PDFlib, PDFlib+PDI, PDFlib Personalization Server (PPS) 9.2

What is PDFlib?

PDFlib is the leading developer toolbox for generating and manipulating files in the Portable Document Format (PDF). PDFlib's main targets are dynamic PDF creation on a Web server or any other server system, and to implement »Save as PDF« in existing applications. You can use PDFlib to dynamically create PDF documents from database contents, similar to dynamic Web pages. PDFlib has proven itself in a wide range of other use cases as well. Application programmers need only decent graphics or print output experience to be able to use PDFlib quickly. Since PDFlib frees you from the technicalities of the PDF file format, you can focus on acquiring the data and arranging text, graphics, and images on the page.

The PDFlib product family is available in three different flavors: PDFlib, PDFlib+PDI (PDF Import), and the PDFlib Personalization Server (PPS) with the PDFlib Block Plugin for Adobe Acrobat.

PDFlib

PDFlib offers all functions required to generate PDF documents with text, graphics, images, and interactive elements such as annotations or bookmarks. Use PDFlib for the following and many other tasks:

► add »Save as PDF« capability to your application
► create PDF documents on a Web server in real time
► create database reports in PDF
► take advantage of advanced typography and full Unicode and encoding support for text output
► advanced color management functionality
► convert TIFF, JPEG, or other image formats as well as SVG graphics to PDF
► automatically format tables with all kinds of cell contents
► create PDF/X-1/3/4/5 documents for commercial printing
► create PDF/A-1/2/3 for archiving
► Create PDF/VT for transactional printing
► create Tagged PDF and PDF/UA-1 for accessibility

PDFlib+PDI (PDF Import)

PDFlib+PDI includes all PDFlib functions, plus the PDF Import Library (PDI). With PDI you can open existing PDF documents and incorporate some pages into the PDFlib output. Use PDFlib+PDI for all PDFlib tasks plus the following:

► impose multiple PDF pages on a single sheet for printing
► add text, such as headers, footers, stamps, or page numbers to existing PDF pages
► place images, e.g. company logo, on existing pages
► add barcodes to existing PDF pages
► assemble existing PDF pages
► add content to PDF/A, PDF/X or PDF/UA documents

PDFlib Personalization Server (PPS) and PDFlib Block Plugin

The PDFlib Personalization Server (PPS) includes PDFlib+PDI plus additional functions for variable data processing using PDFlib Blocks. PPS makes applications independent from layout changes. The designer creates the page layout and converts it to PDF. She takes into account areas as placeholders for variable text and images. In Acrobat she drags a rectangular Block for each area using the PDFlib Block Plugin. Each Block contains a variety of Block properties, such as font size, color, image scaling. The PDFlib Block Plugin offers a Preview feature which shows the results of filling Blocks according to the specified properties.

The developer writes code to fill PDFlib Blocks with text, images, vector graphics or PDF pages. He doesn't need to know the formatting or position of a Block. Use PPS for all PDFlib+PDI tasks plus the following:

► customize direct mailings with text and images
► fill templates for transactional and statement processing
► personalize promotional material with address data
► generate individual parts catalogs from a database
► produce customized documentation for multiple products

What's new in PDFlib 9?

PDF/A-2 and PDF/A-3

PDFlib supports two additional parts of the PDF/A standard for archiving. PDF/A-2 is based on PDF 1.7 and supports transparency, JPEG 2000 compression, layers, and many other features. While PDF/A-2 allows embedding of PDF/A-1 and PDF/A-2 documents, PDF/A-3 allows embedding of arbitrary file types.

Tagged PDF and PDF/UA

Creating Tagged PDF is much easier through various convenience features, such as abbreviated tagging and automatic tagging of Artifacts. PDFlib's table formatter automatically tags tables. Tagged PDF documents including structure elements can be imported with PDI.

Accessible documents can be created according to the PDF/UA-1 standard (Universal Accessibility). PDF/UA is based on PDF 1.7 and improves Tagged PDF for accessibility similar to WCAG 2.0 (Web Content Accessibility Guidelines) in the Web world.

PDF/X

PDFlib supports PDF/X-1a, PDF/X-3 and PDF/X-4/4p as well as PDF/X-5n for exchange of n-colorant production files, e.g. in the packaging industry.

PDF/VT

PDF/VT is a standard for optimized PDF for variable and trans-actional printing. PDFlib creates output which conforms to PDF/VT-1, PDF/VT-2 or PDF/VT-2s according to ISO 16612-2 for Variable Document Publishing (VDP). Document Part Metadata (DPM) can be attached according to the PDF/VT standard.

Scalable Vector Graphics (SVG)

PDFlib imports vector graphics in the SVG format. SVG is the standard format for vector graphics on the Web, and is supported by all mainstream browsers. PDFlib 9.1 introduces support for ICC profiles, CMYK and spot color in SVG.

Font handling and text output

PDFlib's font engine and text processing have been enhanced in several ways:

▶ ideographic variation sequences (IVS) for CJK variant glyphs;
▶ WOFF fonts (Web Open Font Format), a new container format for TrueType and OpenType fonts specified by the W3C
▶ support for all Unicode normalization forms (NFC, NFKC etc.)
▶ automatically create UPR font configuration files with all fonts found in an arbitrary number of directories

Import PDF documents with PDFlib+PDI

The following features are new in the PDF Import library PDI:

▶ Tagged PDF documents including structure elements can be imported.
▶ Layer definitions can be imported.

PDFlib Personalization Server (PPS) and Block Plugin

The following features are new in PPS:

▶ The Block type »Graphics« can be used to fill PDFlib Blocks with SVG graphics.
▶ PDFlib Blocks can be imported with PPS in addition to the Block Plugin.

Create PDFlib Blocks programmatically

In addition to creating PDFlib Blocks interactively with the PDFlib Block Plugin, PDFlib Blocks can be created programmatically with PPS. Existing PDFlib Blocks in imported documents can be copied to the generated PDF output. These features enable advanced document composition workflows where templates for PPS can themselves be built programmatically.

PDF Object Creation API (POCA)

POCA provides a set of methods for creating low-level PDF objects which are included in the generated PDF output. POCA can be used for the following purposes:

▶ create Document Part Metadata (DPM) for PDF/VT
▶ programmatically create PDFlib Blocks for use with PPS

Multimedia contents

PDFlib can create rich media annotations with Sound, Movie or 3D content. The multimedia content can be controlled with JavaScript and PDF actions. The following new multimedia features are available:

▶ rich media annotations
▶ rich media execute actions

Enhanced encryption algorithm

PDFlib supports PDF encryption according to Acrobat X/XI/DC. This encryption scheme is based on AES-256 and is specified in PDF 1.7 extension level 8 and PDF 2.0 according to ISO 32000-2.

What's new in PDFlib 9.1 and 9.2?

PDFlib/PDFlib+PDI/PPS 9.1 introduces new features related to color handling:

▶ Support for n-colorant color spaces (DeviceN and NChannel)
▶ PDF/X-5n for exchange of n-colorant production files, e.g. in the packaging industry
▶ SVG color extension for ICC profiles, spot and DeviceN color as well as Gray/RGB/CMYK device color
▶ PANTONE Extended Gamut Coated (XGC) spot colors and PANTONE Plus 2016 update
▶ color gradients with an arbitrary number of stop colors for enhanced color blends
▶ color gradients between different spot colors, e.g. a blend of PANTONE colors

PDFlib 9.2 introduces additional features:

▶ .NET Core language binding
▶ convenience features for PDF/UA and PDF/X creation
▶ improved import of Tagged PDF pages
▶ optimized TrueType subsetting with reduced file size
▶ reduced memory requirements for PDFlib Mini Edition (ME)

Common Features in PDFlib, PDFlib+PDI, and the PDFlib Personalization Server

PDF flavors	PDF 1.4 – PDF 1.7 extension level 8 and PDF 2.0 (Acrobat 5–DC)
	Linearized (web-optimized) PDF for byteserving over the Web
	High-volume output and arbitrary PDF file size (beyond 10 GB)
ISO standards for PDF	ISO 32 000-1: standardized version of PDF 1.7
	ISO 32 000-2: PDF 2.0 (including dated revision ISO 32000-2:2019)
	ISO 15 930: PDF/X-1/3/4/5 for the graphic arts industry
	ISO 19 005-1/2/3: PDF/A-1/2/3 for archiving
	ISO 16612-2: PDF/VT-1/2 for variable and transactional printing
	ISO 14289-1: PDF/UA-1 for universal accessibility
Fonts	TrueType (TTF and TTC) and PostScript Type 1 fonts
	OpenType fonts with PostScript or TrueType outlines (TTF, OTF, OTC)
	WOFF fonts (Web Open Font Format), a W3C-specified container format for fonts on the Web
	Support for dozens of OpenType layout features for Western and CJK text output, e.g. ligatures, small caps, old-style numerals, swash characters, simplified/traditional forms, vertical alternates
	Access fonts which are installed on Windows or macOS (»host fonts«)
	Font embedding for all font types; subsetting for TrueType, OpenType, and Type 3 fonts
	User-defined (Type 3) fonts for bitmap fonts or custom logos
	EUDC and SING fonts (glyphlets) for CJK Gaiji characters
	Fallback fonts (use missing glyphs from another font)
Text output	Text output in different fonts; underlined, overlined, and strikeout text
	Glyphs in a font can be addressed by numerical value, Unicode value, or glyph name
	Kerning for improved character spacing
	Artificial bold, italic, and shadow text
	Create text on a path
	Configurable replacement of missing glyphs
Accessibility	Create Tagged PDF for accessibility, page reflow, and improved content repurposing
	Tagging of interactive elements, e.g. annotations and form fields
	Automatic table and artifact tagging
	PDF/UA-1 for universal accessibility
	Additional structure element types and attributes
Internationalization	Full Unicode support for page content, interactive elements, and file names; support for all Unicode normalization forms
	Support for a variety of 8-bit and legacy multi-byte CJK encodings (e.g. Shift-JIS; Big5)
	CJK fonts and CMaps for Chinese, Japanese, and Korean text
	Ideographic variation sequences (IVS) for CJK variant glyphs
	Vertical writing mode for Chinese, Japanese, and Korean text
	Character shaping for complex scripts, e.g. Arabic, Thai, Devanagari
	Bidirectional text formatting for right-to-left scripts, e.g. Arabic and Hebrew
SVG vector graphics	Import vector graphics in SVG format; ICC profiles, CMYK and spot colors in SVG, CSS
Images	Load BMP, GIF, PNG, TIFF, JBIG2, JPEG, JPEG 2000, and CCITT raster images
	Query image information (pixel size, resolution, ICC profile, clipping path, etc.)
	Use clipping path in TIFF and JPEG images
	Use alpha channel (transparency) in TIFF and PNG images
	Image masks (transparent images with a color applied), colorize images with a spot or DeviceN color
Color	Grayscale, RGB (numerical, hexadecimal strings, HTML color names), CMYK, CIE L*a*b* color
	Integrated support for PANTONE® (incl. PANTONE+) and HKS® colors