

# PDF Power

## How to Create & Edit Like a PRO

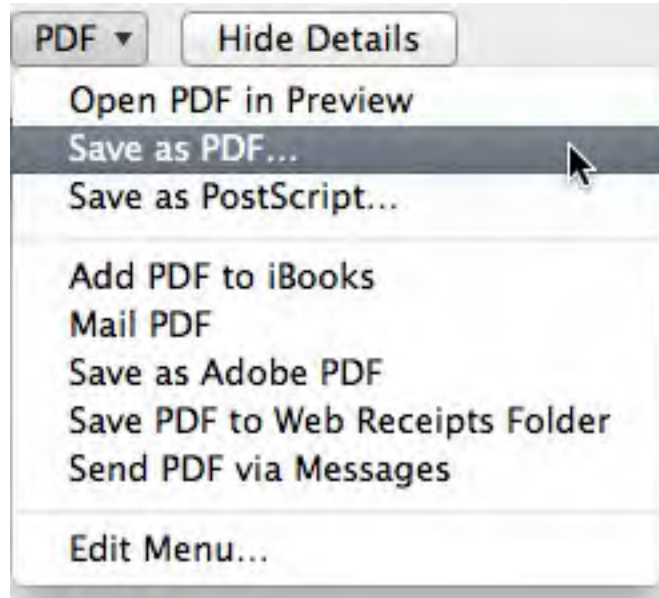
Julie Shaffer

Vice President, Education & Marketing Strategies

---



# It is so darned simple...



# Or is it?

Document1 - Microsoft Word

File Edit View Insert Form

New Blank Document

New from Template

Detail

review

Save As

Organize New folder

Microsoft Word

DOC

Includ

Name

Favorites

Desktop

Downloads

Online Community

Subscribe to Page

Save as PDF

Add a Search Engine

Edit Site Settings

Add to Home Screen

Document

ent

Template

te

ment

ment

How do you want to print?

Printer:

Microsoft Print to PDF

Send To OneNote 2013

Microsoft XPS Document Writer

Microsoft Print to PDF

Fax

Canon MF220 Series (FAX)

Canon MF220 Series

Install Printer...

Publish to PDF Settings

General Objects Document Advanced Security

File name: C:\Documents and Settings\VDNHINKC\My Documents\Document1.p...

Export range

Full document

Current Page

Selection

Pages: 1

Compatibility: PDF/A-1a

Acrobat 3 (PDF 1.2)

Acrobat 4 (PDF 1.3)

Acrobat 5 (PDF 1.4)

PDF/A-1b

PDF/A-1a

PDF style: Custom (Current settings not saved)

OK Cancel Help

# Today we're talking about

- ▶ Anatomy of a PDF file
  - ▶ What they can contain, standards
- ▶ Creation of PDF files
  - ▶ What makes a “good” file for PDF creation/print
  - ▶ What's behind “saving” “printing” “exporting” PDF
- ▶ Checking & Editing PDF files
  - ▶ Within Adobe Acrobat DC

# PDF: OPTIMAL FORMAT FOR PRINT FILE EXCHANGE

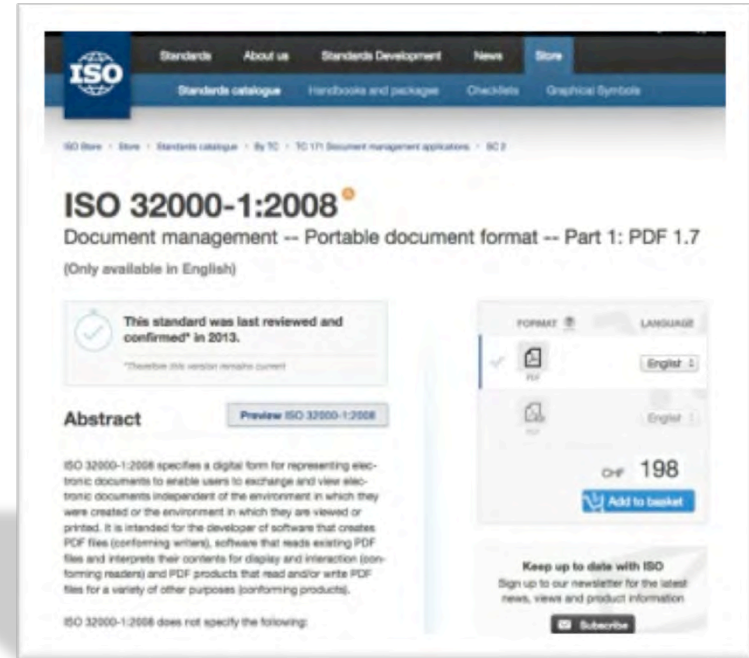
## DEFINING PDF

- ▶ Portable Document Format
  - a digital "container" format for representing documents
  - Developed by Adobe in 1993
- ▶ Specification is *backward inclusive*
  - So PDF 1.7 (current version) includes all functionality of prior versions 1.0 through 1.6
  - Can read all version with free Adobe Reader
- ▶ Device, platform, software **independent**



# PDF: OPTIMAL FORMAT FOR PRINT FILE EXCHANGE FROM DE FACTO TO ISO STANDARD

- ▶ While PDF was an open **specification** from its beginning, it was held, managed and updated by Adobe.
  - January 2007 Adobe turned the PDF spec over for publication by ISO
  - So further development of PDF standard is outside of Adobe's sole purview
- ▶ PDF 1.7 approved in July 2008 as **international standard** ISO 32000-1
  - still the current version

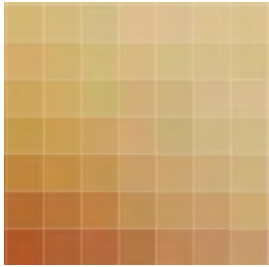


The screenshot shows the ISO website's product page for ISO 32000-1:2008. The page features a navigation bar with links for Standards, About us, Standards Development, News, and Store. Below the navigation bar, there are tabs for Standards catalogue, Handbooks and packages, Checklists, and Graphical Symbols. The main content area displays the title 'ISO 32000-1:2008' and the subtitle 'Document management -- Portable document format -- Part 1: PDF 1.7'. A note indicates that the standard is only available in English. A status box states that the standard was last reviewed and confirmed in 2013. The page also includes an abstract section, a 'Preview ISO 32000-1:2008' button, and a 'Keep up to date with ISO' newsletter sign-up section.

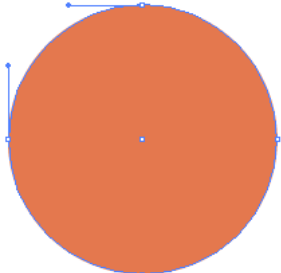
# PDF IS A “CONTAINER” FORMAT SO WHAT CAN IT HOLD?



Text (font)  
objects



Raster (image)  
objects



Vector (path)  
objects



Form data



Annotations



Movies



Sounds



Attachments

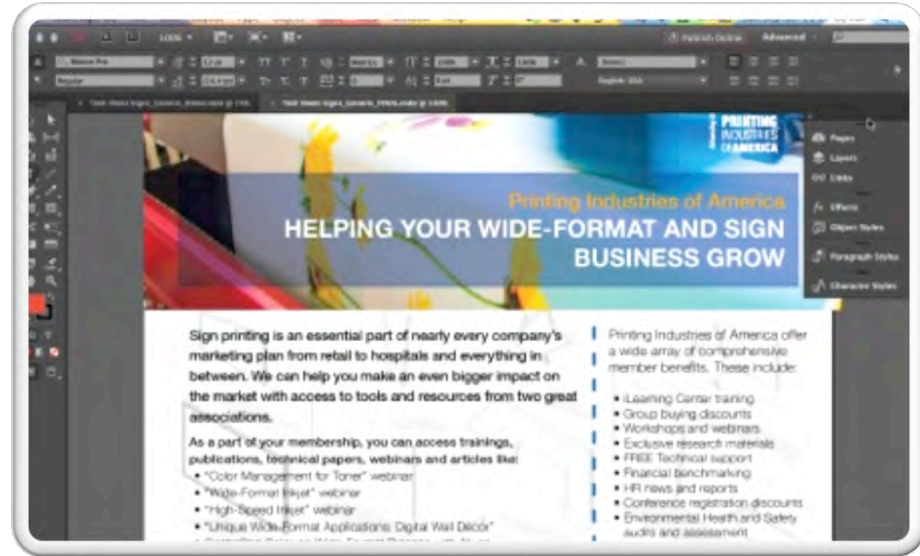
**For PDF, like anything else, rule is G.I.G.O.**





# WHAT ARE THE COMPONENTS OF A “GOOD” FILE? FOR PRINT PRODUCTION

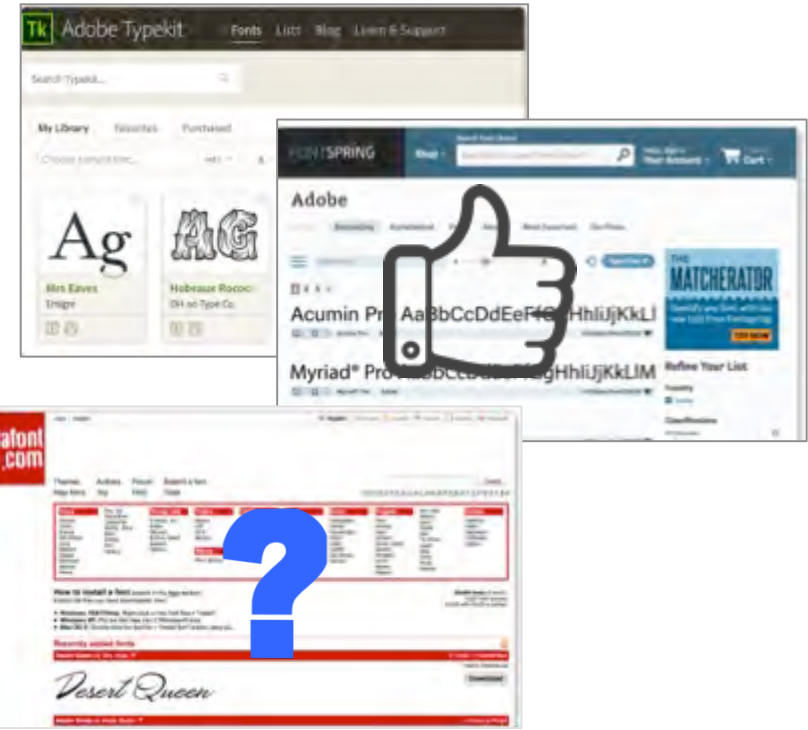
- ▶ **Overprinting** objects are set properly
- ▶ Graphic **elements** **abut** properly
  - Must touch for trapping to work!
- ▶ Judicious use of transparency
  - these objects may not always print as displayed
- ▶ **Media size** specified on page setup must be able to accommodate all elements
  - including **bleed** objects



# WHAT ARE THE COMPONENTS OF A “GOOD” FILE? FONTS

- ▶ Fonts should come from reputable foundry
  - Adobe originals (via Typekit for FontSpring)
  - Monotype, Typotheque...
- ▶ Fonts can come for special purposes
  - Print, print & web, web-only
  - Embeddable or not
    - ▶ (must embed for proper PDF creation)
- ▶ Read the End User License Agreement
  - EULA

printers, an image setter or a film recorder. The font software may be downloaded to the memory (hard disk or RAM) of the output devices that are customarily used by you for the purposes of having such font software remain resident in the output devices. If you need to install the Font Software on more



# WHAT ARE THE COMPONENTS OF A “GOOD” FILE? FONTS

- ▶ Sometimes text in a document is **not a font**
  - Fonts can be converted to outlines in just about any desktop publishing application
- ▶ Outlined text becomes a set of **vector** images
  - and will be processed as such in output device
- ▶ Sometimes text is converted to a **raster** image (if output from image program)
  - So will be processed as such in output device

text as out

**Outlined (vector) text**



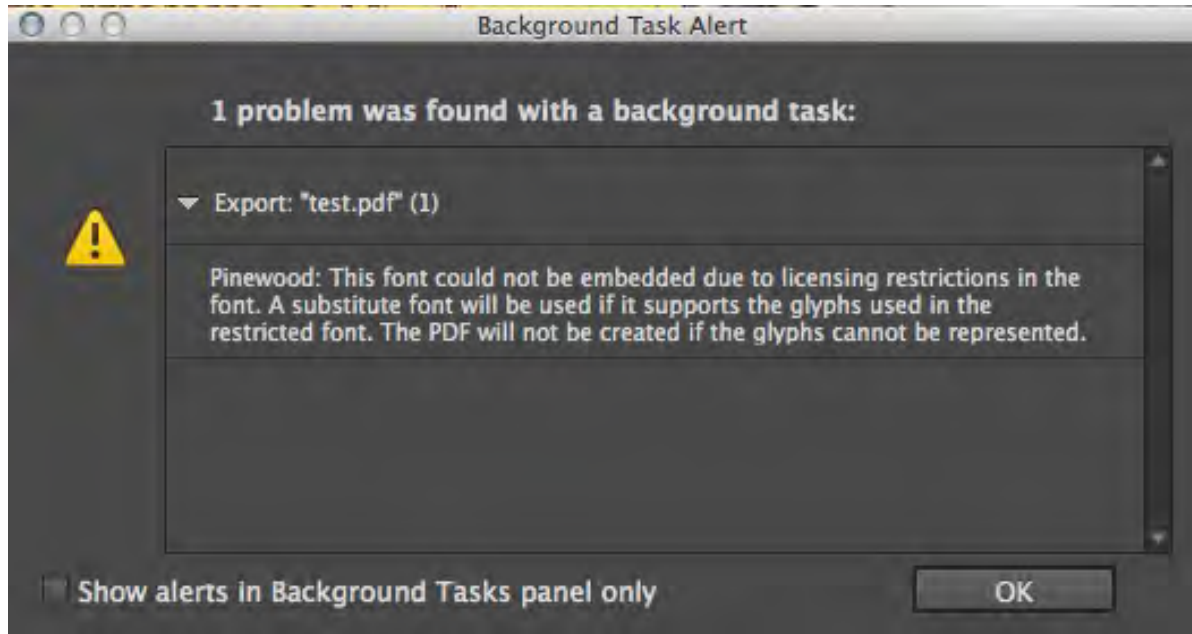
**Image-based (raster) text**

# WHAT ARE THE COMPONENTS OF A “GOOD” FILE? FONTS

- ▶ Before designing a project, test the font
  - 1. Activate the font on your system
  - 2. Create a layout document using that font
  - 3. Export the page to a PDF
- ▶ If the PDF is created without any warnings, the font can be embedded!
  - This is a critical first step in any designing using a new, untested font



# WHAT ARE THE COMPONENTS OF A “GOOD” FILE? FONT WARNING



# WHAT ARE THE COMPONENTS OF A “GOOD” FILE? FONTS

- ▶ If a PDF file is created with fonts that cannot be embedded
  - Acrobat will substitute a font so it can be read on screen (Minion Pro or Adobe MM)



## WHAT ARE THE COMPONENTS OF A “GOOD” FILE? IMAGES

- ▶ Right format
  - Vector (Illustrations) or raster (camera images)
- ▶ Sufficient resolution for output device
  - to avoid raster effect
- ▶ Color spaces correct
  - Mix of RGB, CMYK may cause unexpected color issues on output
  - RIP can be set up to handle mixed files
- ▶ Color correction/balance
  - Color management won't “fix” poor originals



**Insufficient resolution**

## WHAT ARE THE COMPONENTS OF A “GOOD” FILE? IMAGES

- ▶ Yes, there are tools to “res up” raster images
- ▶ They give you more pixels, but often results are unsatisfactory...
- ▶ Products
  - BenVista Pixelzoom
  - Fotor
  - PicResize





# WHAT ARE THE COMPONENTS OF A “GOOD” FILE?

## IMAGES: LINE ART RESOLUTION

- ▶ Line art (solid graphics) resolution is different from image resolution in that you need more to hide potential defects (the eye picks up easier)
  - For digital printing
    - ▶ 600 dpi output requires a 600 ppi image although higher is better
    - ▶ Today, with higher res printers, 1200 dpi is important, as it is for offset printing
    - ▶ 1200-3600 dpi output devices requires at least a 1200 ppi image



**Low-res line art**



**Hi-res line art**

# WHAT ARE THE COMPONENTS OF A “GOOD” FILE?

## IMAGES: RGB OR CMYK?

- ▶ Ultimately, nearly all images have to be printed in CMYK on output digital devices
  - **Expanded gamut** printing = CMYK+ other colors\*
- ▶ The RIP in the DFE can convert RGB to CMYK
  - To industry standards with proper color management
- ▶ Which is better for designers to provide?
  - RGB gives better control at printer
  - Same image can be optimized for different printing conditions – paper, press, etc.



RGB



CMYK

**\*Expanded gamut printing is major topic at Color 2016, [www.printing.org/color](http://www.printing.org/color) Dec. 3-6, Phoenix**

# WHAT ARE THE COMPONENTS OF A “GOOD” FILE?

## IMAGES: COLOR MODES

► Image color modes can be converted in many places in the workflow



▪ Image conversion in Photoshop



▪ PDF creation



▪ Printing from the native app



▪ At the RIP

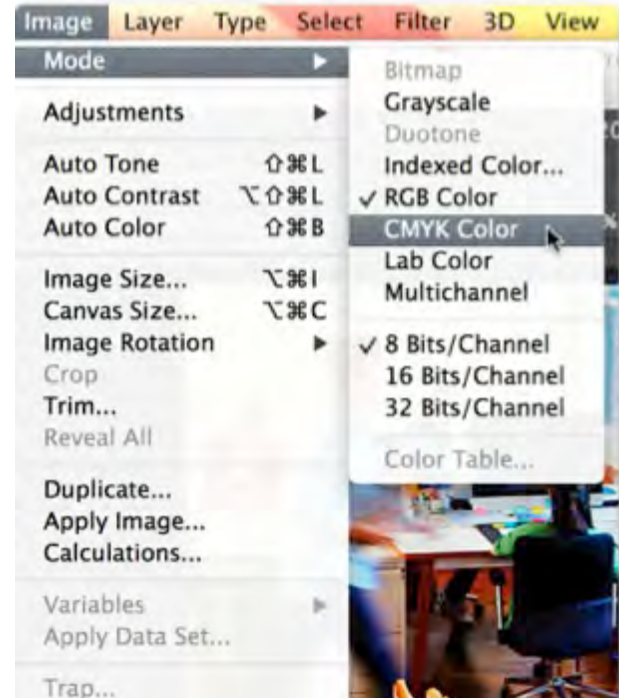


# WHAT ARE THE COMPONENTS OF A “GOOD” FILE?

## IMAGES: COLOR MODES

► When converting images from RGB to CMYK, you are converting for a **specific** printing condition:

- Web press + specific paper type
- Sheetfed press + specific paper type
- Digital Press + specific paper type
- Any press type + specific paper type
- To a known standard or specification  
GraCOL, SWAP, other



# WHAT ARE THE COMPONENTS OF A “GOOD” FILE?

## IMAGES: COLOR SPACE

- ▶ Converting images from RGB to CMYK generates the black plate which includes...
  - Undercolor removal (UCR)
  - or Gray component replacement (GCR)
  - Total ink coverage
  - Maximum black ink
  - Dot gain
- ▶ May not be optimal for digital output
- ▶ **Let's look in Photoshop now!**



# WHAT ARE THE COMPONENTS OF A “GOOD” FILE? SYNCHRONIZE COLOR

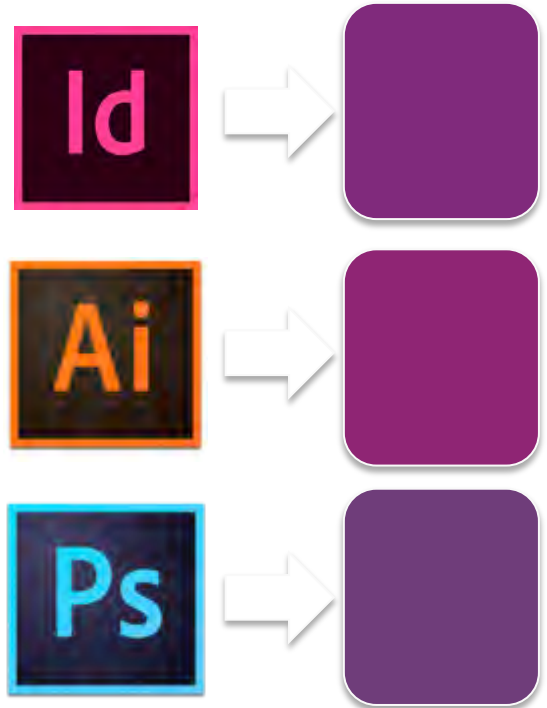
- ▶ Use [Adobe Bridge](#) to synchronize color settings across applications
  1. Open Color Settings
  2. Select a setting you want to use for all apps
  3. Click apply, it will instantly apply to all apps
- ▶ This synchronization ensures that colors look the same no matter which Creative Suite application you view them in
  - Use this tool working in RGB [or](#) CMYK



# WHAT ARE THE COMPONENTS OF A “GOOD” FILE?

## IMAGES: COLOR SPACE

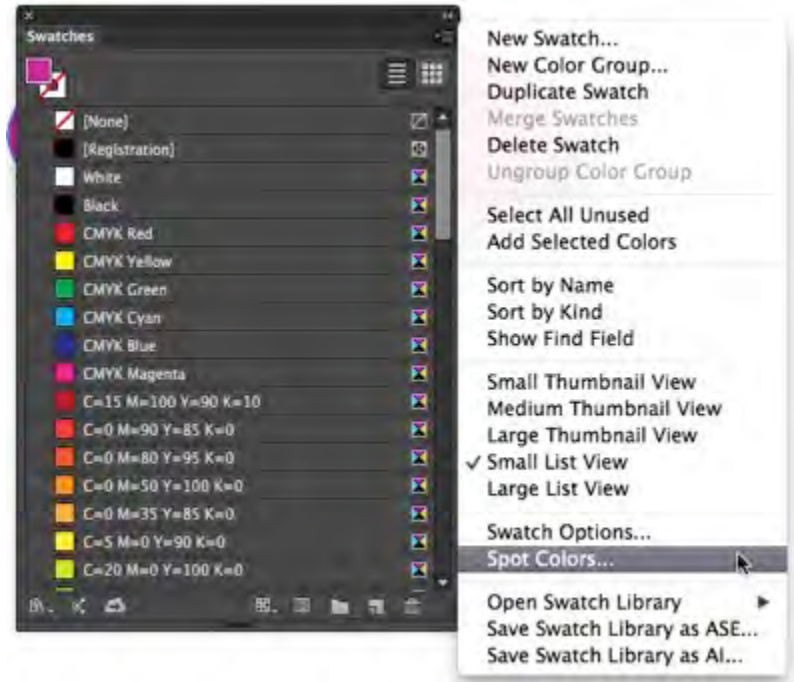
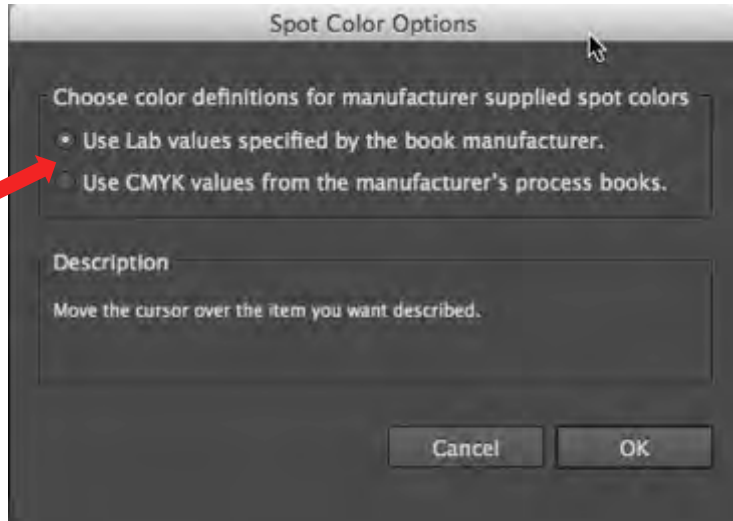
- ▶ It's possible for designers to use the **same color** in various applications within a project...
  - And color can come out **different** when printed
  - **Spot Colors** in particular are prone to this issue
- ▶ Adobe applications InDesign & Illustrator historically use swatches supplied by **color system manufacturer**
  - Pantone, Focaltone, TruMatch, Toyo...
- ▶ Photoshop uses **Lab** values
  - CMYK equivalents will not necessarily be the same
- ▶ The look-up table in the RIP may be different too!



# WHAT ARE THE COMPONENTS OF A “GOOD” FILE?

## IMAGES: COLOR SPACE

- ▶ It is possible to tell InDesign & Illustrator to use Lab values
- ▶ In Adobe Illustrator via **Spot Colors**:

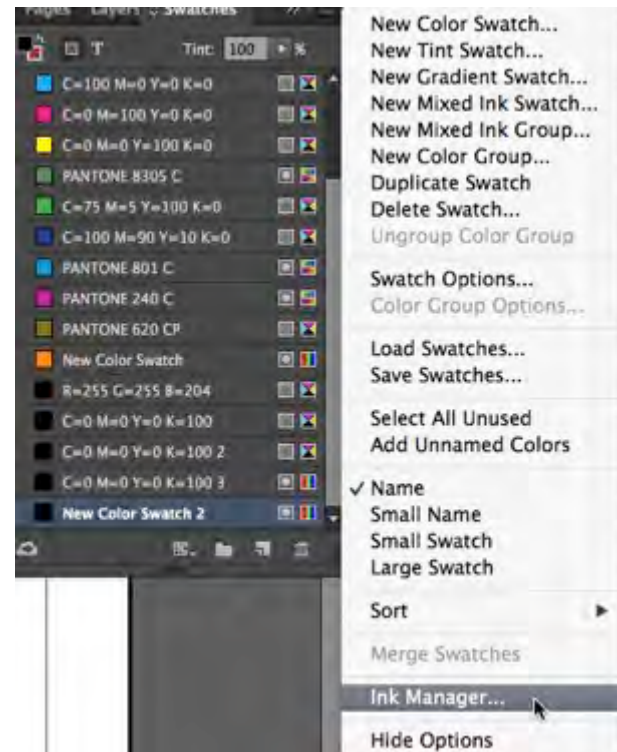




# WHAT ARE THE COMPONENTS OF A “GOOD” FILE?

## IMAGES: COLOR SPACE

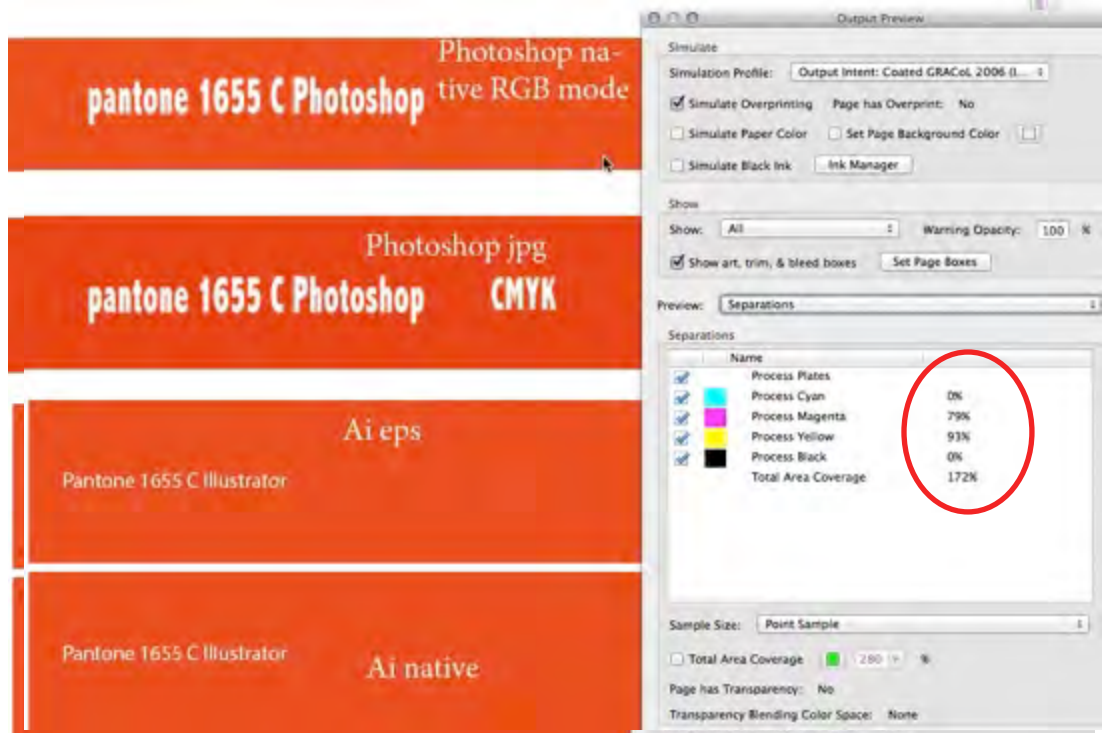
- ▶ It is possible to tell InDesign & Illustrator to use Lab values
- ▶ In Adobe InDesign via **Ink Manager**:



# WHAT ARE THE COMPONENTS OF A “GOOD” FILE?

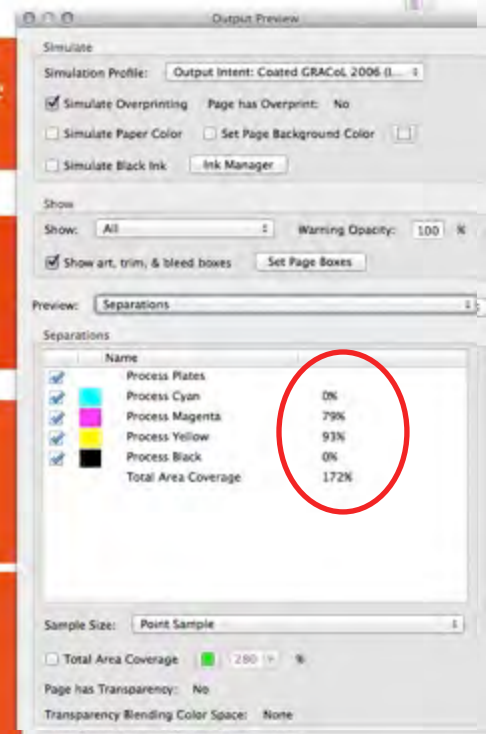
## IMAGES: COLOR SPACE

- ▶ Example showing how a Spot to CMYK conversion occurring in PDF creation (InDesign) to a PDF/X1a results in different color build than native InDesign or Illustrator objects of same color



# WHAT ARE THE COMPONENTS OF A “GOOD” FILE? IMAGES: COLOR SPACE

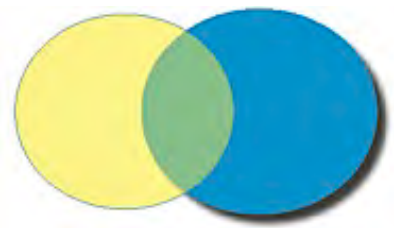
- ▶ Example showing how a Spot to CMYK conversion occurring in PDF creation (InDesign) to a PDF/X1a results in different color build than native InDesign or Illustrator objects of same color
- ▶ This example was exported with “use Lab values selected” but we still see a difference
  - Have to reimport the color from the library first to work!



# WHAT ARE THE COMPONENTS OF A “GOOD” FILE? ABOUT TRANSPARENCY

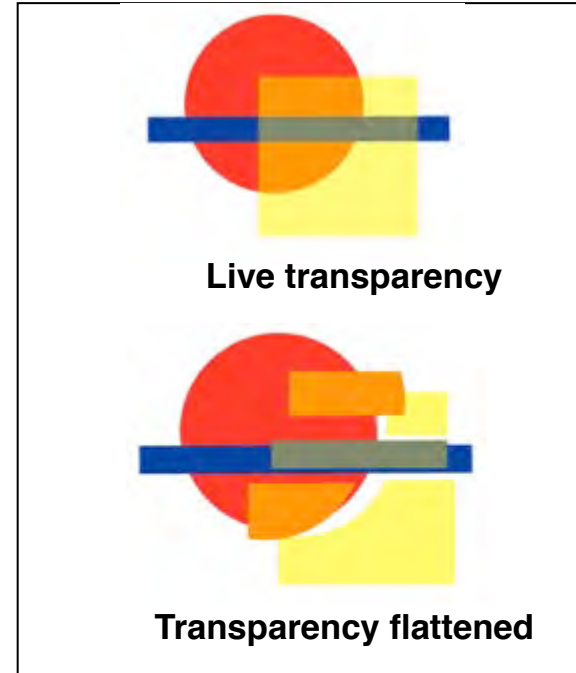
► Using **effects** in Adobe CS and QuarkXPress products will result in transparent objects in a PDF file

- Feather
- Drop Shadow
- Opacity
- Blending



# WHAT ARE THE COMPONENTS OF A “GOOD” FILE? TRANSPARENCY AND FLATTENING

- ▶ Transparency involved one object overlaying another; that can't be imaged
  - So somewhere these objects have to be **resolved or flattened**
- ▶ Modern Adobe-based RIPs can handle this
  - If the RIP is set up properly to do so
- ▶ Postscript doesn't understand transparency
  - (not part of the PostScript specification)
- ▶ So older PS RIP will likely give poor results



# WHAT ARE THE COMPONENTS OF A “GOOD” FILE? HOW IS TRANSPARENCY FLATTENED?

When it is processed by a PostScript Interpreter



On a RIP that supports native PDF and transparency



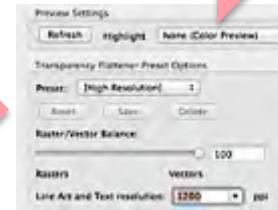
When you create PDFs that are Acrobat 4 (PDF 1.3) or older



When you save a file in a legacy format such as AI 8



When you use the Flattener tool in Adobe products



## WHAT ARE THE COMPONENTS OF A “GOOD” FILE? WHERE’S THE BEST PLACE TO HANDLE TRANSPARENCY?

- ▶ With modern output devices using **Adobe PDF Print Engine (APPE)**, at the the RIP
  - Latest version is 4, not all RIPs will be updated
  - older versions handle transparency well however
- ▶ Many color copiers do not use this engine and do not handle transparency well
  - not great for proofing PDF files destined for print production
- ▶ Best test, print a proof early in the design phase to see what results you get

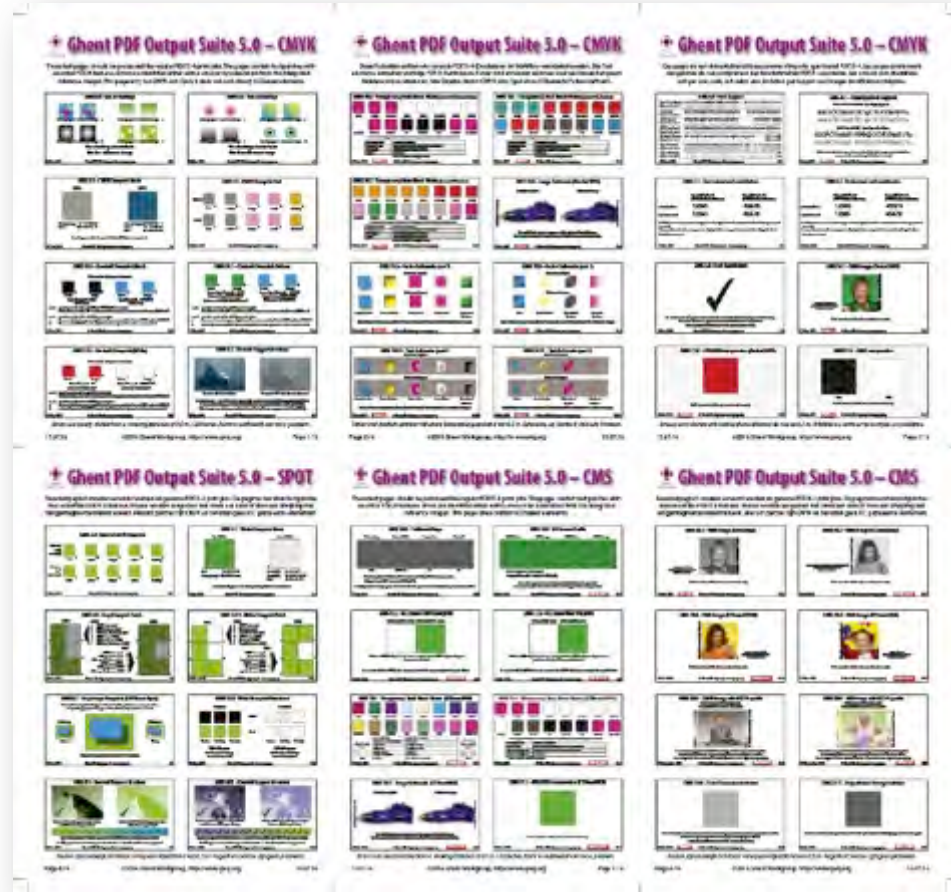


# SETTING UP GREAT FILES

## FREE HELP AVAILABLE

- ▶ Ghent PDF Workgroup
  - International group dedicated to helping prepare good files for print
  - Provides **application settings** to help users create viable PDF files
  - Also provides **test patches** to test how a RIP handles specific PDF issues, like transparency and overprinting

▶ [www.gwg.org](http://www.gwg.org)





# SETTING UP GREAT FILES

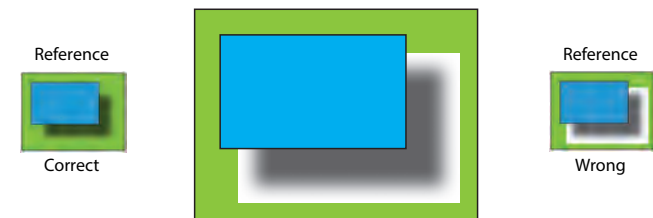
## FREE HELP AVAILABLE

- ▶ Ghent PDF Workgroup
  - International group dedicated to helping prepare good files for print
  - Provides [application settings](#) to help users create viable PDF files
  - Also provides [test patches](#) to test how a RIP handles specific PDF issues, like transparency and overprinting

▶ [www.gwg.org](http://www.gwg.org)

**GWG 3.1 - Gray Image Overprint (CMYK over Spot)**

During flattening (in InDesign or Acrobat) of drop shadows over spot colors overprinting grayscale images with a white background are created.



Reference  
Correct

Reference  
Wrong

Overprinting must be honored for the output.

21 Jan 2013 Ghent Workgroup © www.gwg.org 3.1

**GWG 16.10 – Text Softmasks (part 1)**

Actual test objects



Reference Images



Drop Shadow Inner Shadow Outer Glow Inner Glow Bevel and Emboss

Each of these transparency effects (Text Softmasks) should match the reference images.

11 Oct 2012 PDF/X-4 © Ghent Workgroup, www.gwg.org 16.10

# HOW PDFS ARE CREATED

## NOT ALL PDFS CREATED EQUALLY

- ▶ **Direct** from native application
  - Adobe products use Adobe PDF Library
- ▶ Through a **Postscript Interpreter**
  - When using “Print to PDF”
  - When printing to PDF driver via print option
- ▶ **Operating System**
  - In a Mac, this the Quartz
  - Export from some applications use the operating system’s PDF creation
- ▶ Through non-Adobe **PDF creation apps**
  - May or may not use ISO standard



## PDF/X — PDF STANDARD FOR PRINT

- PDF/X-1a: 2001
- PDF/X-1a:2003
- PDF/X-3:2002
- PDF/X3:2003
- PDF/X-4
- PDF/X-4p
- PDF/X-5
  - PDF/X-5g
  - PDF/X-5pg
  - PDF/X-5n

PDF 1.3, CMYK, Spot, Gray only  
based on PDF 1.4

PDF 1.3, adds RGB, ICC-based  
based on PDF 1.4

PDF 1.6, live transparency and layers

external profile references allowed

PDF 1.6, 3 conformance levels

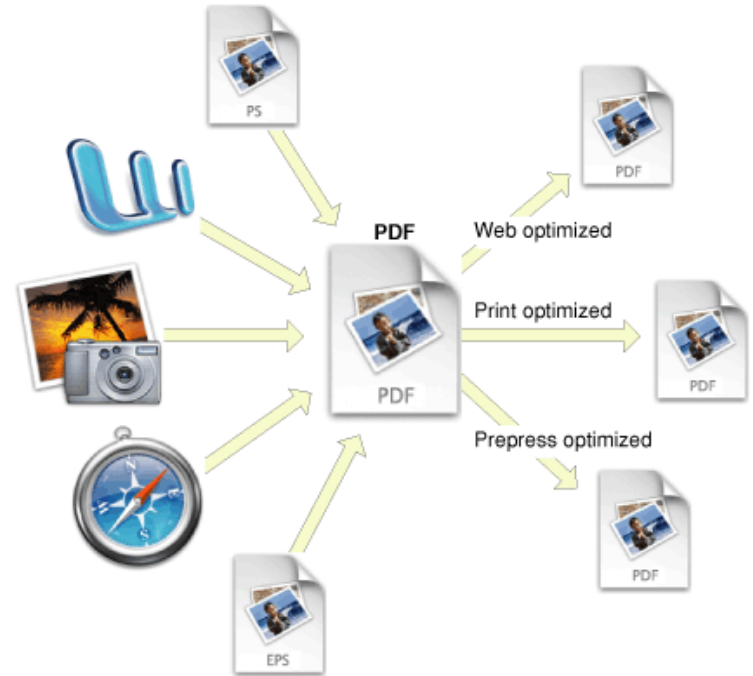
allow OPI-like external links

allow external graphics and profile links

external ICC profile for output intent to use

# CREATING PDF FILES OPERATING SYSTEM — MAC OS X

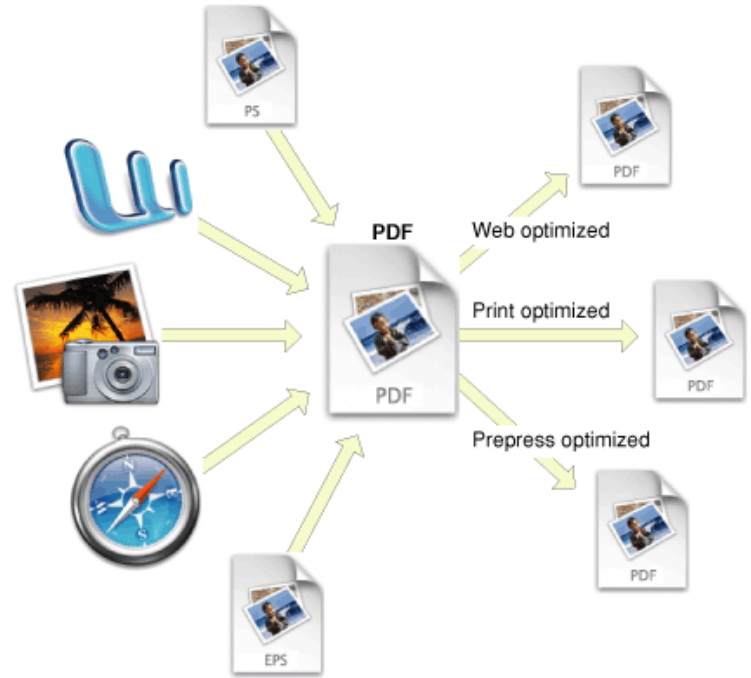
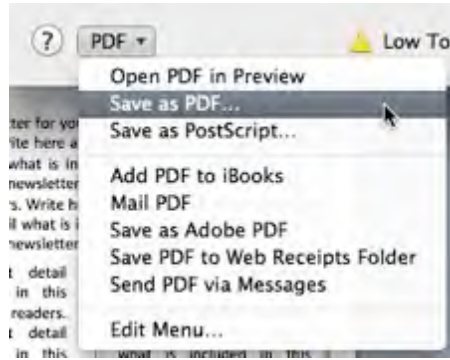
- ▶ Mac OS uses Quartz 2D to create PDF files
  - PDF is underlying display structure for Mac OS
  - Preview converts images to PDF for display
  - Exporting from Preview offers no special options
- ▶ Save as PDF function is disabled in print dialog in Adobe CC products
  - You can see the option, but it doesn't work



# CREATING PDF FILES

## OPERATING SYSTEM — MAC OS X

- ▶ Mac OS uses Quartz 2D to create PDF files
  - PDF is underlying display structure for Mac OS
  - Preview converts images to PDF for display
  - Exporting from Preview offers no special options
- ▶ Save as PDF function is disabled in print dialog in Adobe CC products



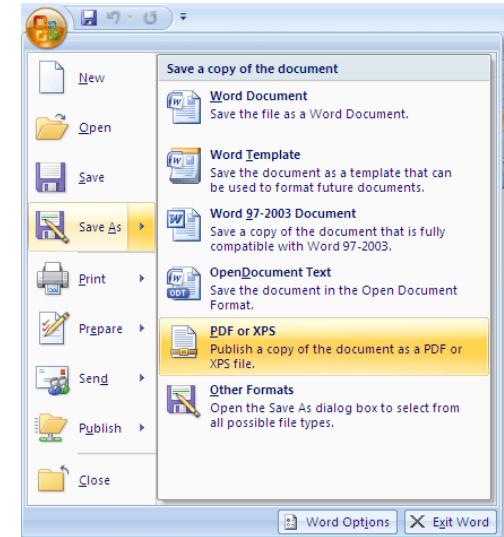
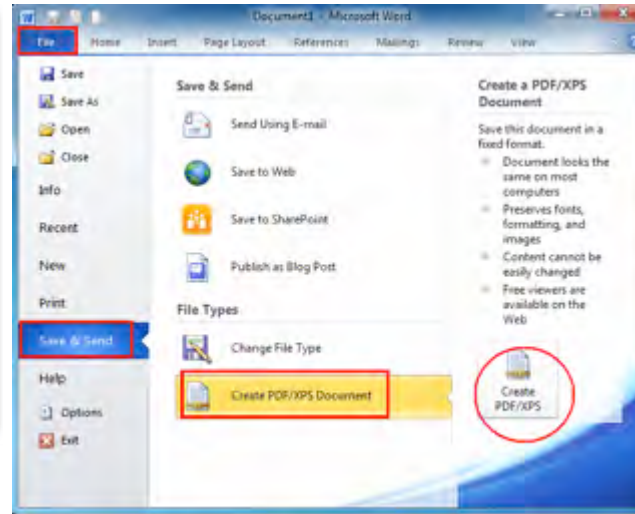
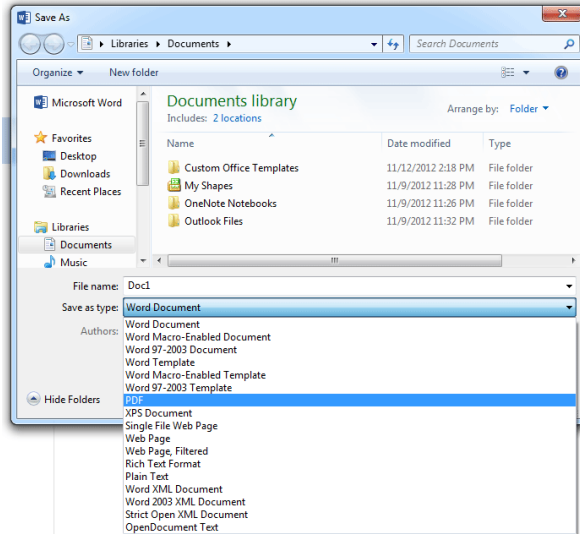
# CREATING PDF FILES OPERATING SYSTEM — WINDOWS

- ▶ Microsoft finally added a **Print to PDF** option that works in any app from the print menu
  - Only translates what is seen on the page, no metadata (links, bookmarks) will translate
- ▶ Older versions of Windows offered no system level PDF creation, relied on apps and/or Adobe PDF printer drivers



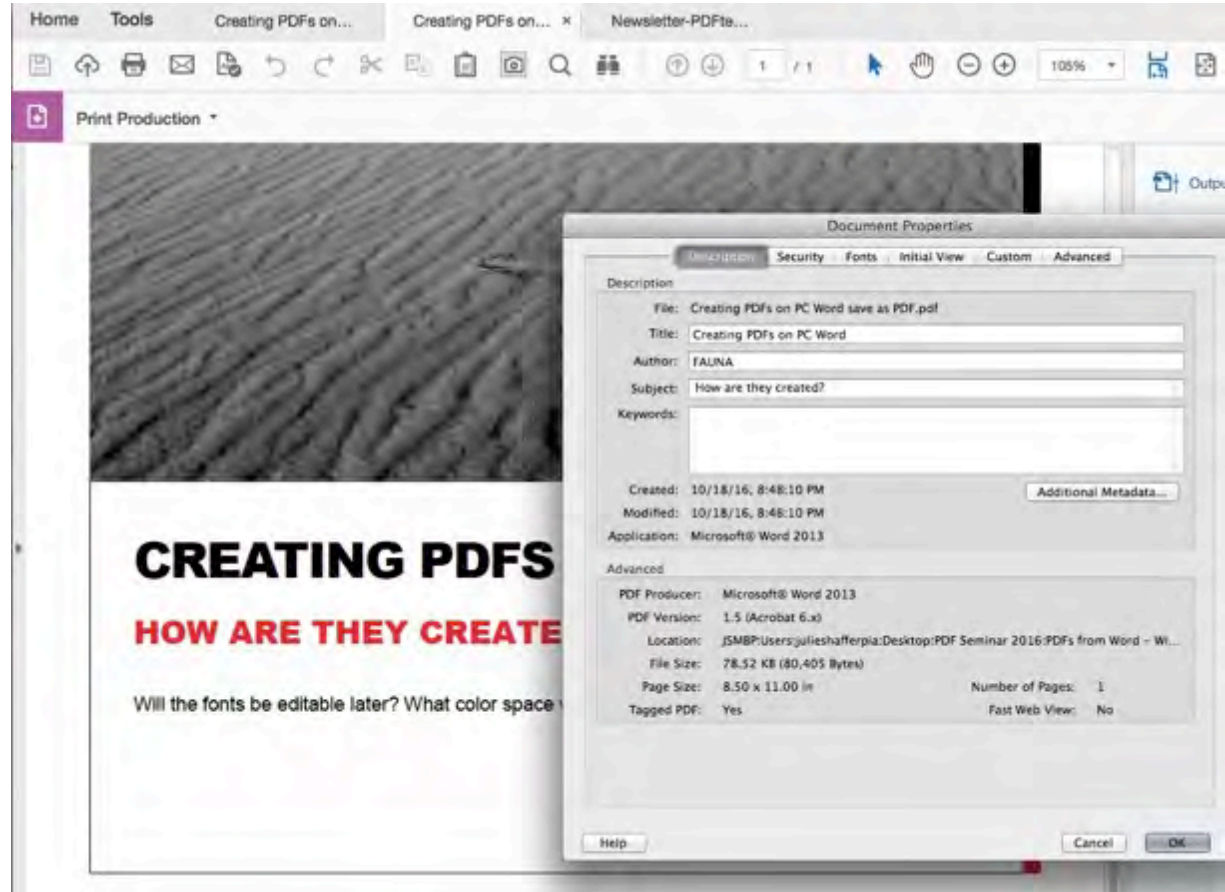
# CREATING PDF FILES WORD FOR WINDOWS

- ▶ Microsoft Office apps, particularly Word has long had a Save as PDF option in Windows, which changed with each new version of the app



# CREATING PDF FILES WORD FOR WINDOWS

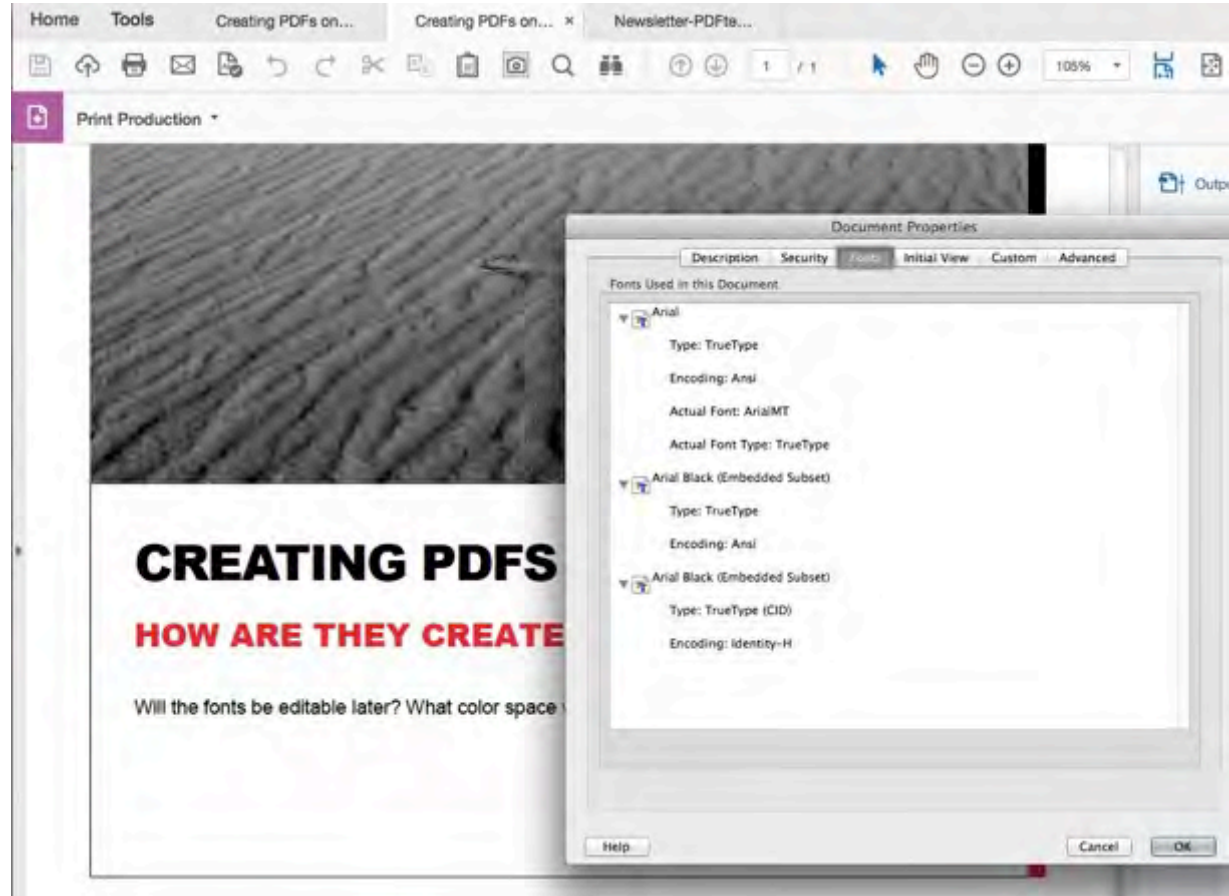
- ▶ PDF file created through “Save as” PDF option in Word 2013 Windows
- ▶ Notice PDF Producer is Microsoft Word





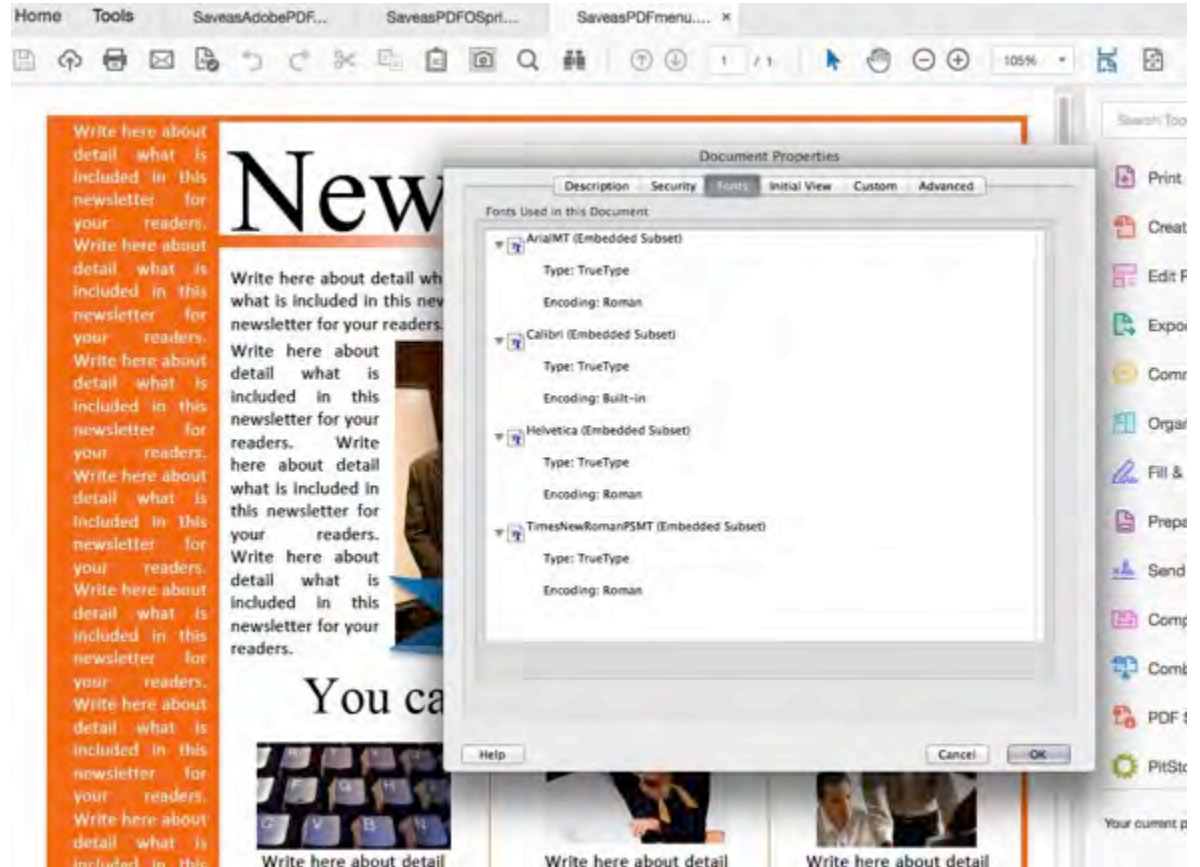
# CREATING PDF FILES WORD FOR WINDOWS

- ▶ PDF file created through “Save as” PDF option in Word 2013 Windows
- ▶ Notice PDF Producer is Microsoft Word
- ▶ Note base font “Arial” is not embedded in PDF
- ▶ Potential issue later if using different version of Arial in RIP or production computer



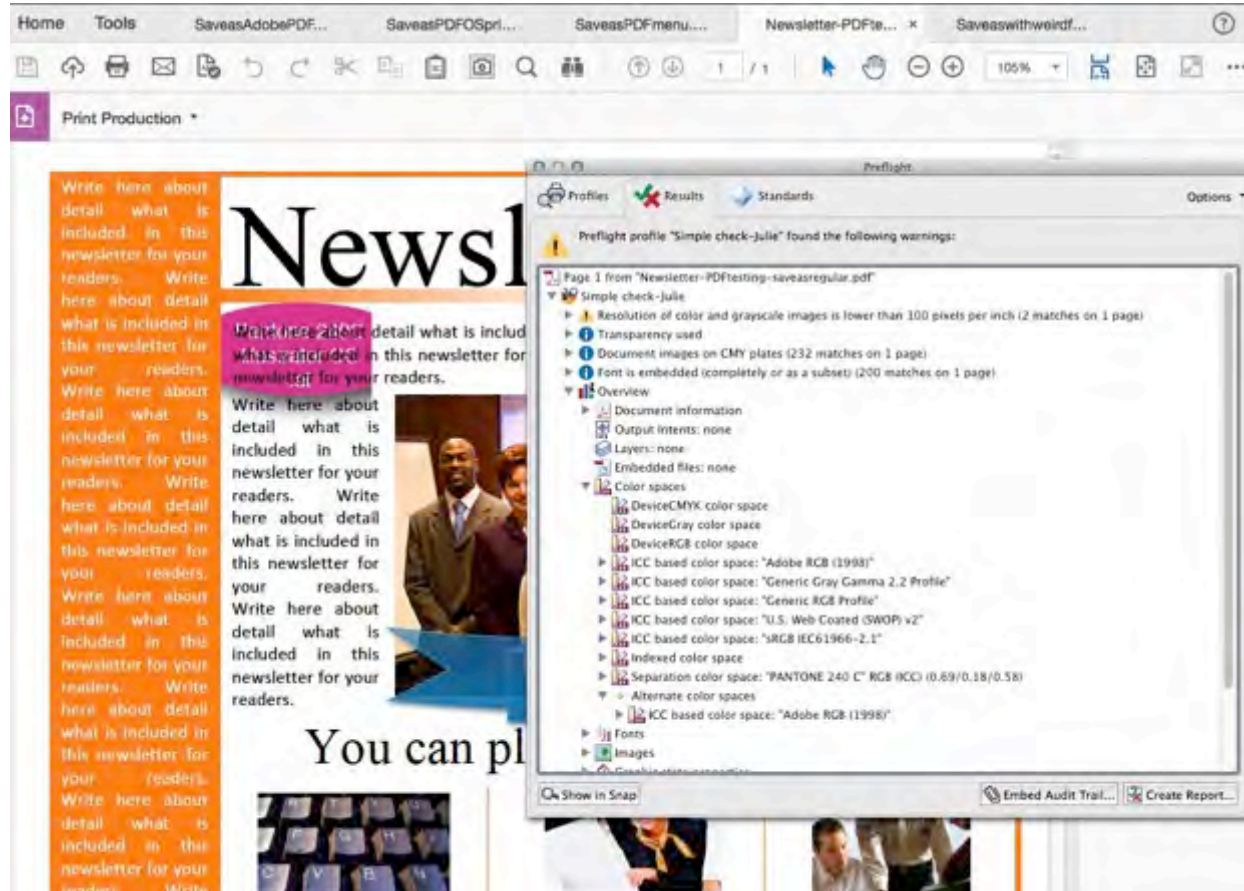
# CREATING PDF FILES WORD FOR MAC

- ▶ Different PDF creators depending on PDF creation method chosen
- ▶ Save as PDF from application results in Mac OS Quartz PDF creation
  - *Save as Adobe PDF* will use Acrobat PDF Maker
- ▶ All fonts embedded (including Arial)



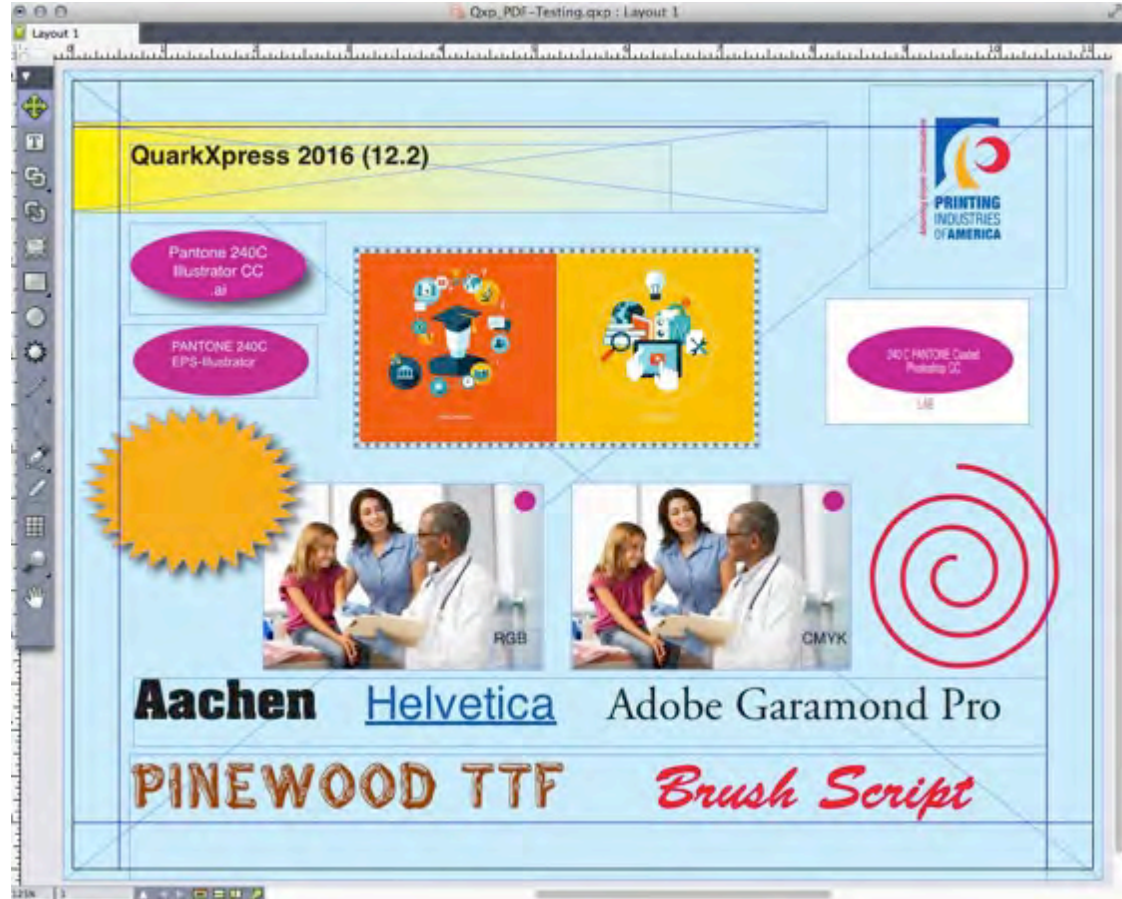
# CREATING PDF FILES WORD FOR MAC

- ▶ RGB, CMYK and Spot colors are retained
- ▶ Color applied in Word results in RGB
- ▶ Transparency is intact
- ▶ Same with any method of saving PDF from Mac
  - In this OS/Word version combination...



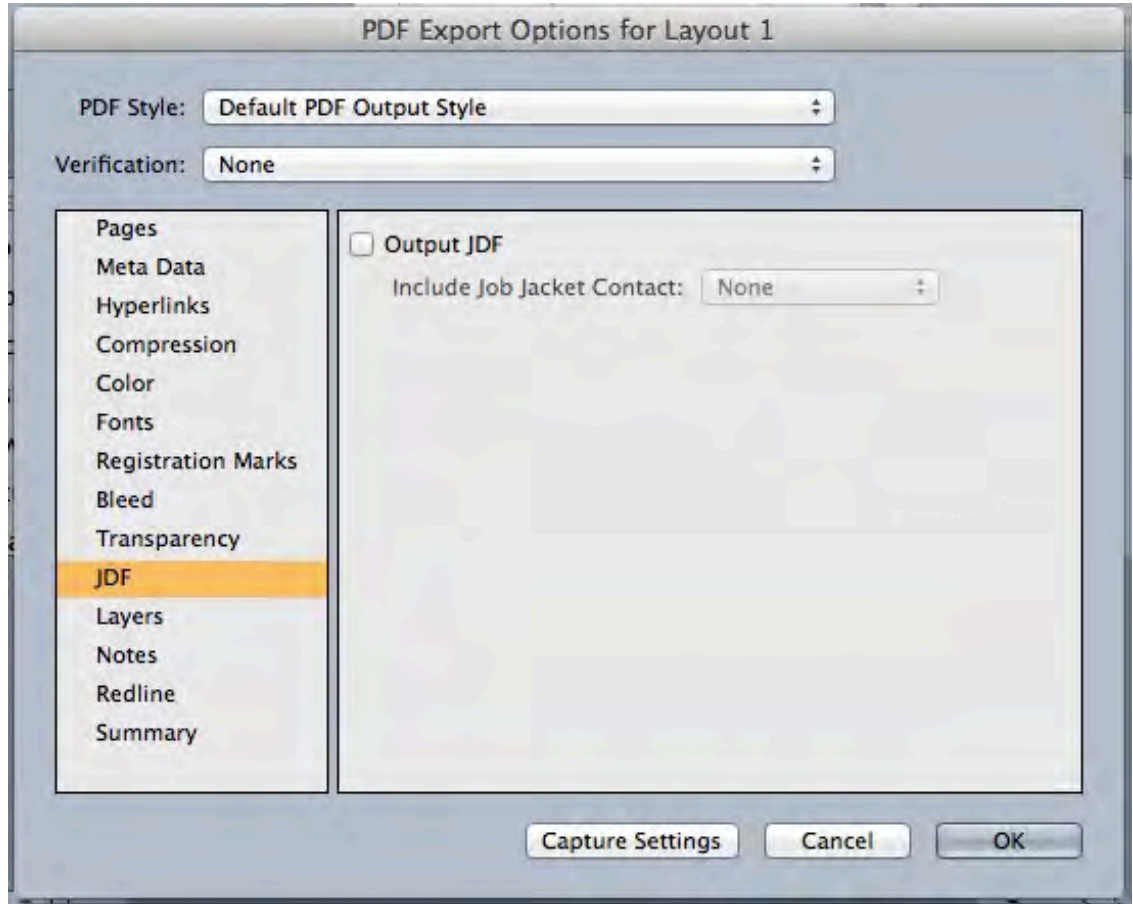
# CREATING PDF FILES QUARKXPRESS 2016

- ▶ Claim to fame is that one can still have a local copy of the software
- ▶ Handles PDF creation better than prior versions (where had to convert to Postscript first – hence no transparency)
  - Testing done on Mac



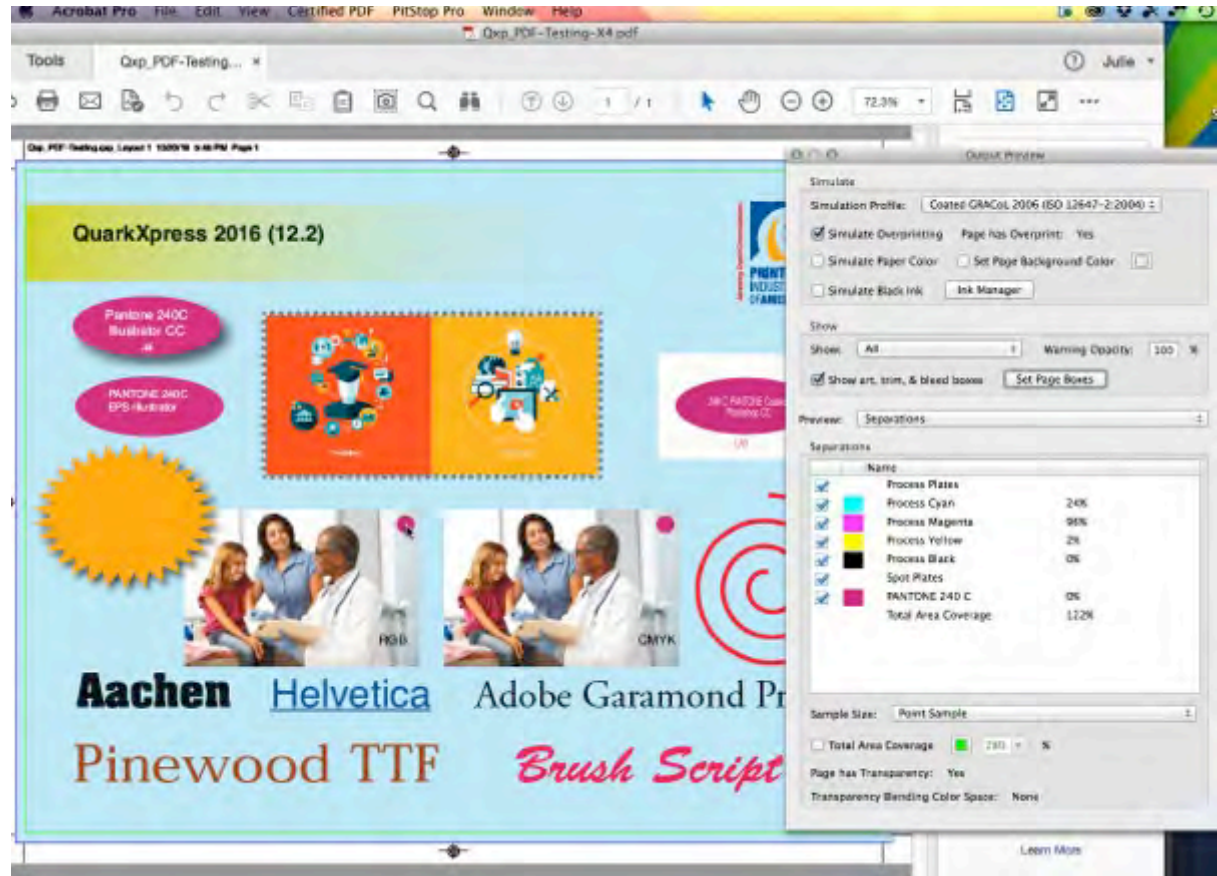
# CREATING PDF FILES QUARKXPRESS 2016

- ▶ Offers export of PDF similar to InDesign
- ▶ Options for PDF/X
- ▶ Can edit canned styles
- ▶ Defaults not same as Adobe defaults
  - Old school, no compression, keep full resolution



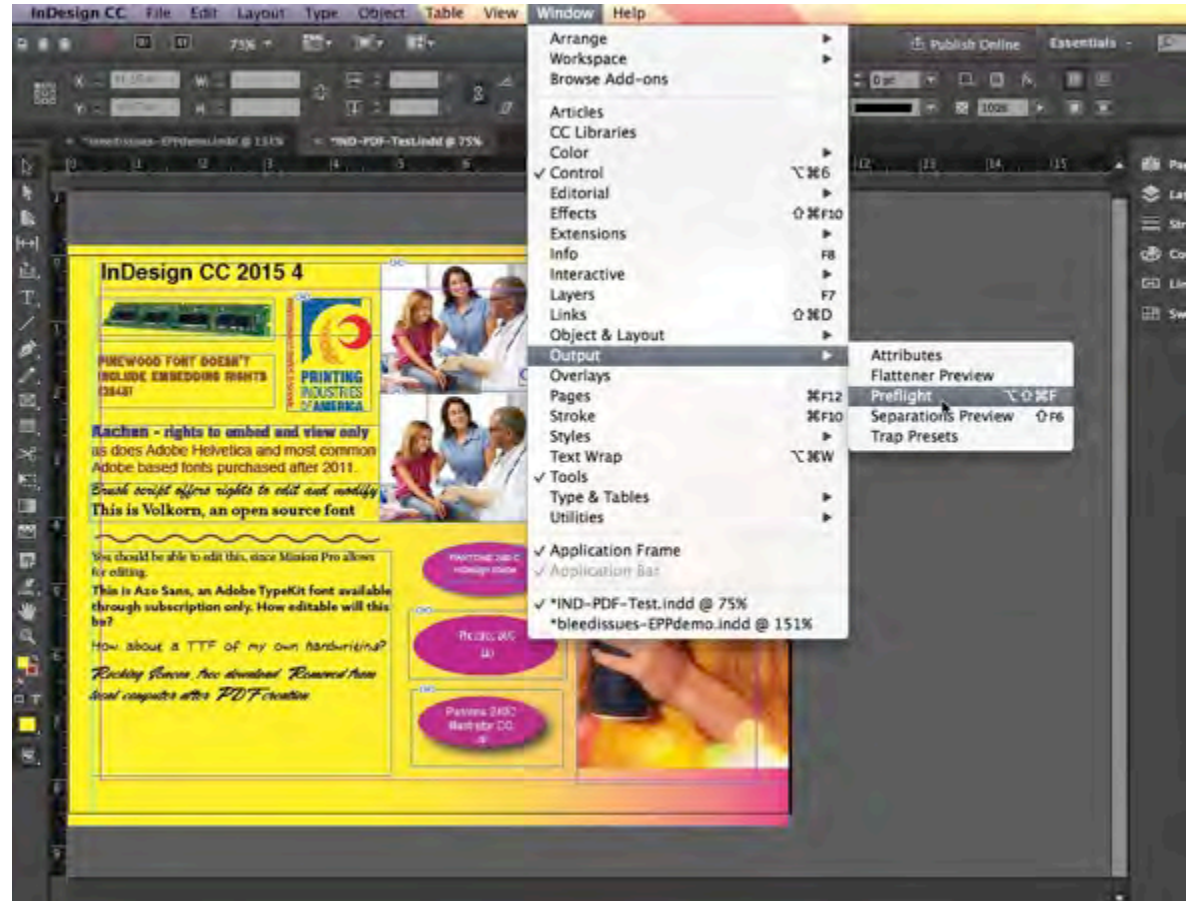
# CREATING PDF FILES QUARKXPRESS 2016

- ▶ Canned PDF/X export option results
- ▶ Transparency remains live
- ▶ Type in unembeddable font Pinewood shows up in another face
- ▶ In testing, RGB image converted to CMYK
  - results slightly different than pass through CMYK



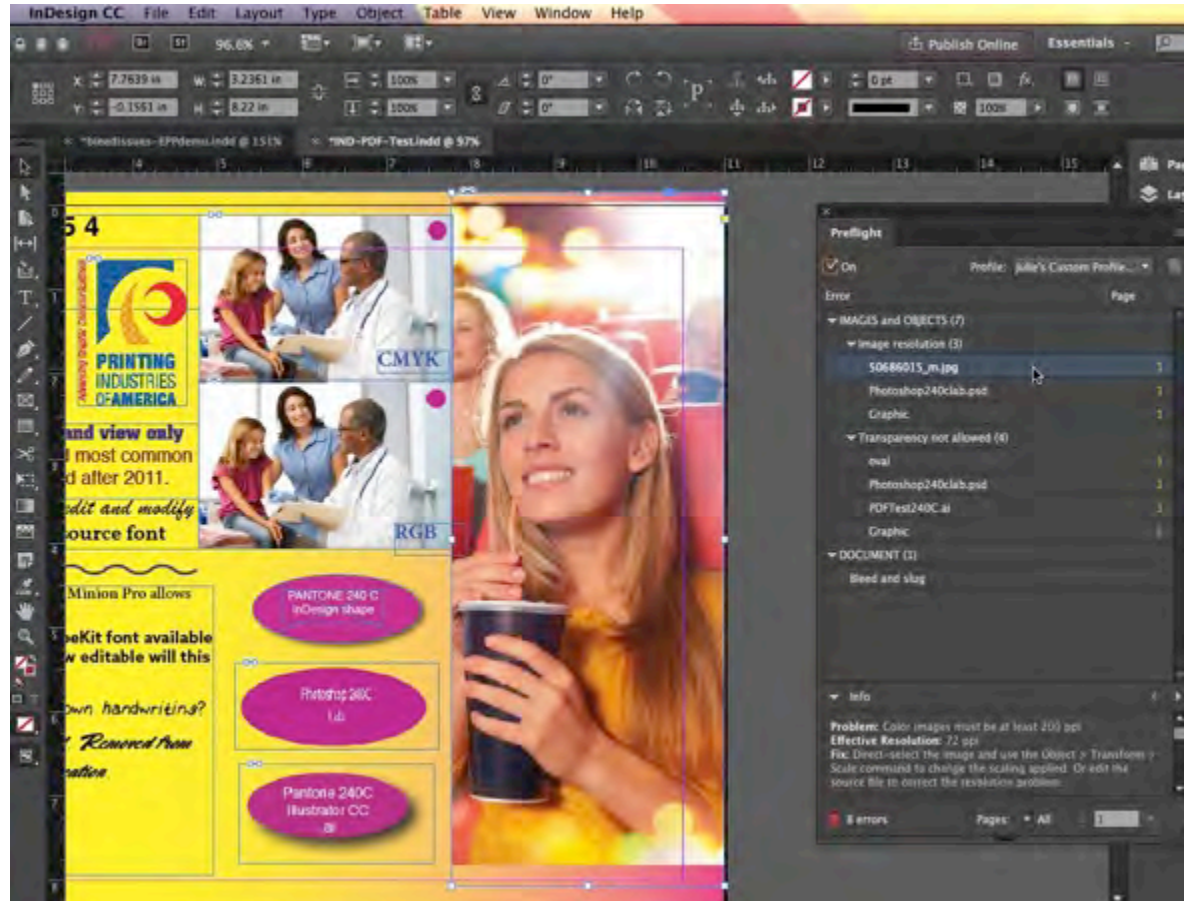
# CREATING PDF FILES ADOBE INDESIGN

- ▶ Optimal export PDF options BUT can get different results from same file depending on export settings
- ▶ Before PDF creation, take advantage of built-in Preflight check



# CREATING PDF FILES ADOBE INDESIGN

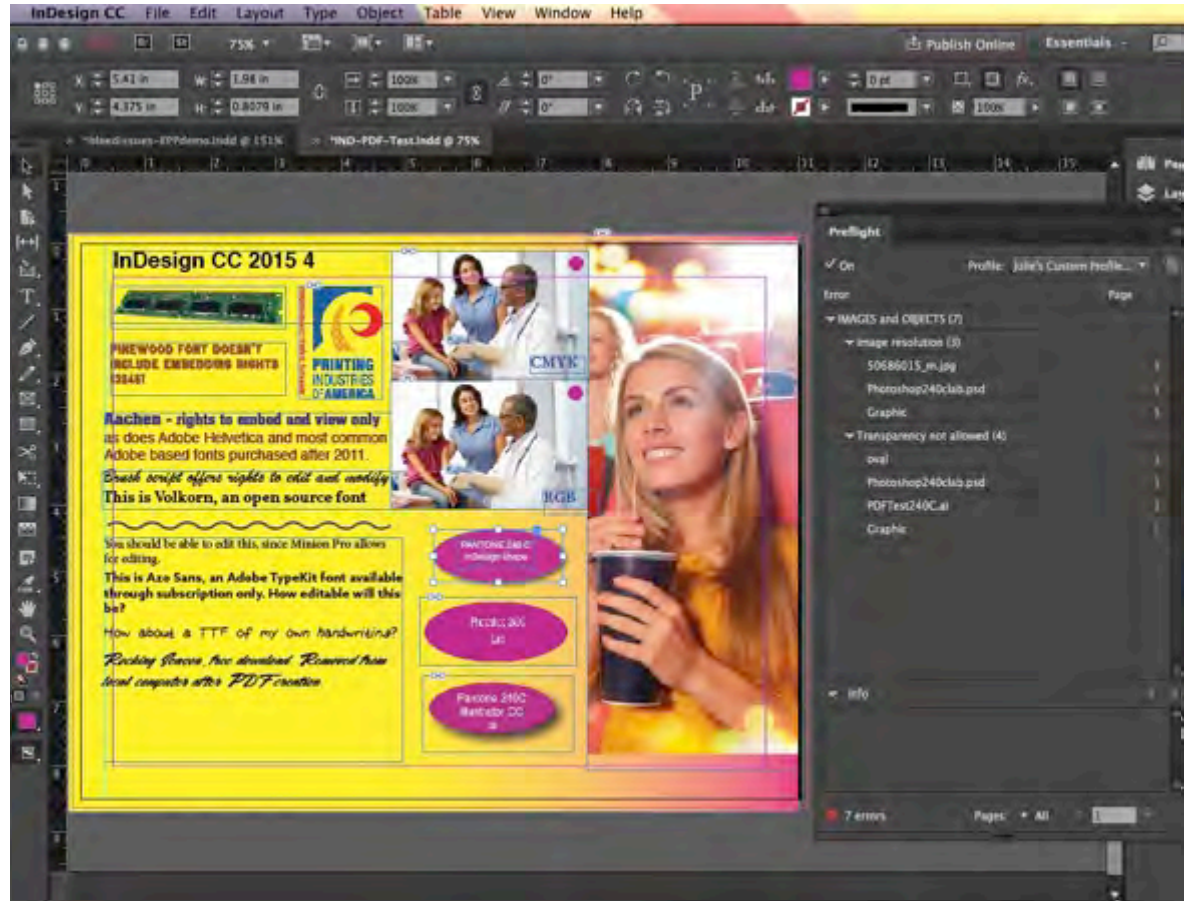
- ▶ Optimal export PDF options BUT can get different results from same file depending on export settings
- ▶ Before PDF creation, take advantage of built-in Preflight check





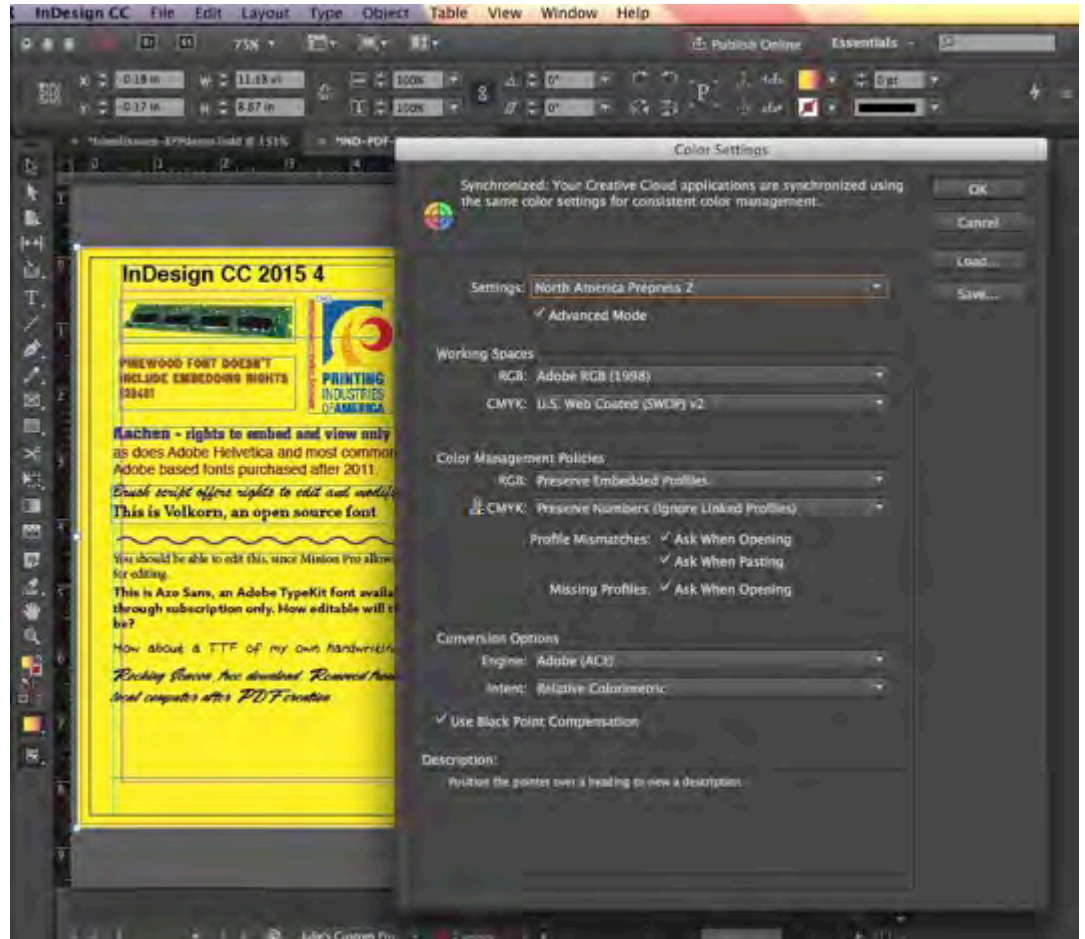
# CREATING PDF FILES ADOBE INDESIGN

- ▶ Preflight is not perfect
- ▶ Bleed errors based only on “bleed and slug” settings in document set up
- ▶ Fonts that can't be embedded are not noted
  - although you are notified when you go to export a PDF file



# CREATING PDF FILES ADOBE INDESIGN

- ▶ Color settings impact results in a PDF export
- ▶ Check to see that settings are synchronized or optimal for output goals



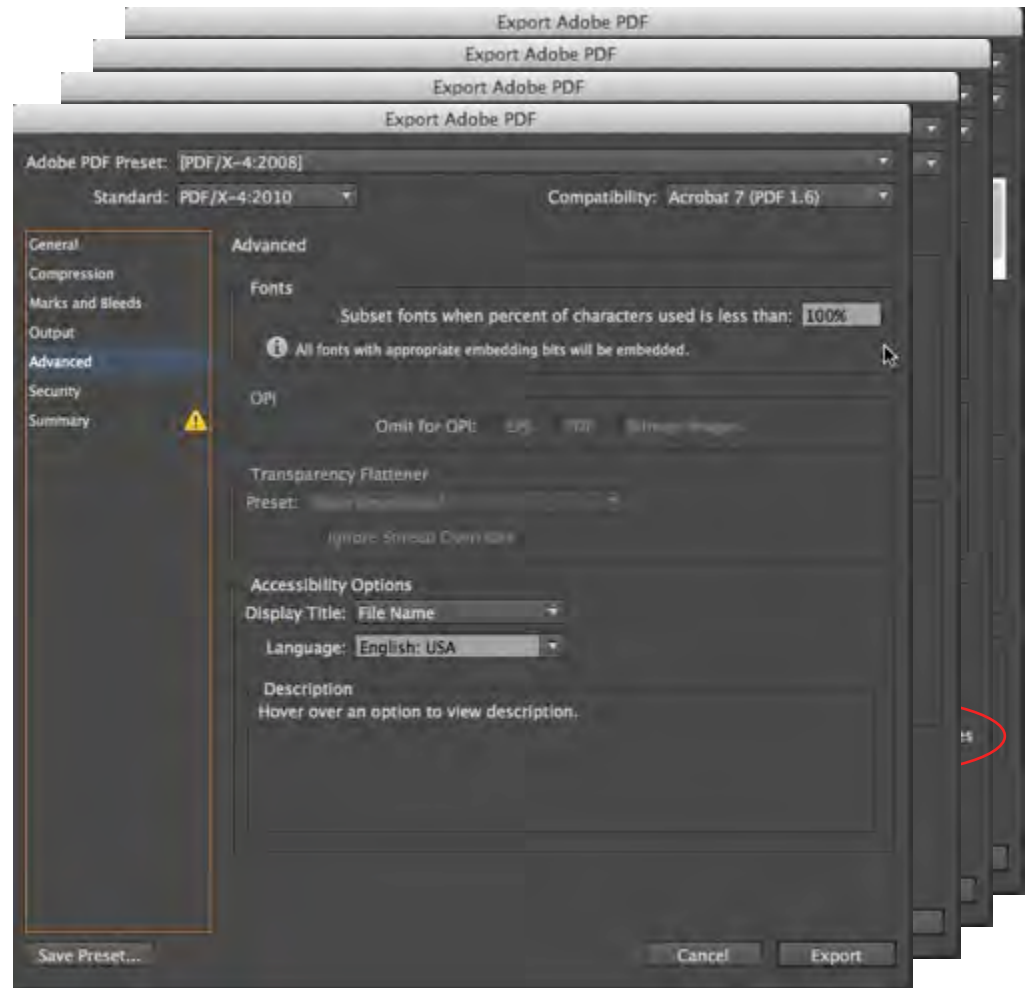
# CREATING PDF FILES ADOBE INDESIGN

- ▶ Color settings impact results in a PDF export
- ▶ Check to see that settings are synchronized or optimal for output goals



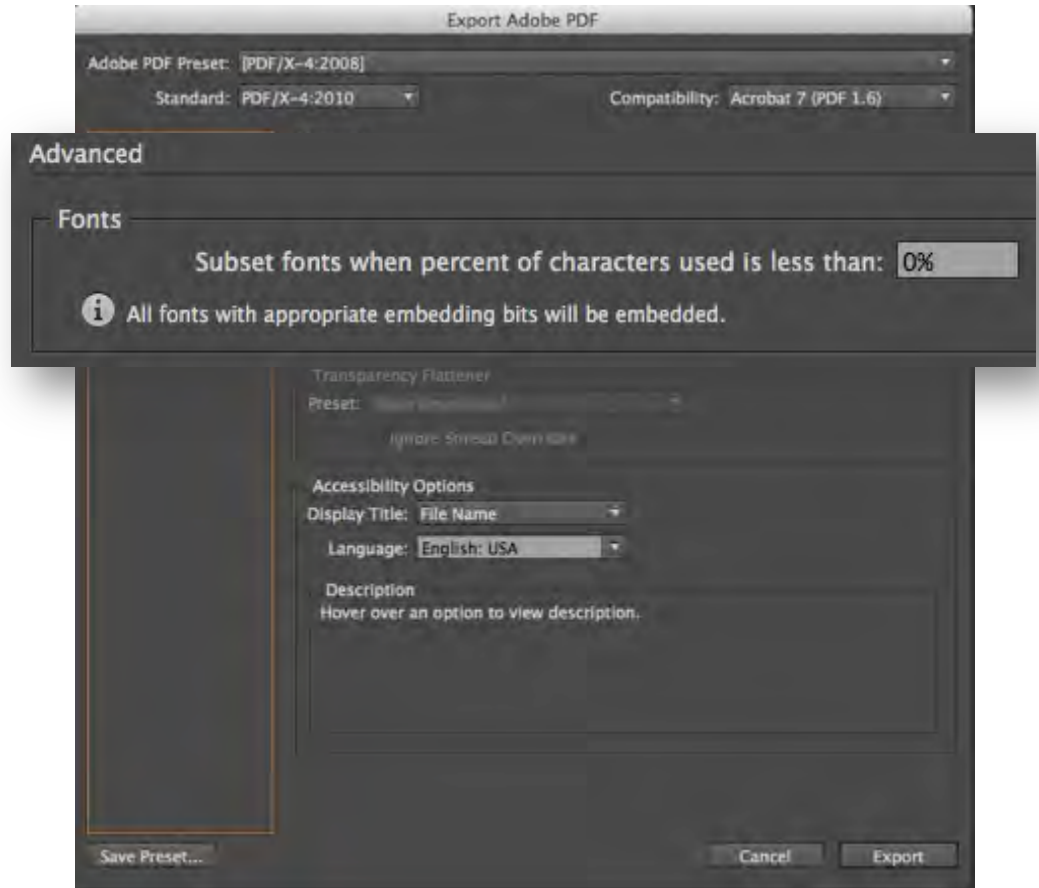
# CREATING PDF FILES ADOBE INDESIGN

- ▶ Here are the PDF/X-4 settings
- ▶ Image compression by default
  - Change to none if you really think it matters but will impact file size
- ▶ No color conversion
  - but output intent matches the color settings set in InDesign or in Adobe Bridge (if synchronized)
- ▶ X-4 standard doesn't force you to place bleed on file
  - Bleed can be set here or picked up from Document Settings



# CREATING PDF FILES ADOBE INDESIGN

- ▶ Fonts will be subset by default in InDesign export to PDF
  - Only glyphs actually used in the document are included in the PDF
  - Makes for marginally smaller files
- ▶ Tip: If you set the percentage here to 0% it will fully embed the entire glyph set for this font into the PDF file
  - If you wish to edit the PDF later using a tool like Enfocus Pitstop Pro, you will be able to access the entire character set, not just those used in the document



# REVIEWING & EDITING PDF FILES ADOBE ACROBAT

- ▶ Now we're going to leave the presentation and go out to Acrobat to review PDF files
- ▶ We'll look at:
  1. How to do a quick preflight check without even using the Preflight tool in Acrobat
  2. How color images/objects are embedded differently depending on export settings
  3. How to work with text using Enfocus Pitstop Pro and Acrobat tools
  4. How to add bleed to a file with Pitstop Pro

