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V.13 DOCUMENT IMAGING FACT SHEET

LEADTOOLS New OCR Engine (available in Document Imaging Suite, or as a plug-in)

- Manage multiple pages of a document at one time where the different pages are in different stages of processing (segmentation vs. recognition), giving the ability to recognize all document pages at once.
- Recognize a document page(s) and export text in raw format or a ScanSoft defined mark-up language format (XDoc/XDoc Lite), the raw formats include ISO and UNICODE.
- Automatically segment the page to correctly recognize text on pages with complex or irregular layouts, including tables, reverse video, and line art as well.
- Process both text and graphics. The recognition software's ability to distinguish graphics from text can provide the basis of a compound document processing system.
- Process documents in two-page mode for open-faced books and magazines.
- Documents with multiple languages can be recognized with accuracy because the engine allows the application to specify that the text to be processed is in more than one language.
- Enable end users to verify or correct text during the recognition process.
- Automatically detect fax, dot matrix and other degraded documents and compensate accordingly.
- Process images from newspapers with special image processing designed for newsprint.
- And more...

Annotation Enhancements Include:

- Ability to alter the shape of certain annotations by holding down the Shift key while drawing. (An Ellipse object will automatically be drawn as a circle; other annotations like notes, buttons, audio clips, etc. will automatically be drawn as squares.
- Metafiles can now be associated with hotspot annotations and freehand hotspot annotations.
- The ability to move the name of annotation objects.
- Can get information about annotation files and delete pages from annotation files.
- Supports multi-page annotation Files.
- Low-level annotation support in the ActiveX control.

LEADTOOLS v.13 Image Processing Enhancements Include:

- The ability to resize bitmaps during the load process greatly reducing the memory overhead of loading large images for viewing.
- Ability to update a lookup table, based on a curve that passes through user specified points or based on a user specified mathematical function offering additional flexibility in remapping the colors in the image.
- Optimization of the Median filter increasing its performance.
- Picturize capabilities extended to picturize an image using a single bitmap or a list of bitmaps. When using a single image, lightening or darkening the color to match the region of the base image where it will be inserted changes each copy of the other image.
- Motion blur image processing filter with control over direction and speed.
- Ability to combine images using either a single opacity value, or varying opacity values via a mask. Using the varying opacity values creates a feathering appearance.
- Gaussian blurring can be used for noise removal and results in less blurring as compared to an average blur.
- Unsharp mask, which is not as sensitive to noise in the image as other sharpen methods.
- Ability to give images an "old-fashioned" look by converting to "colored gray".
- Ability to swap color channel values across the R, G and B color channels.
- Ability to add or average bitmaps within a list to find the differences between a list of images or to combine all of the images with equal opacity.
- Support for anti-aliasing the image.
- Support for removing red-eye from images.
- Ability to resize regions within a bitmap.
- Ability to perform lossless transformations (rotate, flip and reverse) on JPEG, CMP and JPEG TIFF files. This is superior to loading the image, performing the transformation and the saving the image because there is no loss of quality and is reversible.

- New image processing functions to add borders and frames.
- Support for histogram equalization on different color spaces (Grayscale, RGB and YUV)
- New edge detection filter.
- Control over the grain size and shape during conversion to halftone.

Upgraded color conversion support allows more conversion options to provide better color matching, flexibility and user customization capabilities.

Images can be separated and/or reconstructed to/from individual color planes using LEAD's built in conversion functions, ICC profiles or Emulation Tables.
New planes supported include:

- YIQ
- LAB
- XYZ
- YCCK
- Y41P
- UYVY
- YUY2
- YVU9
- YCC

Expanded TWAIN v 1.9 Support Includes:

Performance of Memory Buffered Transfer using the following compressions in addition to uncompressed data:

JPEG	GROUP3 1D
RLE4	GROUP3 1D EOL
RLE8	GROUP3 2D
BITFIELD	GROUP 4
PACKBITS	

- Perform the save of the Memory Buffered Transfer data directly to a file.
- Save of the device's TWAIN capability settings to a template file, helping to save multiple settings of sources and load them as needed.
- Flexibility to get and set all TWAIN capabilities that the device's TWAIN driver supports.
- Get the Extended Image Info like barcodes or patch codes that the TWAIN drivers support.

New Image Formats Supported Include:

- MODCA PTOCA files
- IBM AFP
- Multipage IOCA\MODCA
- MODCA\IOCA MMR compressed
- MODCA\IOCA uncompressed files
- Wireless Bitmap (WBMP)
- Scitex Continuous Tone (SCT\CT)
- Intergraph CIT
- SMP

In addition, support of ITPC (International Press Telecommunications Council) objects inside of TIFF and JPEG images have been added.

New common dialogs have been enhanced with a progressive new look and feature set to include:

- Thumbnail Preview for image processing dialogs allows the user to preview the change without actually affecting the original image with an optional before and after thumbnail.

- The thumbnail preview can be zoomed and scrolled to any part of the image to see the details.
- A progress bar that indicates the status of applying the effect is available.
- Color selection dialogs that support a number of color spaces with the ability to convert between them.

Additional Features

- Support for JPEG-LAB and TIFF-LAB. LAB files supports a larger gamut of colors as opposed to other color spaces.
- Ability to create curved regions.
- Ability to convert standard curved regions to Bezier curves.
- Both compress and decompress buffers.
- Support for determining whether a magnifying glass is attached to a window, a control or an object.
- Support for loading and saving layers in PSD files.
- Support for keeping the image data of 24 bit images compressed in memory.
- Ability to retrieve embedded audio data and stamps contained in Exif files as extension data.
- Ability to automatically scale the image to print, fitting the page.
- Ability to automatically center the image in the LEADTOOLS imaging control.
- Ability to save TIFF files with TIFF strip options and specify user defined rows per strip.