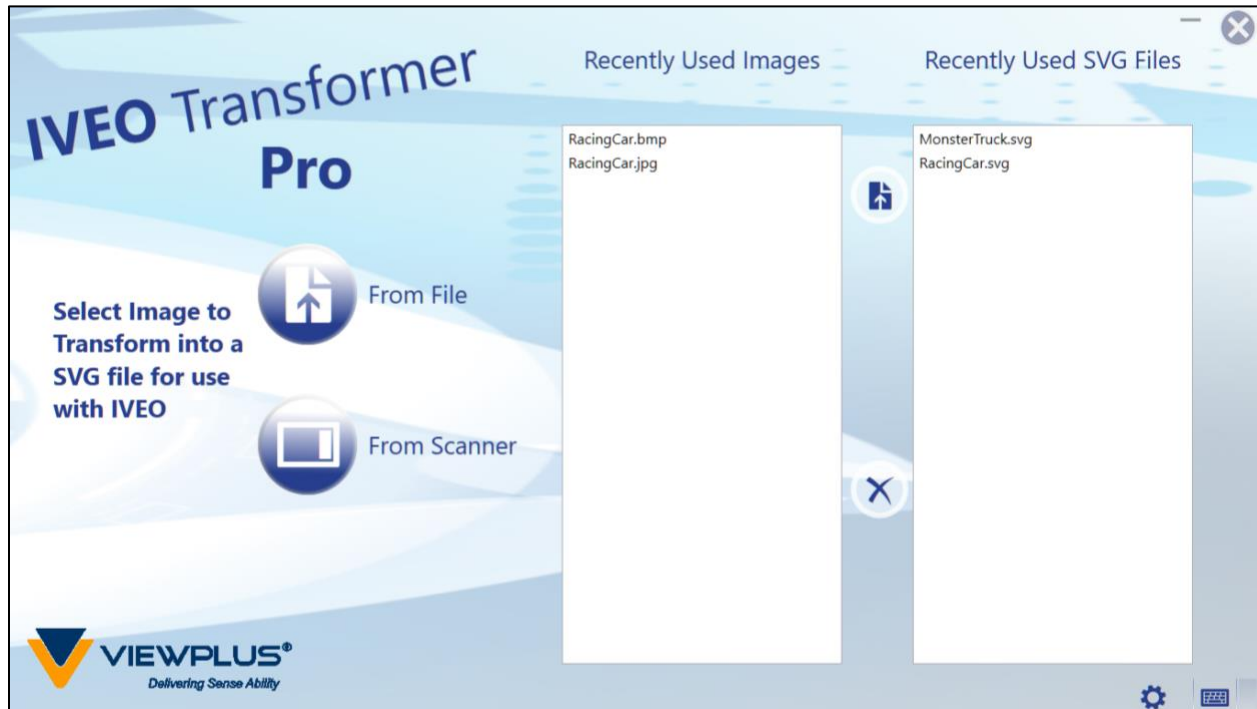
IVEO Transformer Pro home window

Within this home window, and all other Transformer Pro windows you will find the following buttons and controls:

- "Minimize Application" icon at the top right corner
- "Exit Application" icon at the top right corner
- "Go to Preferences" button at the bottom right (see section   below for further explanation)
- "Show OnScreen Keyboard" button at the bottom right
- "Show Desktop" button at the bottom right

The first step to get started with IVEO Transformer Pro application is to open some image data to be working on. Therefore, you have options for obtaining an image from standard image sources, or to open an SVG file that has been created previously using IVEO Transformer Pro.

Obtaining new image

An image can be opened from file with extension PNG, BMP, GIF, JPEG, JPG< or SVG. A standard file browser will open to select the file after clicking the control labelled "From File". Note, that SVG files, which have not been edited with Transformer yet, will be opened like any other image.

Alternately, an image can be opened by scanning in from any TWAIN-compliant scanner installed on the system. Therefore click on the control labelled "From Scanner".
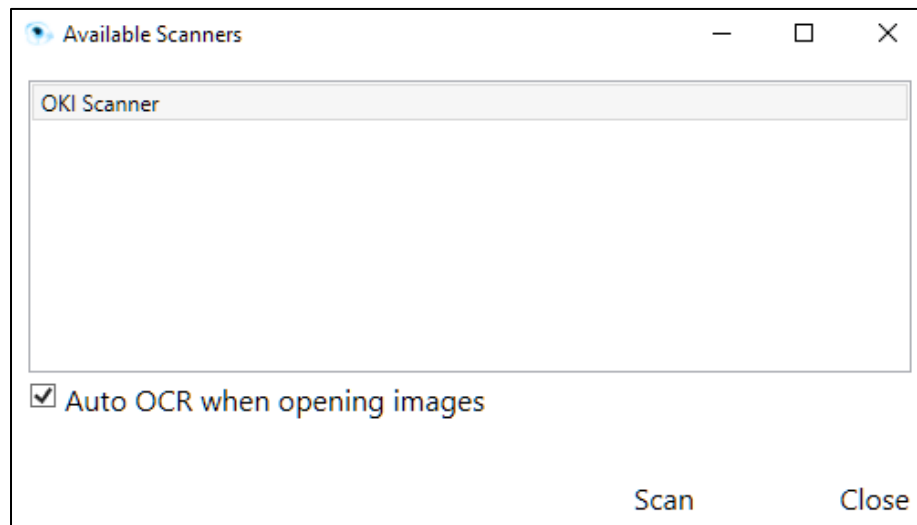

Transformer "Available Scanners" dialog

The dialog that opens will show compatible scanners on your Windows system. Optional you can choose to have the image go through OCR when opening. Click "Scan" to start the scanning and importing process, or click "Close" to abort the action.

Opening recently used image/file

Recently used files will show in two separate lists. The left list shows recently used images, and the right list shows recently used SVG files. SVG files showing in this list have saved to the IVEO standard file location previously. IVEO standard file location is folder "Svg" under the users default documents folder. Recently used images will be saved under subfolder "Scanned Images" from this "Svg" folder.
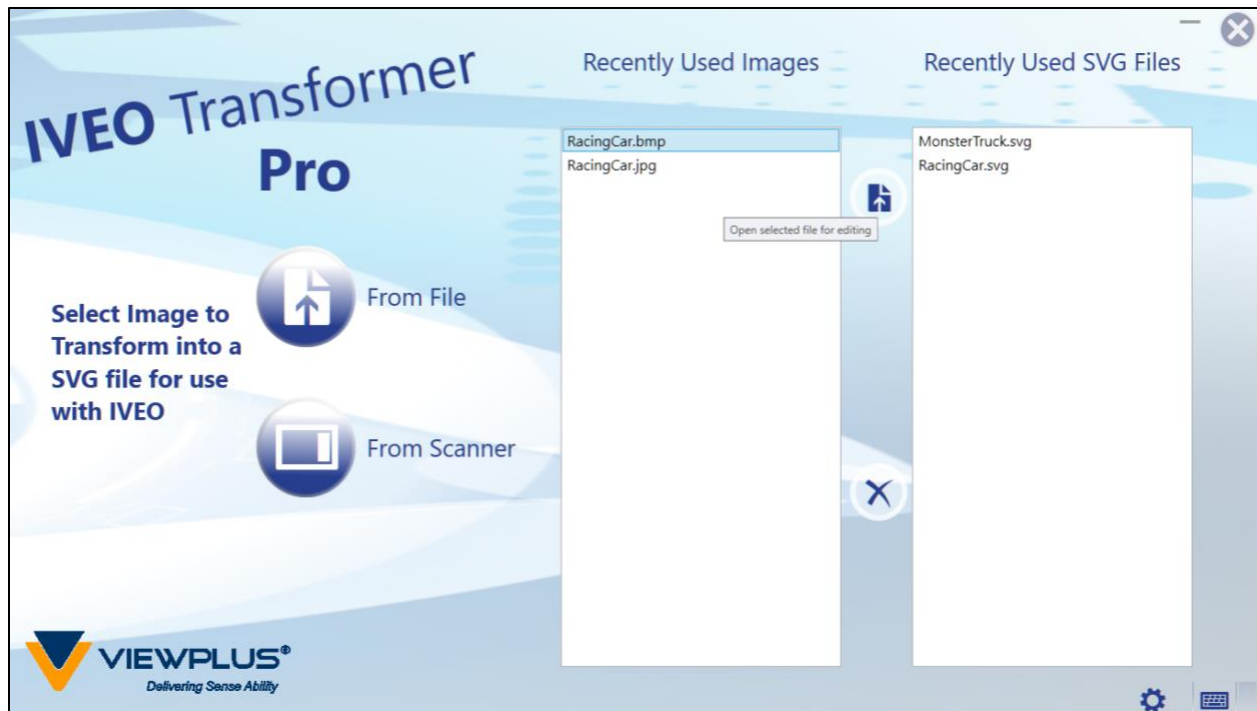
Transformer "Open selected file for editing"

To open a recently used file, select it from one of the two lists and click on control "Open selected file for editing".
As soon as you open a file, or image for editing, Transformer will proceed to the next window.

The "X" button between the two lists or recently used files can be used to delete the selected file from harddisk, meaning it will be removed from the IVEO standard file location.
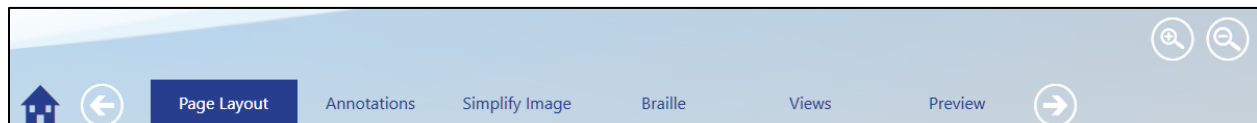
C. Page Layout Window

Once an image/file has been opened for editing, Transformer will proceed to the next window, called "Page Layout".
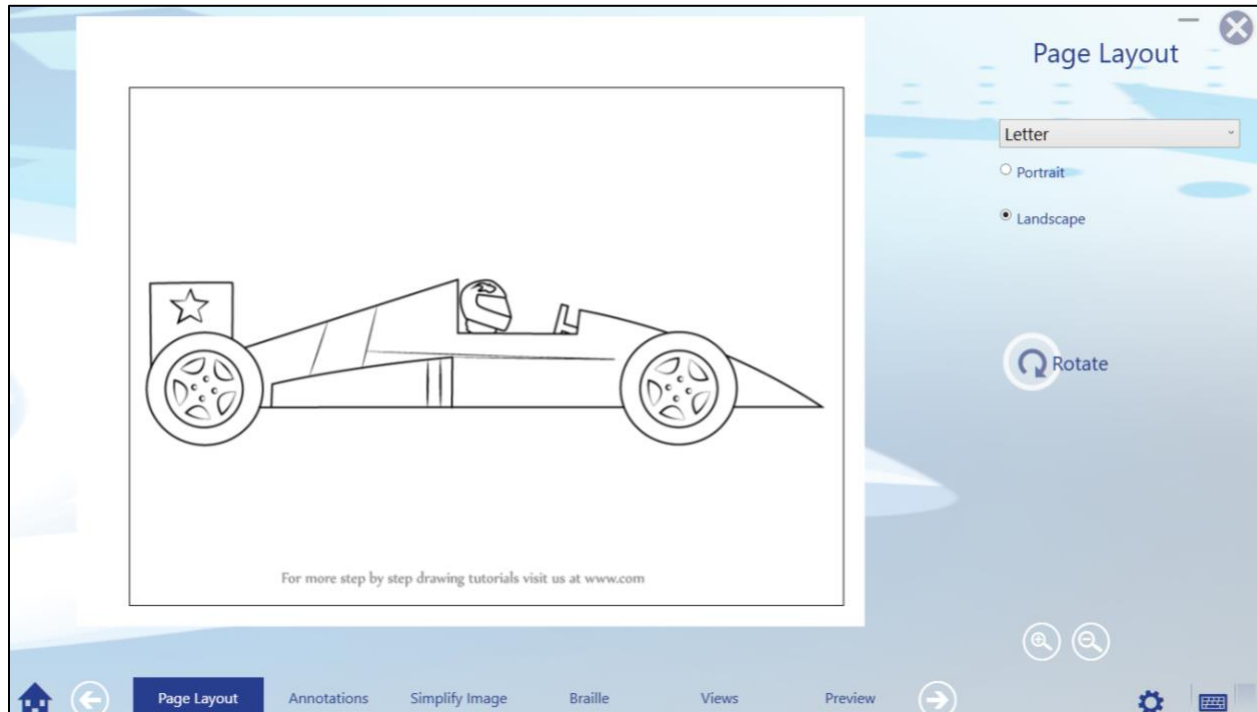
Transformer "Page Layout" window

Before explaining editing options, a few words about common features of this and all following windows:

Transformer navigation controls at bottom edge of window

You may zoom in and out for viewing convenience without changing the final output. Use button controls showing magnifying glasses with plus an minus sign at the lower right of the screen for this zoom feature.

Along the bottom edge of the screen you find navigation controls, starting with the house symbol at the very left. Clicking the house will bring you back to the home window.

The normal procedure for creating complete audible tactile graphics in IVEO Transformer would be to step through all 6 windows, named along the bottom edge of the application window from left to right, starting with "Page Layout". You can step through the windows by selecting the window name, or by selecting the forward, or backward arrow button at the left of all window names, or the right respectively.
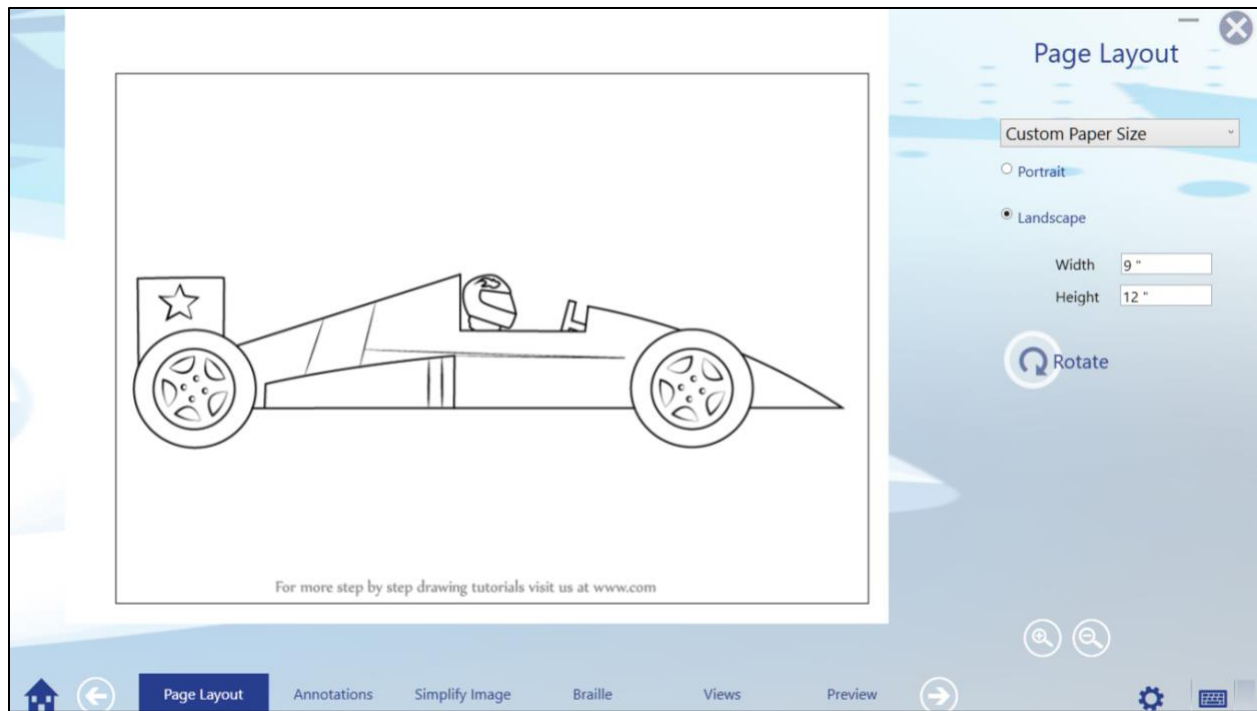
Transformer "Page Layout" window with custom paper size

When opening an image in "Page Layout" window, Transformer Pro automatically selects landscape or portrait orientation depending on the image aspect ratio.

You are given the choice of paper size, and using a different orientation of the paper. Standard paper sizes are available from a drop down list, or custom paper size. When choosing custom paper size, additional entry fields for width and length will appear.
You will choose the output paper format to be used for the final copy. You may change these choices later in the event you want to print other formats.

There is also a button control for 90 degree clockwise rotation of the image. It will rotate 90 degree with every click, keeping the paper size and orientation as is.

D. Annotation Window

The next window is used to enhance the image to permit information to be conveyed during audio/tactile access. This window provides a list of annotations in the current document.
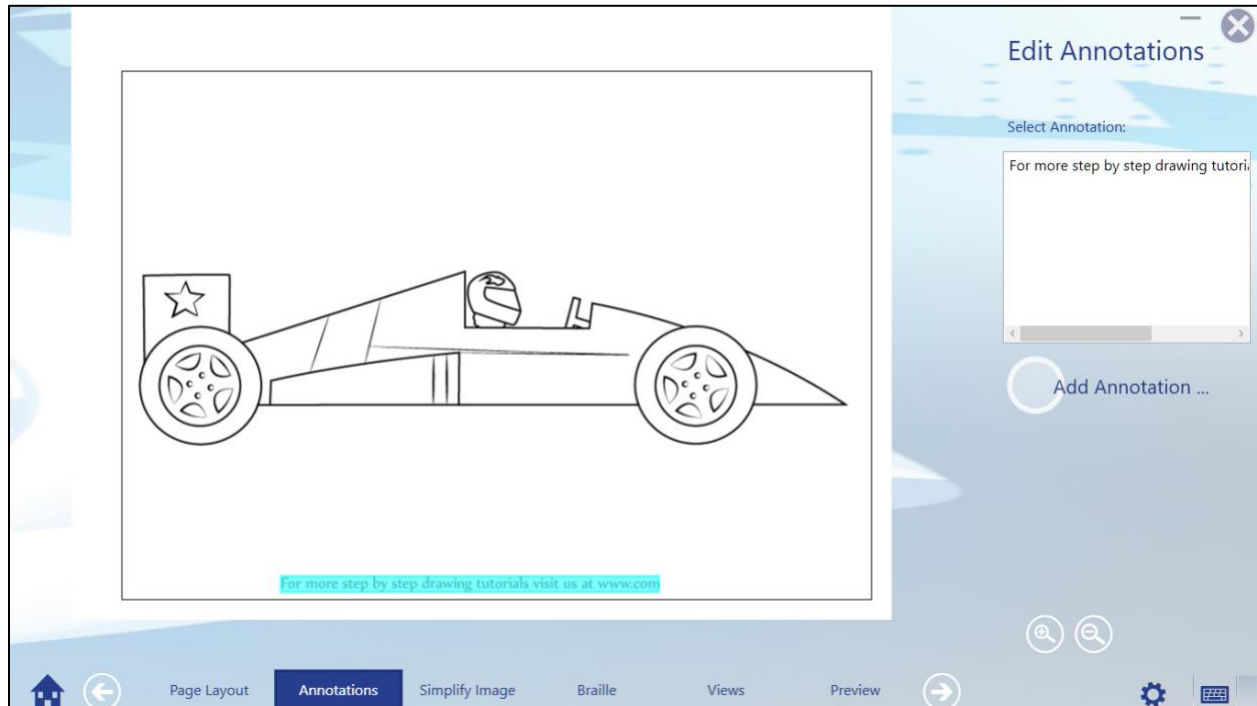
Transformer "Annotation" window showing OCR'ed text

If you have just imported a bit map, this list will contain all the OCR'ed text sections that have been detected. In the picture above it is just one text section, so one annotation in the list. You may add additional annotations using button "Add Annotation …".
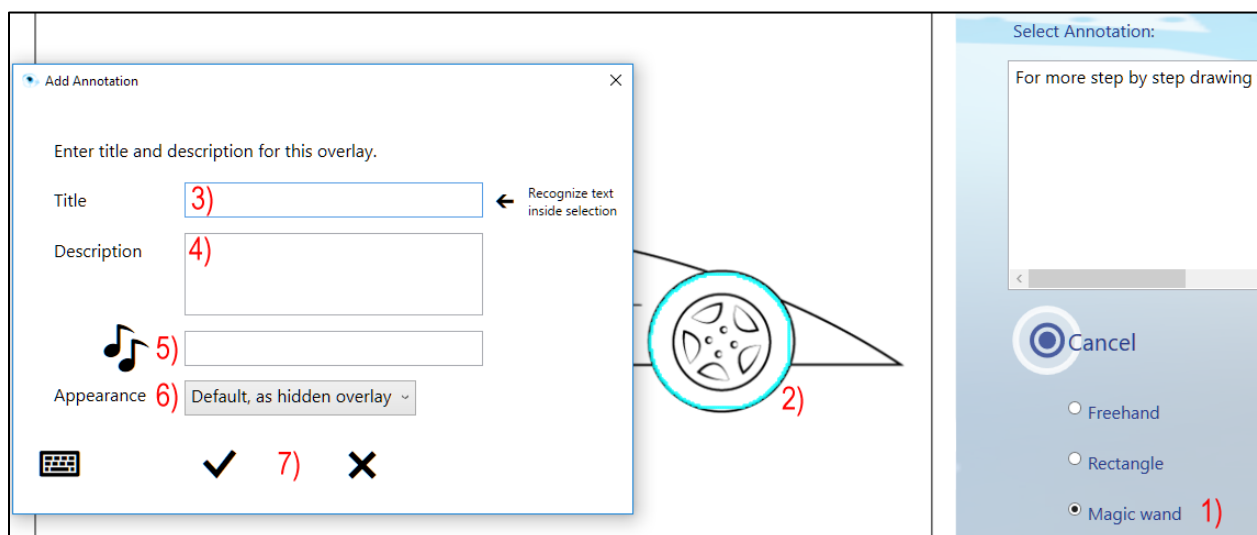
Transformer "Add Annotation" features

This is the procedure you will want to follow when adding an annotation:

1) Choose to select the annotated area by drawing a shape freehand, or by drawing a superposing rectangle, or by using the magic wand to select regions of the same color. The picture above shows the magic wand feature selected.
2) Clicking into the outer circle of the wheel once using the magic wand, causes the whole round area of the wheel to be selected for annotation, as indicated with the cyan colored outline.
3) The "Add Annotation" dialog opens automatically upon selection of an annotation area. Here you can enter text for the title of the element. If the area that was chosen for the annotation contains image of text, a click on "Recognize text inside selection" will make an attempt to OCR that image of text and will insert the result into the entry field for "Title".
4) This field can be used to enter text for element description.
5) In this field a sound file can be linked to the element. WAV, or MP3 files can be linked. Click on the musical notes icon to open a file browser to choose the file from your computer.

Title, description, and sound file will be the levels of information which are being given back in audio information to the reader of the SVG in IVEO Player.

6) The choice in "Appearance" will determine the appearance of the annotated area on embosser output. "as hidden overlay" will leave the embosser output to what the original image is showing. Other choices are to emboss the annotated area with one of 10 preset patterns. If selecting to show in certain pattern, this will only have effect on the embossed output. In IVEO software applications, still the original image data will show.
7) With "OK" the annotation will be added, use "Cancel" to abort. To the left you will find a button to open an on-screen keyboard for text entry.
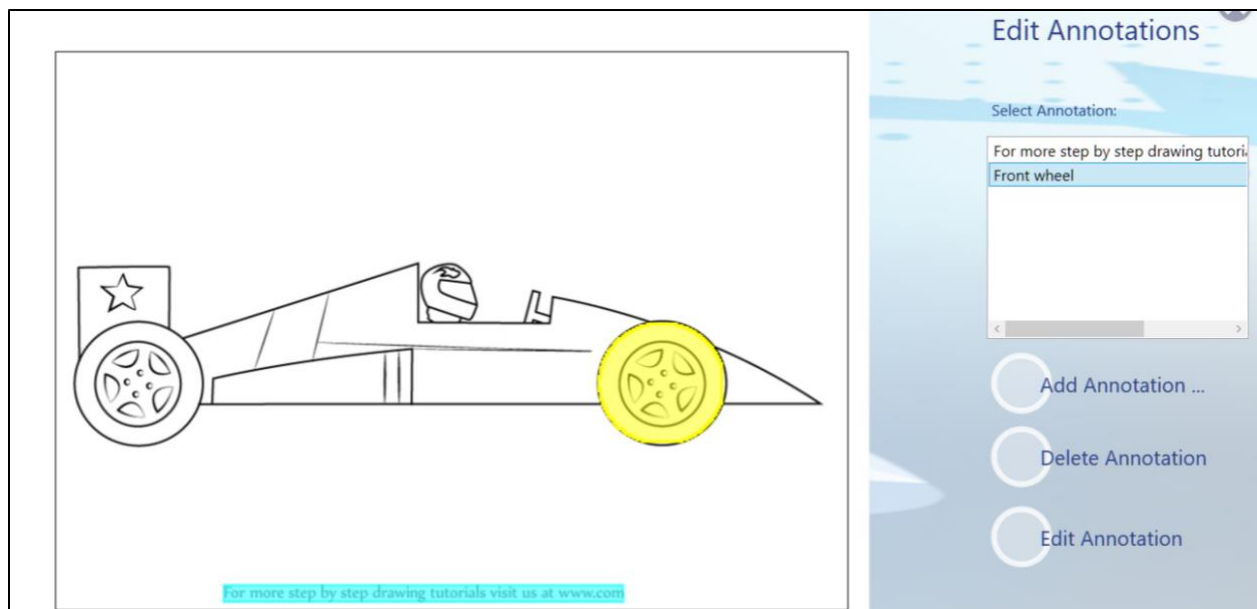

Transformer "Edit Annotations" view of "Annotation" window

When selecting an annotation from the list, it will be highlighted within the image view, and a "Delete Annotation" button, as well as an "Edit Annotation" button will appear on the window. Clicking to edit an annotation will call the dialog previously explained again, showing current data of selected annotation.

E. Simplify Image Window

This next window offers tools to simplify the output of the image for tactile reading.
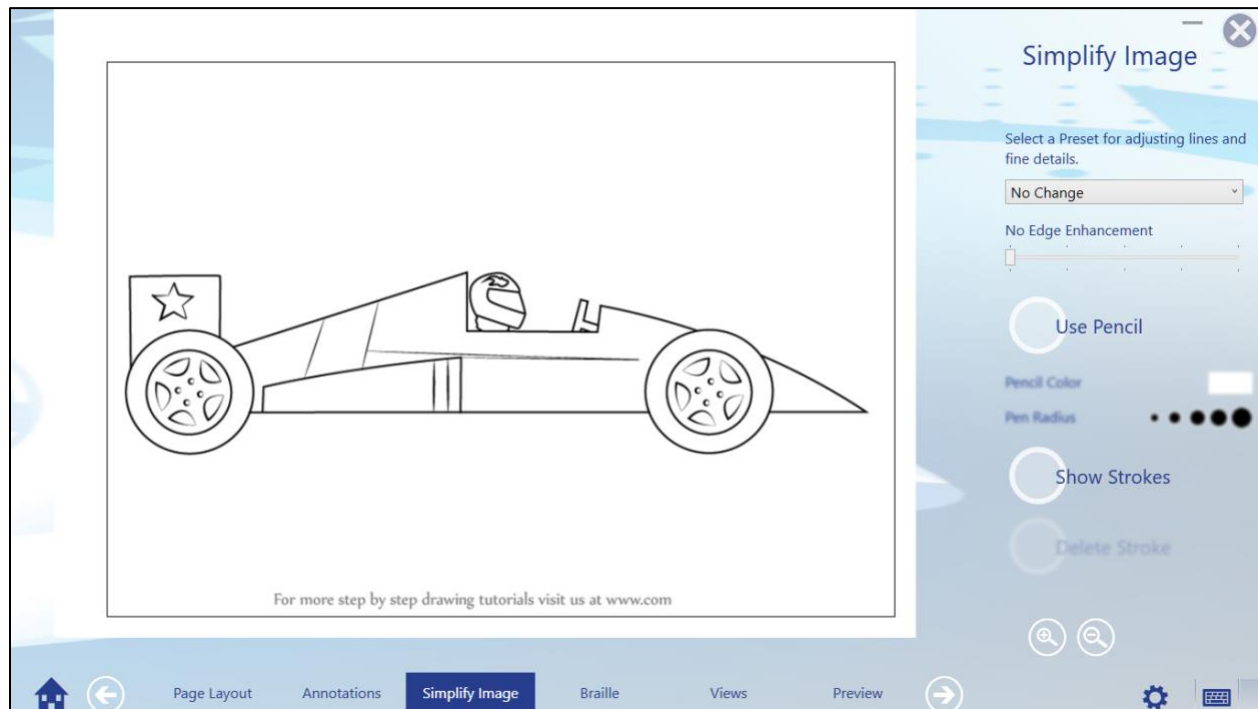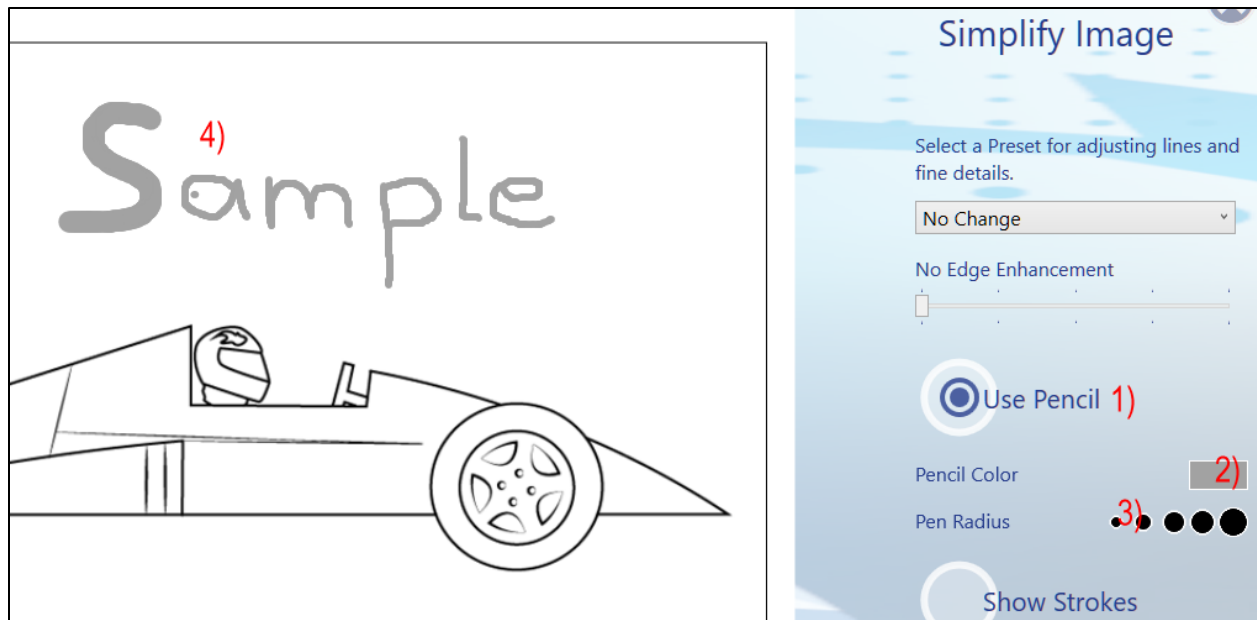

Transformer "Simplify Image" window

At the top right , there are a few presets available from a drop down list for adjusting line intensity, and tactile representation of fine details and fills, plus there is a slider control to set the edge enhancement level. These controls can quickly convert a visual image into a tactile image that can be excellent for audio/tactile use.

One of the presets (Outline, Fill With Auto Patterns) will create fill patterns instead of solid fills on different colored areas from the original image.

By default (No Change), a color image is converted to tactile output in which dark colors are converted to higher embossed dots, and light colors to lower embossed dots in 17 to 20 dots per inch resolution. White areas have no dots. Sometimes this leads to good tactile representation without any enhancement, but normally applying some data processing for enhancement in regard to contrast and line intensity helps a lot for detecting objects on tactile output from a color image.

Most ViewPlus embossers do an excellent job of embossing fill, but big areas of heavy fill are generally not a good idea. Therefore, the list of presets also offers options to reduce fill. In particular, the best choice for the inexpensive ViewPlus EmBraille embosser is usually zero fill (No Fill).
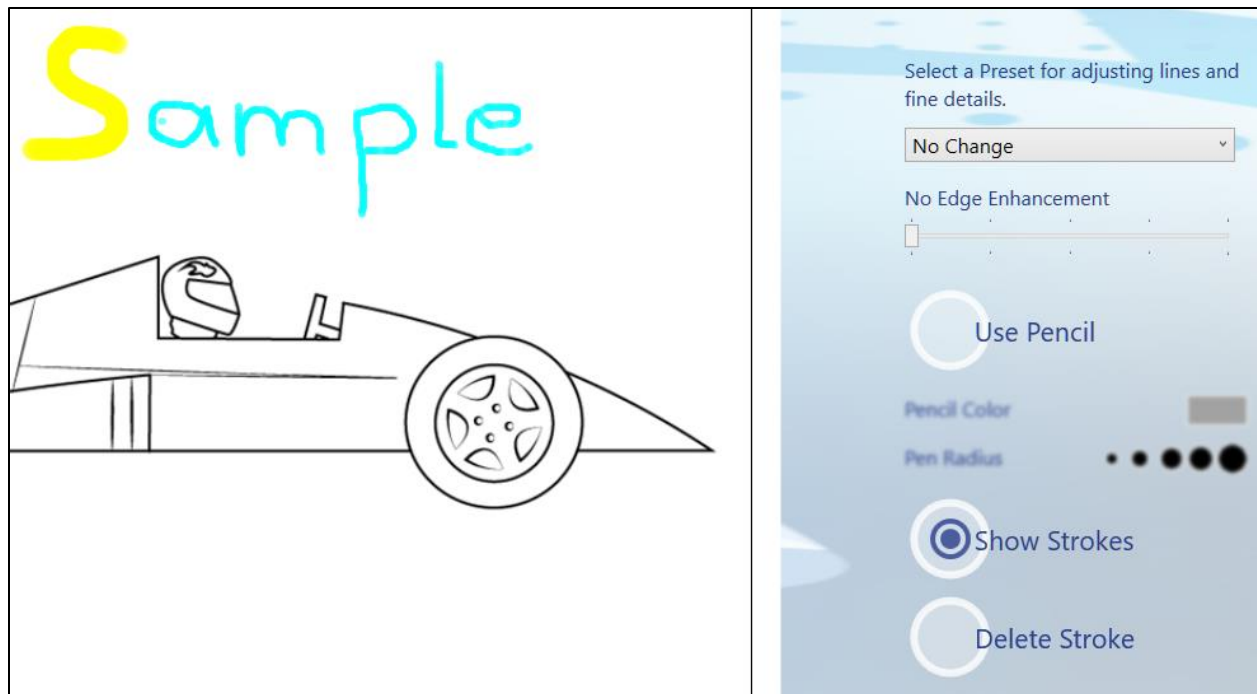
Transformer "Simplify Image" window - use pencil

There is also a pencil option in this window. This is the procedure you will want to follow when using the pencil tool:

1) Click button "Use Pencil".
2) Choose the drawing color by clicking the grey colored rectangle, which is a preview of the currently selected drawing color. When clicking here a line of filled rectangles will show in shades of grey from white to black. These grey tones are representing embossed dot heights as produced with ViewPlus embossers. The darker the grey, the higher will be the dot on embosser output.
3) Choose a pen radius by selecting the corresponding dot here.
4) Draw desired strokes on the page.

The pencil tool can also be used to cover over anything that should not be embossed when using white pencil color. In general be aware that the strokes drawn here will only be visible on embossed output. The same as the pattern fills on annotations.

Transformer "Simplify Image" window - show strokes

Strokes can also be deleted again. Use "Show Strokes" button to highlight all strokes on document view. Then you can select single strokes, which will become yellow when selected. When using button "Delete Stroke" the selected stroke will be deleted.

F. Braille Window

This Window does what its name implies. It permits you to add braille or to remove braille that has been added previously. The purpose of this window is to enable you to create stand-alone tactile graphics with braille labels. You do not usually want to use braille for graphics that are to be read by audio-tactile methods. Braille is just too big, and it is often distracting to many blind users who will just want to hear the text spoken.
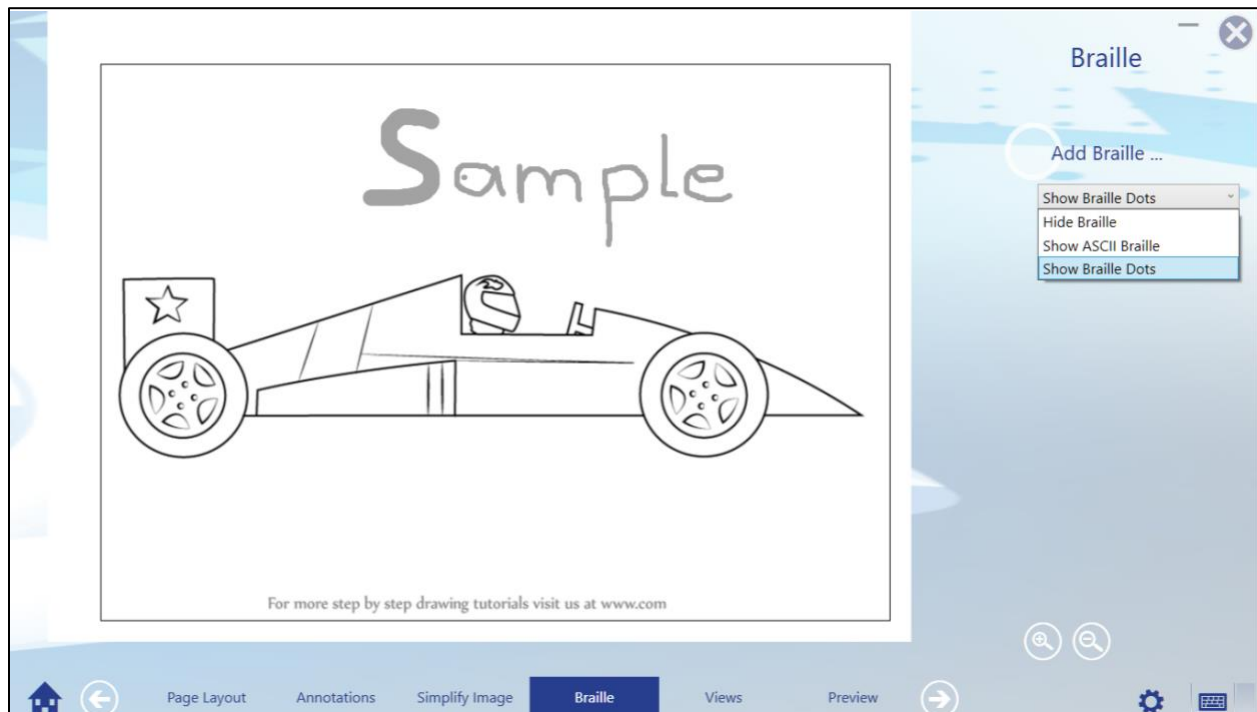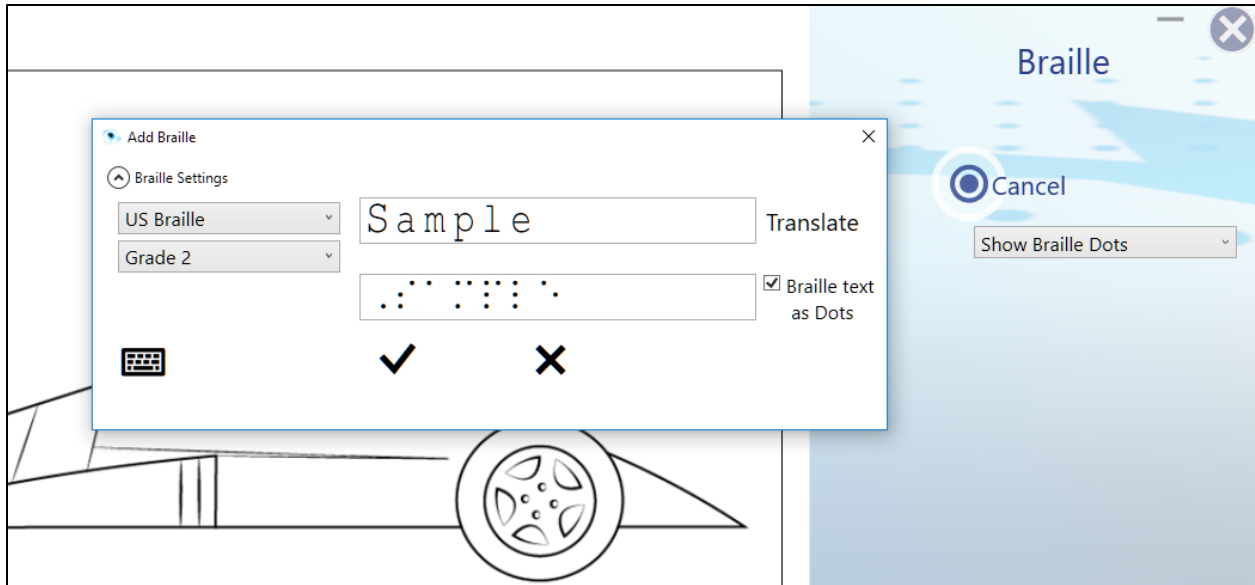

Transformer "Braille" window - options of Braille visibility

The picture above shows the expanded list of options for visibility of Braille labels. You have the choice to show any Braille labels on your document in Braille dots, or in ASCII character representation, as well as the choice to hide Braille.

When choosing Braille in ASCII, or in Braille dots, Braille will be embossed in Braille dots on embosser output when printing. Only screen representation will be in ASCII characters if that option is chosen.

When choosing to hide Braille, it will not be embossed on output either, and will not be visible when playing this SVG in IVEO Player. It's a tool to hide Braille for the end user without having to delete it, and so the author of the SVG can bring Braille labels back up here in Transformer on demand and save to another version of that same file, for example.

Use "Add Braille …" button and click anywhere on the document view to open a dialog to enter desired text for a Braille label.

Transformer "Braille" window - options of Braille visibility

The simplest method of entering Braille is to enter standard print text to the upper entry field and click on "Translate" to have it convert to Braille, which will then show within the lower field. With the checkbox to the right you also have the option here to show Braille in Braille dots, or ASCII representation.
The translation will be done according to Braille Settings done within the left section. It might be collapsed, but can be made visible with the little button showing a down arrow. Braille settings include the language to be translated as well as Braille type to be applied.
When hitting the OK button (check symbol), the Braille label will be added to the document view.

Transformer "Braille" window - options of Braille visibility

You may place braille at any desired location, and it is up to you to be sure that it does not overlap some other braille or graphic that will interfere with the end user's ability to read it. You may grab any braille selection with the mouse and move it if necessary, or you can delete the currently selected label using the "Delete Braille" button, which will appear only when a label is selected.
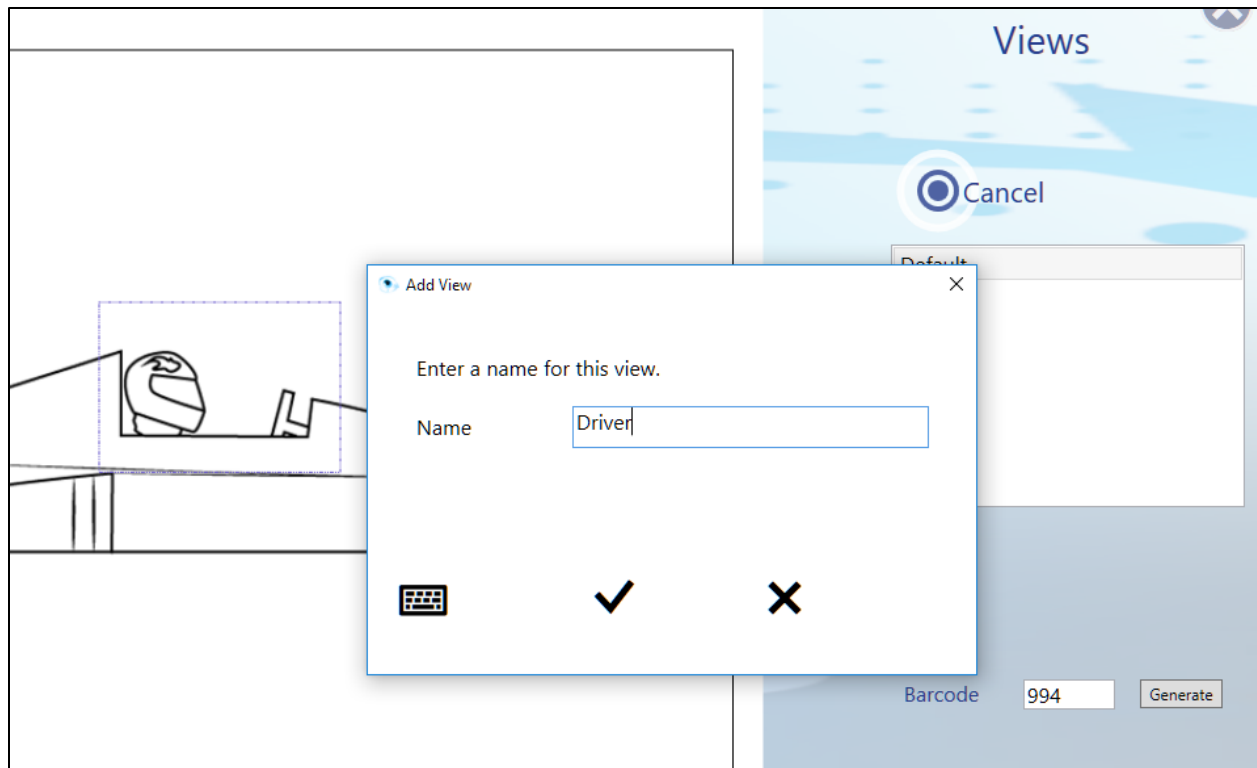
G. Views Window

This window permits you to create different views for the end user from one document. The default view is normally the full graphic, but it is often desirable to have other views. For example, a US map is much more valuable if a view of the small northeastern states is included. A view is a section of the image that is enlarged to the full page, saved, and can be printed separately and viewed in IVEO Player by the end user.
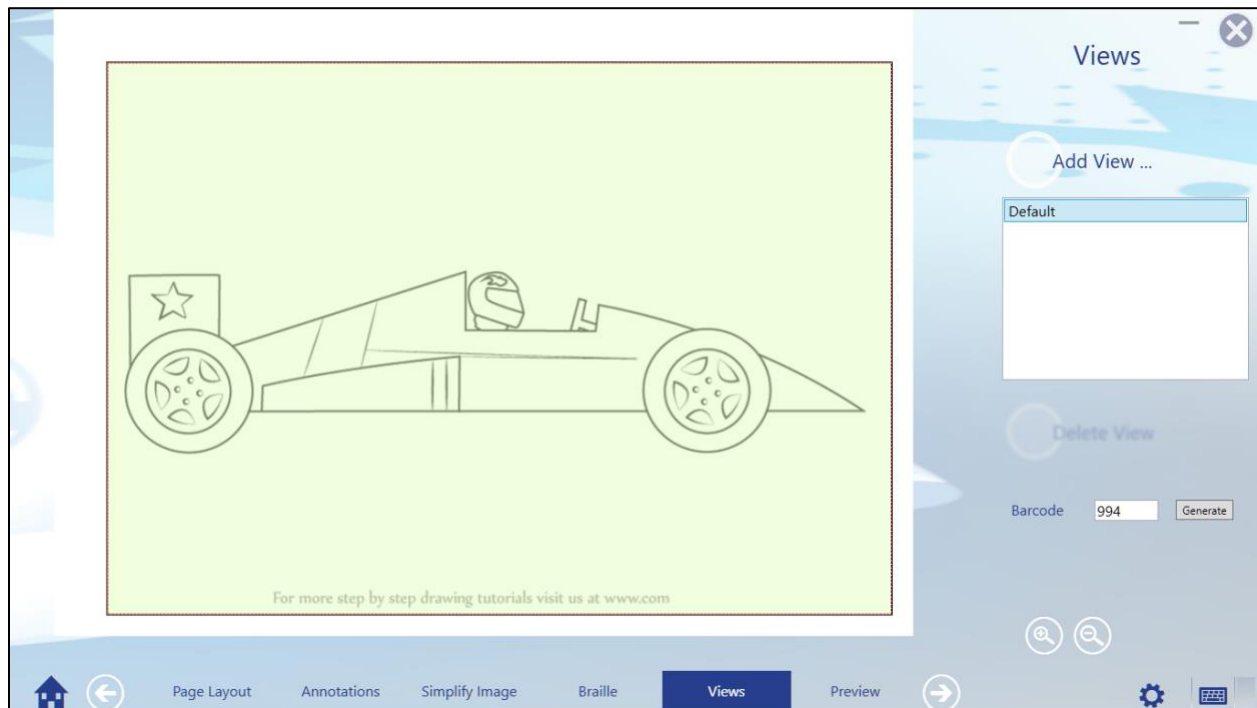
Transformer "Views" window - showing default view

The picture above shows the example file from this manual in default view. On "Views" window the color print representation will be shown, so no Braille, or strokes, or otherwise simplified version of the image.

To add a view, use the "Add View …" button. Then you draw a rectangular outline which will be locked to the aspect ratio of current page layout. The content within this rectangle will be zoomed to a full page, which will be the newly created view to this SVG document.

Transformer "Views" window - adding new dialog

After selecting the rectangular area for the new view, a dialog will open asking to enter a name for the new view.
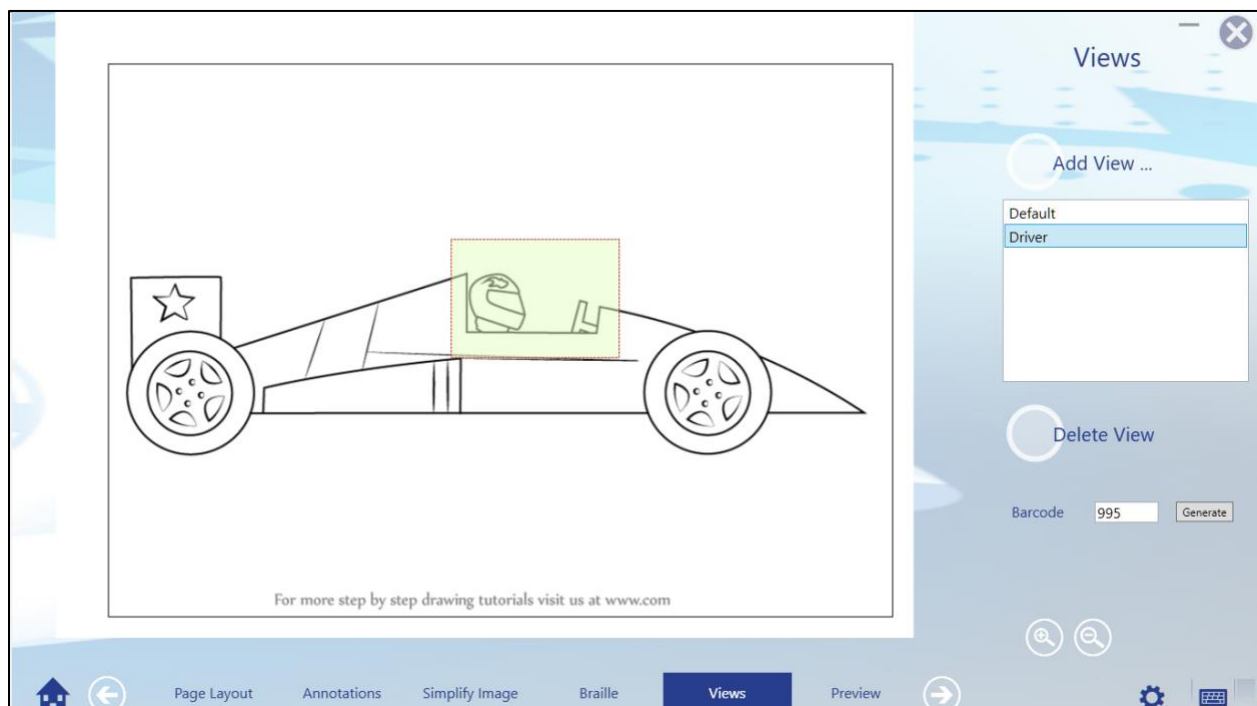
Transformer "Views" window - showing default view

Different views can be added to the SVG file and will be added to the list of views. The views are identified by name, but will also have specific barcodes assigned. By these barcodes views can be recalled and proper SVG file will be loaded in IVEO Player or Creator.
The barcode can be generated by using button "Generate" within the Views Window, or can be entered manually within the entry field which shows the barcode index in integer numbers.

H. Preview Window

This window will show the SVG document in default view, including annotated areas and Braille labels if Braille is not set to "Hide".
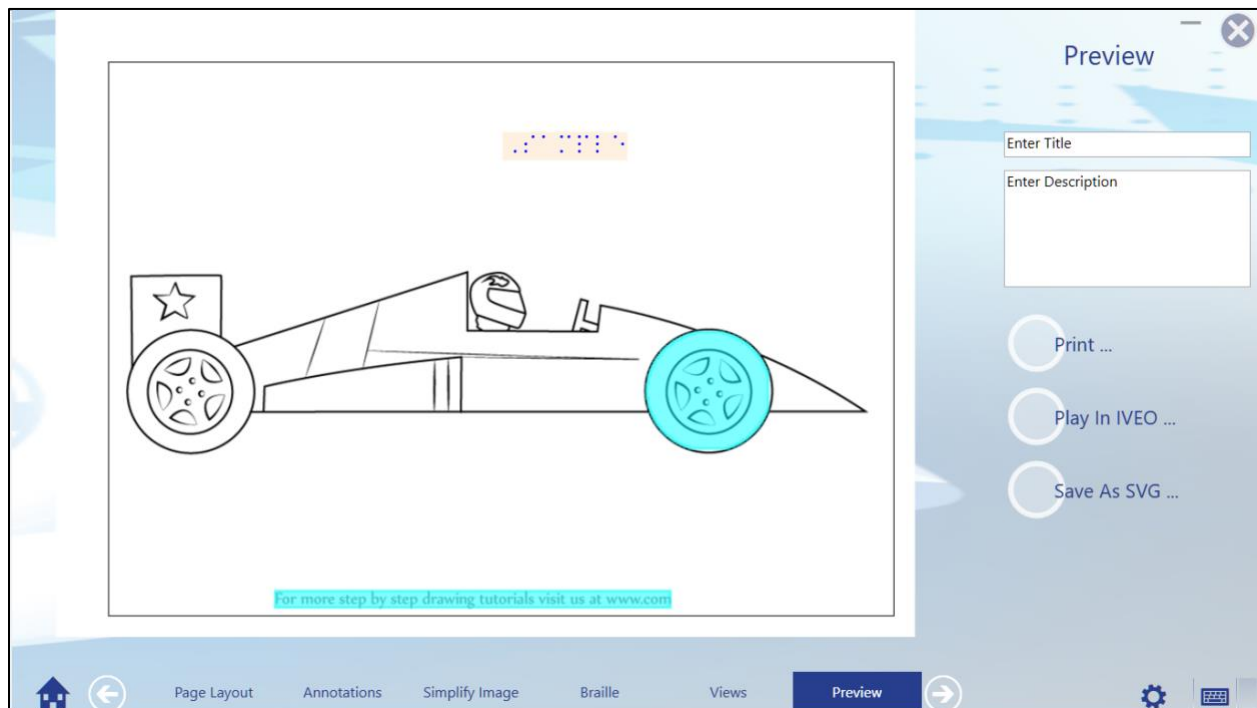
Transformer "Preview" window

This window has edit fields for the SVG document title and description to be filled in. These are normally spoken when the file is opened in IVEO Player. The end user can play the title through speech output with the F1 key and the description with the F2 key. It is very strongly recommended that you give all files good titles and that you input a description that is adequate for quick skim reading. A good description is very helpful even if the user has already explored the image by audio/tactile reading. A good description helps with later recall of important information and/or for quick skimming.
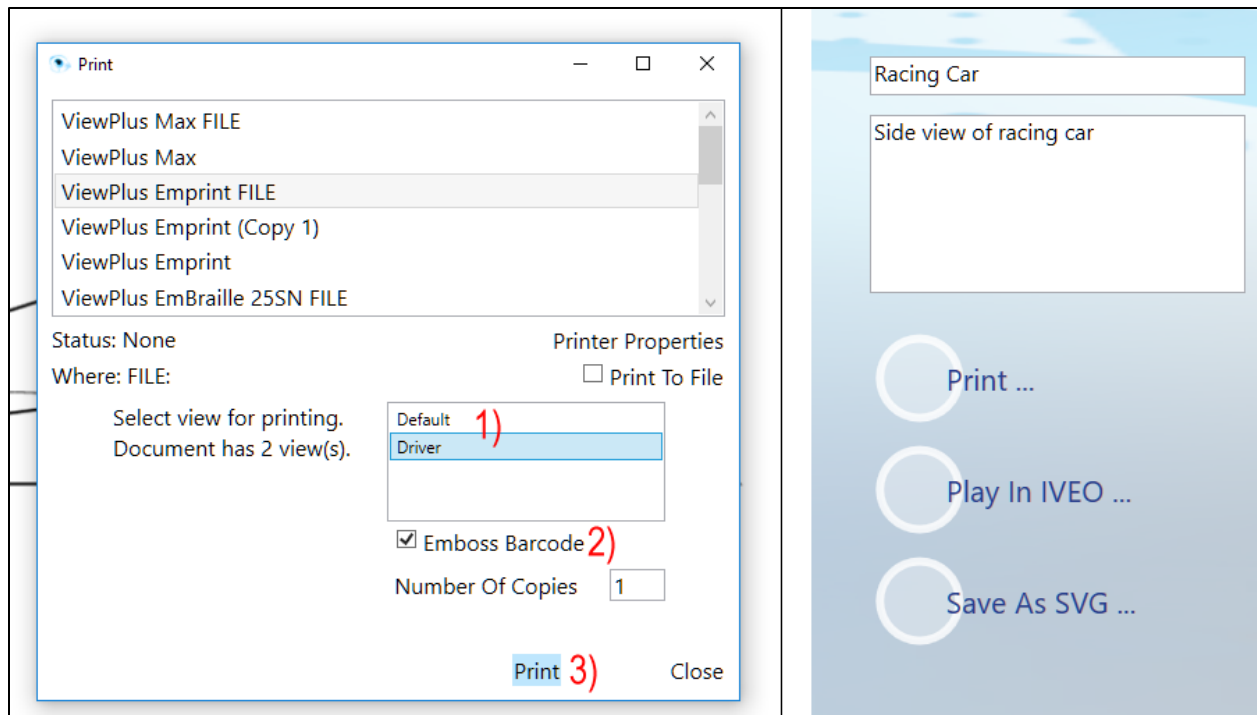
Transformer "Preview" window - print dialog

From this window different views of the SVG file can be printed when using button "Print". The dialog that opens when using button "Print" will let you choose the printer to be printed to, as well as the view that you would like to print (1).
You also choose to have the bar code embossed on the output or not (2). The embossed bar code will enable the end user to open the SVG file corresponding to printed view in IVEO Player or Creator by touch. Click "Print" (3) from this dialog to start printing.

You can also transfer to IVEO Player directly out of Transformer using button "Play in IVEO …" within this window. The SVG file will open immediately in IVEO Player with last selected view. During this transfer the SVG file will also be saved into SVG database within standard IVEO folder.

Use button "Save As SVG" from this window before closing IVEO Transformer to save the file under a known location on your computer. A standard file browser dialog will open to choose file location and file name. The file browser will default to the standard IVEO folder for SVG database, and for easy access it is recommended to stick to that folder.

I. Preferences Panel

The preference panel has several sections that effect different functions in Transformer. It can be accessed from any window in IVEO Transformer Pro by clicking the "Go to Preferences" button at the lower right corner. To exit the preferences panel, press ESC key on your keyboard, if not using the "Apply" button.

IVEO Transformer Pro preferences

User Interface

- Choice of Interface Language: Select language for Transformer user interface text displays from drop down list. Currently, only English and German is available, but we are always happy to work with our customers to localize to more languages. Please don't hesitate to contact us if you have a request.
- Enable Speech: Turn speech output through screen reader on, or off using the check box. If no active screen reader application is running on the system, please make sure to have a voice installed compatible to MS Speech Platform Version 11 to be used instead. If several voices are installed, one can be selected from the drop down list here, but an active screen reader application will always have priority over this selection.

Print Settings

- Emboss Fiducial Corners: Turn this on, or off using the check box. The fiducial corners will add corner marks on the tactile output, which are being used to calibrate sizing between the tactile print and the image opened in IVEO Player or Creator.

OCR Settings

- Auto OCR when opening images: Turn this feature on, or off using the check box.
  Generally OCR works best for graphic images containing text labels surrounded by white space and worst for labels with variable color background. There is a provision in Transformer Pro to select text and OCR it individually within the Add Annotation feature. This is intended for cases where that particular bit of text is missed by the OCR engine. But for some graphics, it may be more convenient to OCR individually than auto-OCR initially if there are major OCR difficulties with that particular image.
- Additional to the Auto OCR, you can choose to have Braille labels created from the recognized text instead of standard labels. This is seldom a good idea, since braille is so large, it is unlikely that any automatically-generated braille labels will be properly placed. However, if this option is used, the braille translation choices from the Braille Settings section within this preferences panel are used.
- Auto Trim white margins: Turn this option on, or off using the check box. Normally it is a good idea to make the informational part of an image as large as possible, so turn this on to have unnecessary white spaces around an image removed during import.

Braille Settings

- Choose a Braille Language from the drop down list. This Language, or corresponding Braille table will be applied when translating OCR'ed text to Braille.
- You are also being given the choice of Braille grade/contraction level (grade 1, grade 2, computer braille, and others if available for the selected language).

Input Device

- Attached Device: In the Preview Window at the end of the editing procedure you can test playing the SVG file in default view. Therefore set your input device by choosing it from the drop down list here. Currently there are two choices, the IVEO touchpad, or the IVEO digital pen.
  The calibration procedure "Calibrate from Current Image" as known from IVEO Player, or IVEP Creator can also be applied in IVEO Transformer Pro. Use Ctrl+U to initiate this procedure.

Online Manual

- Click here to launch the IVEO Transformer Pro manual from the ViewPlus website.

Product activation

- Click here to call a dialog giving options to view and enter activation information, or to activate/deactivate your IVEO Transformer Pro license.
  If you have not activated your IVEO yet, it will work in trial mode for 30 days.
  If your product is activated, you will also find the name and license number within the informational section below on the preference panel.

Check for Updates

- Click here to check for IVEO Transformer Pro updated online.

Apply

- Use this button to save any changes you made within preferences settings and return back to your last window in Transformer.

To exist the Preferences panel without saving any changes press the ESC key on your keyboard.

IVEO Help and Support

Please also visit [ViewPlus Support](#) online for other resources and support inquiries.

Additional training and support is available for purchase through your authorized ViewPlus distributor or from ViewPlus Technologies.

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