O2 solutions

precisely fit software

to assist you in setting up new openings

Products:
PDF4NET

FEATURES

PDF4NET is a .NET library for generating and importing PDF documents on the fly from any .NET application. The library does not rely on any Adobe products for creating and importing PDF files. It hides the complex structure of PDF files behind a simple object model that allows creation of complex PDF files or import of existing PDF files with a few lines of code.

The PDF4NET library can use either a grid based layout approach allowing precise positioning of content on document's pages or a flow based layout making the generation of complex documents a breeze. The final PDF file is compressed, making the library appropriate for web applications. The library can be used from WinForms, ASP.NET, WPF, UWP, .NET Core, Mac, iOS and Android applications without any restrictions, the source code being fully portable between platforms. The library is written entirely in C#, being 100% managed.

The PDF4NET library is licensed per developer and can be distributed ROYALTY FREE, reducing your project costs.

The main features of PDF4NET library are outlined below:

SUPPORTED PLATFORMS

• .NET Framework 4.x	Yes
• .NET 5/6/7	Yes
• .NET Core 2.x/3.x	Yes
• .NET Standard	Yes
• Windows Forms	Yes
• Xamarin.Mac	Yes
• ASP.NET Webforms and MVC	Yes
• Console applications	Yes
• Windows services	Yes
• Mono	Yes
• WPF 4.x	Yes
• Xamarin.iOS	Yes
• Xamarin.Android	Yes
• Xamarin.Forms	Yes
• Universal Windows Platform	Yes
• .NET MAUI	Yes

DOCUMENT FEATURES

• Create and load PDF documents from files and streams	Yes
• Grid layout and/or flow layout modes	Yes
• Save PDF files in PDF/A-1B, PDF/A-2 B/U, PDF/A-3 B/U format	Yes
• Save PDF files in PDF/UA-1 format	Yes
• Save PDF files to disk and streams	Yes
• PDF structure compression	Yes
• Document information and custom properties	Yes
• Document viewer preferences and display modes	Yes
• Document and page XMP metadata	Yes
• Document file attachments	Yes
• Document level Javascripts and actions	Yes
• Document outline (bookmarks)	Yes
• Create CAD and geospatial enabled PDF files	Yes
• Add, remove and read Bates numbers	Yes
• Add and remove PDF pages	Yes
• Page boxes - media box, crop box, art box, trim box and bleed box	Yes
• Page labeling ranges (page numbering)	Yes
• Page user units	Yes
• Extract pages from external PDF files	Yes
• Append PDF pages	Yes
• Split PDF files into pages	Yes
• Document incremental updates	Yes

• Partial document loading and saving	Yes

LOGICAL STRUCTURE & TAGGED PDF & ACCESSIBILITY

• Logical document structure	Yes
• Tagged PDF	Yes
• Structure tree and structure elements	Yes
• ID map	Yes
• Role map	Yes
• Structure element attributes	Yes
• Attribute classes	Yes
• PDF/UA-1	Yes
• Automatic tagging of flow documents	Yes
• Extraction of page content with associated logical structure information	Yes

FLOW DOCUMENT FEATURES

• Mixed formatted text	Yes
• Superscript/subscript text	Yes
• Images	Yes
• Form XObjects	Yes
• Annotations	Yes
• Tables	Yes
• Headers and footers	Yes
• Table of contents	Yes
• Automatic tagging for accessibility	Yes
• Before/After draw events for flow content	Yes

SECURITY

• User and owner passwords	Yes
• Document access rights	Yes
• 40 bit and 128 bit RC4 encryption	Yes
• 128 bit and 256 bit AES encryption	Yes
• Content redaction	Yes
• Disable text copy/paste	Yes

DIGITAL SIGNATURES

• Approval and certifying digital signatures with X509 certificates	Yes
• Basic CMS and PAdES digital signatures with SHA256 / SHA384 / SHA512	Yes
• Signature timestamps	Yes
• OCSP and CRL information included in digital signatures	Yes
• Document security store	Yes
• Document timestamps	Yes
• LTV (Long Term Validation) enabled digital signatures	Yes
• Support for hardware signature tokens/smartcards (Windows, WPF, Mac)	Yes
• Externally computed signatures	Yes
• Load digital signatures from signed PDF files	Yes
• Decode existing signatures into basic ASN.1 blocks	Yes
• Extract the certificate from digital signatures	Yes
• Save the signed copy of a PDF document	Yes

GRAPHICS FEATURES

• Grid layout for fixed content positioning	Yes
• Flow layout for relative content positioning	Yes
• All PDF color spaces: DeviceRGB, DeviceCMYK, DeviceGray, Indexed, CalGray, CalRGB, Lab, ICC, Separation, DeviceN and PANTONE colors	Yes
• Pen and brush objects for stroking and filling operations	Yes
• Hatch style brushes	Yes
• Graphics primitives: lines, ellipses, rectangles, rounded rectangles, arcs, pies, chords, Bezier curves, paths	Yes
• Clipping paths	Yes
• Images (see Images section) and form XObjects	Yes
• Transparency groups	Yes
• Single line and multi line text with vertical and horizontal aligment, including justified text	Yes
• Extended graphics states with support for fill and stroke alpha, blend modes and overprinting	Yes
• Affine transformations: multiply, translate, rotate and scale	Yes
• Shadings - function, axial and radial	Yes
• Patterns - colored, uncolored and shading	Yes
• Optional content (layers) with support for custom display trees, multipage and mixed layers	Yes
• Barcodes (see Barcodes section)	Yes
• Drawing of external page content (page imposition)	Yes

- Low level PDF graphics for full control over the page content stream — Yes
- Formatted content (paragraphs, text blocks, styled text, links inside text, bullet lists) — Yes
- Tables (simple and composite cells, column spans, row spans, borders) — Yes

FONTS

- Standard PDF fonts, Western and CJK — Yes
- Type1 fonts — Yes
- Type3 fonts — Yes
- Ansi and Unicode TrueType fonts with support for font subsetting — Yes
- Disable text copy/paste for Unicode TrueType fonts — Yes
- Full color emojis and SVG fonts — Yes
- Advanced TrueType features: — Yes
  - Ligatures — Yes
  - Vertical glyphs — Yes
  - Small capitals — Yes
  - Old style figures — Yes

IMAGES

- Load images from files and streams — Yes
- Bmp, Png, Gif, Jpeg, Jpeg2000, Tiff and Raw images — Yes
- Automatic image type detection — Yes
- Extra large JPEG images — Yes
- Extra large TIFF images (24bpp and 32bpp, uncompressed, zip, lzw) — Yes
- Create images from System.Drawing.Bitmap (WinForms) (BMP, GIF, PNG, TIFF, JPG) — Yes
- Native support for TIFF (grayscale, RGB and CMYK), JPEG, PNG and RAW images — Yes
- TIFF to PDF conversion with CCITT G4 compression for B/W images — Yes
- Image masks: color masks, stencil mask and soft masks — Yes
- Alternate images for printing — Yes
- SVG to PDF conversion — Yes

BARCODES

- Built in vector barcode engine, no barcode images or barcode fonts — Yes
- Unidimensional barcodes: — Yes
  - Generic barcodes: Codabar, Code 11, Code 25, Code 25 Interleaved, Code 39, Code 39 Extended, Code 93, Code 93 Extended, Code 128 A, Code 128 B, Code 128 C, COOP 25, Matrix 25, MSI/Plessey — Yes
  - Pharmaceutical barcodes: Code 32, Pharmacode, PZN (Pharma-Zentral-Nummer) — Yes
  - EAN/UPC barcodes: EAN 128, EAN-13, EAN-8, ISBN, ISMN, ISSN, JAN-13, UPC-A, UPC-E — Yes
  - Postal and transportation barcodes: FedEx Ground 96, IATA 25, Identcode, Leitcode, KIX, Planet, PostNet, RM4SCC, SCC-14, SingaporePost, SSCC-18, USPS FIM, USPS Horizontal, USPS PIC — Yes
- Bidimensional barcodes: — Yes
  - DataMatrix, QR, PDF417, Micro PDF417, Codablock F, Code 16K — Yes

PDF ANNOTATIONS

- Add, edit and remove PDF annotations — Yes
- Standard and custom appearance for annotations — Yes
- Flatten annotations — Yes
- Supported annotations: — Yes
  - Text (sticky notes) annotations — Yes
  - Rubber stamp annotations — Yes
  - Square and circle annotations — Yes
  - File attachment annotations — Yes
  - Link annotations (hyperlinks) — Yes
  - Line annotations — Yes
  - Ink annotations — Yes
  - Polygon and polyline annotations — Yes
  - Text markup annotations: highlight, underline, strikeout, squiggly — Yes
  - Free text (typewriter) annotations — Yes
  - Sound annotations — Yes
  - Movie annotations — Yes
  - Rich media (Flash) annotations — Yes
  - Redaction annotations — Yes
  - 3D annotations with support for: views, projections, lighting schemes, cross sections, backgrounds and animations — Yes

PDF FORMS (Acrobat forms)

- Create, load and save PDF forms   Yes
- Add, edit, remove and rename form fields   Yes
- Support for text box fields, combo box fields, list box fields,   Yes
  push button fields, check box fields, radio button fields, signature fields
- Read/Write (fill) form fields   Yes
- Create custom appearances for field widgets   Yes
- Flatten form fields   Yes
- Form actions (see PDF actions)   Yes

PDF ACTIONS

- Add, edit and remove PDF actions   Yes
- Set actions at document level, page level, annotation level and form field level   Yes
- Supported actions: Yes
  - GoTo actions - go to destinations in current PDF file   Yes
  - Remote GoTo actions - go to destinations in external PDF files   Yes
  - GoTo 3D view actions - activate a specific view in a 3D annotation   Yes
  - Lauch actions - launch executables and files   Yes
  - URI actions - go to a web based destination   Yes
  - Named actions - predefined PDF actions   Yes
  - Javascript actions - execute Javascript code   Yes
  - Submit form actions - submit form data to a server   Yes
  - Reset form actions - reset form fields to default values   Yes
  - Hide actions - show or hide form fields   Yes

PDF FUNCTIONS

- Sample based functions (Type 0)   Yes
- Exponential functions (Type 2)   Yes
- Stitching functions (Type 3)   Yes
- Postscript calculator functions (Type 4)   Yes

TEXT SEARCH

- Search text in PDF pages with support for regular search, case sensitive   Yes
  search, whole word search and regular expression search

CONTENT EXTRACTION

- Extract text with position information at fragment level and glyph level   Yes
- Extract text as words with position information at word level and glyph level   Yes
- Extract text as lines with position information at line level and glyph level   Yes
- Extract text and words from user defined regions   Yes
- Extract images including image information such as: image size in pixels,   Yes
  bits per pixel, colorspace, image position on the PDF page,
  image size on the PDF page, image horizontal and vertical resolution
- Extract page content as a sequence of path, text, image and   Yes
  shading objects
- Extract optional content groups as vector drawings   Yes
- Extract page content as vector drawings (including annotations and form fields)   Yes

CONTENT TRANSFORMATION

- Convert page content to RGB   Yes
- Convert page content to CMYK   Yes
- Convert page content to Grayscale   Yes
- Convert images to Grayscale   Yes
- Replace page images   Yes
- Remove page images   Yes

CONTENT REDACTION

- Text redaction   Yes
- Image redaction   Yes
- Redaction annotations   Yes

PDF PORTFOLIOS

- Create and load PDF portfolios   Yes
- Define portfolio attributes and define sort order for portfolio items   Yes
- Add and remove portfolio items   Yes
- Organize portfolio items into folders   Yes

LOW LEVEL COS API

• Add, edit and remove COS objects	Yes
• Supported COS objects: strings, numbers, names, booleans, nulls, arrays, dictionaries and streams	Yes

PDF RENDERING (included in PDF4NET+Render package)

• Convert PDF pages to color, grayscale and black & white images	Yes
• Convert PDF pages to RAW, PNG and TIFF (single and multi-page)	Yes
• Ultra-high dpi support - convert PDF pages to images up to 32bpp 65536x65536 pixels	Yes
• Native RGBA, BGRA, ARGB, RGB, BGR and Grayscale rendering	Yes
• Built-in graphic engine that produces pixel matched results across all supported platforms	Yes
• Selective content rendering: text and/or vector graphics and/or images and/or form fields and/or annotations	Yes
• Supported PDF features:	Yes
- Stroked and filled vector graphics	Yes
- Clipping paths including text based clipping paths	Yes
- Text (all text rendering modes)	Yes
- Fonts (standard PDF fonts, embedded fonts, TrueType, Type1, Type3)	Yes
- Images (RAW, DCT/JPEG, CCITT, JPEG2000, JBIG2, inline) with associated masks if present	Yes
- Colorspaces (RGB, CMYK, Gray, CalRGB, CalGray, Lab, ICC, Separation, DeviceN, Indexed)	Yes
- Graphics state soft masks	Yes
- Transparency groups	Yes
- Blend modes	Yes
- PDF patterns	Yes
- PDF shadings (gradients)	Yes

LICENSING

• Per developer licensing with royalty free distribution	Yes

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