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FEATURES

PDF4Java is a Java library for generating and importing PDF documents on the fly from any Java 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 PDF4Java 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 desktop and server applications without any restrictions. The library is written entirely in Java, being 100% Java.

The PDF4Java library is licensed per developer and can be distributed ROYALTY FREE, reducing your project costs.

The main features of PDF4Java library are outlined below (features marked with 'Dev' are under development):

SUPPORTED PLATFORMS

• Java 8 and higher	Yes
• Desktop applications	Yes
• Console applications	Yes
• Server applications	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	Dev
• Basic CMS and PAdES digital signatures with SHA256 / SHA384 / SHA512	Dev
• Signature timestamps	Dev
• OCSP and CRL information included in digital signatures	Dev
• Document security store	Dev
• Document timestamps	Dev
• LTV (Long Term Validation) enabled digital signatures	Dev
• Support for hardware signature tokens/smartcards (Windows, WPF, Mac)	Dev
• Externally computed signatures	Dev
• Load digital signatures from signed PDF files	Dev
• Decode existing signatures into basic ASN.1 blocks	Dev
• Extract the certificate from digital signatures	Dev
• Save the signed copy of a PDF document	Dev

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, 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 BufferedImage	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
- Cloud square annotations	Yes
- File attachment annotations	Yes
- Link annotations (hyperlinks)	Yes
- Line annotations	Yes
- Ink annotations	Yes
- Polygon and polyline annotations	Yes
- Cloud polygon 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, push button fields, check box fields, radio button fields, signature fields	Yes
• 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 search, whole word search and regular expression search	Yes

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, bits per pixel, colorspace, image position on the PDF page, image size on the PDF page, image horizontal and vertical resolution	Yes
• Extract page content as a sequence of path, text, image and shading objects	Yes
• 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 PDF4Java+Render package)

• Convert PDF pages to color, grayscale and black & white images	Dev
• Convert PDF pages to RAW, PNG and TIFF (single and multi-page)	Dev

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

LICENSING

• Per developer licensing with royalty free distribution	Yes

to top