

# PWC Gr8 Gals@Technology

Videos and Photos

“Part 1”

# Current Item

- Apple App Store “hack”
- IOS 9
- Windows 10
- New Apple Hardware
  - iPad Pro
  - iPad Mini
  - iPhone 6s, 6s+
  - Apple TV
- Unsubsidized Mobile Phone Plans
- New Amazon Fire Tables
  - \$49.99 Fire
  - Fire HD 6
  - Fire HD 8
  - Fire HD 10
  - Fire Kids Edition

# Aspect Ratio

- 1.33:1 (4:3) – Traditional/vintage television
- 1-43:1 – IMAX
- 1.6:1 – common computer screens
- 1.77:1 (16:9) – HD video standard
- 1.85:1 – common US widescreen cinema
- 2.35:1 – current widescreen cinema standard
  
- 1.5:1 – 4x6 prints, classic 35mm photography
- 1.4:1 – 5x7 prints
- 1.25:1 – 8x10 prints

**1.33 or 4:3**

Standard aspect ratio  
and  
standard-definition video

**1.66:1**

Aspect ratio used for  
most European theatrical  
showings

**1.78:1 or 16:9**

Standard aspect ratio for  
high-definition video

**1.85:1**

Aspect ratio used for most  
U.S. theatrical showings  
since the 1960s

**2.39:1**

Aspect ratio of current anamorphic  
(wide-screen) theatrical showings

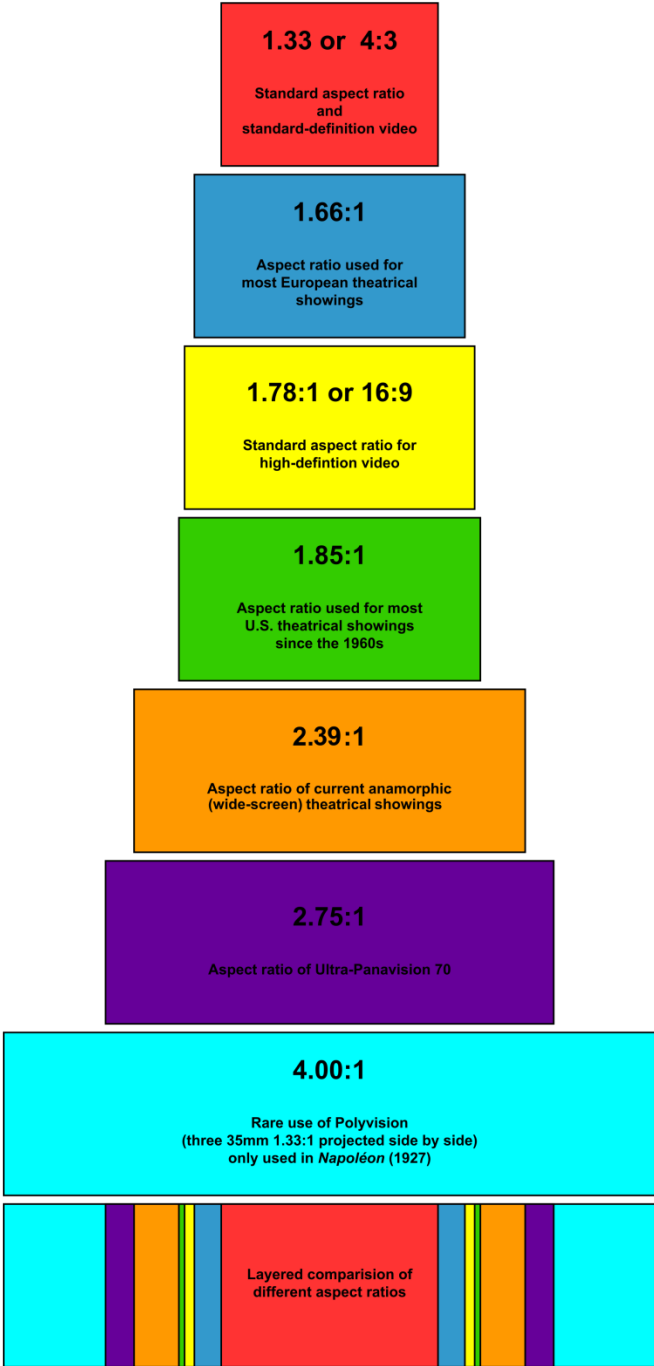
**2.75:1**

Aspect ratio of Ultra-Panavision 70

**4.00:1**

Rare use of Polyvision  
(three 35mm 1.33:1 projected side by side)  
only used in *Napoléon* (1927)

Layered comparison of  
different aspect ratios

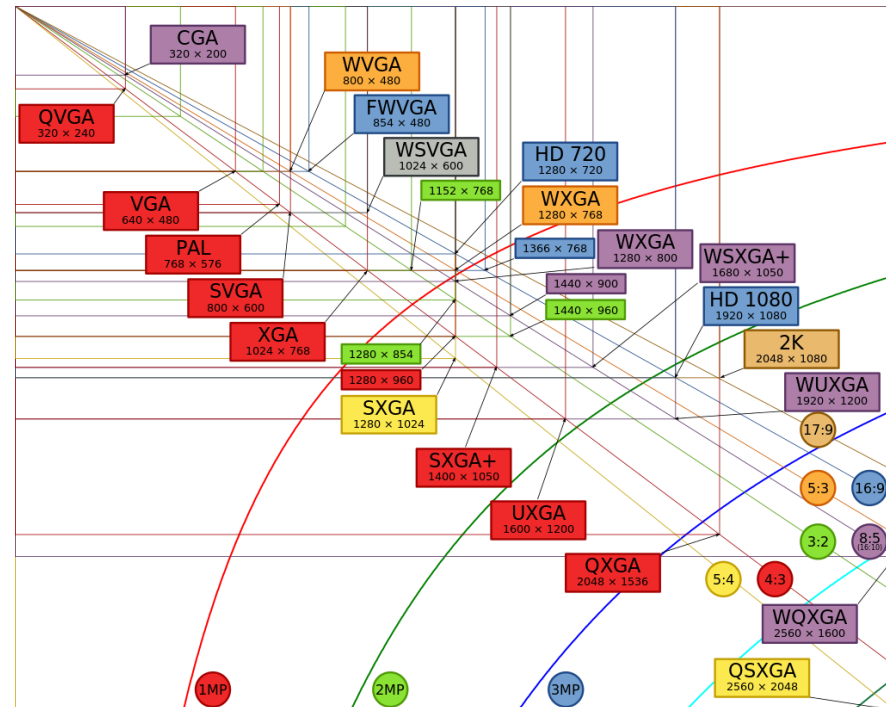


# Terminology

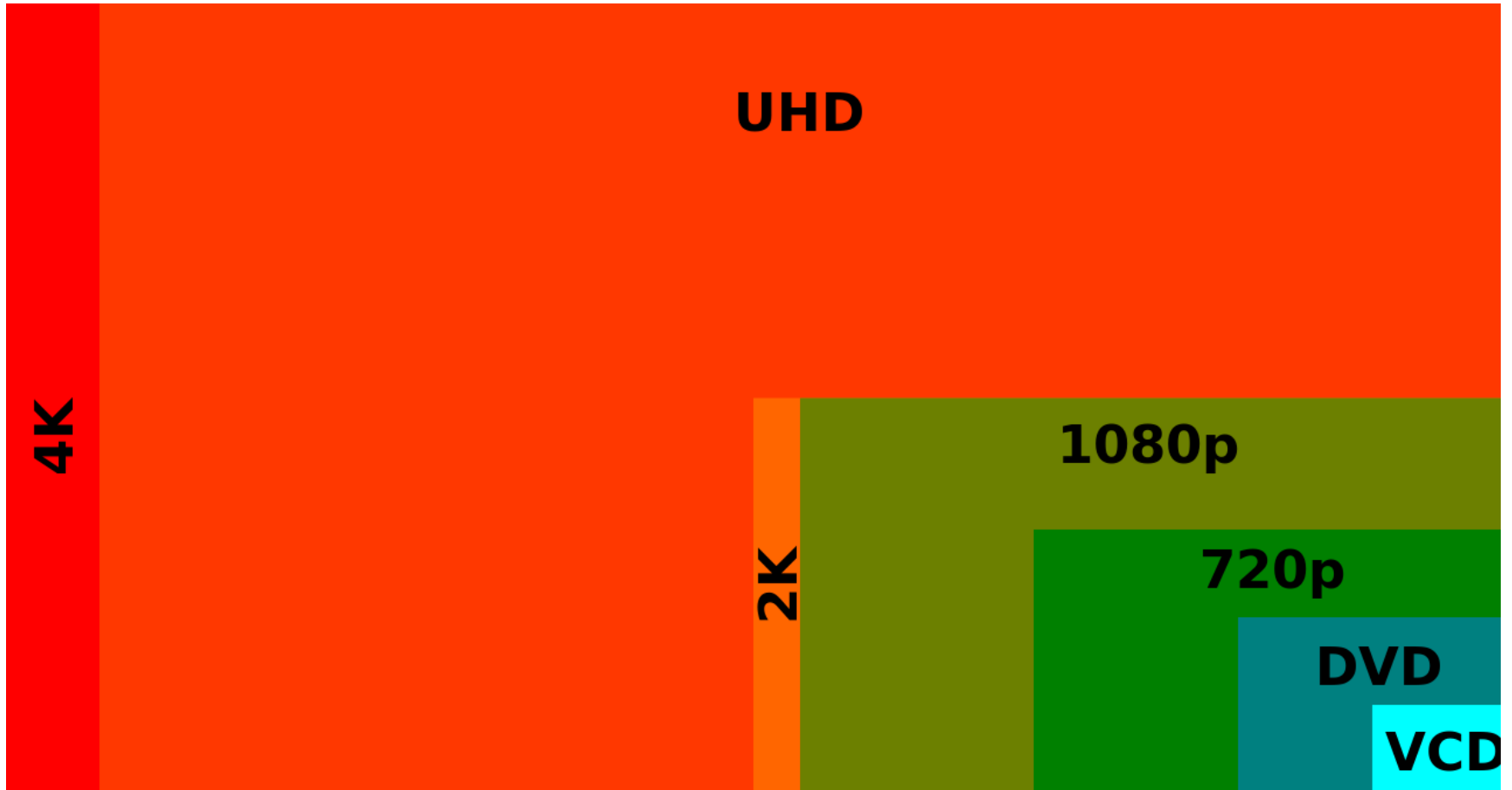
- Video

- NTSC (29.97 *interlaced* frames/second, 525 scan lines)

- HD

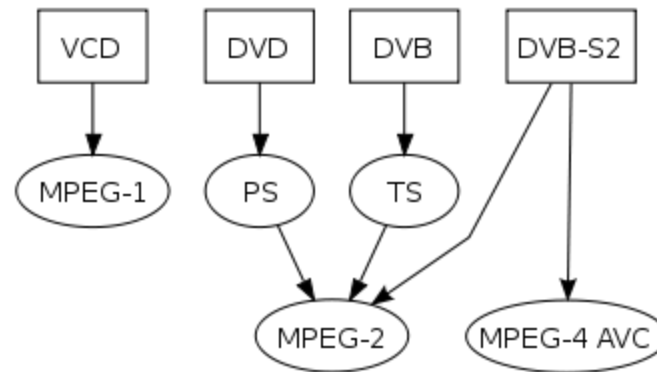


# 4K Video



# Terminology

- MPEG – international container video



- AVI – Microsoft standard
- MOV – Apple standard (Quicktime)
- H.263 – Video *compression* standard

# Terminology

- JPEG – container and compression format

- Highest 2.67:1



- Medium 23:1



- Low 46:1





# Terminology

- TIFF – computer file format
  - Popular among graphic artist and publishing
  - Popular among professional photographers
  - 1993 standard

# Metadata

- Structural Metadata
- Descriptive Metadata
  - Describe content and context
  - Facilitate discovery and classification

# Exchangeable Image File Format

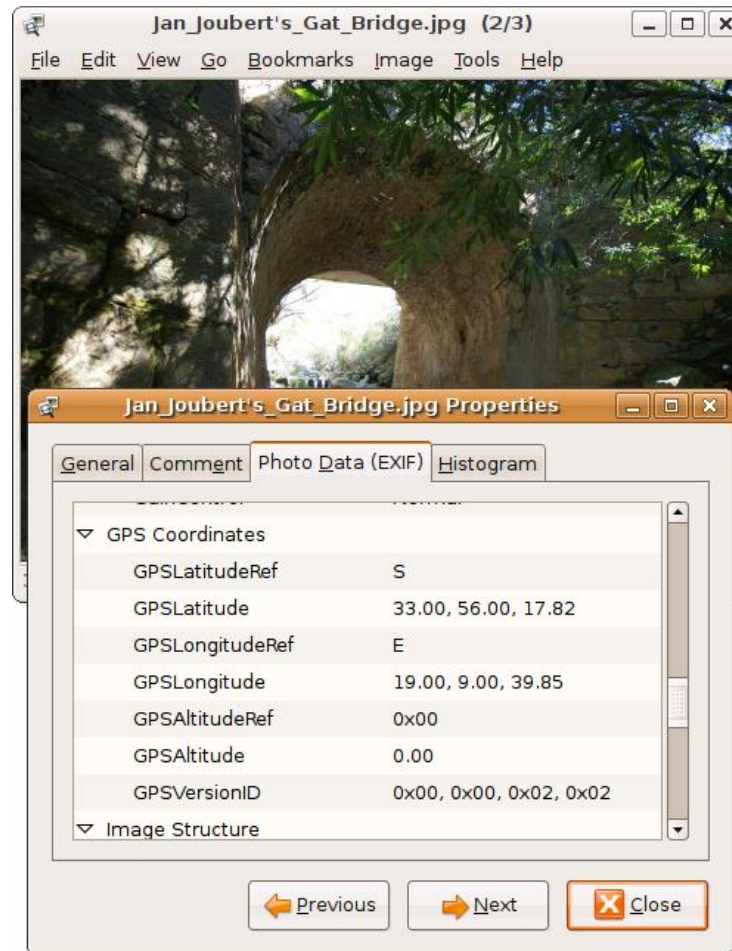
## Exif

- The [Japan Electronic Industries Development Association](#) (JEIDA) produced the initial definition of Exif. Version 2.1 of the specification is dated 12 June 1998.
- [JEITA](#) established Exif version 2.2 (aka "**Exif Print**"), dated 20 February 2002 and released in April 2002.<sup>[3]</sup> Version 2.21 (with [Adobe RGB](#) support) is dated 11 July 2003, but was released in September 2003 following the release of DCF 2.0.
- The latest, version 2.3, released on 26 April 2010 and revised in May 2013, was jointly formulated by [JEITA](#) and [CIPA](#). Exif is supported by almost all camera manufacturers.

# Typical Camera Example

Tag	Value
Manufacturer	CASIO
Model	QV-4000
Orientation (rotation)	top - left [8 possible values <sup>[21]</sup> ]
Software	Ver1.01
Date and Time	2003:08:11 16:45:32
YCbCr Positioning	centered
Compression	JPEG compression
x-Resolution	72.00
y-Resolution	72.00
Resolution Unit	Inch
Exposure Time	1/659 sec.
FNumber	f/4.0
ExposureProgram	Normal program
Exif Version	Exif Version 2.1
Date and Time (original)	2003:08:11 16:45:32
Date and Time (digitized)	2003:08:11 16:45:32
ComponentsConfiguration	Y Cb Cr -
Compressed Bits per Pixel	4.01
Exposure Bias	0.0
MaxApertureValue	2.00
Metering Mode	Pattern
Flash	Flash did not fire.
Focal Length	20.1 mm
MakerNote	432 bytes unknown data
FlashPixVersion	<a href="#">FlashPix</a> Version 1.0
Color Space	sRGB
PixelXDimension	2240
PixelYDimension	1680
File Source	DSC
InteroperabilityIndex	R98
InteroperabilityVersion	(null)

# Geotagging



# Extensible Metadata Platform

## XMP

- Newer version for more flexible metadata
- Potential problem to reconcile with non-XMP
- Most commonly used for person tagging

```
<MP:RegionInfo rdf:parseType="Resource">
  <MPRI:Regions>
    <rdf:Bag>
      <rdf:li rdf:parseType="Resource">
        <MPReg:Rectangle>0.327148, 0.388728, 0.267578, 0.395954</MPReg:Rectangle>
      </rdf:li>
      <rdf:li rdf:parseType="Resource">
        <MPReg:PersonDisplayName>Peggy Ksander</MPReg:PersonDisplayName>
      </rdf:li>
    </rdf:Bag>
  </MPRI:Regions>
</MP:RegionInfo>
```

# Getting Started



# Digitizing

- Do-it-yourself – takes lots of time
- Pay somebody – not particularly inexpensive



# Do-It-Yourself



**FLASH SALE**  
**\$1670**  
**GET THE DEAL**

VHS Quality Fades over Time  
Capture it with the USB Video Grabber

- Plug into any PC or laptop and begining converting your movies to digital
- Backup and share video files, instead of keeping them on a VHS
- Easy to use, push to start push to stop capture button
- Export to WMA, AVI, MP2, YouTube™ and more!

*The Media Grabber is our  
All-Time Best Seller*



\*Requires VCR for the initial transfer of video

# Do It Yourself



35mm Slide



110 Slide



126 Slide



35mm Film



Super 8 Film



110 Film



126 Film



\$100 - \$150

5473x3648 pixel scan (20 Megapixels)

Approx 5 seconds image

# Pay Somebody

ScanCafe



Wait for at least 25% discount. Have seen 33%.

# Scan and Select

- We scan your images in high resolution: 3000/4000 dpi for 35mm negatives, slides, APS, special media, and 600/1200 dpi for paper photos
- Equipment used: Epson 4490, Nikon 5000 ED, Nikon 9000 ED
- Each of your images will be reviewed and corrected as needed, one at a time, by an assigned technician.
- When your scans are done, we will send you an email.
- You'll have the chance to review all your scans. If there are scans you don't want, simply delete them and you won't be charged for them. You may delete up to 20% of your order.
- You will be able to do some re-organizing of your images while you review your scans.
- When complete, you will check out, and pay the remaining balance on your order.
- After you complete the review, we burn a DVD or CD with the scans you selected and return it along with the originals.

# Photo Enhancement



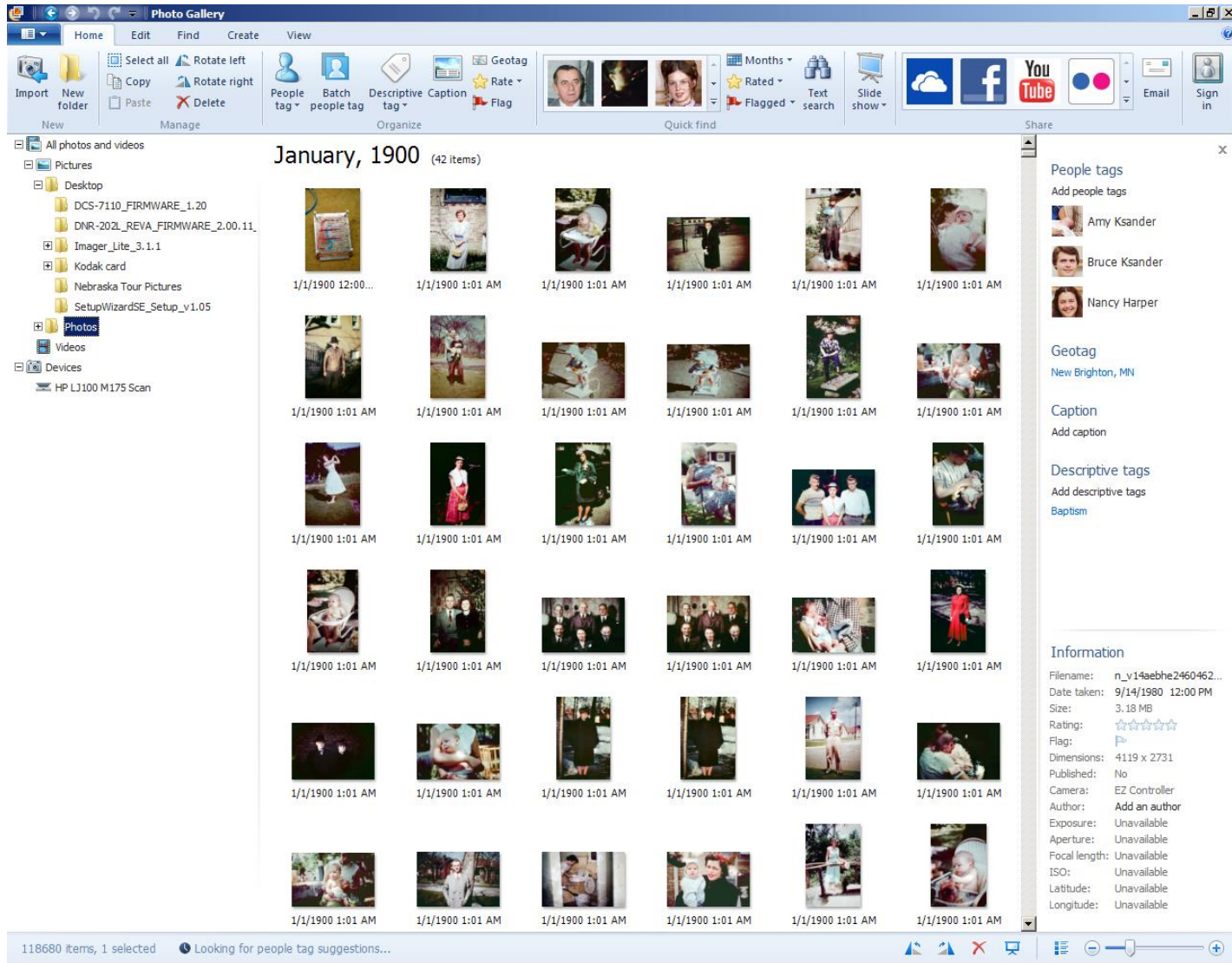
\$4.99 for this one. Max I have seen so far is \$9.99.

# Where is the Metadata?

- Back of the photo
- Match photos to negative
- Notes on the negative envelope
- Nothing on negatives
- Processing date on slide mount
- Family notes, calendars, diaries, ...
- “Forensic” investigations



# 118,680 images!!



# Adding Metadata – Date/Location

The screenshot displays a photo gallery application window titled "s\_v14aebhe5yb0001.jpg - Photo Gallery". The interface includes a top toolbar with various editing and management tools such as "Previous", "Next", "Rotate left", "Rotate right", "Delete", "Make a copy", "Tag and caption", "Flag", "Properties", "Auto adjust", "Crop", "Red eye", "Retouch", "Straighten", "Noise reduction", "Color", "Exposure", "Fine tune", "Revert to original", and "Close file".

The main area shows a photograph of a bride and groom standing in the doorway of a church. The bride is wearing a white dress and veil, holding a bouquet of flowers. The groom is in a dark suit. A young boy in a plaid jacket stands to the left. The church interior has a textured, light-colored wall.

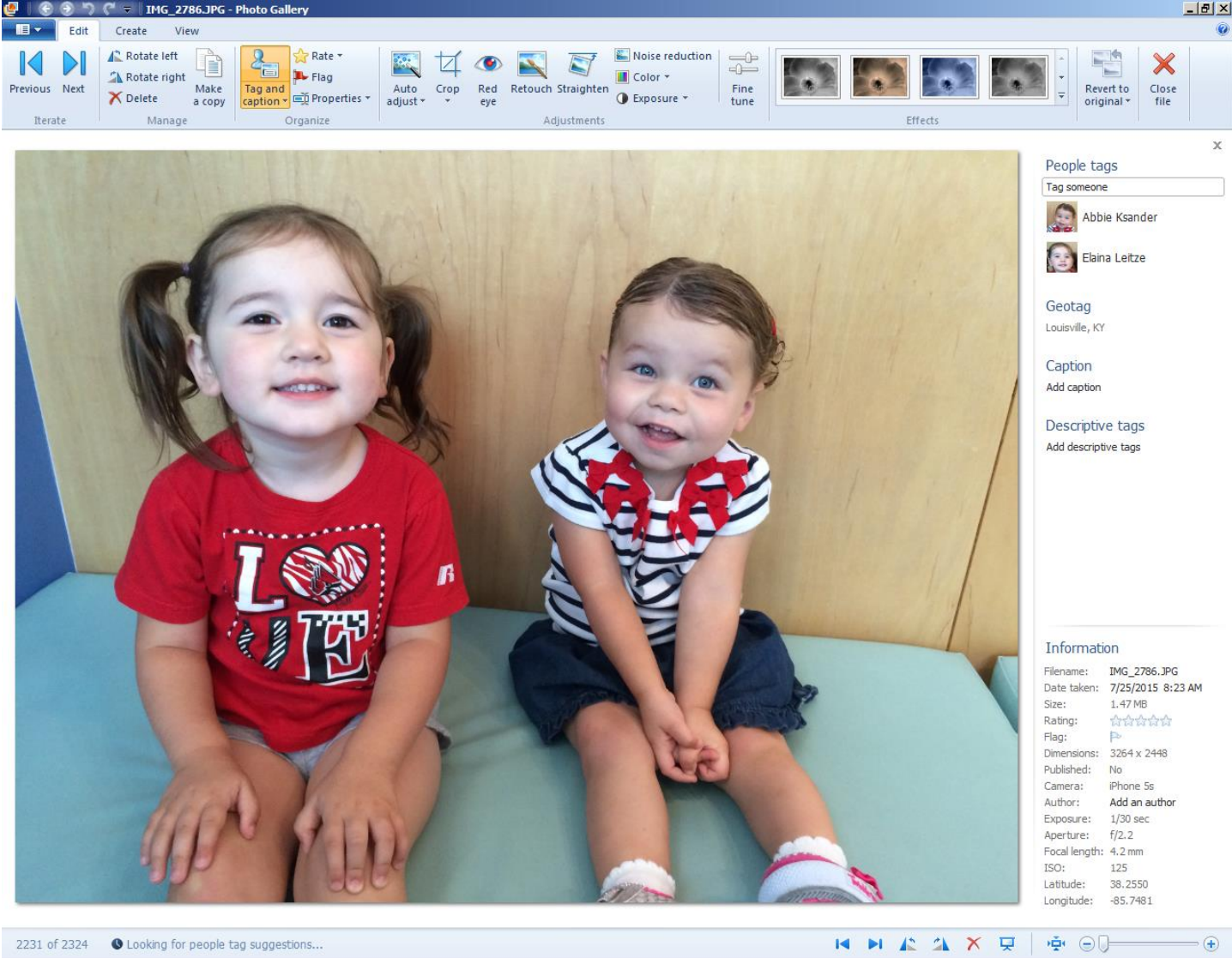
On the right side, there is a sidebar with the following sections:

- People tags**
  - Add people tags
  - Peggy Ksander
  - Scott Ksander
  - Who is this?
- Geotag**
  - La Porte, IN
- Caption**
  - Add caption
- Descriptive tags**
  - Add descriptive tags
  - Wedding
- Information**
  - Filename: s\_v14aebhe5yb0001....
  - Date taken: 6/15/1974 12:00 AM
  - Size: 5.16 MB
  - Rating: ☆☆☆☆☆
  - Flag: P
  - Dimensions: 4187 x 2731
  - Published: No
  - Camera: EZ Controller
  - Author: Add an author
  - Exposure: Unavailable
  - Aperture: Unavailable
  - Focal length: Unavailable
  - ISO: Unavailable
  - Latitude: Unavailable
  - Longitude: Unavailable

At the bottom of the window, there is a status bar showing "1 of 122" and "Looking for people tag suggestions...".



# Adding Metadata – People Tags



The screenshot displays the Windows Photo Gallery application window titled "IMG\_2786.JPG - Photo Gallery". The interface includes a menu bar (Edit, Create, View) and a ribbon with various editing tools such as "Rotate left", "Crop", "Red eye", "Retouch", "Straighten", "Noise reduction", "Color", "Exposure", "Fine tune", "Effects", "Revert to original", and "Close file".

The main area shows a photograph of two young girls sitting on a light blue surface against a wood-paneled wall. The girl on the left is wearing a red t-shirt with a "LOVE" graphic, and the girl on the right is wearing a striped shirt with a red bow. A sidebar on the right side of the window is open, showing the "People tags" section. It includes a search box labeled "Tag someone" and two suggested tags: "Abbie Ksander" and "Elaina Leitze", each with a small profile picture. Below this, there are sections for "Geotag" (Louisville, KY), "Caption" (Add caption), and "Descriptive tags" (Add descriptive tags).

The "Information" section at the bottom of the sidebar provides technical details for the photo:

- Filename: IMG\_2786.JPG
- Date taken: 7/25/2015 8:23 AM
- Size: 1.47 MB
- Rating: ☆☆☆☆☆
- Flag: P
- Dimensions: 3264 x 2448
- Published: No
- Camera: iPhone 5s
- Author: Add an author
- Exposure: 1/30 sec
- Aperture: f/2.2
- Focal length: 4.2 mm
- ISO: 125
- Latitude: 38.2550
- Longitude: -85.7481

At the bottom of the window, a status bar shows "2231 of 2324" and "Looking for people tag suggestions..." along with navigation icons.

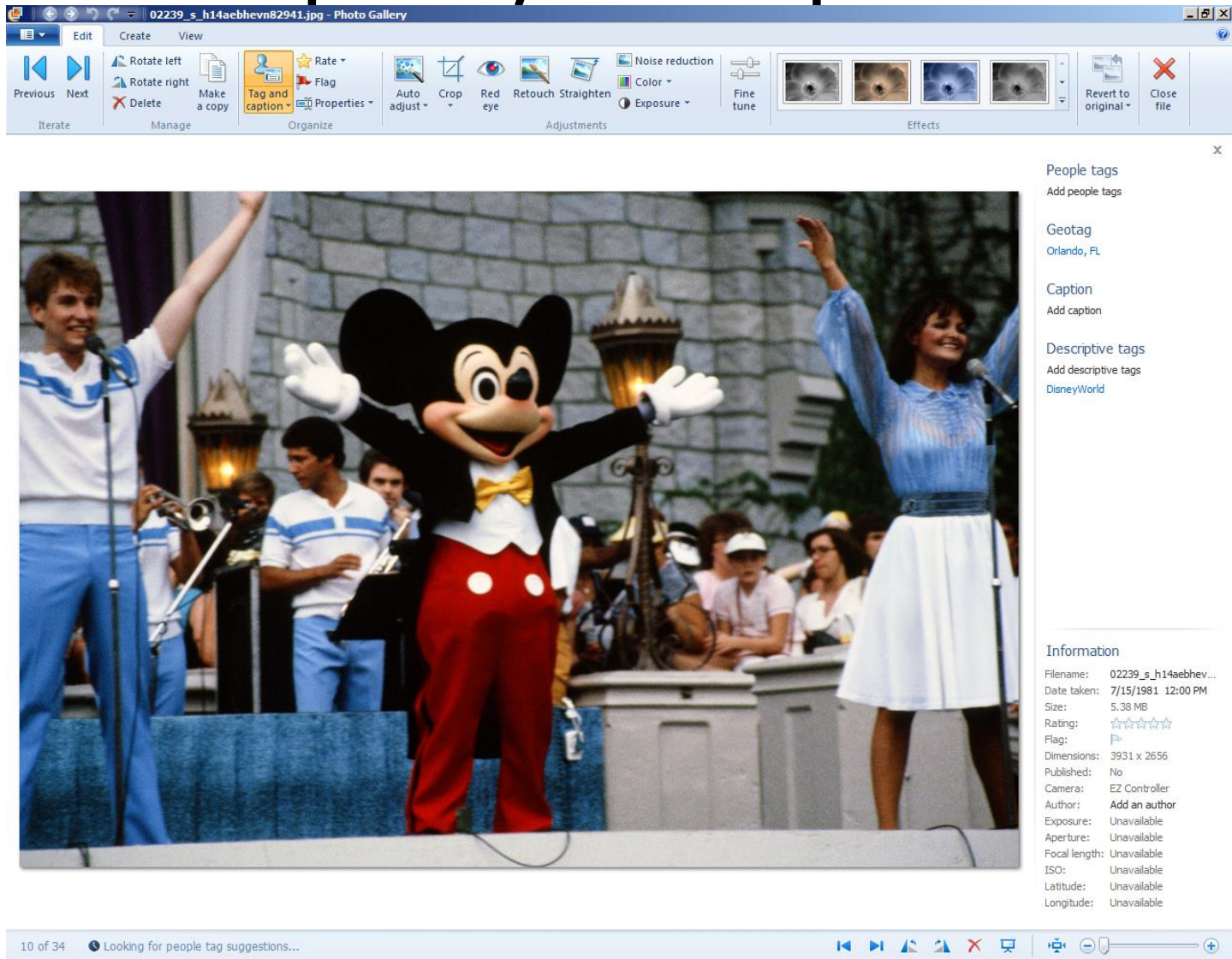
# Facial Recognition

The screenshot displays the Windows Photo Gallery interface. The main window shows a search for a photo taken on July 25, 2015, at 8:23 AM. The search results show two identical photos of a young girl. A search box above the photos asks, "Is this Elaina Leitze?" and provides "Confirm" and "View all suggestions" options. The right sidebar shows "People tags" with a tag for "Elaina Leitze" and a "Who is this?" option. Below the tags, there is an "Information" section with the following details:

Information	
Filename:	IMG_2787.JPG
Date taken:	7/25/2015 8:23 AM
Size:	1.43 MB
Rating:	☆☆☆☆☆
Flag:	🚩
Dimensions:	3264 x 2448
Published:	No
Camera:	iPhone 5s
Author:	Add an author
Exposure:	1/30 sec
Aperture:	f/2.2
Focal length:	4.2 mm
ISO:	125
Latitude:	38.2550
Longitude:	-85.7481

The status bar at the bottom indicates "2 items, 1 selected" and "Looking for people tag suggestions...".

# Adding Metadata Caption/Description



The screenshot displays a photo gallery application window titled "02239\_s\_h14aebhevn82941.jpg - Photo Gallery". The interface is divided into several sections:

- Toolbar:** Contains navigation buttons (Previous, Next), editing tools (Rotate left/right, Delete, Make a copy), organization tools (Tag and caption, Rate, Flag, Properties), adjustment tools (Auto adjust, Crop, Red eye, Retouch, Straighten, Noise reduction, Color, Exposure), and effects (Fine tune, Revert to original, Close file).
- Main Image:** A photograph of Mickey Mouse in a tuxedo standing on a stage between two performers in sailor-style outfits. Mickey Mouse has his arms raised in a celebratory gesture.
- Right Sidebar:** Contains metadata management options:
  - People tags:** Add people tags
  - Geotag:** Orlando, FL
  - Caption:** Add caption
  - Descriptive tags:** Add descriptive tags, DisneyWorld
  - Information:** A list of technical details:
    - Filename: 02239\_s\_h14aebhev...
    - Date taken: 7/15/1981 12:00 PM
    - Size: 5.38 MB
    - Rating: ☆☆☆☆☆
    - Flag: P
    - Dimensions: 3931 x 2656
    - Published: No
    - Camera: EZ Controller
    - Author: Add an author
    - Exposure: Unavailable
    - Aperture: Unavailable
    - Focal length: Unavailable
    - ISO: Unavailable
    - Latitude: Unavailable
    - Longitude: Unavailable

At the bottom of the window, a status bar shows "10 of 34" and "Looking for people tag suggestions..." along with navigation and zoom controls.

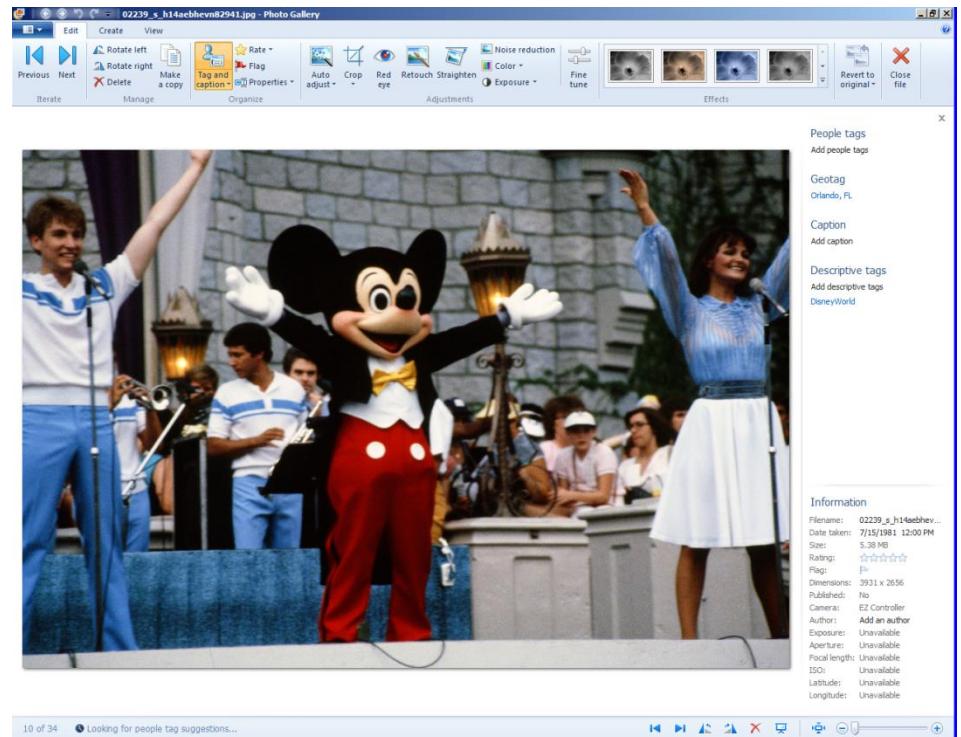


# Adding Metadata Caption/Description

Only one Caption

As many Descriptions as you  
wish (think of them as  
#Hashtag)

Consistency (and spelling) is  
key



# Metadata – Professional

The screenshot displays a professional photo gallery application window titled "PhotoPass-Website-16.jpg - Photo Gallery". The interface is divided into several sections:

- Toolbar:** Located at the top, it includes sections for "Iterate" (Previous, Next), "Manage" (Rotate left, Rotate right, Delete, Make a copy), "Organize" (Tag and caption, Flag, Properties), "Adjustments" (Auto adjust, Crop, Red eye, Retouch, Straighten, Noise reduction, Color, Exposure), "Effects" (Fine tune, a set of four effect thumbnails), "Revert to original", and "Close file".
- Image Viewer:** The central area shows a photograph of Mickey Mouse and Donald Duck standing on a lawn in front of Cinderella Castle at Walt Disney World.
- Right Sidebar:** Contains several sections:
  - People tags:** "Tag someone"
  - Geotag:** "Add geotag"
  - Caption:** "Walt Disney World Gallery Photo"
  - Descriptive tags:** "Add descriptive tags", "©Disney", "Copyright Disney", "Photo Gallery V2", "Photographer - DPI", "PhotoPass Stockshots", "Stock Shots - DPI", "Walt Disney World Resort"
  - Information:** A list of technical details:
    - Filename: PhotoPass-Website-16.jpg
    - Date taken: 10/10/2006 2:09 PM
    - Size: 1.10 MB
    - Rating: ★★★★★
    - Flag: [Flag icon]
    - Dimensions: 2000 x 3000
    - Published: No
    - Camera: Nikon SUPER COOLSC...
    - Author: Disney Photo Imaging
    - Exposure: Unavailable
    - Aperture: Unavailable
    - Focal length: Unavailable
    - ISO: Unavailable
    - Latitude: Unavailable
    - Longitude: Unavailable

At the bottom of the window, a status bar shows "25 of 399" and "Looking for people tag suggestions...". The bottom right corner features navigation and zoom controls.

- Part 2 in the future to feature
  - Adobe Lightroom 6 (PC and Mac version \$142)
  - More on video editing and metadata
- Live Demos now