

ATAPY ImageControl Component

ATAPY ImageControl is a visual software development component intended for enriching software applications with advanced functionality for image display and pre-OCR image zoning.

Features

ImageControl offers the following features:

Image display

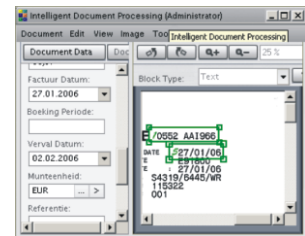
- Zoom
- Scrolling
- Several image display modes: full page, fit to width, fit to height, zoomed view



- Excellent zoom quality; on pages zoomed to 1-5%, the components beats many contemporary image editors, such as ACDSee. On a newspaper page, after zooming it to 5%, it's still possible to make out the page layout
- High, comfortable scrolling speed
- Wide array of configurable properties:
 - Main window: background color, upload background image from file
 - Block properties
 - Zoom properties: speed, max./min. zoom
- Convenient multi-page document navigation: jump to first/last page, etc.

Pre-OCR image zoning (drawing recognition blocks)

- Blocks placement: manual (via GUI), or programmatic (via API)
- Block moving
- Block deletion
- Cropping image to block borders
- Editing block properties:
 - Type (text block, picture block, table, barcode, checkmark, etc.)
 - Visibility, ability to edit (drag, size)
 - Block coordinates on the image
 - Block background color
 - Block name (caption) and reference number (index)
 - Border color/thickness, color/typeface of all text captions
 - Tooltip text displayed



- A number of useful program events: on opening new image, on properties changing, on various mouse/keyboard actions
- Adjustable mouse behavior: configurable context menu, setting mouse mode for working with blocks (draw, select, disabled, etc.), showing tooltip on hover
- A range of comfortable hotkeys for basic operations (zoom, block deletion, etc.)

Areas of Use

Image clipping and data entry systems

ImageControl can be used to implement a user-friendly interface for:

- Manual image compilation/processing (for example, media clipping)
 - Manual data entry/indexing/proofreading
- ImageControl may also be used to highlight certain areas on the image according to the coordinates passed via API. This provides a useful add-on feature for:
- Automatic pixel-by-pixel comparison of two images (highlighting the areas that differ)
 - Search and extraction of certain graphic elements: logos, pictures, barcodes, etc. (element highlighting, crop to element)

Document management systems with OCR functionality

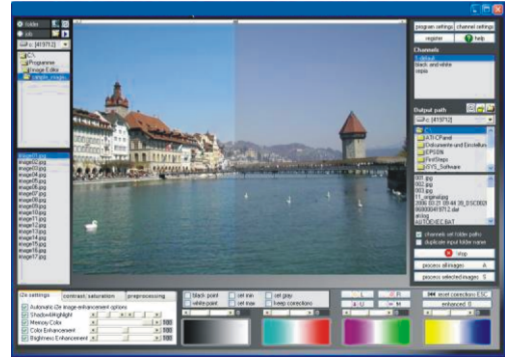
ImageControl can be applied at OCR preprocessing and post-processing phases for:

- Automatic image zoning according to pre-set coordinates
- Manual image zoning (manual blocks drawing on the image)
- Mapping data to the corresponding fields for subsequent phases (OCR, validation)
- Manual data verification: highlighting blocks in color according to block type, showing/hiding blocks depending on operation mode, etc.



Basic-level image manipulation packages

ImageControl may be used to enrich image editor applications with basic display features: zoom, scrolling, and view options (full page, fit to width, fit to height, zoomed view).



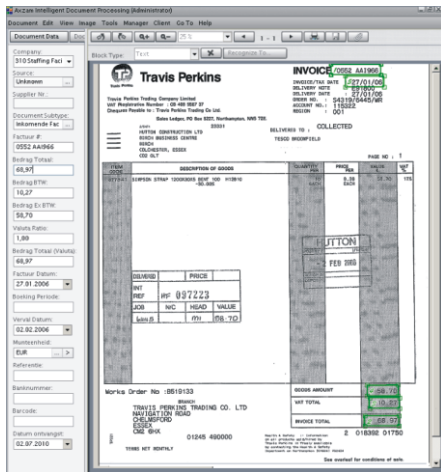
Supported Image Formats

ImageControl works with a variety of image formats, including multi-page TIFF and JPEG 2000. The component allows convenient processing of images of all sizes, including large-format ones (A0). Supported image file formats:

BMP JPEG PNG
 GIF JPEG 2000 TIFF (including multi-page TIFF)

An Example of Using ImageControl to Implement a Specialized User Process

The AXZAM Intelligent Document Processing System is intended for working with documents of complex structure (invoices, credit notes, expense notes, timesheets, resumes, etc.) that require special processing accuracy. The system automates full document lifecycle, from scanning to archiving.



For processing semi-structured forms, the system uses ABBYY FlexiForm technology. For after-OCR data correction, it uses a module implemented using ATAPY ImageControl component.

For incorrectly zoned, and therefore poorly recognized documents, a specialized operator-guided "on-the-fly" recognition process is used. The operator performs the following steps:

1. Reviews the source image using zoom, scrolling, and display options provided by ImageControl
2. Manually places a block on the image by drawing it around the required data with a mouse
3. Maps the block to a corresponding data field by placing the mouse cursor inside the field
4. Initiates recognition in the application GUI

The information is recognized and inserted into the selected field.

ATAPY ImageControl Package	<ul style="list-style-type: none"> • Functions library (.NET) • Demo GUI application with sources • Developer documentation 	
Technical Specification	Language	C#
	Environment	.NET Framework: WinForms, WPF
	Supports development in	C#, VB.NET, managed C++
	System requirements	Windows XP SP 3 / Windows 7; Windows 2003 Server / 2008 Server

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