

PWC G8

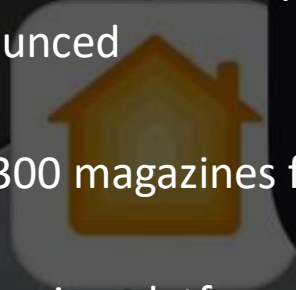
Gals@Technology

March 2019

Working with Digital
Photos and Printing

Current Topics

- Apple Event – All About Services
 - Apple TV+
 - Original content
 - Spielberg, Sesame Street Workshop, J.J. Abrams, and Oprah
 - Content now available on all platforms with AppleTV app
 - Price not announced
 - Apple News+
 - WJS and over 300 magazines for \$9.99/month and includes family sharing
 - Apple Arcade
 - Subscription gaming platform
 - Apple Pay now with Apple Card (backed by Goldman Sachs)
 - Cash Back Daily (3%, 2%)
 - Physical titanium card with no number, no CNN, no expiration, no signature (1% Cash Back)



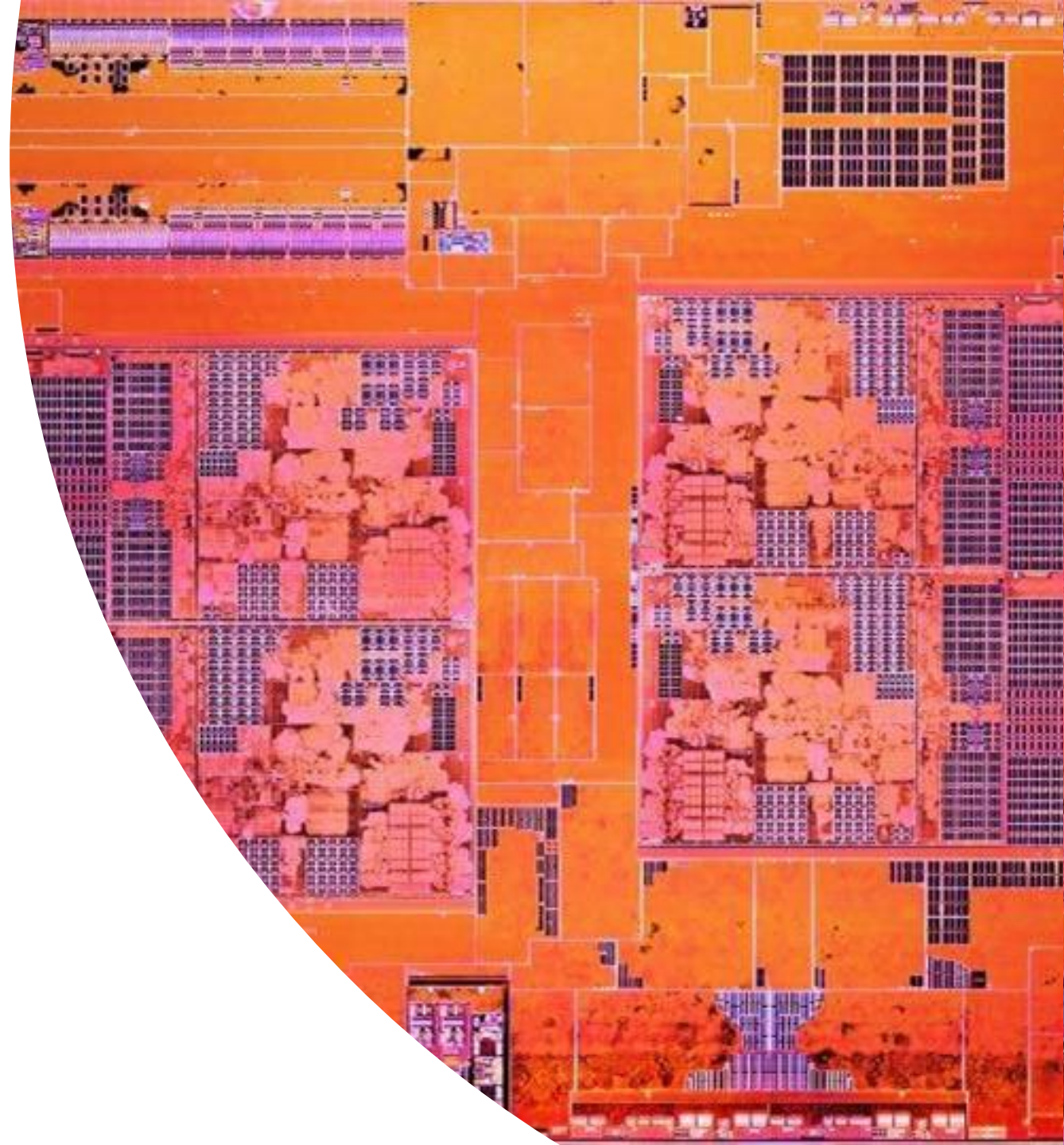
Current Topics

- **Aggressive pop-ups starting**
 - Windows XP end-of-support on April 8
 - Windows 7 end-of-support on January 14, 2020
- **Windows 10 April Feature Release**
 - AKA Version 1903, also 19H1
 - Nothing particularly interesting



Current Topics

- New Intel processor attack
 - “Spoiler” exploit
 - Software mitigation not possible
 - Weakness in “address speculation” proprietary to Intel
 - Affects ALL Intel processors



Current Topics

- OneWeb
 - Launch of first 6 satellites for “Space Internet”
 - Backed by Richard Branson, SoftBank, Coca-Cola, and Airbus
 - Launches starting every three weeks in October with each carrying 34 satellites
 - Total design is 650 satellites in 750 mile orbit (LEO – Low Earth Orbit)
 - Address 3 BILLION people who currently don’t have high-speed internet



World Backup Day – March 31st



- Friends Don't Let Friends Go Without A Backup
- <http://www.worldbackupday.com/en/>

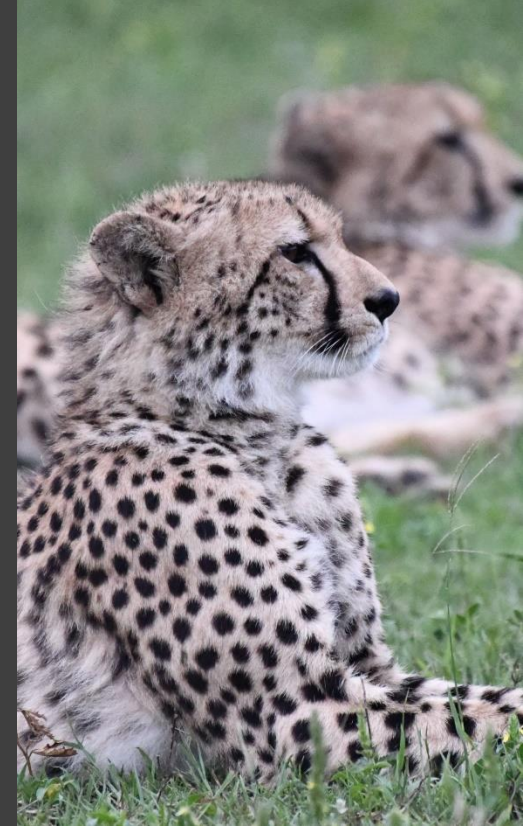
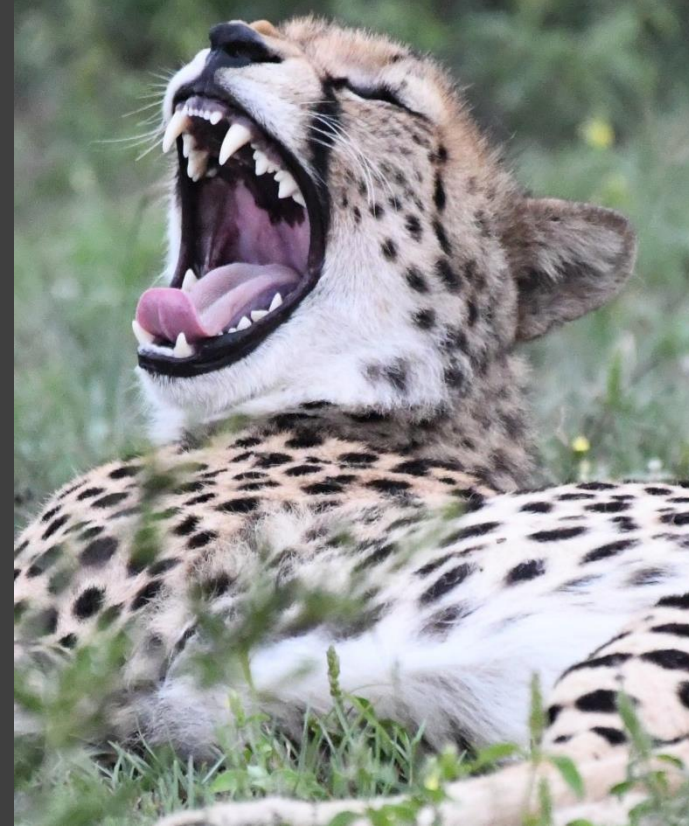
A Story About Photos and Backup

- My sister Karen, husband Bill, and son David.
- 8 Day Photo Safari in Southern Africa
- 3 people, 6 Nikon camera bodies, 8 lenses, 1.2TB

Date	Location	Total Number of Files	Total File Size (GB)
12/28/2018	Phinda	3930	96.9
12/29/2018	Phinda	8978	228.5
12/30/2018	Phinda	6960	180.8
12/31/2018	Phinda	6514	189.5
1/1/2019	Phinda/Tintswalo	4109	131.7
1/2/2019	Tintswalo	6888	180.6
1/3/2019	Tintswalo	2013	54.5
1/4/2019	Tintswalo	3728	86.3
	TOTAL	43120	1148.8

A Story About Photos and Backup

- Cameras have digital memory cards
- Nightly backups of “daily memory cards” to 2 different portable USB drives
- 1 USB drive was used, the other was new
- Towards the end of the trip, things got busy and daily backups were only made to the new USB drive
- At home, the USB drive was unreadable!!
- There are lost photos!! These are some of what would have been lost.



A Story About Photos and Backup

- Scott's recovery tools didn't work
- Drive sent to Drive Recovery Group for lab recovery
- 3 of 4 heads were good. 4th head was failing. After 3 weeks of the 4 head somewhat working, it finally completely failed.
- 4 head was replaced using a new technique (first time used)
- All photos recovered
- **5 weeks and \$1,795 later**

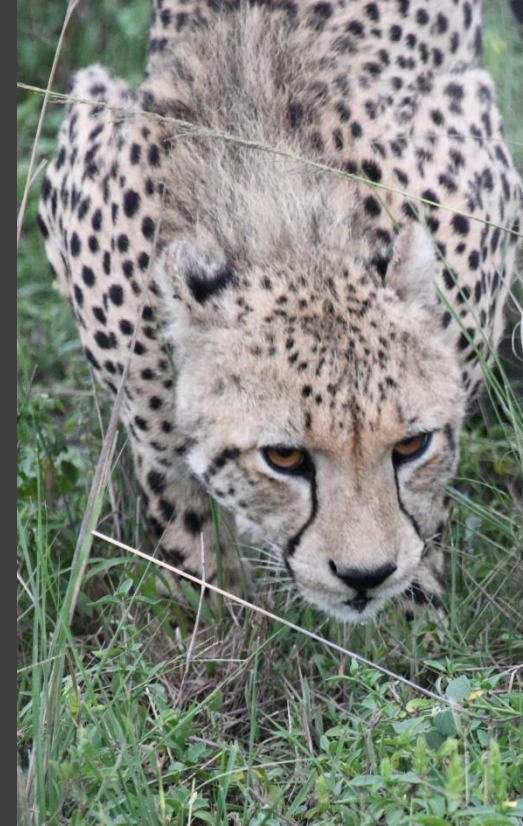


Photo Basics

- Pixel (sometimes called Pel or Picture Element) is the physical point at which light is captured. The smallest addressable element
 - Intensity or brightness is variable
 - Component parts – red, green, blue or cyan
 - Sometimes cameras are rated at megapixels
 - For example, a 640x480 pixel image is 307,200 pixels
- Bits per Pixel or bpp
 - 1 bpp = 2 colors (B&W)
 - 2 bpp = 4 colors
 - 24 bpp = 16,777,216 colors (also known as “Truecolor”)



Photo Basics

- Not all colors can be sensed at the same physical site

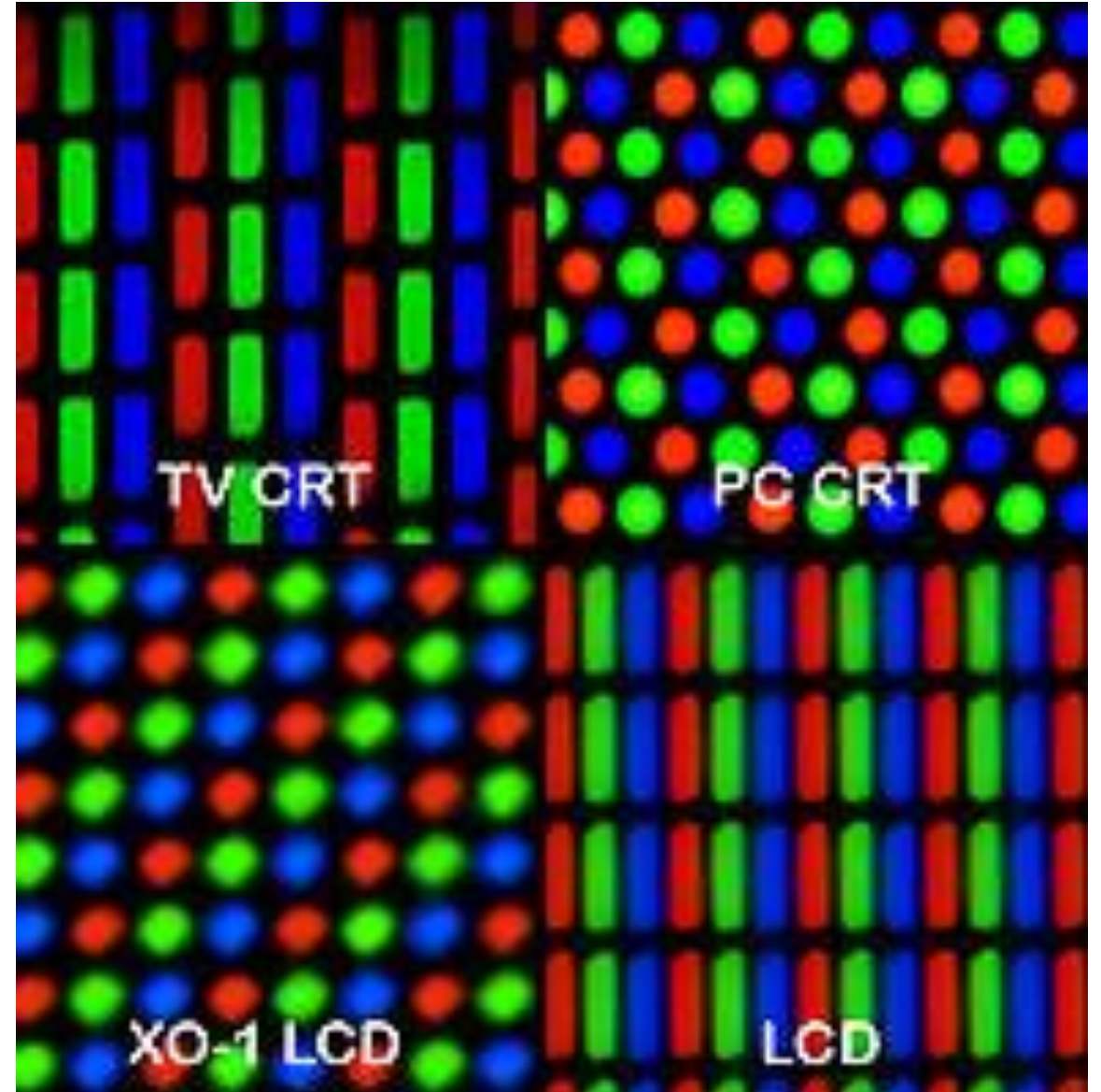
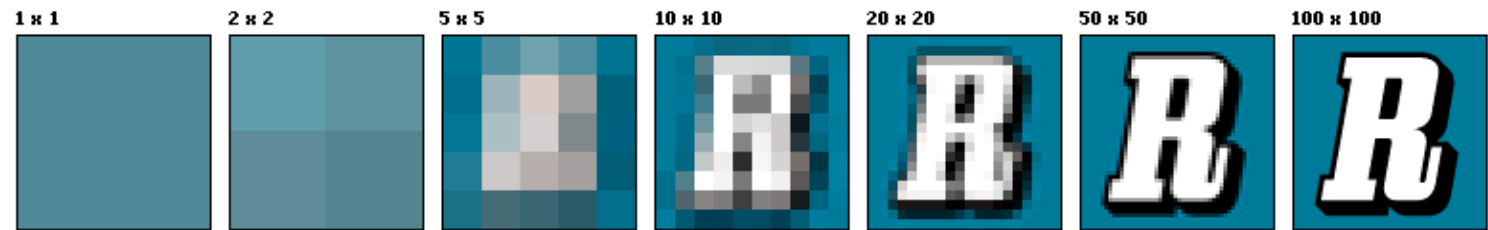


Photo Basics



- Resolution – the image can never be better than the original capture

Photo Basics

- 500×480 : [Digital8](#)
- 720×480 : [D-VHS](#), [DVD](#), [miniDV](#), Digital Betacam (NTSC)
- 720×480 : Widescreen DVD (anamorphic) (NTSC)
- 720×576 : [D-VHS](#), [DVD](#), [miniDV](#), [Digital8](#), Digital Betacam (PAL/SECAM)
- 720×576 : Widescreen DVD (anamorphic) (PAL/SECAM)
- 1280×720 : D-VHS, [HD DVD](#), [Blu-ray](#), HDV (miniDV)
- 1440×1080 : HDV (miniDV)
- 1920×1080 : HDV (miniDV), AVCHD, HD DVD, Blu-ray, HDCAM SR
- 1998×1080 : 2K Flat (1.85:1)
- 2048×1080 : 2K Digital Cinema
- 3840×2160 : [4K UHD TV](#), [Ultra HD Blu-ray](#)
- 4096×2160 : [4K Digital Cinema](#)
- 7680×4320 : [8K UHD TV](#)
- 15360×8640 : [16K Digital Cinema](#)
- 61440×34560 : [64K Digital Cinema](#)
- Kodak claims the equivalent resolution of 35mm film is 6K.

Photo Basics

- iPhone cameras are 2032x3024 pixels (12MP)

<https://developer.apple.com/library/archive/documentation/DeviceInformation/Reference/iOSDeviceCompatibility/Cameras/Cameras.html>

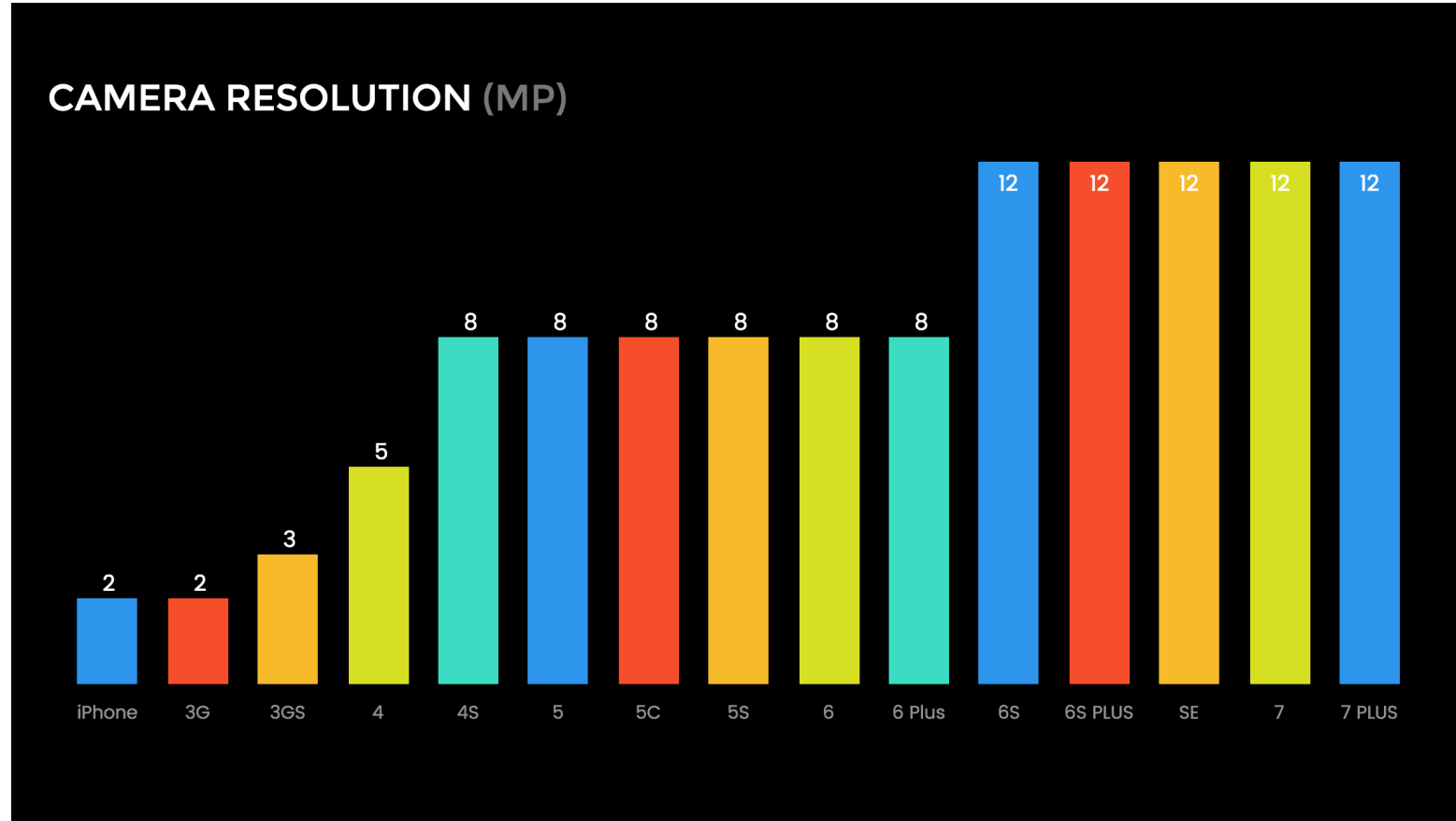
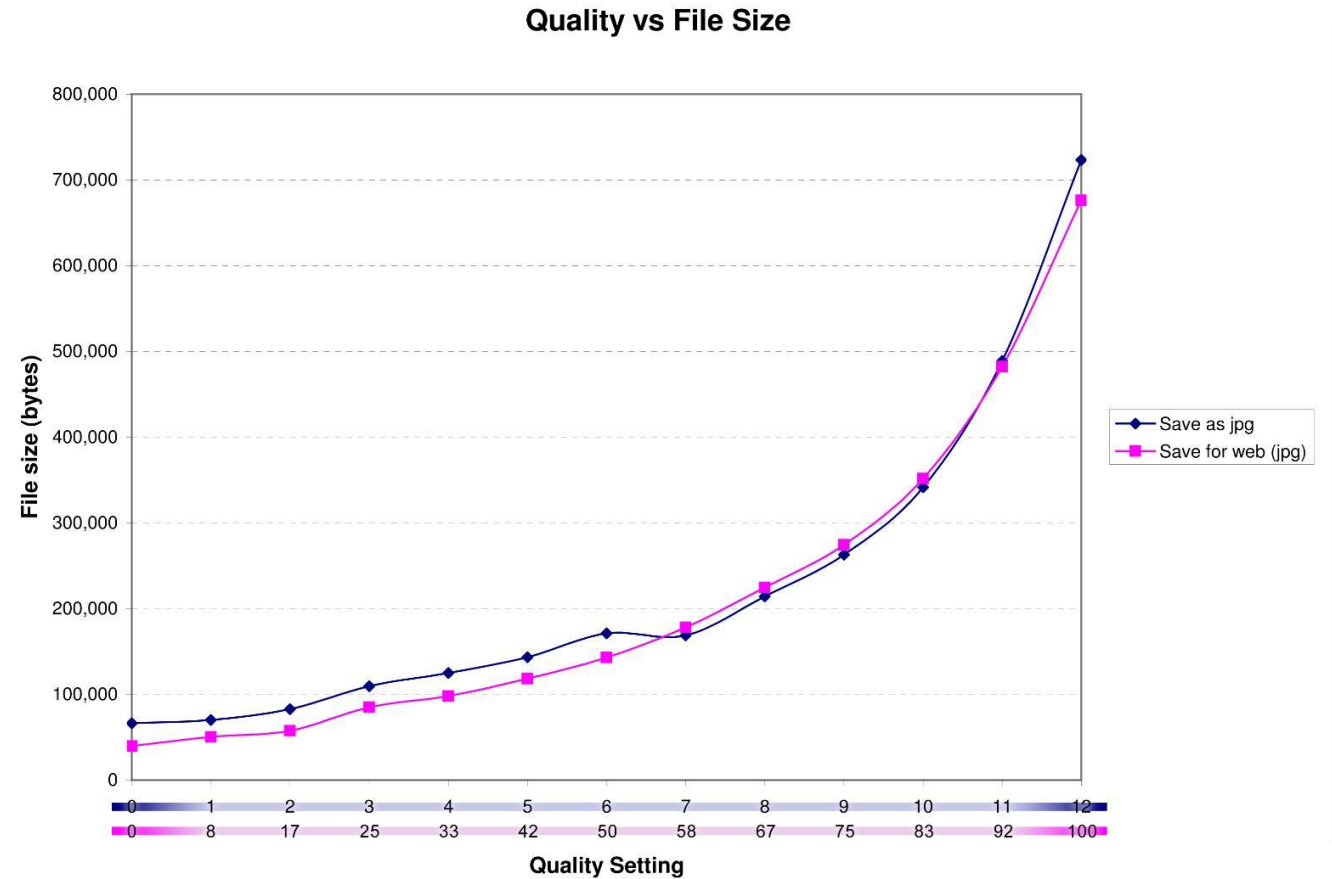




Photo Basics

Nikon D3400 – 6000 x 4000 (24 megapixels)

Photo Compression (Raw – JPEG)



Scanning Basics

- Most consumer scanners are scanning 300-1200 DPI
- Professional scanning is 3000-4000 DPI



Printing Basics

- Inkjet Printers (aka Spray and Pray)
 - Liquid ink
 - 300-720 DPI
 - Least expensive, least durable
- Laser Printers
 - Toner affixed by thermal process
 - 600-2400 DPI
 - Moderate expense, good durability
- Dye-sublimation Printer
 - Dye transfer process
 - Continuous-tone technology, dithering makes DPI difficult to compute
 - Most expensive, very durable



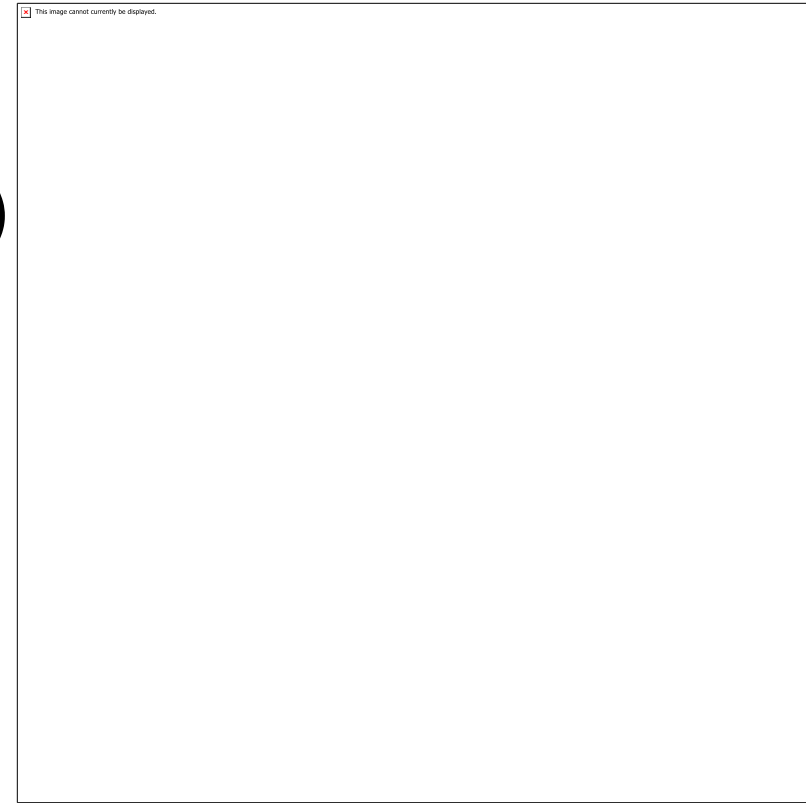
Portable Document Format (PDF)

- Developed by Adobe in the 1990s
- What You See Is What You Get (WYSIWYG)
- Embedded images, fonts, etc.
- Capabilities for forms, security, digital rights protection



Tools

- Adobe Photography Plan CC (Creative Cloud)
 - <https://www.adobe.com/creativecloud/photography.html>
 - Adobe Lightroom
 - Adobe Photoshop
 - Cloud storage
 - \$9.99/month (look for discounts sometimes available)
- Adobe Acrobat (for working with PDFs)
 - Limited free version
 - Standard and Pro (\$12.99/month, \$14.99/month)



Vendors

ScanCafe <https://www.scancafe.com/>

Legacybox <https://legacybox.com/>

Kodak Digitizing Boxes <https://kodakdigitizing.com/>

Shutterfly <https://www.shutterfly.com/>

Kodak Moments <https://www.kodakmoments.com/>

FedEx (Kinkos) <https://www.fedex.com/en-us/printing.html>

Purdue Print & Digital Services <https://print.xeps.net/>

Cloud Photo Storage Sites

- iCloud
- Amazon Photos (with good facial recognition)
- Dropbox
- Google Photos
- Microsoft One Drive
- Shutterfly



Photobooks

- Standard Layouts

- Create your own art with Photoshop



Introducing Make My Album™ Service

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KSANDER FAMILY
Disney 2016



Large Format Printing

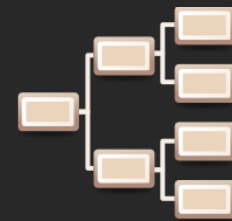
- 16x20 Color Laserprint
 - JPG and PDF
 - High resolution
- 36" x up to 300ft
 - JPG and PDF
 - B&W and Color (check color availability)
 - 2400x1200 DPI



Gramps – Open Source Genealogical Software

- Geeks meet Gemologists
- Many technical contributions
- Extensive documentation
- Imports GED format
 - Standard GEDCOM interchange format
- GREAT printer and report formats to PDF

- <https://gramps-project.org/>



Gramps

Genealogical Research Software

Below is a summary of how Gramps helps you organize and analyze your family history.



Dashboard

A dashboard to help you monitor the progress of your research. A variety of widgets (Gramplets) provide quick analysis of your data and more.



People

A list of every individual in your records featuring birth/death dates and more.



Relationships

A summary of the active person's parents, siblings, spouses and children.



Families

A list of every family group featuring parent names, relationship status and, if applicable, marriage dates.



Charts

A graphic representation of the active person's ancestry featuring photos and birth/death dates.



Events

A list of every event in your records featuring descriptions, event types, dates and places.



Places

A list of every place in your records featuring place names and location details.



Geography

An interactive map view highlighting places associated with one person, a group of people or all people in your records.



Sources

A list of all sources referenced in your records featuring authors and publication details.



Citations

A list of all citations referenced in your records featuring quality, date, volume and page.



Repositories

A list of source repositories referenced in your records featuring web addresses, physical addresses and email contact information.



Media

A list of all photos, videos and other media referenced in your records featuring thumbnail preview, media type and more.



Notes

A list of all text notes included in your records featuring note type and preview.



**“Of course, I remember when we had to
make do with just 3.2 megapixels...”**