



Page Improver® is a software for automatic image processing of scanned pages and a fundamental production tool for digitization of books and bound documents. It is the ideal complement to any book scanner, reducing substantially operator interventions on image processing and simplifying scanning process.

It is designed for fast processing sequential images of scanned pages from books, magazines and newspapers, but also from lose sheets. It produces a set of typical treatments that are necessary to prepare pages for OCR and for online publishing.

Key features include ability to automatically follow evolution of pages as they shift and rotate under the camera over time of scanning. Detecting precise position of binding and dimensions of pages to split pages and crop outer borders is done with an extraordinary precision.



Source images

While a single sheet document is usually scanned by a single camera scanner, a bound document may be scanned with a single camera or with a dual camera scanner.

Artifacts

Typical artifact

- dark border around the page
- visibility of binding
- shadows of page curvature close to the binding

Typical defect

- dark page background
- skewed text (usually due to rotation of page or print)
- bleed through (transparency from the rear side of page)

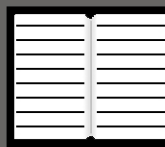
Page Improver® removes these artifacts and defects, to enhance aspect and readability of document.

Page Improver® is able to handle very large source images, such as color scans of newspapers for example : A2 format and 800 Mb per page.

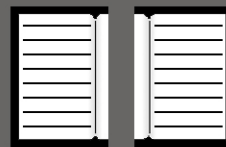
Source images are usually raw image scans of pages presenting artifacts and defects.



single page



2 pages on 1 image



2 pages on 2 images

Image treatment is highly optimized for speed with no compromise on quality. Processing a book is usually faster than scanning it, that allows running Page Improver® in parallel with the book scanning task.

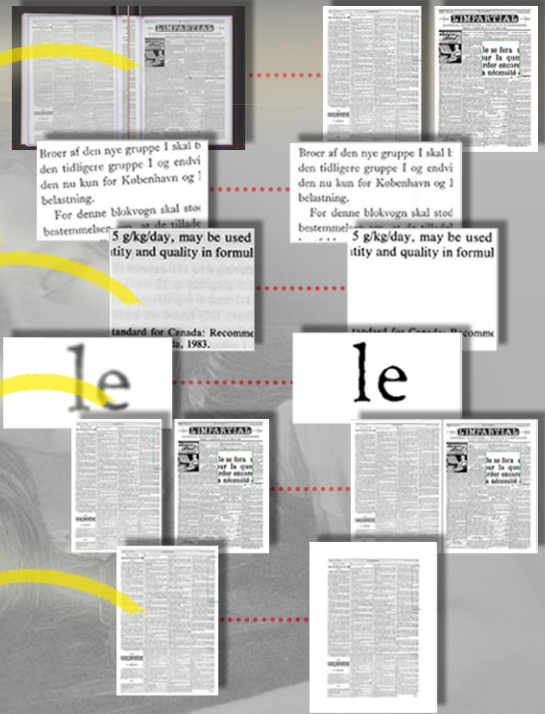


Improvements on pages

Split	Separates left and right pages in two images depending on position of binding.
Crop	Takes away black borders and artifacts associated to visible binding.
Deskew	Corrects page rotation to reach horizontal text lines. Works with grayscale and color images, on pages with smaller amount of text, pages with graphics and pages with tables.
Clarify	Clarifies page background by removing darkness of aged paper. Corrects character thickness and contrast of photos
Unbleed	Removes print artifacts that appear in transparence from rear side of the page.
Resize	Resizes pixel matrix and corrects DPI factor. Allows scanning at fixed resolution but providing images in other resolutions.
Oversample	Improves aspect of text by smoothing edges and removing stairs artifact when converting to B&W bitonal.
Threshold	Converts images to B&W bitonal, for monographs or books that include only text and line art images or gravures
Join	Assembles two images of left and right pages to make a dual page image.
Canvas	Applies selected canvas size to all images of document, resulting in uniform page format output.
Center	Centers horizontally content of pages on canvas. to present left and right pages in uniform aspect.

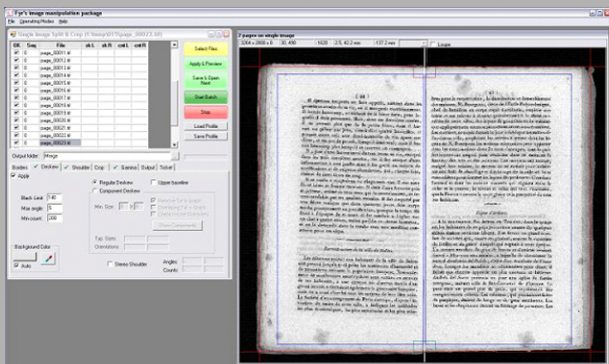
Before

After

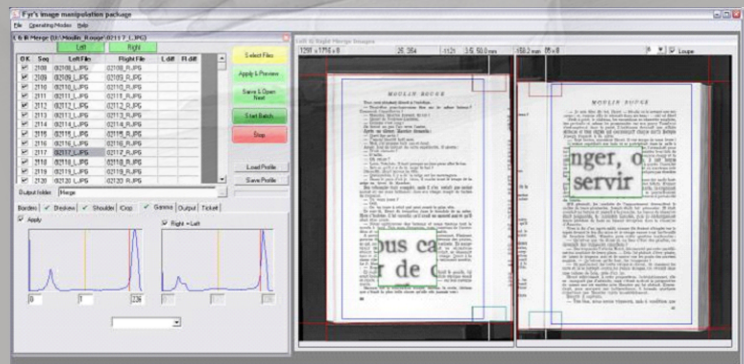


User Interface

Page Improver® has a page navigator, image treatment setup window, input preview and output preview panes with lens.



left and right pages on 1 image



left and right pages on 2 images

Other Features

On a multi-processor system, a single license allows to run multiple instances of Page Improver® to simultaneously process several books.

Page Improver® may work in "page by page" (attended mode) or in "batch process" (unattended mode). Page by page allows fine tuning image treatment on page level while batch mode runs same settings on a whole set of pages.

Presets may be stored in profiles with all configured settings for a book that represents a typical collection. This profile may be used for processing all books of this collection.