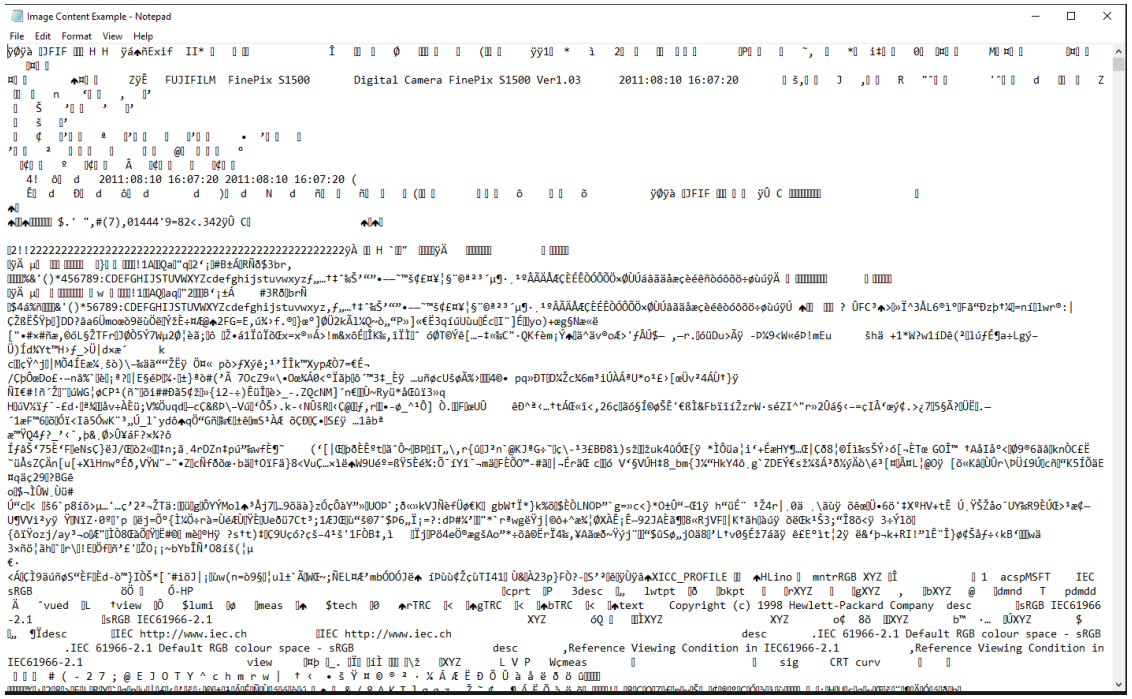
Photo Editing Course

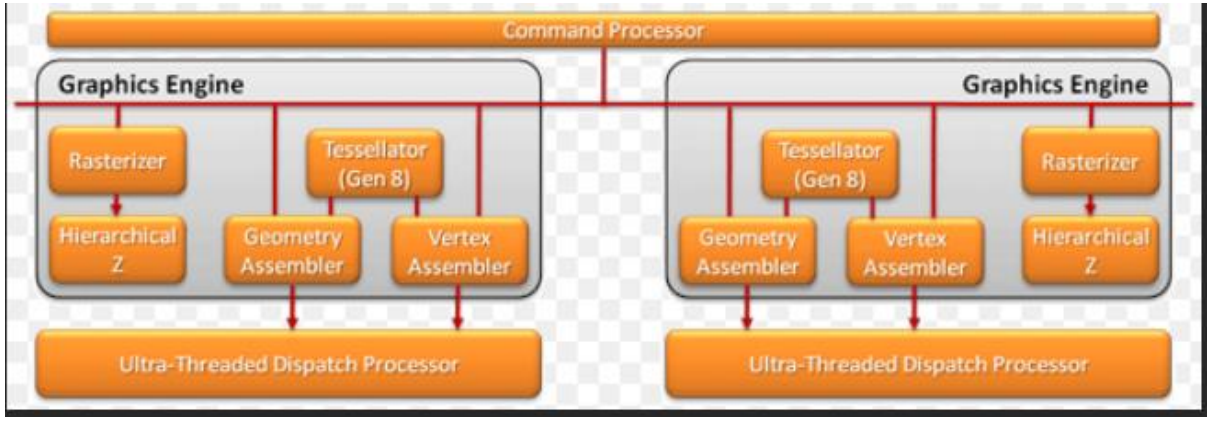
Image Size, Resolution and Quality
Ignoring Colour Depth for now

What’s in an image file?



000,000,000	255,255, 255	100,100,100
255,000,000	000,255,000	000,000,255

What happens to the file you create?



Wise Words, taken from Steve Brabner

- There is a fixed relationship between file size, physical size and resolution.
- For a given image, if the physical size gets bigger, the resolution gets less, and vice-versa.
- Higher resolution normally equates to higher quality although this depends upon the viewing distance.
- **It's important to remember that images only have a resolution and a physical size when they are captured or reproduced.**
- **An image file cannot have a resolution, just a pixel count – it's just a grid of numbers.**

Terminology used in this talk, hopefully

PIXEL

BASIC IMAGE ELEMENT

FILE SIZE

AMOUNT OF INFORMATION IN A COMPUTER FILE

IMAGE SIZE

PHYSICAL SIZE OF A PRINT OR DIGITAL DISPLAY

RESOLUTION

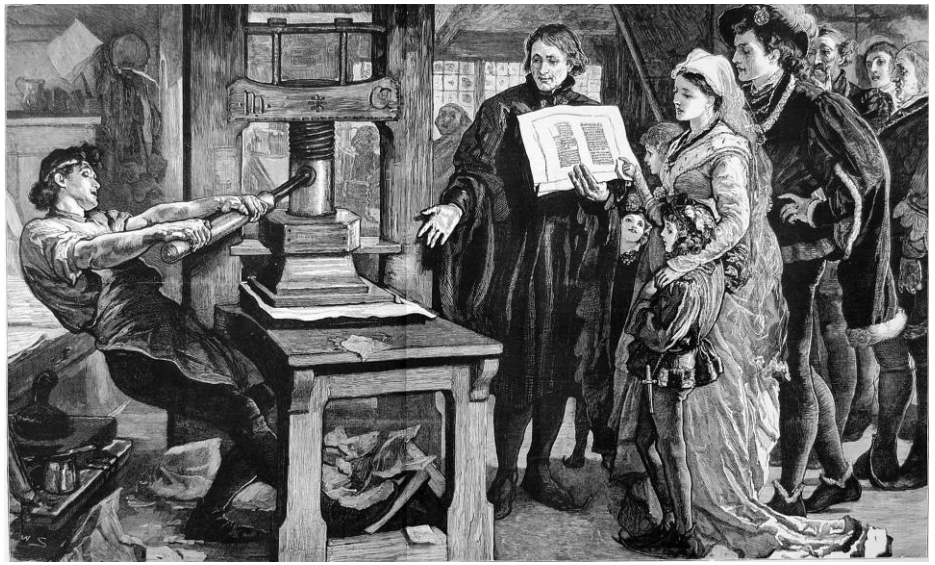
DETAIL AVAILABLE IN A PRINT OR DIGITAL DISPLAY

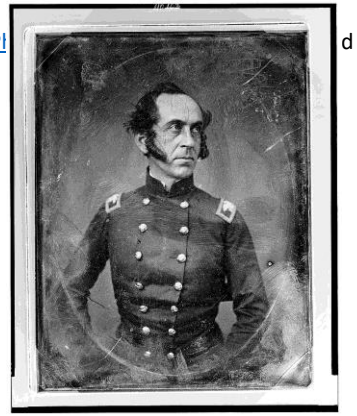
IMAGE QUALITY

AMOUNT OF COMPRESSION APPLIED

It used to be simple

1:1
Quality of Original

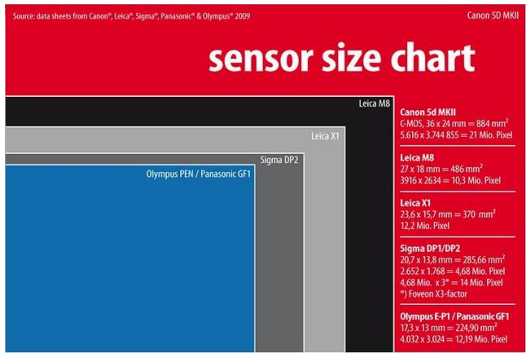


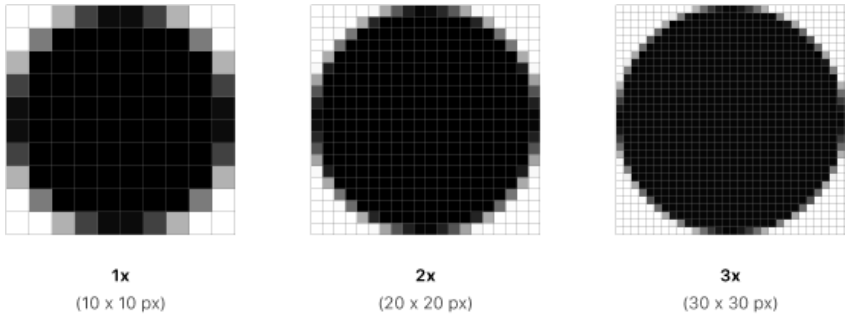


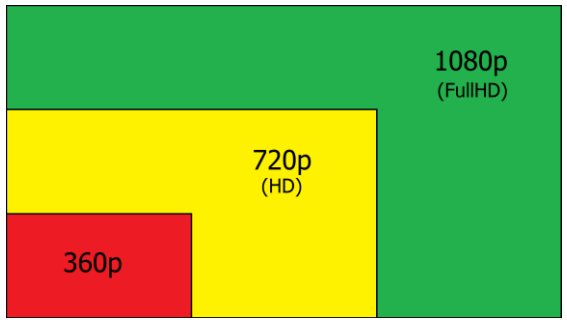
Then it became a bit more complicated

Granularity
Enlargements
Half Tone Printing

Digital Imaging made it a whole lot more complicated.....

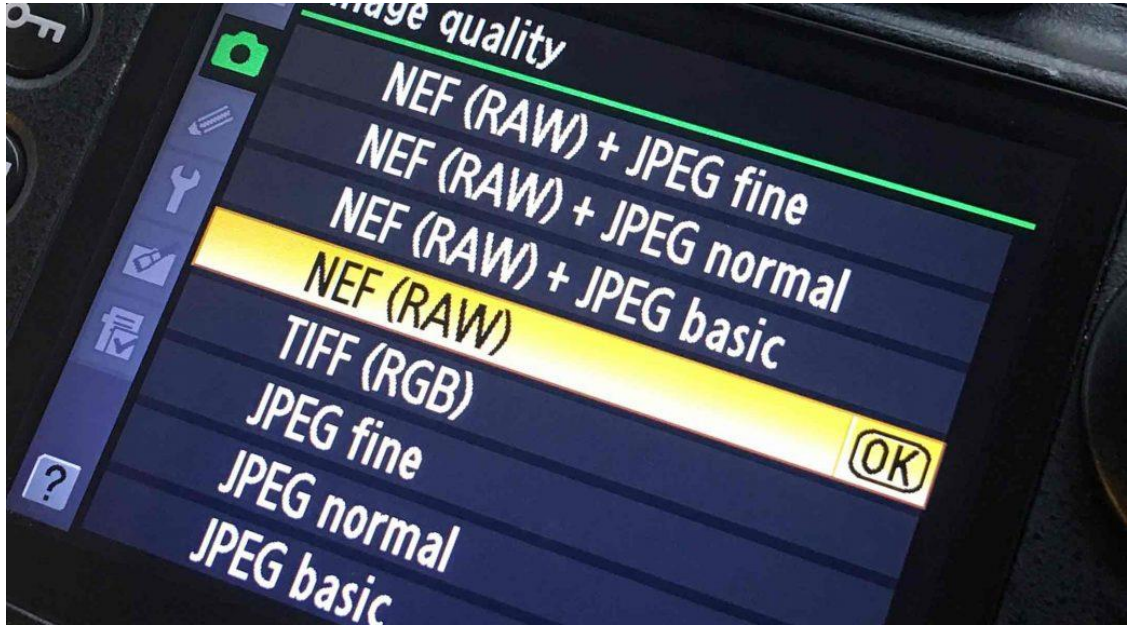






then added image compression

File Size and Quality



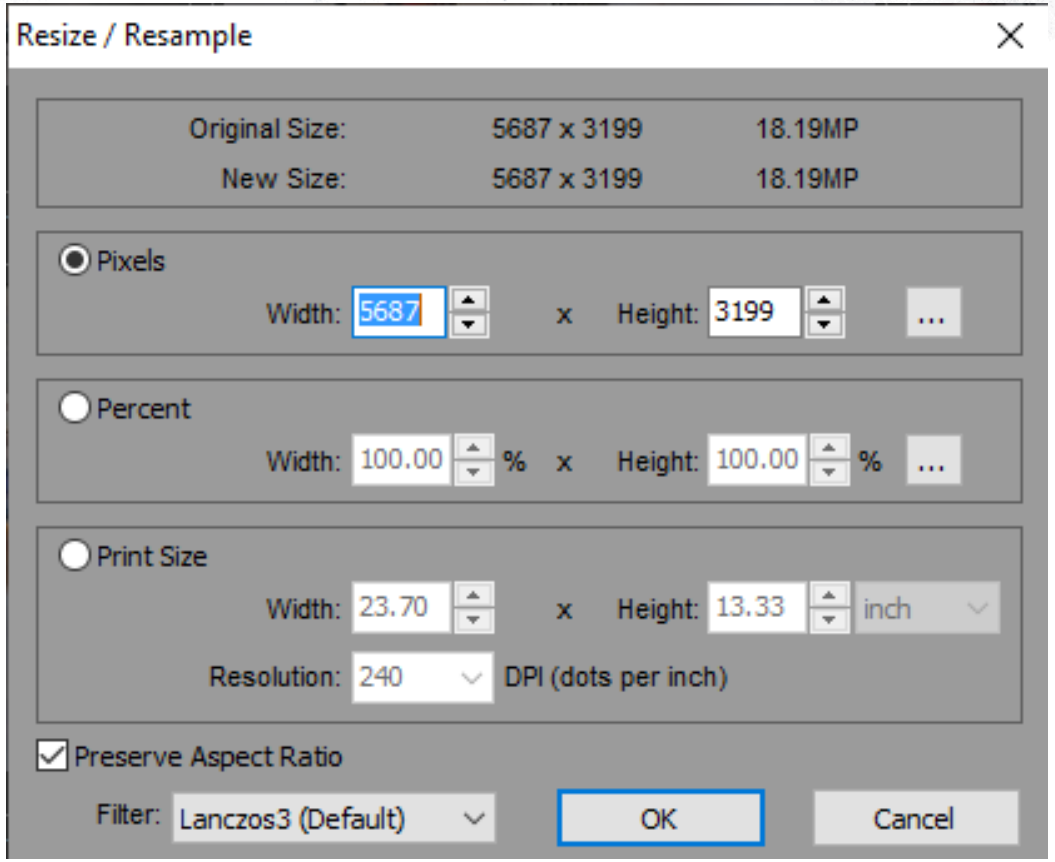
Pixels In
Pixels Out

- Number of pixels determined by your camera or scanner
- Can be modified in editing software

- Digital Storage, max pixels and min compression as possible
- Digital viewing, sufficient pixels for the viewing devices
- Printing, sufficient for printing device and viewing distance
- Sharing, constrained by data rate and allowance

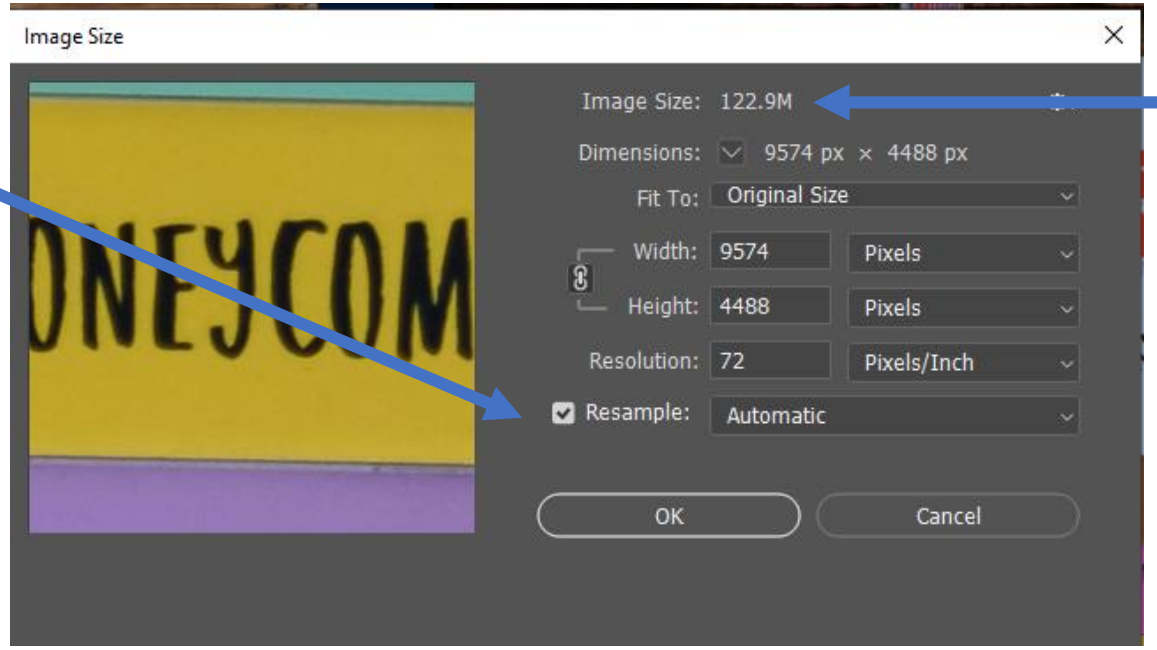
How many Pixels do you need?
Consider your use of the image

Faststone Demo



Photoshop Demo

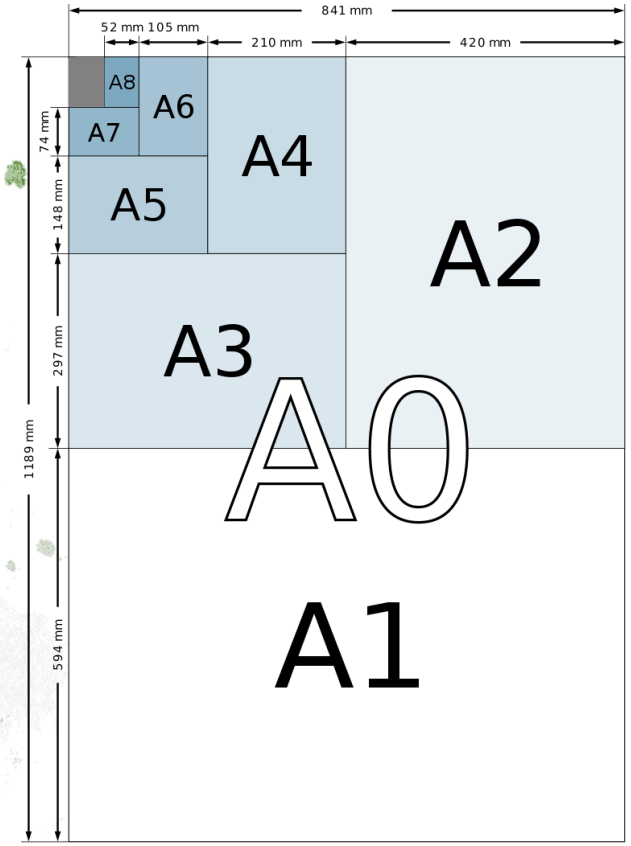
Remember to keep an eye on the Resample Image tick box. When it is ticked you will permanently alter your image file



The number at the top (122.9M in these examples) is the file size and the number of pixels in the image is shown below (9574 x 4488 = 42,968,112 pixels).

Size and Resolution

Physical size
User set size



- DPI is determined by the printer capability; you may not need the “maximum”. 200DPI should be enough
- Output parameters can be set in editing/printing software

Photoshop Demo

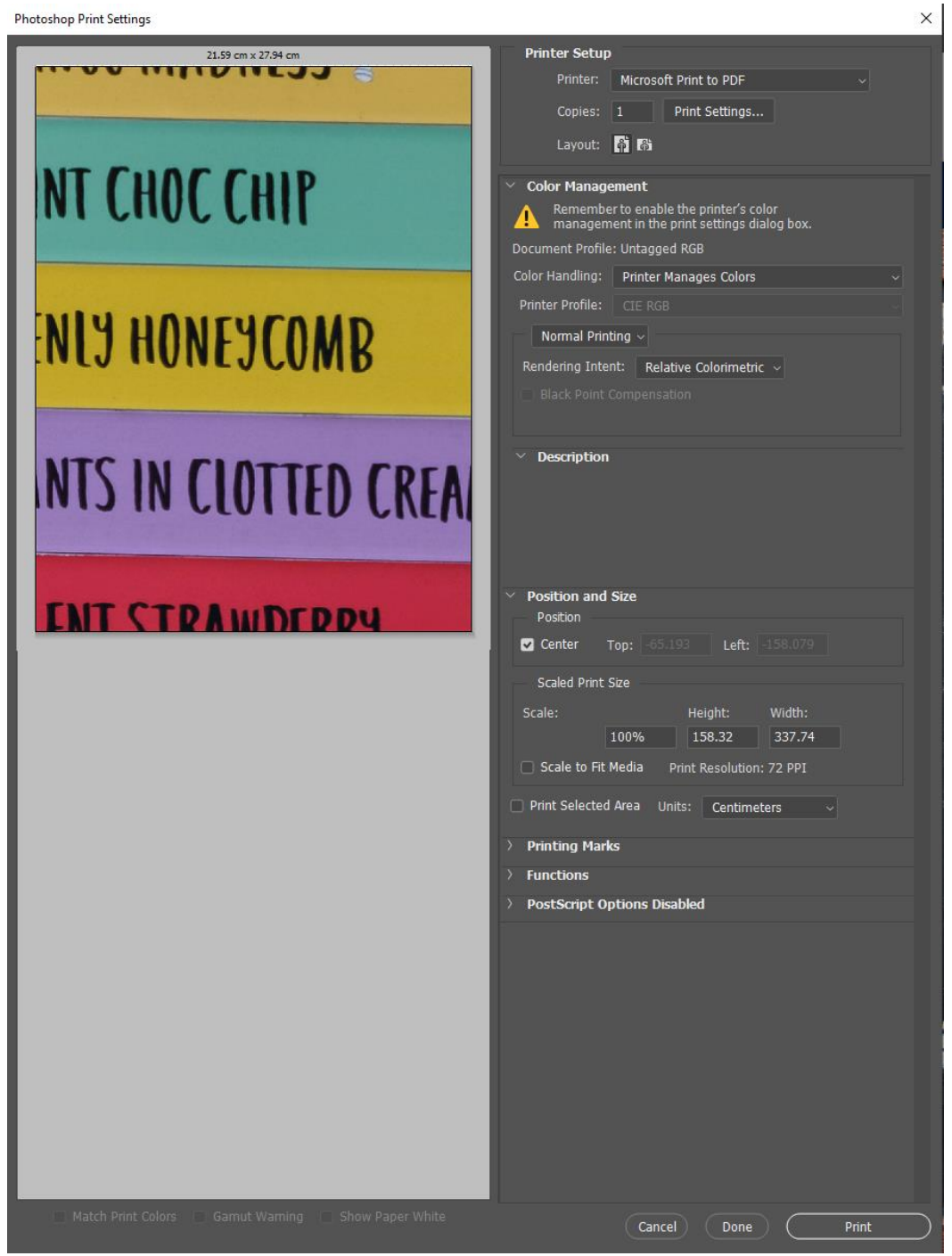
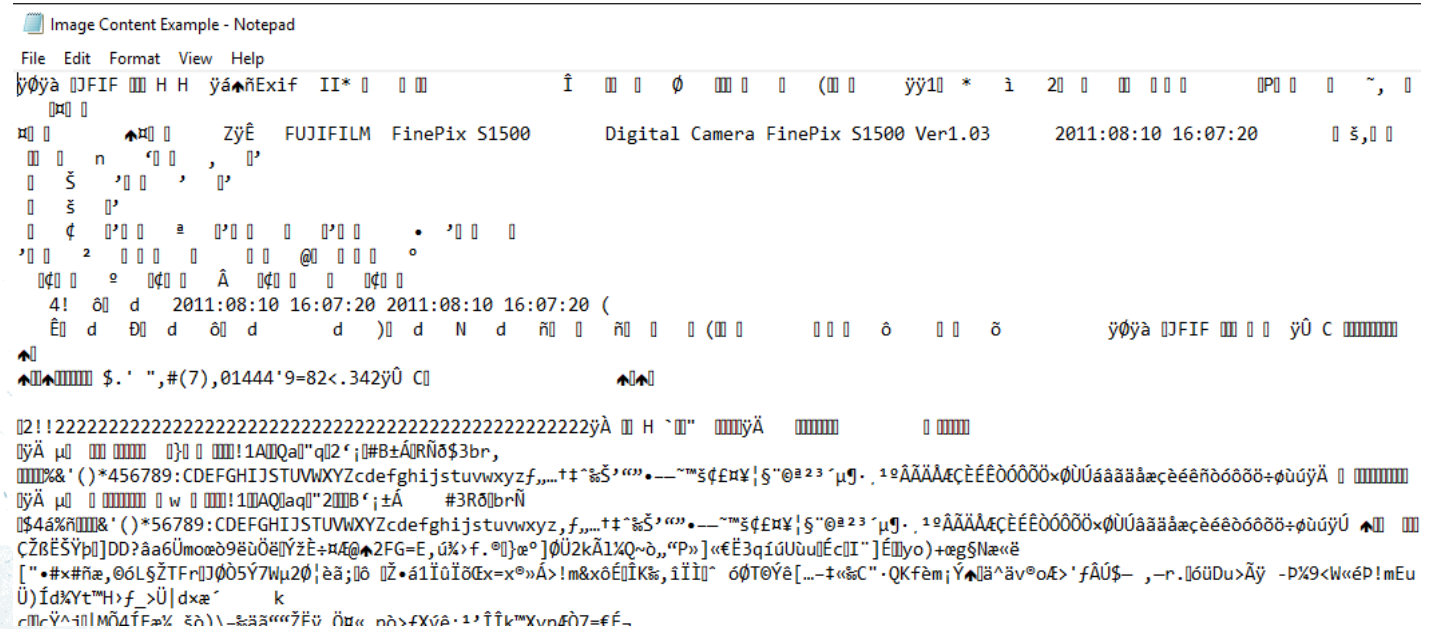


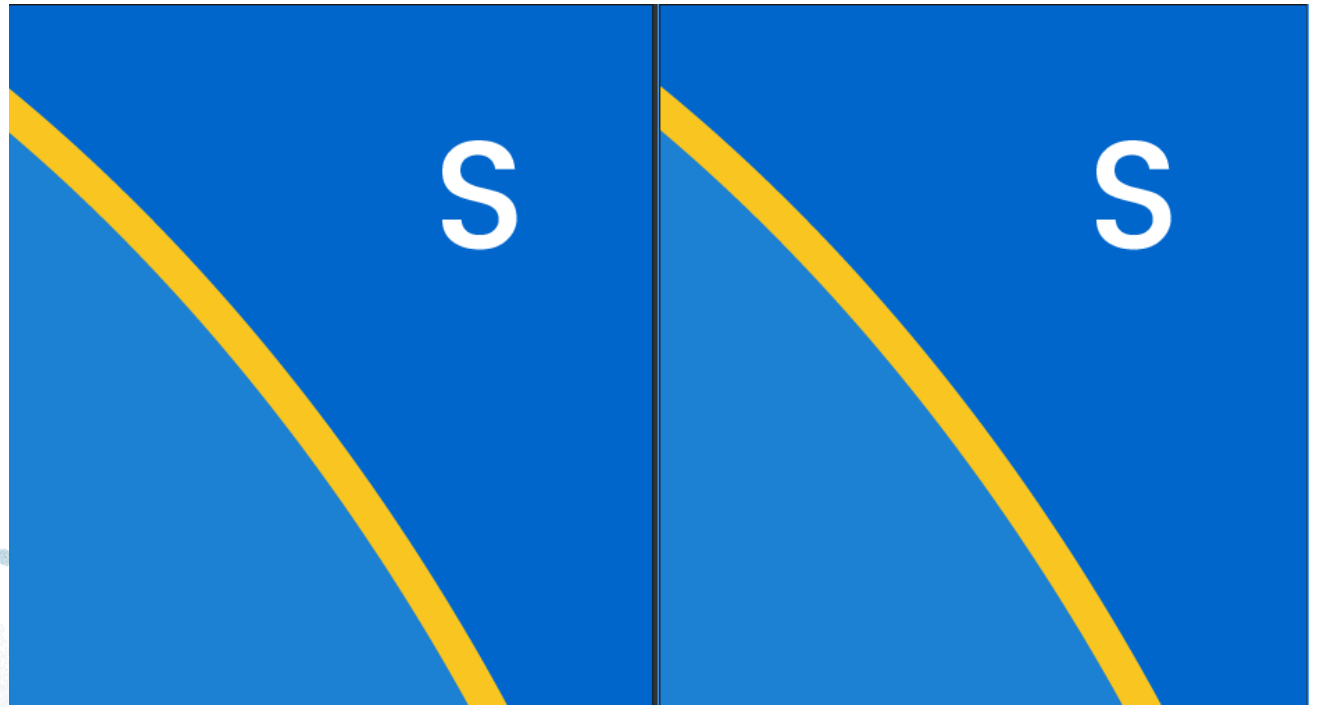
Image Quality

Compression



- Lossless Compression – Zip - is not much use for images but RAW file size may benefit

JPG Compression



1.6 Mb

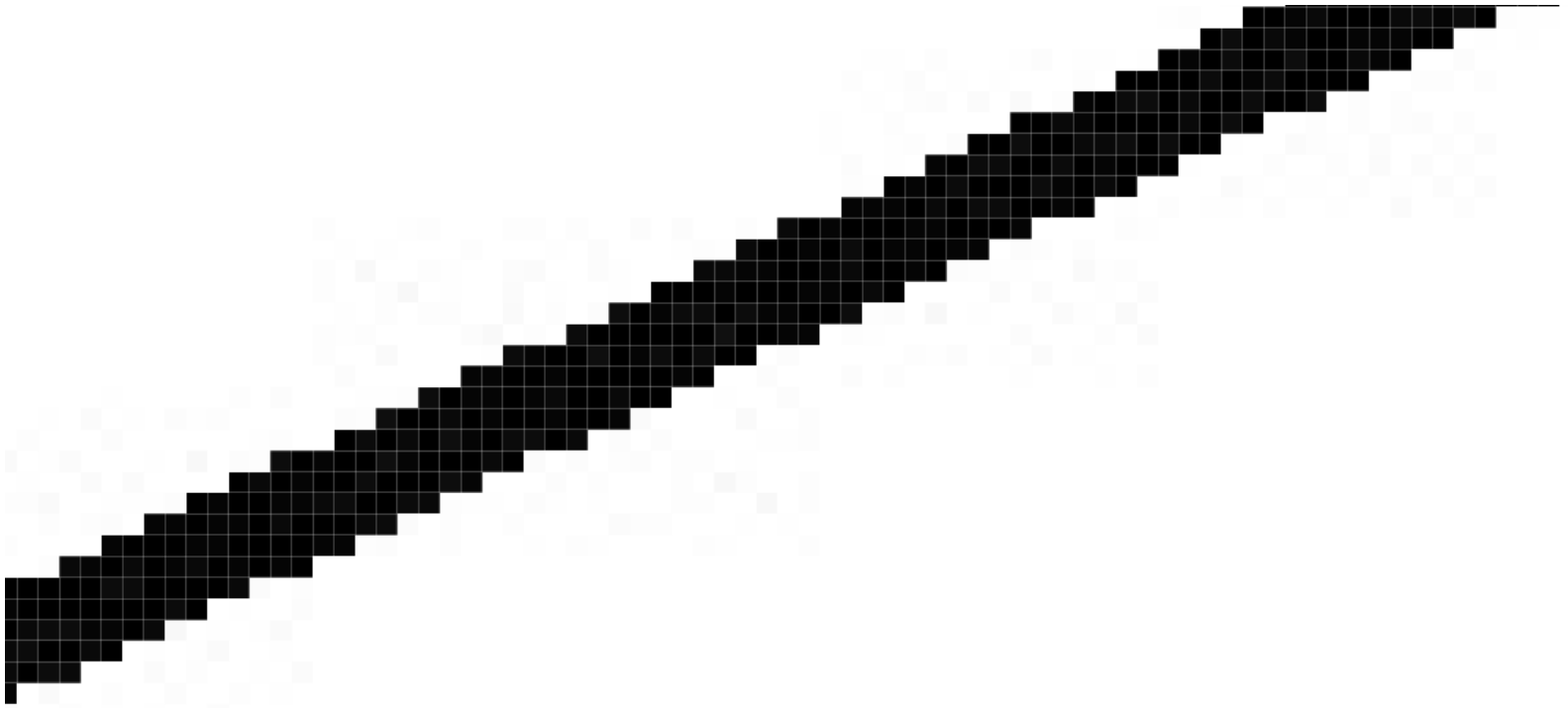
1.6 Kb


Original JPG
824 KB

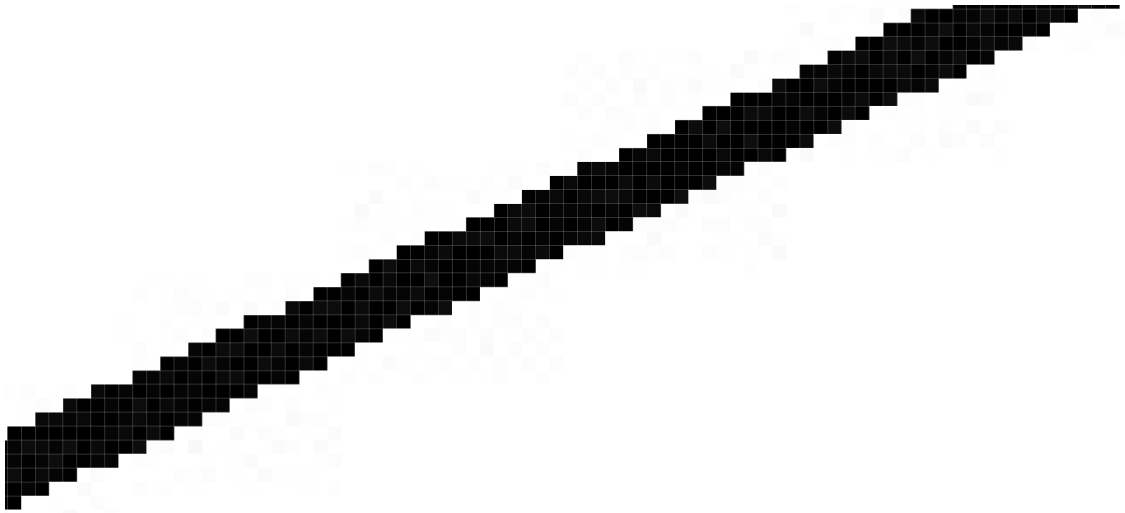

50% Lossy Compression
76 KB


80% Lossy Compression
38 KB

Paint Demo



Photoshop Demo



Set Subject Demo

- **Why Resize?**
- To allow you to email four images with a limit of 10Mb imposed by your ISP
- **How many pixels?**
- Only need 1920x1200 for projector (suggest 2560x1440 for Tony's Monitor!)
- **How much Compression?**
- Minimum to meet the ISP limit.