

PerfeCapture 5 User's Manual

Version 1.0

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1. Introduction

This manual is a supplement to the xcanex's main user manual. It describes the usage of PerfeCapture 5, the application software for driving the xcanex bookscanner on the Windows OS platform (7, 8 or 10).

For general instructions such as mechanical setup, adjustment of camera or scan pad placement, please refer to these reference materials:

Main user's manual :

<http://www.piqximaging.com/usermanual/XCANEX%20User%20Manual%20English%20ver1.3.pdf>

Tutorial videos :

<http://www.piqximaging.com/quicktips>

Video on mechanical setup :

<https://www.youtube.com/watch?v=QayOg5ahN2U>

1.1 Launching the PerfeCapture 5

Connect your xcanex unit to the computer via the supplied USB cable.

After the app is installed, double-click the “PerfeCapture” icon on the Windows Desktop to launch it.

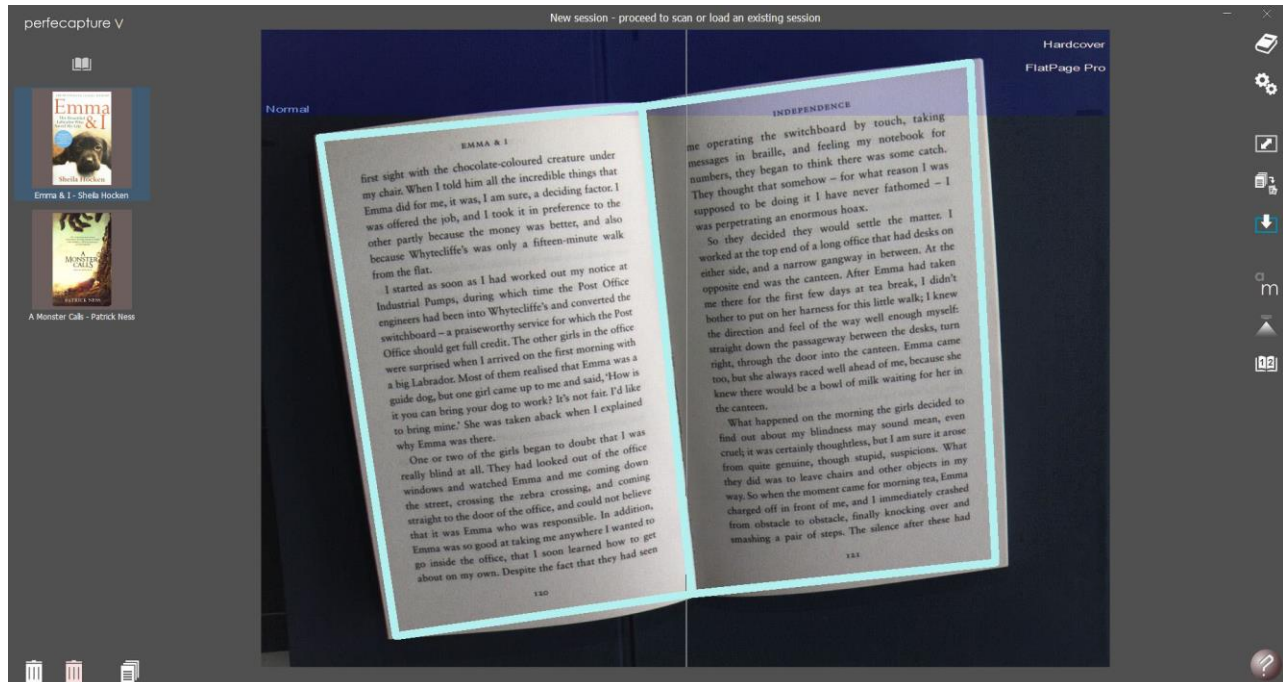
1.2 Checking the version number

After launching the software, you can check its version number by clicking on the top-left Perfecapture icon.

2. The Main User Interface

PerfeCapture 5 is a session-based application whereby a previously scanned session can be re-opened or a new session can be created. Every new session can be saved for future continuation.

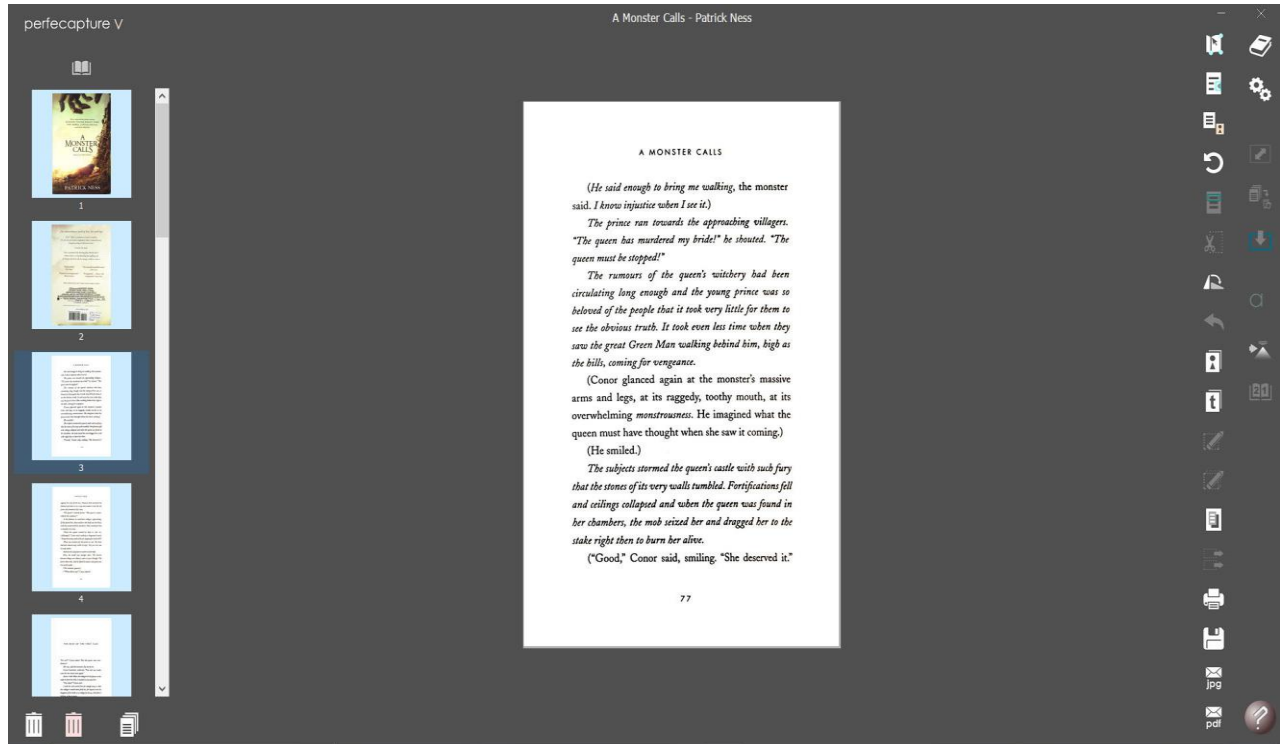
Immediately after launch, the main user interface will appear.



On the left is the Thumbnail Panel which either shows previously saved sessions (immediately after launching) or scanned pages within a session (after opening or creating a session).

In the middle is the Preview/Edit window which either shows the live preview of the scan area or the enlarged scanned pages.

On the right is the Main Control Panel which has the main control buttons.



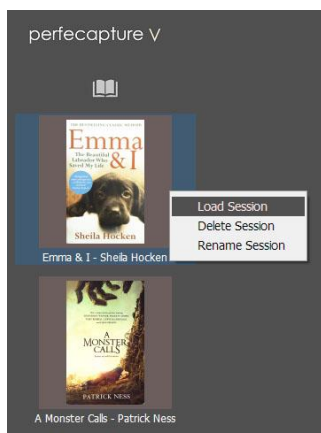
After entering the Edit Mode (by clicking on any thumbnail), an additional column of buttons will appear next to the main buttons. This is the Edit Panel which contains all the buttons for editing and exporting functions.

3. Thumbnail Panel

The thumbnail panel shows either previously saved sessions or the scanned pages within a session.

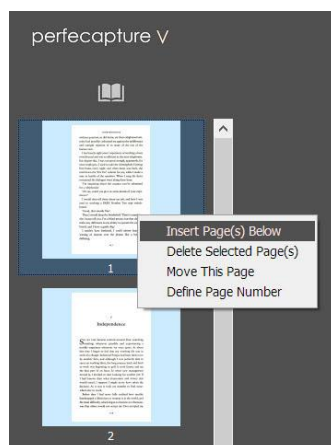
3.1 Tools for managing sessions or pages

Immediately upon launch, the thumbnail panel is either empty or shows previously saved sessions.



Right-clicking any session allows you to load, delete or rename the session.

After loading a session or entering a new session (i.e. by capturing a first scan), the thumbnail column will then show the scanned pages within the new or loaded session.



Right-clicking any page allows you to insert, delete, move or define the page.

Right-click near the top of a page to insert pages above it and right-click near its bottom to insert pages below it.

3.2 Appearance and usage at different modes

There are 2 types of thumbnail panels – the single column and the dual-column thumbnail panels.



The single column thumbnail appears when scanning in dual-page capturing mode or in the single-page random capturing mode.

Pages appear in the same sequence as the scan sequence. If the pages are saved as a multi-page file such as multi-page PDF, the saved page sequence shall be the same as the scan sequence.



The dual column thumbnail appears only when scanning in the single-page contiguous capturing mode.

In this mode, all pages at one side are scanned first, followed by all the pages at the opposite side.

For example, click the button at the top of the left column and proceed to scan all the left pages (from the front to the back – e.g. pages 1, 3, 5, 7). After all the left pages are scanned, click the button at the top of the right column and proceed to scan all the right pages (from the back to the front – e.g. pages 8, 6, 4, 2).

The pages will be automatically arranged accordingly during saving to a multi-page file.

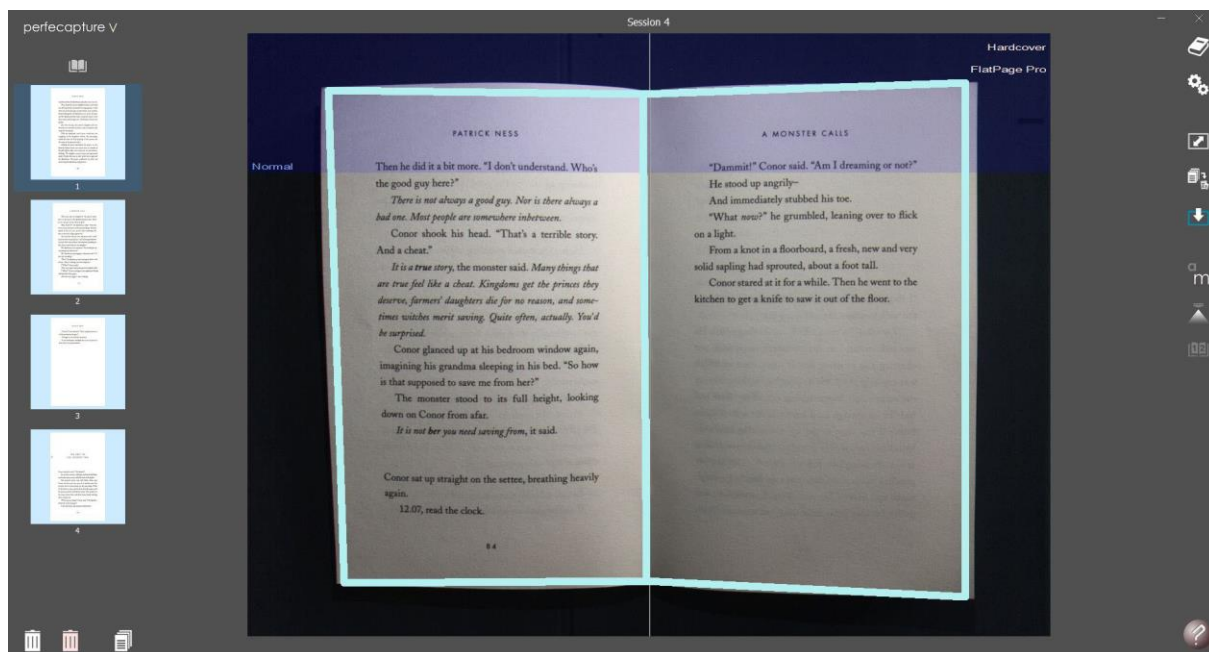
4. Preview/Edit Window (PE Window)

Immediately upon launch, the Perfecapture will be in preview mode, whereby the PE window shows the live video stream from the camera indicating the scan area.

When in edit mode, the PE window shows the enlarged scanned page corresponding to the selected thumbnail.

4.1 Appearance and function during preview mode

Depending on the base function selected (i.e. sheet, book single-page, book dual-page), a scanned subject placed wholly within the scan area is automatically detected. A detected item will have a 'page frame' surrounding it.



A semi-transparent band at the top indicates the 'forbidden zone'. Any content that is glossy (i.e. glossy paper, certain ink or embossed printing) placed within the forbidden zone will produce an unwanted glare which should be avoided. The forbidden zone's area changes with the camera angle – the steeper the camera angle, the smaller the forbidden zone becomes. As a general rule when scanning

glossy pages, adjust the camera angle until the forbidden zone changes color to orange and the word on the left of the zone turns from 'Normal' to 'Gloss'. Then place the glossy page outside the orange forbidden zone, or as far away from it as possible.

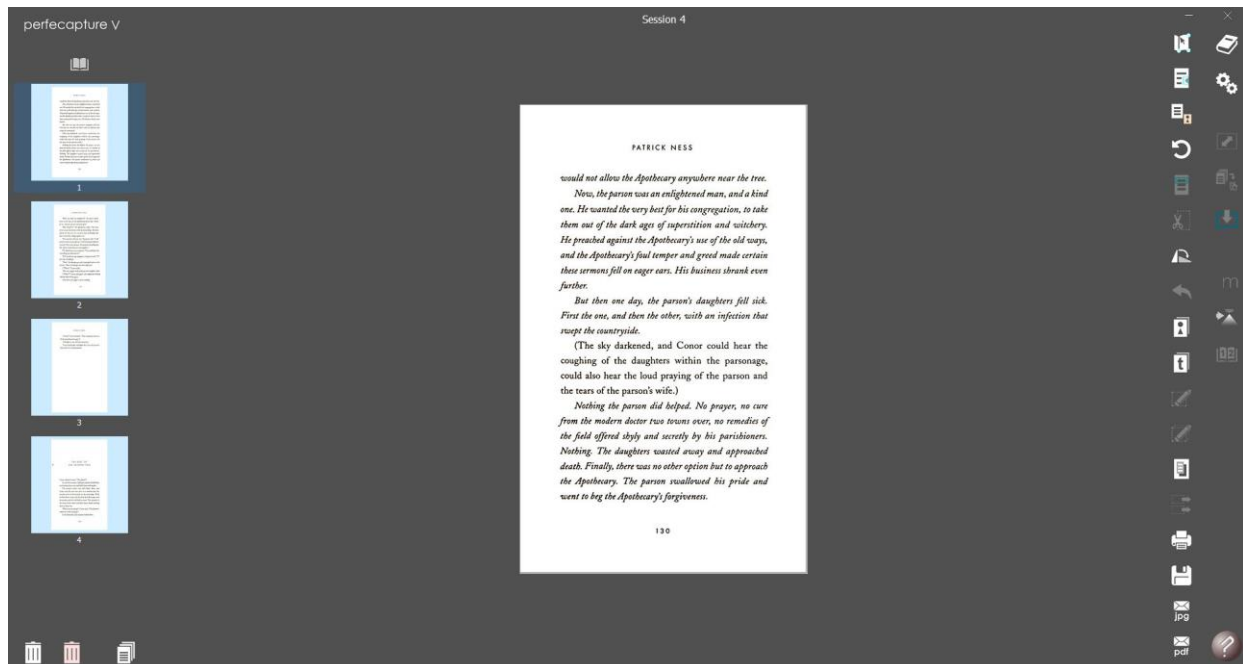
At the top-right of the preview window also has wordings to indicate certain scan settings (refer to section 5.2 describing Settings).

A blinking colored bar would also be displayed at the top-center of the preview window indicating that capturing is in automatic mode (refer to section 5.7 describing capturing modes). The color of the bar further indicates whether Flash-shutter capturing is turned ON or OFF - a blue colored bar means it is ON, and a beige colored bar means it is OFF.

Right-clicking anywhere within the preview window will also launch the "Quick-settings" dialog, providing an easy and quick way to set certain scan settings.

4.2 Appearance and function during edit mode

By clicking on any thumbnail, the Perfecapture switches into Edit mode, and the PE window now shows the enlarged version of the selected thumbnail.



Point anywhere within the PE window and use the scroll wheel of the mouse to zoom in or out. To pan, right-click on any part of the image, hold and drag.

To select a certain area of the page, left-click, hold and drag. This is used when cropping or highlighting a certain area. It is also used when copying a certain area to the clipboard, or when manually removing finger images (refer to section 6 for details). To easily select the whole image, double-click anywhere within the PE window.

5. Main Control Panel

5.1 Selecting the operation mode

The Perfecapture comes with 4 operation modes:

- Scanning sheets
- Scanning books
- Scanning business cards
- Video recording



Before starting a scan, select the operation mode by clicking the “Operation Mode” button. This mode cannot be changed once the first page is scanned. To change the mode after a scan, all pages on the thumbnail have to be deleted.

5.2 The Settings Panel

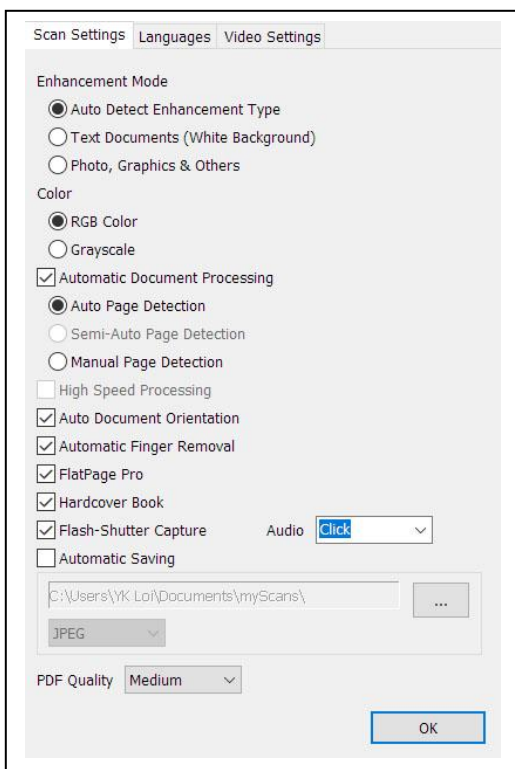


Click the “Settings” button to launch the Settings dialog. Various functionalities can be turned ON or OFF in this dialog. There are 3 tabs on the Settings dialog:

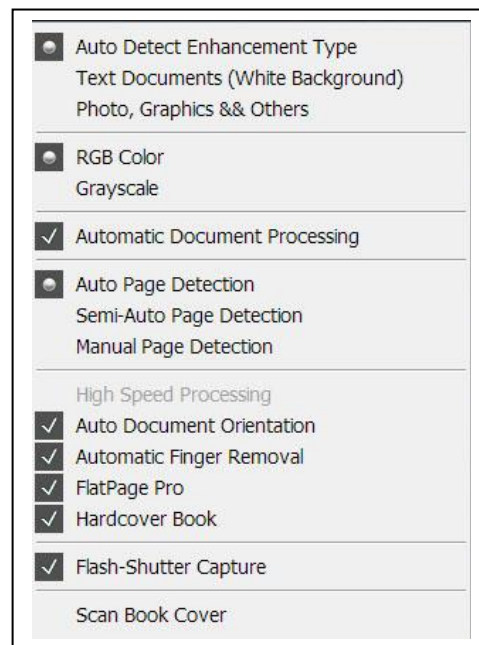
- Scan Settings
- Languages
- Video Settings

Scan Settings

The Scan Settings tab has the settings that affect the scanning process. Most of the scan settings can also be accessed by the “Quick Settings” dialog by right-clicking anywhere on the Preview window.



The Main Settings dialog showing the Scan Settings tab



The Quick Settings dialog - note that the “Scan Book Cover” mode is only accessible here.

Enhancement mode:

- When scanning pages with a plain background and containing mainly text, select the Text Document enhancement. It increases the contrast of texts and cleans the page background of shadows, bleed-through and unevenness.
- When scanning graphics or photographs, select the “Photo and graphics” enhancement to preserve subtle shades and background details.
- Alternatively, you may select Automatic enhancement to let Perfecapture’s algorithm decide which is the best enhancement to use for each page.

Color:

Select RGB color for full color scans, and Grayscale for non-color scans using varying shades of black and white.

Automatic Document Processing:

Turn this ON to apply automatic processes to the scanned image such as digital page flattening, crop and rotate. Turn this OFF only in cases whereby raw photographs without any processing are required. When turned ON, there are 3 options to select from:

- Auto Page Detection – automatically detects a page once the scan subject is placed within the scan area
- Manual Page detection – user defines the 4 corners of a page manually by clicking on them on the preview window. Use this in case there is difficulty in automatically detecting pages accurately.
- Semi-auto Page Detection – This is only available when scanning in single-page book mode. Use this when scanning pages with ink printed until the edges of book pages. In this mode, the book gutter has to be accurately aligned to the orange guide line in order for it to crop near the gutter. Note that digital page flattening will not be performed in this mode (i.e. pages have to be physically flattened).

High Speed Processing:

This applies only when scanning sheet documents. When turned ON, processing of each page becomes significantly faster. However, more advanced processes are disabled, such as background enhancements, precision cropping (i.e. rough cropping is applied) and finger image removal. Turn this ON when processing speed is of higher priority than the scan quality.

Automatic Document Orientation:

When turned ON, Perfecapture will automatically orientate pages based on their text content. However pages may not be correctly orientated if they have no or very little text. In these cases, turn OFF automatic orientation and the resultant scan orientation will follow the page orientation as seen on the preview window (refer to section 5.6 – Preview Orientation).

Automatic Finger Removal:

Automatically removes finger images. In cases whereby fingers are not used to hold down pages, turn this feature OFF to speed up image processing.

FlatPage Pro:

FlatPage is the digital page flattening algorithm of Perfecapture. FlatPage Pro is the more advanced version of the FlatPage Basic. Turning OFF FlatPage Pro will result in the usage of FlatPage Basic which performs the basic page flattening at a higher speed. Turning ON FlatPage Pro performs additional processes which produce perfectly straight text sentences, paragraph edge straightening and content centering.

Hardcover Book:

Turn this ON when scanning books with hard covers. Hard covers tend to interfere with page cropping and digital flattening and therefore requires additional processing. However when scanning books with soft covers, turn this OFF to reduce processing time.

Flash-Shutter Capture:

Perfecapture 5 is able to capture with or without the built-in Flash-Shutter mechanism. The Flash-Shutter system produces better image quality by blocking disturbing ambient lighting and is suitable for use when indoor lighting is strong and/or scanning reflective glossy pages. However when scanning in places where flashlight is prohibited (i.e. certain archives or libraries), or when there is no/weak indoor lighting, turn OFF the Flash-Shutter system and capture in flash-less mode. Flash-less capture is faster, uses less power and lengthens the scanner life.

When scanning in flash-less mode, an audible beep can be produced to signal the completion of a capture. You may select the type of beep that suits you under the 'Audio' selection. This audible beep is produced via the computer's speaker.

Automatic Saving:

Files may be automatically saved into a folder of your choice without manually having to name and save them. If needed, turn this feature ON and choose the destination folder for the scans to be saved.

Different file types may also be chosen – JPEG, TIFF, PNG or PDF OCR. Note that for PDF OCR, only single page PDFs can be generated, and they are created only upon exiting the Perfecapture.

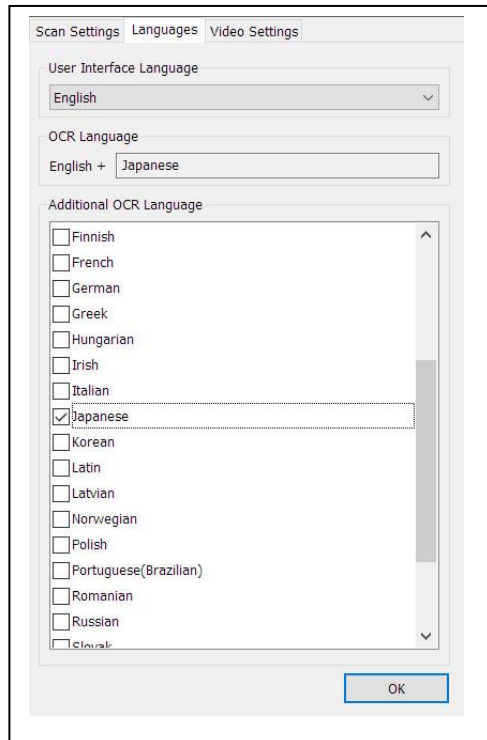
PDF Quality:

The scan quality of the output PDF files are by default "Medium". If smaller file size is of higher priority, try out the "Low" setting. On the other hand if better quality is preferred, choose "High" quality.

Scan Book Cover (accessible in Quick Settings only):

This function allows scanning of book covers while in the book scanning mode so that book cover images and book's content pages can be saved together in the same multi-page PDF file. This function can only be turned ON at the Quick Settings dialog (by right-clicking the Preview Window). To scan the front (or back) covers, just place the whole book within the scan area. After scanning the book cover, it will automatically return to normal book scanning mode.

Languages



User Interface Language

The user interface's language can be changed. Once changed, the Perfecapture has to be closed and re-launched in order for the selected language to take effect.

OCR Language

The Perfecapture has a built-in OCR engine which converts images of text to editable and searchable text. The OCR engine is able to detect the English Language plus another additional language which is selectable from a list.

Video Settings



Anti Flicker

The live video preview display may occasionally contain 'flicker' effects (which appear as periodic horizontal lines) when the xcanex is used under indoor lighting. This is due to the lighting's periodically varying brightness in accordance to the AC supply which powers it . To prevent these lines from appearing in the live preview, select the frequency of your local household power supply (either 50 or 60 Hz).

5.3 Launching document camera mode



The live video preview can be switched into the document camera mode, whereby the video goes into full-screen for projection purposes. Additionally, the live video can be zoomed using the mouse's scroll wheel, and panned by holding either the left or right mouse button. Note that scanning and all other functions are disabled while in this mode. Click the top-left arrow to return to the scan mode (or press the 'Esc' key) or the top-right dash icon to minimize the whole user interface.

5.4 Scanning contiguous or random pages in Single-Page mode

Click the "Page sequence mode" button to toggle between the Random and Contiguous modes.

Random page sequence



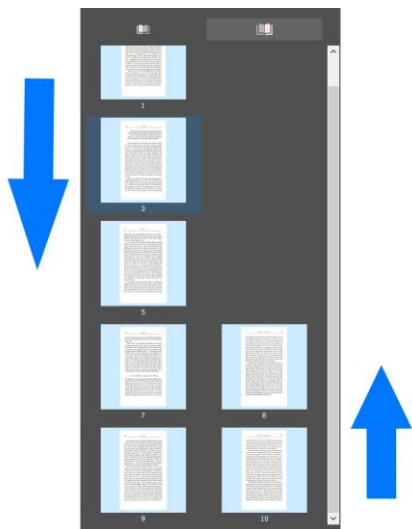
There is just a single thumbnail column. Any page (left or right) can be scanned at any time and the saved page sequence follows the scan sequence. Pages are not resized to be the same while saving to file to allow scanning of pages with different sizes. Use this mode when collecting scattered research data from multiple sources.

Contiguous page sequence

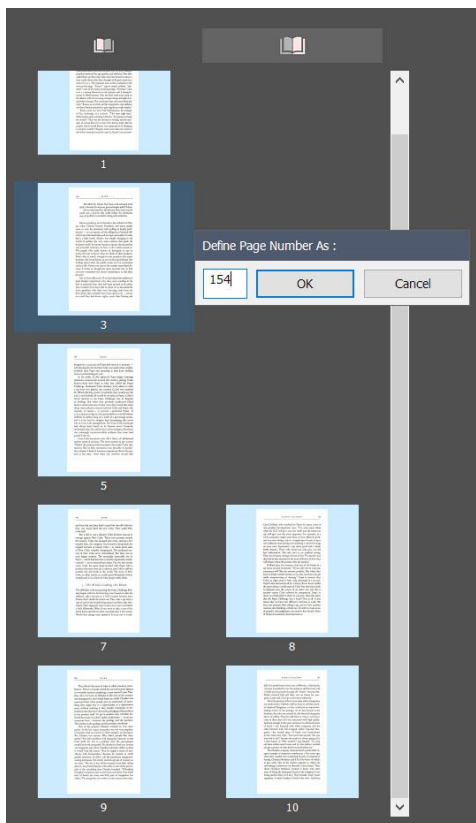


Use this mode when all pages from the same book or section are to be scanned. 2 thumbnail columns will appear representing the left and right pages. If the book, section or chapter's first page is on left, start scanning all the left pages first, followed by all the right. However if the first page is a right page, scan all the right pages first followed by all the left pages. Pages are automatically re-arranged and re-sized upon saving to file.

Scanning left pages followed by the right pages (1st page is on the left)

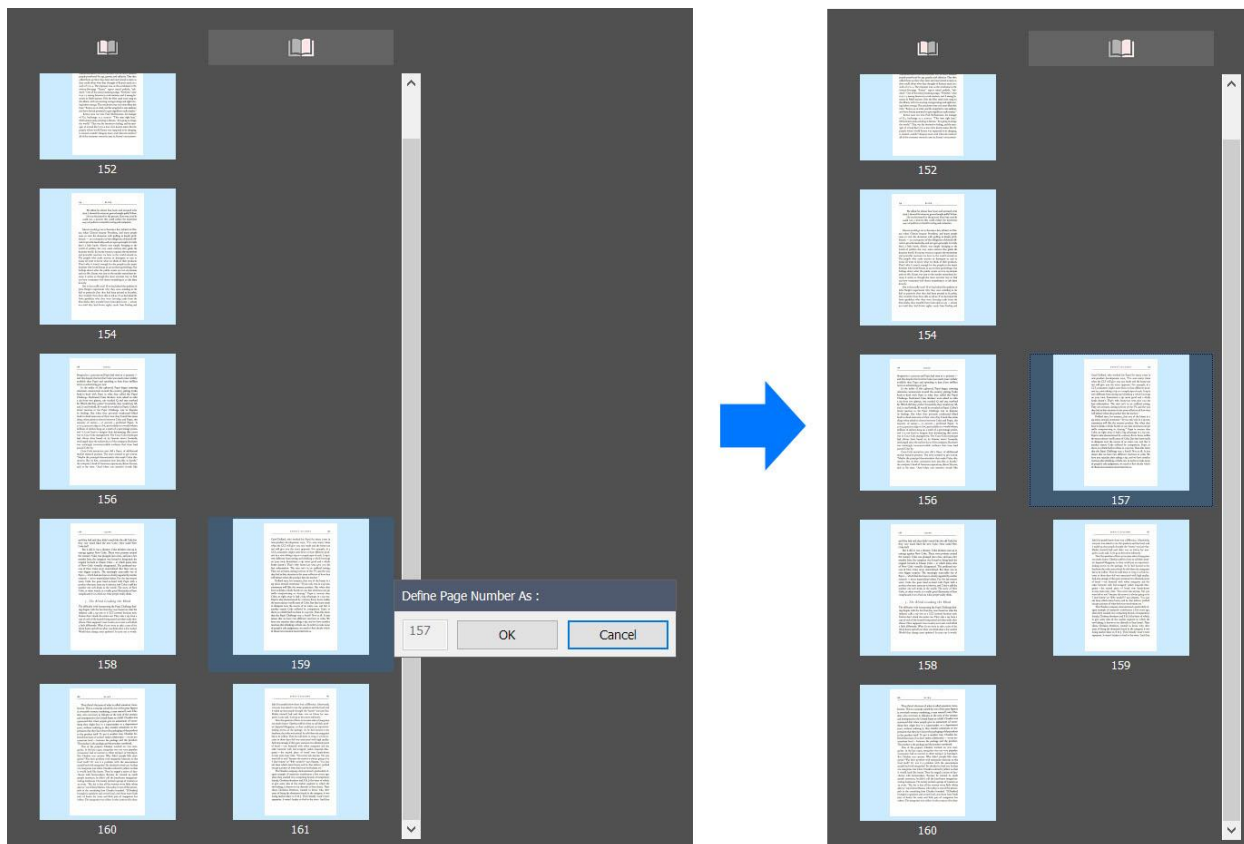


To start scanning the left pages, click the button on top of the left thumbnail column. Scan all the left pages from the first page until the last left page. After all left pages have been scanned, click the button at the top of the right column, rotate the book, and proceed to scan all the right pages from the last until the first page.



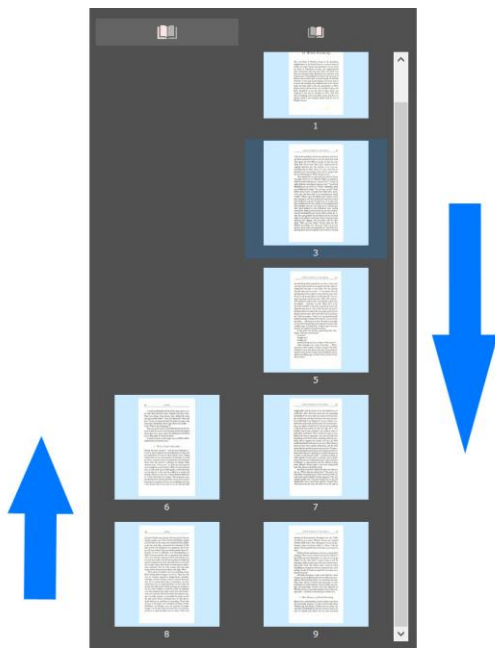
For easier page navigation, you can define the thumbnail numbers to be the actual physical page number by right-clicking on any thumbnail on the left column.

After defining the thumbnail numbers on the left, check if the thumbnail numbers on the right matches the physical page numbers – if not, the right column can be shifted up or down by defining any page at the right column. In the following example, the selected right page is changed from page 159 to page 157 in order to match the right thumbnail numbers to the physical right-page numbers.

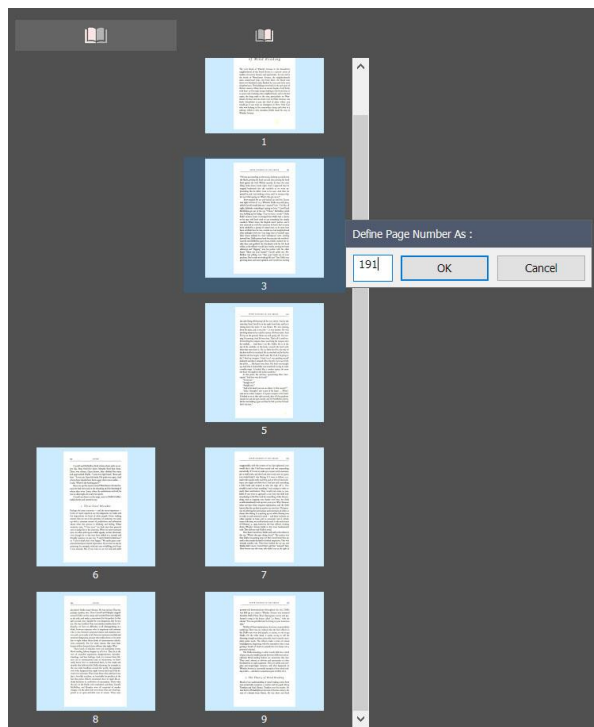


In this example, the entire right column shifted up relative to the left column after defining the right page thumbnail number from 159 to 157. Note that any page on the right can be re-defined to shift the right column up or down to match physical page numbers.

Scanning right pages followed by the left pages (1st page is on the right)

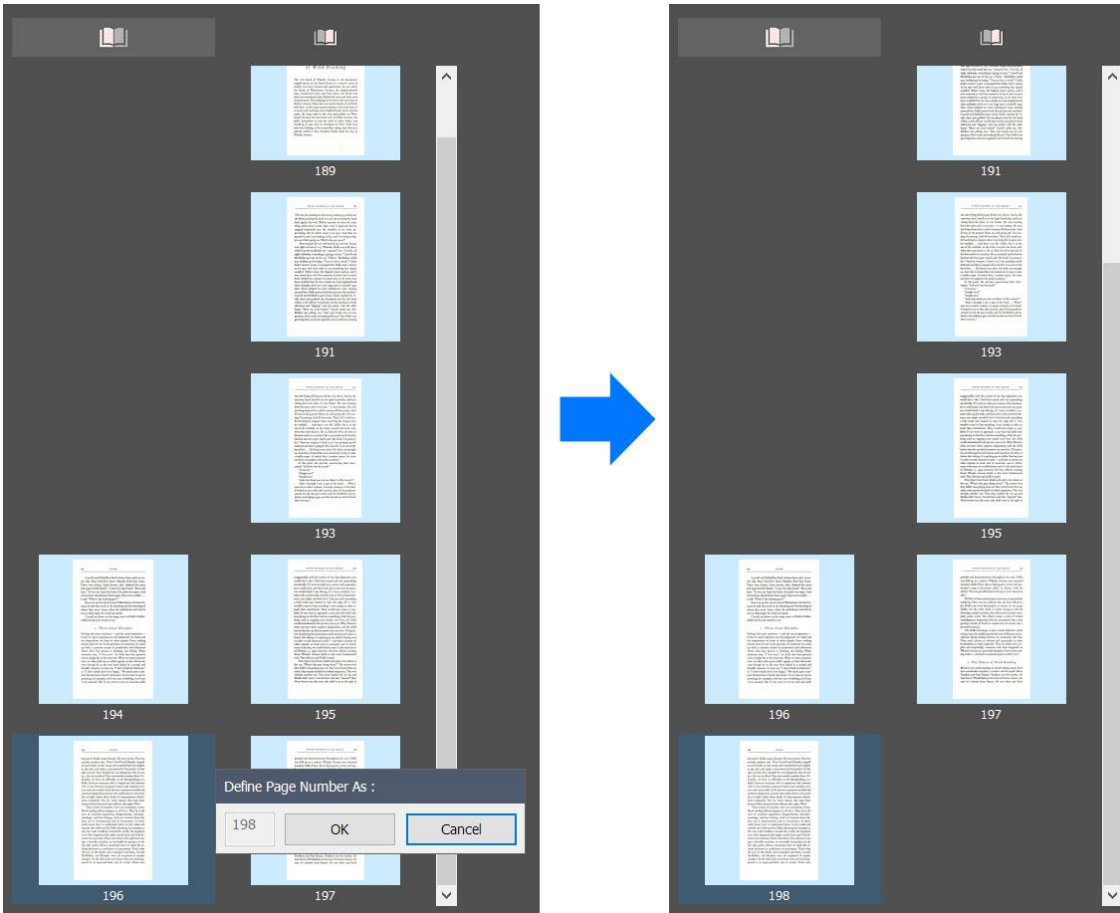


To start scanning the right pages, click the button on top of the right thumbnail column. Scan all the right pages from the first page until the last right page. After all right pages have been scanned, click the button at the top of the left column, rotate the book, and proceed to scan all the left pages from the last until the first page.



Define the thumbnail numbers to be the actual physical page number by right-clicking on any thumbnail at the right column.

In case the left column's thumbnail numbers do not match the physical page numbers, shift the left column up or down by defining any page at the left column. In the example below, the selected left page can be changed from page 196 to page 198 in order to match its actual physical page number.



In this example, the left column shifted down relative to the right column after defining a left page thumbnail number from 196 to 198. Note that any page on the left can be re-defined to shift the left column up or down to match their physical page numbers.

5.5 Scanning single or multiple books in Dual-Page mode



When scanning from a single book within a session, use the “Single Book” mode. Pages will be automatically re-sized to be exactly the same while saving to a multi-page file.



When scanning from a multiple books of various sizes within a session, use the “Multiple Books” mode. Pages will not be re-sized while saving to a multi-page file.

Since these modes only affect re-sizing of pages during saving to file, it can be changed at any time before saving.

5.6 Scanning single or multiple sheets per capture



This applies only when scanning sheets or cards. Click this button to switch from scanning a single sheet per capture to scanning multiple sheets per capture (1 or 2 in Sheet mode, 1, 2, or 4 in Card mode) and vice-versa.

A line will appear in the preview window, separating it into 2 segments. Place a document within each segment to capture both simultaneously. In the Business Card mode, the scan area can be further separated into 4 quadrants to scan 4 cards within a single capture.

5.7 Preview orientation



This button rotates the preview window’s orientation to match the scanner’s facing direction so that what appears in the preview matches the actual orientation of the physical page.

The arrow on the button icon represents the scanner module and green rectangle represents the scan pad. Select the button according to how the scanner/pad is placed. For example, when scanning in the single-page mode, place the xcanex facing your right to allow easy flipping of pages. In this case, choose this preview orientation:



5.8 Automatic or manual capturing



Select automatic capture if you would like the Perfecapture to automatically capture upon detecting the presence of an open book within its scan area. When in automatic mode, a blinking bar is displayed at the top of the preview window. Maintain constant motion when setting the book and flipping pages. Once the page is set, keep still for a split second and capture will initiate by itself. Move the book or document slightly out of the preview window to pause scanning.

Switch to manual capture for taking pictures of objects or items that cannot be automatically detected. Initiate a capture by tapping the spacebar or clicking the “Capture” button.

Automatic or Manual capturing mode can also be toggled by pressing the “A” key of your keyboard.

5.9 Switching book scanning modes



Clicking the book mode button will cycle from the Single-page to Dual-page (left to right), to Dual-page (right to left), and back to the Single-page mode.

Single-page mode



Single-page mode allows capturing of a single book page at a time. This mode does not require the book to be fully opened (i.e. the opposite page that is not scanned can be held vertical or semi-vertical). Therefore it is useful when scanning books that are fragile or very tightly bound. Also use the Single-page mode when scanning larger pages (> 6 x 9 inches per page) whereby both pages cannot fully fit within the xcanex’s scan area.

In this mode, 2 guide lines will appear in the preview window. Place the book’s gutter in between these 2 guide lines and the page will be detected.

Dual-page (left to right) mode



Use this mode when scanning both book pages simultaneously. Place the book gutter approximately around the center vertical line and hold both pages open using fingers if necessary. “Left to right” means the book’s pages start on the left and ends on the right. Therefore the left page will be placed on the thumbnail before the right.

Dual-page (right to left) mode



Use this mode if the book to be scanned starts on the right and ends on the left (e.g. for most Japanese and some Chinese books). The right page will then be placed on the thumbnail before the left.

5.10 Launching the Help Center



The Help Center contains concise tutorial videos to help users master the xcanex within the shortest time. Go through these videos to effectively and efficiently utilize the full potential of the xcanex bookscanner. Also accessible via the help center are the xcanex main user’s manual and this software guide.

5.11 Functions in video recording mode



Autofocus – click this button to re-focus after adjusting the camera



Flip vertical – flips the video display vertically to cater for portrait (i.e. camera pointing towards person/scenery) or desktop (i.e. camera pointing downwards) recording.



Starts and stops recording.

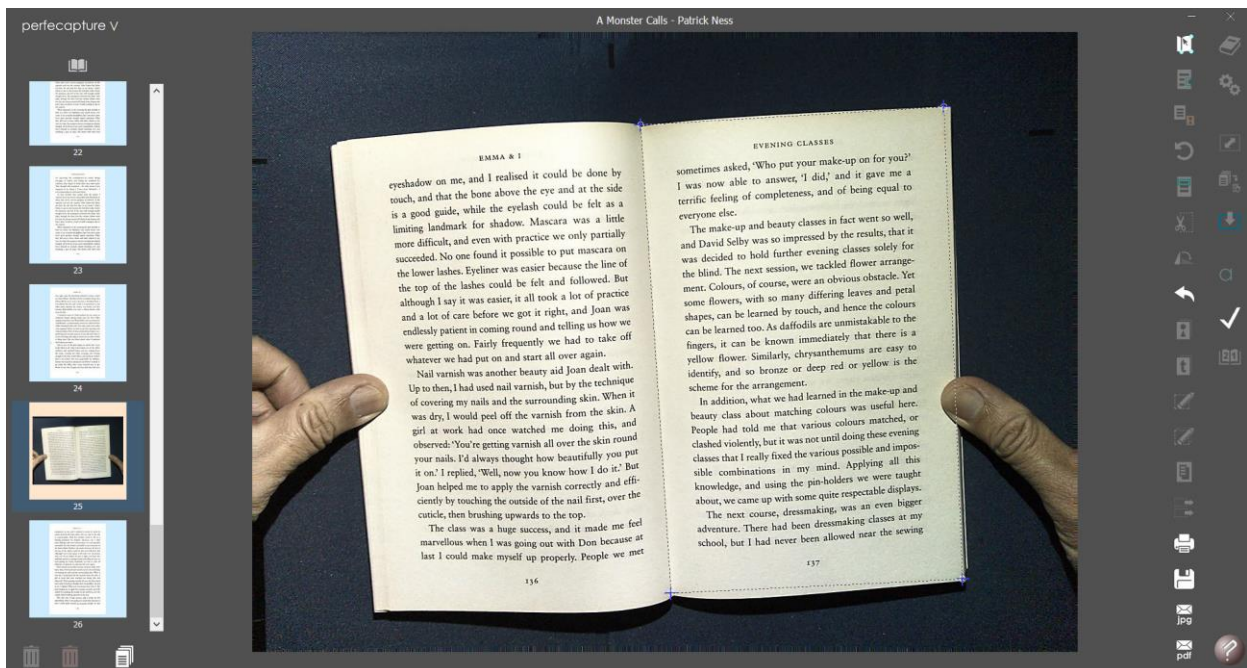
6. Edit and Export Panel

The Edit and Export Panel contains all the buttons for you to control the editing and exporting functions. These buttons appear when you click on any processed page on the thumbnail. They are hidden when in the Preview mode and when an unprocessed page is selected.

6.1 Re-processing pages



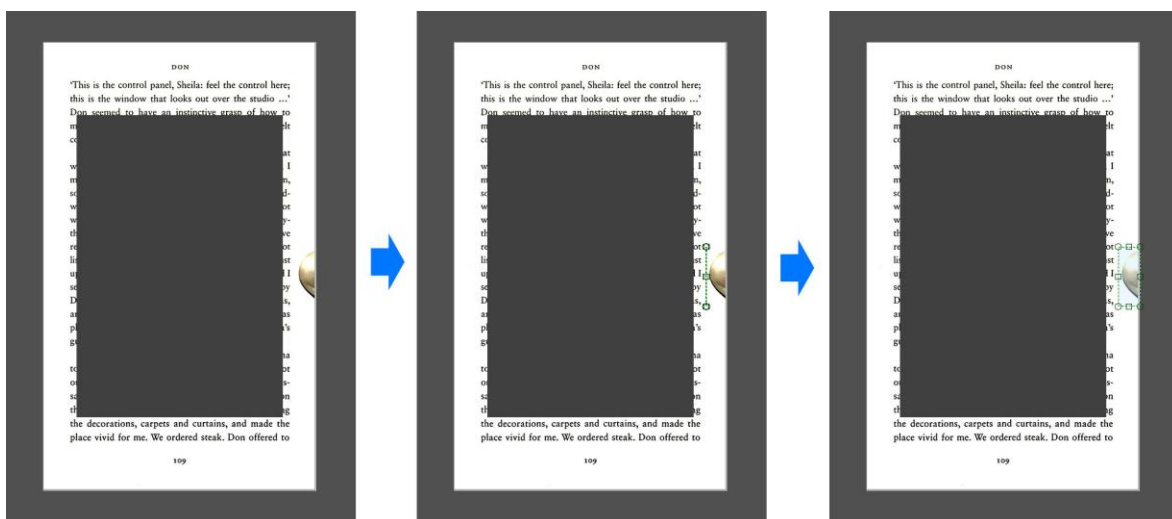
Some pages may not be optimally processed (i.e. cropping or digital page flattening) due to disturbances within the image. Instead of re-scanning them, you may try re-processing them by defining their page corners. Click the “Define Document” button and the raw image for the selected page on the thumbnail will appear on the Edit Window. Click or re-adjust the 4 corners of the page to re-define the page and then click the check mark to re-process it.



6.2 Manually removing finger images



Images of fingertips used to hold the book open when capturing are usually removed automatically. However they may not be removed or totally removed due to disturbances from shadows or improper finger positioning. In these cases, they can be manually removed by first clicking on the “Remove Finger” button. A dark rectangle will then appear in the center of the page, leaving a margin around the page for finger image selection. Using the mouse, simply drag and draw a frame around the finger image. A simpler way is to draw a line across the region of the finger image and let go of the mouse button – the line will automatically expand until the edge of the page to enclose the finger image. Repeat this for all other finger images within the same page or any other pages. After all finger images are selected, click the check mark to remove them.



6.3 Toggling image enhancement modes



There are 2 types of image enhancements – Document and Photo :



Document enhancement cleans the page background and increase the sharpness and contrast of text. Choose this when the page contains mostly text with a plain background.



Photo enhancement preserves graphical details and subtle shades while increasing color vividness and accuracy. Choose this when the page contains mostly graphics.

Select any processed page on the thumbnail and click the “Enhancement Mode” button to toggle between the Document and Photo modes. Effects of either mode can be seen immediately on the enlarged Edit Window upon clicking.

6.4 Undoing image processing



If the raw image of a processed page is required, click on the “Undo Processing” button. Note that this does not re-process the image in any way (To re-process a page, see section 6.1 – Re-processing Pages).

6.5 Digital highlighter



This tool enables any part of a page to be highlighted, just as what a physical highlighter would do on paper. Left click and drag the mouse to select the area to be highlighted and click the “Digital Highlighter” button to highlight the selected area.

6.6 Cropping pages



The cropping tool enables a page to be cropped. Left click and drag the mouse to select the area to be cropped and click the “Crop” button. **Tip:** To easily crop away unwanted page edges, firstly select the whole page by double-clicking anywhere on the page in the Edit Window. Next, simply drag any edge of the selection frame inwards to define which area to be cropped away.

6.7 Rotating pages



Clicking this button will rotate the page 90 degrees clockwise.

6.8 Undoing the last process



If a process (i.e. crop, highlighting) is accidentally performed or if its result is not as expected, the last process can be undone by clicking the “Undo” button.

6.9 Copying images directly onto another application



This tool enables a whole page or section of a page to be copied and pasted onto another app, such as emails, presentations or reports. Left click and drag the mouse to select the area to be copied and click the “Copy Image” button. Once clicked, the image is stored immediately onto the Windows Clipboard and you can paste it on any other open application which supports typical pasting (i.e. ctrl-V or right-click -> paste).

6.10 Copying text directly onto another application



This tool instantly converts images of text into real editable/searchable text (OCR), so that they can be pasted directly into another app, such as emails, presentations or reports. Left click and drag the mouse to select the area with the desired text content and click the “Copy Text” button. Any text image detected within the selected area is then converted and stored immediately onto the Windows Clipboard and you can paste the decoded text on any other open application which supports typical pasting (i.e. ctrl-V or right-click -> paste).

6.11 Clearing selection frames



Click the “Clear” button to remove any selection frame in the Edit Window. (a selection frame is created by left-clicking and dragging the mouse across the Edit Window before processes such as cropping, highlighting or finger image removal). To remove multiple selection frames all at once, click the “Clear All” button.

6.12 Launching and using the Canvas



Clicking this button will launch an empty page as a separate window. Sections from any page can then be copied and pasted onto it which serves as an effective data picking tool. Firstly select the area to be copied by left-clicking and dragging the mouse across the page. To copy the area to the canvas, click and hold the selection frame and drag it across onto the canvas and release the mouse button. These pasted sections can be re-arranged and resized on the canvas and be saved as a single or multi-paged file.

6.13 Transferring all selected areas to Canvas



To copy multiple selections to the Canvas all at once, click the “Move All” button.

6.14 Direct Printing



Any page can be directly printed on your printer by clicking the “Print” button. This feature serves as a handy copy machine that is able to make copies of any document, photo or book page quickly and easily.

6.15 Saving Pages to Files



Click the “Save” button to save pages to a multi-page file or multiple single-paged files. The file saving dialog will then appear for you to choose the file format and where the file is to be saved. The Perfecapture supports most of the widely used file formats:

- JPEG, BMP, TIFF and PNG: supports single page only.
- Multi-page TIFF: supports multi-pages (no OCR).
- PDF : single or multi-page (no OCR)
- PDF Text OCR : single or multi-page
 - images of text are decoded to pure text format and the original image is discarded
- PDF Image OCR : single or multi-page
 - original images of text are preserved. Images of text are OCR decoded with the decoded data stored in the background for copy-pasting and keyword searching.
- MS-Word and RTF : single or multi-page
 - text are OCR decoded as editable text
 - images are preserved as sections

Saving of multiple pages with OCR takes a longer time. To minimize the Perfecapture app during this time, click the bottom right corner of the Windows Desktop or the Perfecapture icon on the Windows Taskbar.

6.16 Attaching scans to emails



Click this button to automatically open a Microsoft Outlook email and attach the selected page as a JPG file on the email.



Click this button to automatically open a Microsoft Outlook email and attach the selected page as a single-page PDF file on the email.

To copy images or text directly onto an email (i.e. not as file attachments), refer to sections 6.9 and 6.10.