Key goals and evolution of Photoshop's development included:

- **Initially Displaying Images**: Thomas Knoll initially developed code to display grayscale images on a monochrome Macintosh monitor.

- **Digital Image Editing**: John Knoll recognized the potential to turn this into a full-featured application for editing and retouching, which became the core purpose.

- **Advanced Control**: The goal was to provide tools for adjusting tones (levels), color, gamma correction, and eventually, to create a sophisticated, layer-based editing environment that far exceeded traditional darkroom capabilities.

- **Accessibility and Efficiency**: It was developed to allow designers to create and edit images quickly, moving away from painstaking, manual, and expensive professional photo editing workflows.

History of Adobe

1982 **1981**

Adobe is founded

James full time Architectural Illustrator

1983

Adobe Introduces Postscript and Apple adopts it for it's printers

1985

Apple releases personal computer

1987

Adobe releases Illustrator

1989 **1988**

Adobe release Photoshop

Architectural Illustration firm uses Adobe software

1993

Adobe introduces Acrobat and PDF

1999

James and partner start their own studio and quickly increase revenue to 6 figures

2003

Adobe releases CS

2007

Adobe releases Lightroom

2010

James starts working at Quantico producing courseware using the entires CC

2012

Adobe releases Lightroom 4

2019

James becomes lead photographer, videographer Multimedia artists for MCU

Orignal Rendering

Digitally Altered Showing Option One

Launched in 2006

The key goals in developing Lightroom included:

- **Streamlining Workflow:** To create a one-stop-shop for professional and enthusiast photographers to import, review, sort, and edit, moving beyond just image manipulation.

- **Non-Destructive Editing:** To ensure the original image file is never altered; instead, all changes are stored as metadata, allowing for infinite revisions without losing data.

- **Large-Scale Organization:** To offer a robust cataloging system (the "Library" module) that handles thousands of photos, allowing users to rate, keyword, and organize them into collections.

- **Batch Processing:** To enable photographers to apply, sync, or copy edits across hundreds of similar images simultaneously, a crucial feature for efficiency.

- **Specialized "Digital Darkroom":** To create a specialized, streamlined tool that focuses on color, tone, and exposure, separate from the complex pixel-level editing found in Photoshop.

Ultimately, the goal was to allow photographers to spend less time in front of a screen and more time behind the lens, while still achieving a professional-quality, finished product.

LrC

LrC

		Lr
2007	Lightroom	
2015	Lightroom CC	Lightroom Mobile
2017	Lightroom Classic CC	Lightroom CC
2019	Lightroom Classic	Lightroom

Lr

20GB: $10.49/mo
1TB: $21/mo
10TB: $102/mo
20TB: $204/mo

	Lightroom (1TB)	Photography (1TB)	Creative Cloud Pro
	Edit photos that look just the way you want, anywhere you are.	Get both Lightroom and Photoshop plus 1TB of cloud storage	20+ creative apps, including Lightroom, plus Adobe Firefly creative AI for images, video, and audio.
	US$11.99/mo *Annual, billed monthly*	**US$19.99/mo** *Annual, billed monthly*	**US$69.99/mo** *Annual, billed monthly*
	Buy now Free trial	Buy now Free trial	Buy now Free trial
Lightroom Edit photos on any device with cloud storage, and enjoy easy-to-use sliders, presets, and in-app tutorials.	✓	✓	✓
Lightroom Classic Edit and store your images on desktop.	✓	✓	✓
Photoshop on desktop Transform your photos for social posts, banners, beautiful websites, and more.		✓	✓
Photoshop on mobile and web Create gorgeous images and graphics with many of the same features you use on desktop.		✓	✓
Lightroom on mobile and web Capture photos on mobile, and edit, organize, and share your photos on mobile or in your browser.	✓	✓	✓
Adobe Portfolio Build your own website and share your best work.	✓	✓	✓
Cloud photo storage	1TB	1TB	100GB

The best camera?

The one you have in hand

With choice

comes compromise.

Key Aspects of Camera Raw

Unprocessed Data: RAW files contain raw data from the sensor, allowing for higher quality adjustments to exposure, sharpness, and color.

"Digital Negative": Think of it as a film negative that can be re-processed multiple times.

Non-Destructive Editing: Adjustments made in Camera Raw software are saved as metadata (often in a sidecar file or DNG format), leaving the original data untouched.

Better Dynamic Range: Raw files offer much higher dynamic range, enabling recovery of details in highlights and shadows.

File Size & Workflow: RAW files are larger than JPEG, requiring more storage space and post-processing time.
Common Software for Editing RAW Files
Adobe Lightroom & Photoshop: Adobe Camera Raw is a plugin in these applications.

Other Converters: Affinity Photo, Capture One, and various proprietary camera manufacturer software.
When shooting in RAW, the camera does not automatically process, compress, or add sharpening to the image, giving the photographer full control over the final look.
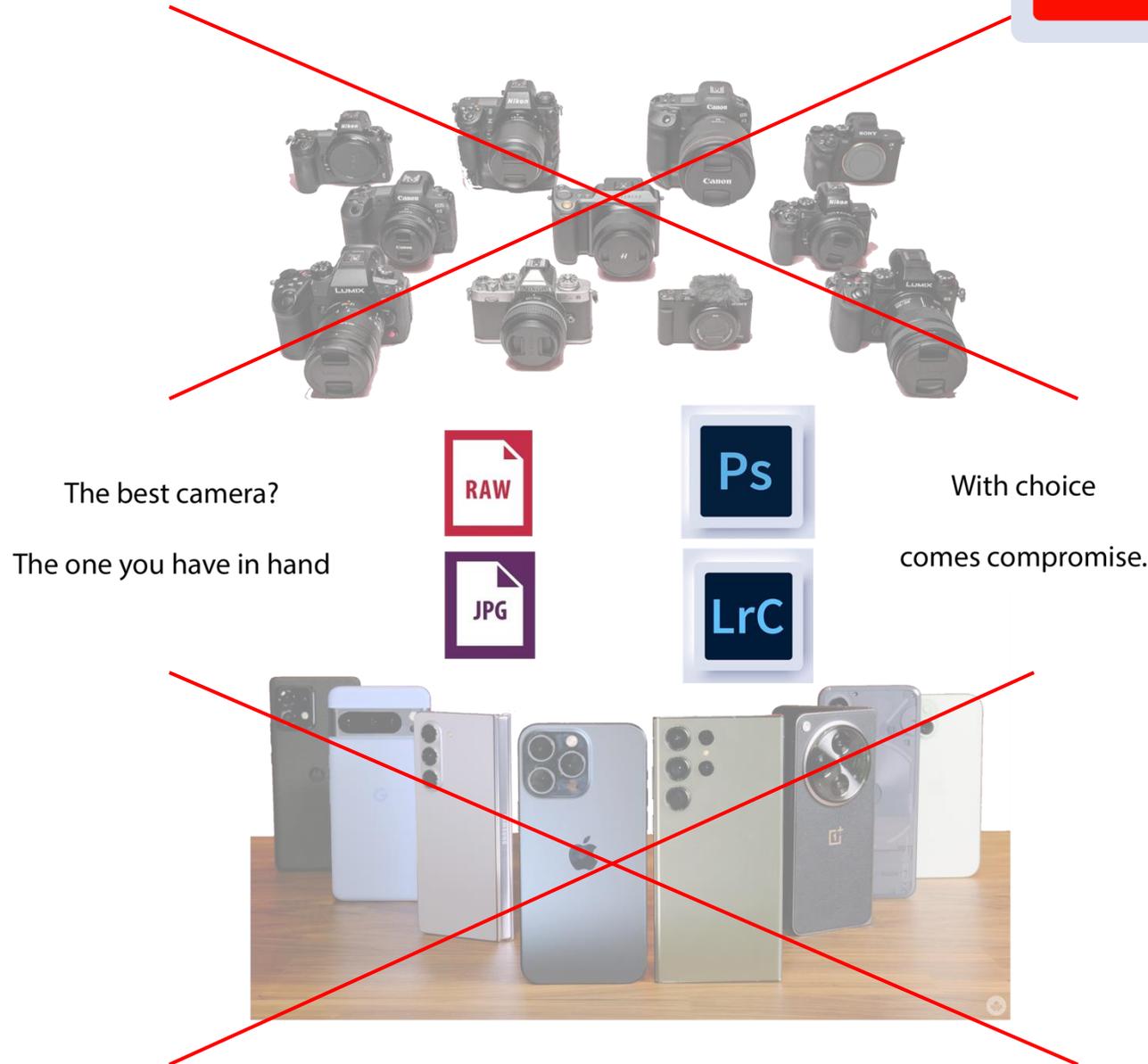
RAW

VERSUS

JPEG

COMPARING 2 TYPES OF IMAGE FORMATS

schubertphotography.com

RAW	JPG
Larger file size (uncompressed).	Smaller file size (compressed).
Requires software to open. Not a processed image file.	Processed image file viewable with most any image viewer.
Requires post processing prior to publishing.	Ready to publish immediately.
Better able to display a wide range of shadows and highlights. Allows more control over fine image adjustments.	Less able to display a wide range of shadows and highlights. Limited control over fine image adjustments.

RAW = HIGHEST QUALITY

	JPEG	raw
Bits	8	14
Bits = Tonal values	256	16,384
Colour space	sRGB	ProPhoto
Dynamic Range	Reduced	Maximum
Data loss	Yes 60-95%	No
"Baked-in" edits	Yes	No
File size	Smaller	Larger
Post Processing Flexibility	Limited	Maximum

Optional Photo Apps for smart phones – Look for DNG, DWG Format

Google Store

Proshot

https://play.google.com/store/apps/details?id=com.riseupgames.proshot2&pli=1

Open Camera

https://play.google.com/store/apps/details?id=net.sourceforge.opencamera&hl=en_US

ProCam X

https://play.google.com/store/apps/details?id=com.intermedia.hd.camera.professional&hl=en_US

Apple Store

ProCam

https://apps.apple.com/us/app/procam-pro-camera/id730712409

ProShot

https://apps.apple.com/us/app/proshot/id924438909

Project Indigo

https://apps.apple.com/us/app/project-indigo/id6742591546