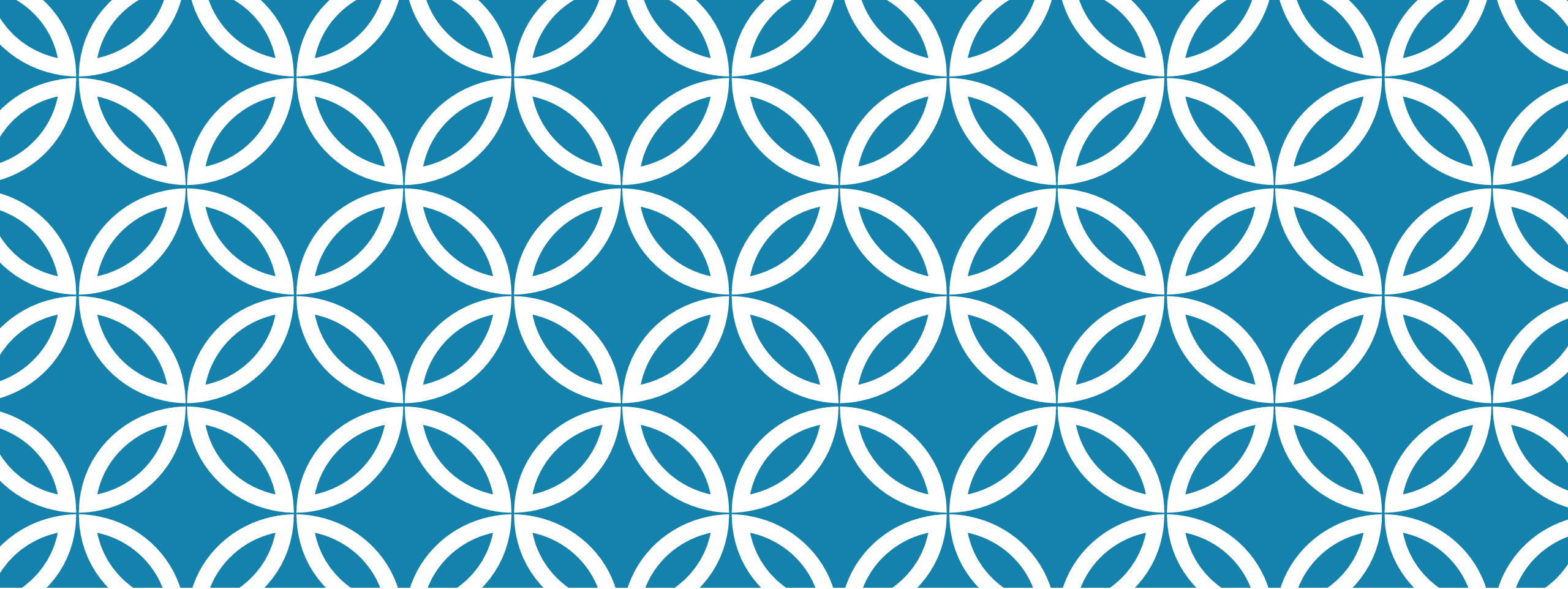




DIGITAL PHOTOGRAPHY RESOLUTION AND QUALITY

Lecturer: Mark Gillan

PIXELS

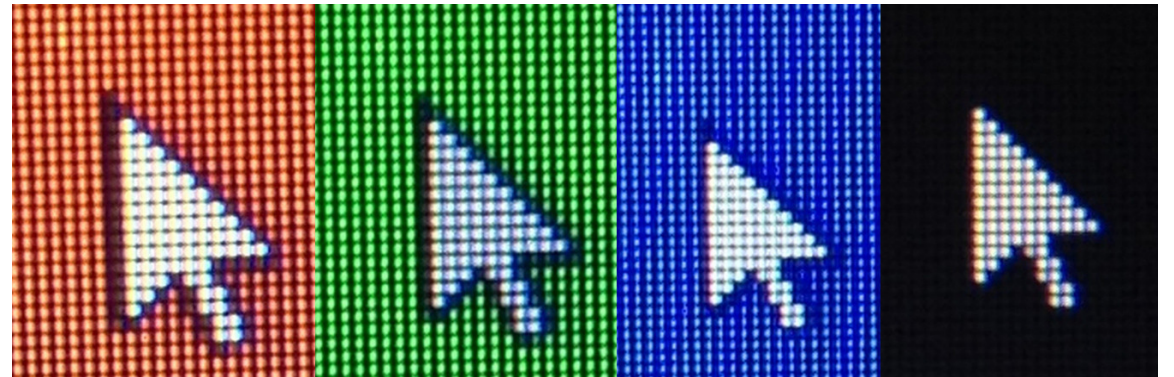
Picture Element (Pix-el)

Measured in “px” units

Smallest portion within a screen display (Visual Display Unit – VDU)

Basic building blocks of dots or squares containing information for brightness and colour (normally RGB – Red, Green, Blue)

Used to form an image display



QUALITY

The more pixels per inch, the better quality of image displayed

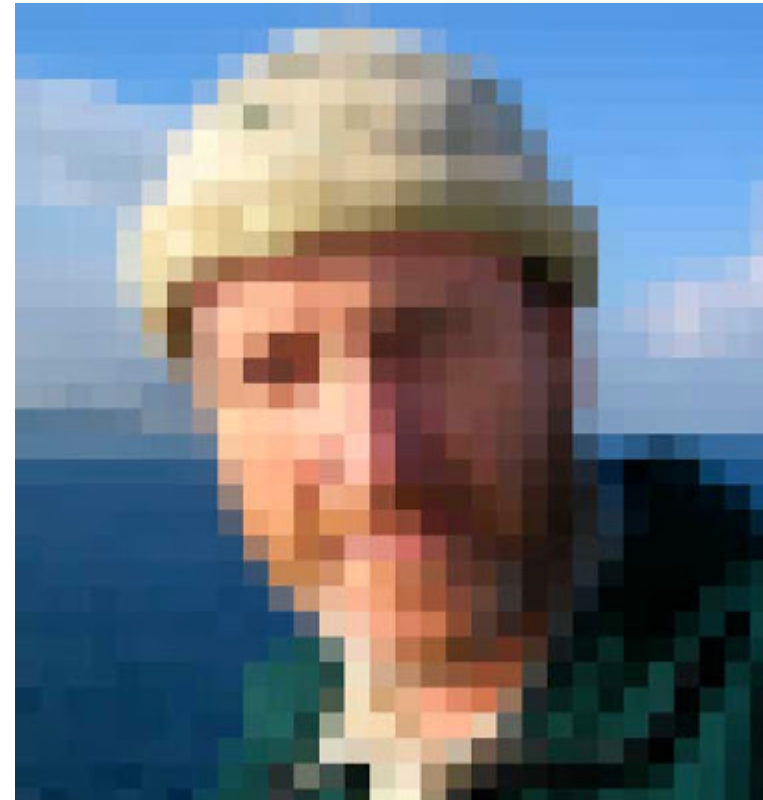
Insufficient pixels means 'jaggies' being more prominent, also known as 'pixelated' when pixels are more visible within an image

Digital zooming, whether in camera or on screen, means getting closer to the pixels

More pixels means more digital zooming to a greater size can take place without pixelated images appearing

Nowadays, we use the term 'Megapixel' for camera recorded images (millions of pixels)

For example, a 23 MP camera will provide increased quality of image as opposed to an 8 MP camera



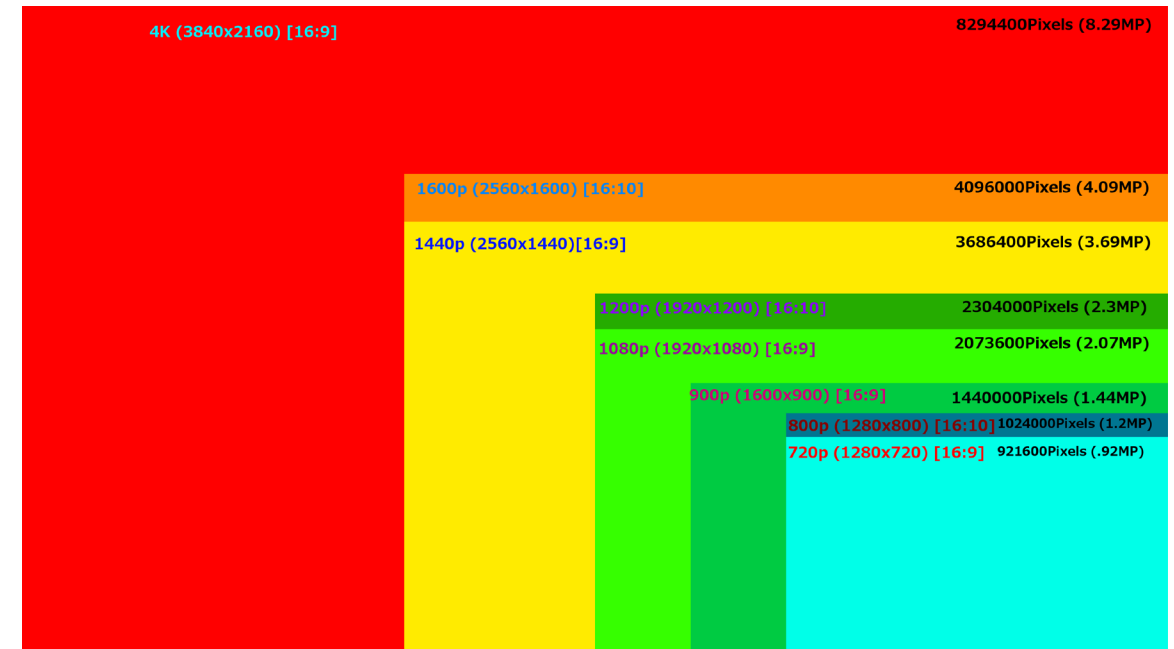
RESOLUTION

Amount of pixels across the screen

Amount of pixels down the screen

Multiplied together provides the amount of megapixels

For example,
UHD (Ultra High Definition)
could be 3840 x 2160 providing
us with about 8.29 MP
(8,294,400 pixels)



SIZE MATTERS

The larger the screen, the more an image is stretched across it, meaning quality can be reduced unless the resolution matches the size of the screen with the amount of pixels per inch

So, resolution is the amount of pixels x amount of pixels, across and down, resulting with the total amount of pixels

Quality is affected when the screen size is much larger, for example, think of a smallish 800 x 600 pixel image being displayed upon a 24 inch monitor, now imagine the same image displayed upon a 60 inch television

Now consider the aspect ratio: 8 x 4 image displayed on a screen 8 x 6 – the same?

Printing is dependant upon amount of dots per inch and CMYK colours (Cyan, Magenta, Yellow, Black) being added to the printing surface as opposed to pixels per inch

Larger images, more pixels will also require more storage space. All the pixel information is kept digitally and equates to bytes – megabytes. A byte is 8 bits of information (a bit is either a 1 or 0)

We can now see how pixels, quality, resolution, ratio and size matters!