Section – 3

Identify Image standards

Learning Outcome: At the end of the session learners will be able to identify image standards according to Industry Standard.

Relevant Performance Criteria:

     1 Image properties are identified

     2 Image resolution are identified and demonstrated.

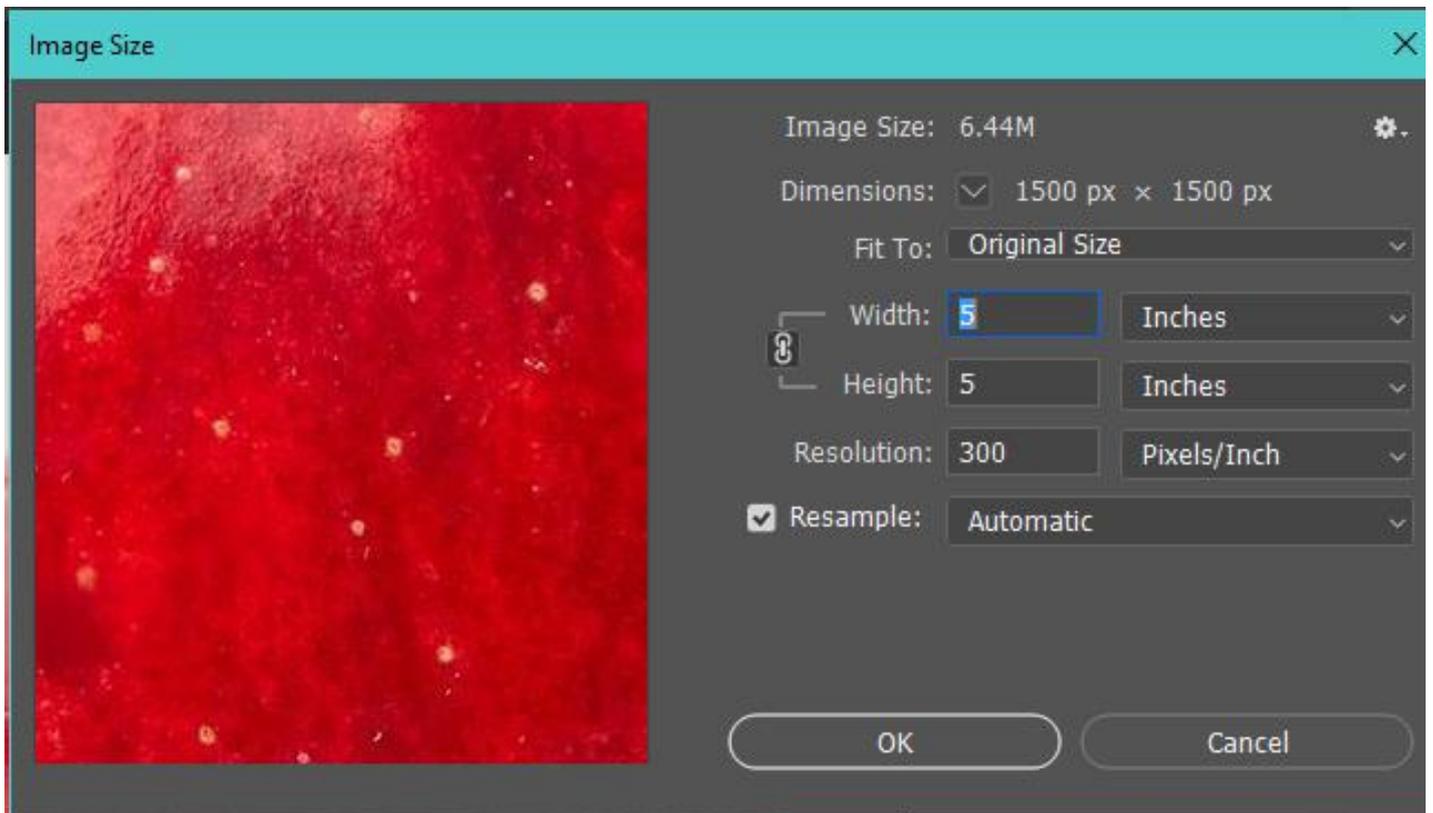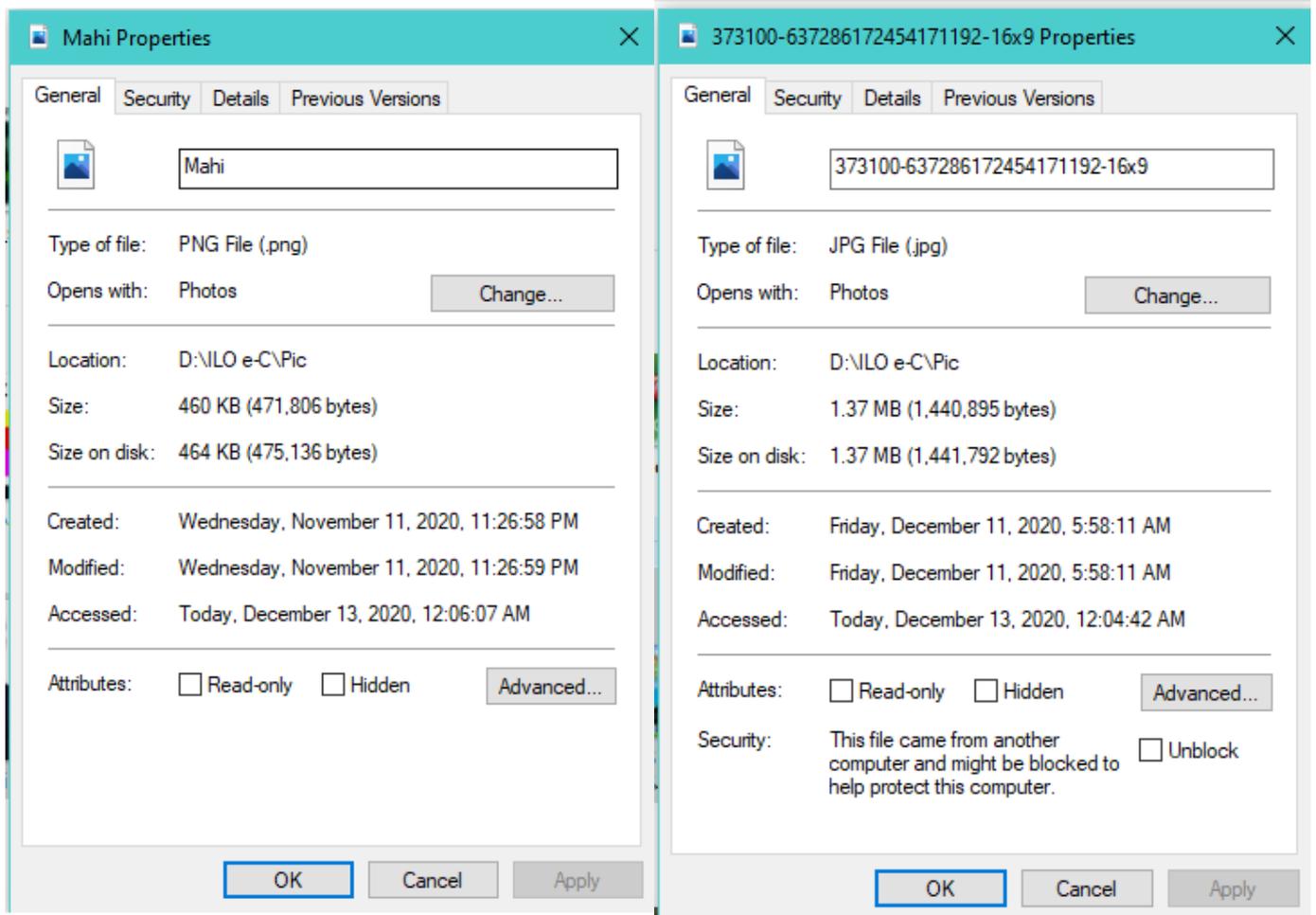   3 Image format are identified and selected.

Working Procedure/ Steps:

1. Follow OSH
2. Wear PPE
3. Check Connection and computer
4. ON/Start the Computer.
5. Open Adobe Photoshop Software.
6. Create a folder on your own name.
7. Save this file as your own name.
8. Shutdown your computer.

Image properties:

Your image should meet the following specifications

> ➢ Image size: 5"x7"
> ➢ Image Resolution: 171 DPI
> ➢ Background Color: Purple
> ➢ File extension: JPEG
> ➢ Color Mode: RGB

Properties:

Mahi Properties

General | Security | Details | Previous Versions

Mahi

Type of file: PNG File (.png)

Opens with: Photos   Change...

Location: D:\ILO e-C\Pic

Size: 460 KB (471,806 bytes)

Size on disk: 464 KB (475,136 bytes)

Created: Wednesday, November 11, 2020, 11:26:58 PM

Modified: Wednesday, November 11, 2020, 11:26:59 PM

Accessed: Today, December 13, 2020, 12:06:07 AM

Attributes: ☐ Read-only ☐ Hidden   Advanced...

OK   Cancel   Apply

373100-637286172454171192-16x9 Properties

General | Security | Details | Previous Versions

373100-637286172454171192-16x9

Type of file: JPG File (.jpg)

Opens with: Photos   Change...

Location: D:\ILO e-C\Pic

Size: 1.37 MB (1,440,895 bytes)

Size on disk: 1.37 MB (1,441,792 bytes)

Created: Friday, December 11, 2020, 5:58:11 AM

Modified: Friday, December 11, 2020, 5:58:11 AM

Accessed: Today, December 13, 2020, 12:04:42 AM

Attributes: ☐ Read-only ☐ Hidden   Advanced...

Security: This file came from another computer and might be blocked to help protect this computer.   ☐ Unblock

OK   Cancel   Apply

Image Size

Image Size: 6.44M

Dimensions: ⌄ 1500 px × 1500 px

Fit To: Original Size

Width: 5   Inches

Height: 5   Inches

Resolution: 300   Pixels/Inch

☑ Resample: Automatic

OK   Cancel

Resolution:

Resolution terms: Raster graphics are resolution dependent. Modern computer monitors typically display about 72 to 130 pixels per inch (PPI), and some modern consumer printers can resolve 2400 dots per inch (DPI) or more; determining the most appropriate image resolution for a given printer-resolution can pose difficulties, since printed output may have a greater level of detail than a viewer can discern on a monitor. Typically, a resolution of 150 to 300 pixel per inch works well for 4-color process (CMYK) printing.

Monitor resolution: Your monitor's resolution is described in pixel dimensions. For example, if your monitor resolution and your photo's pixel dimensions are the same size, the photo will fill the screen when viewed at 100%. How large an image appears on-screen depends on a combination of factors—the pixel dimensions of the image, the monitor size, and the monitor resolution setting. In Photoshop, you can change the image magnification on-screen, so you can easily work with images of any pixel dimensions.
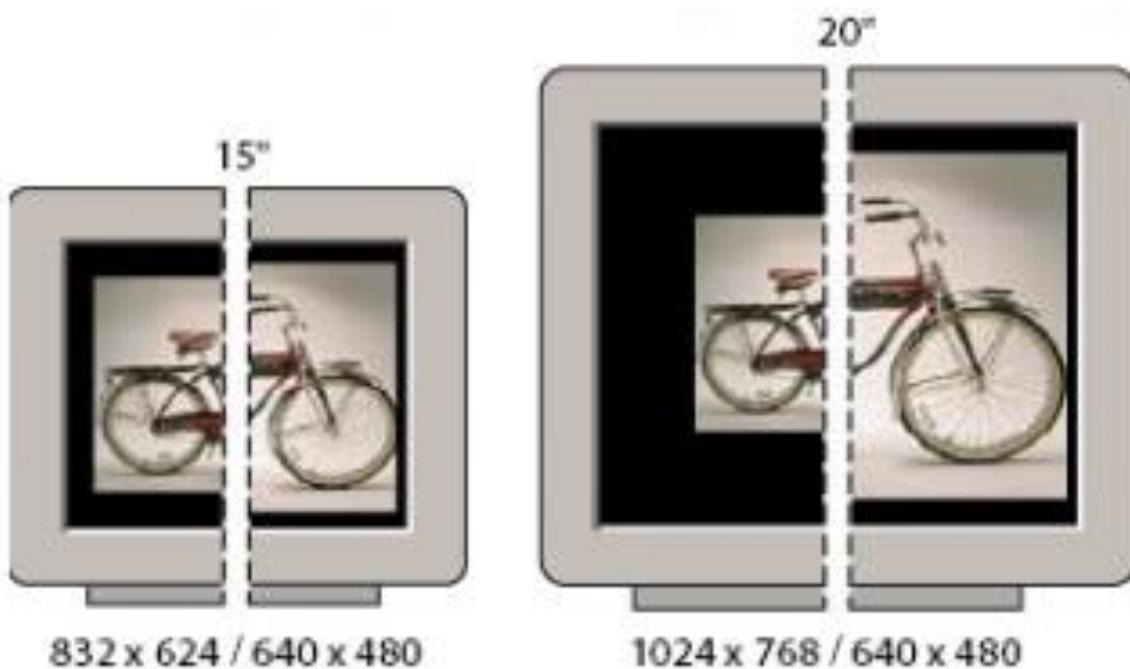
A 620- by 400-pixel image displayed on monitors of various sizes and resolutions.
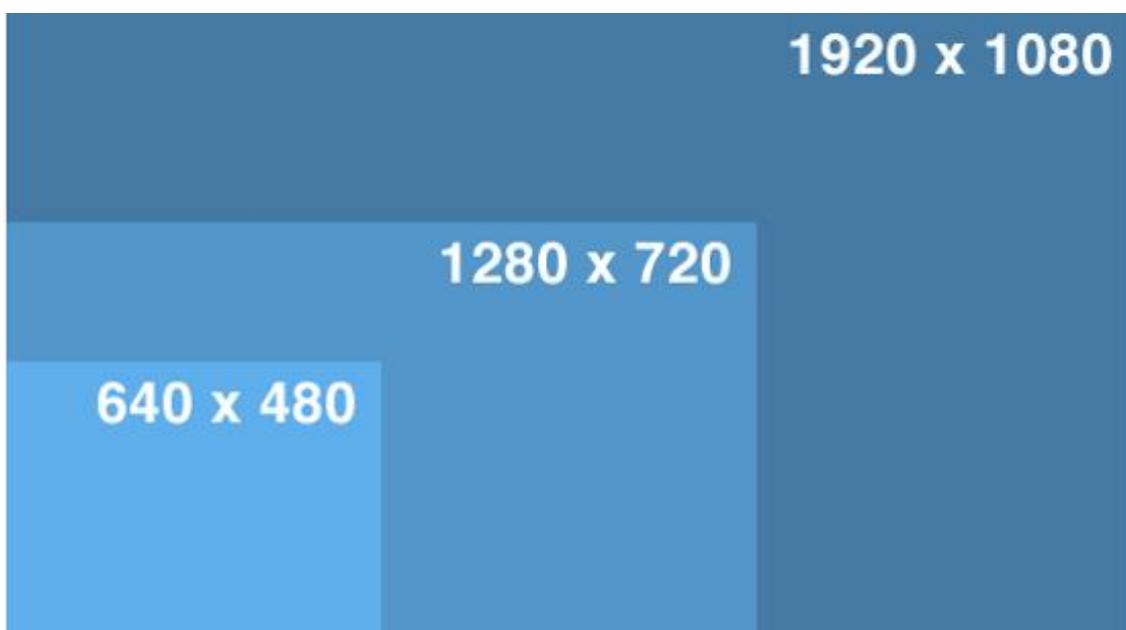
File Extensions:

A file extension (or simply "extension") is the suffix at the end of a filename that indicates what type of file it is. For example, in the filename "myreport.txt," the .TXT is the file extension. It indicates the file is a text document. Some other examples include .DOCX, which is used for Microsoft Word documents, and .PSD, which is the standard file extension for Photoshop documents.

TIF/TIFF: This is a lossless image format, that is, no pixels are modified in the image. TIFF stands for Tag Image File Format. This generally results in very large image sizes (in terms of computer file size). TIF has the option of being compressed, using a lossless compression technique known as LZW, which will shrink the image with no loss of data. Some programs will also allow compression within a TIF by ZIP (lossless) or JPEG (lousy). Even compressed, TIF files are very large, much larger in computer file size than their JPEG equivalents.

Bitmap: A bitmap is a type of graphic composed of pixels (picture element) in a grid. Each pixel or "bit" contains color information for the image. Bitmap graphics formats have a fixed resolution which means that resizing a bitmap graphic can result in distortion and jagged edges. Some common bitmap formats are GIF, JPG or JPEG, TIFF, PNG, PICT, PCX, and BMP. Photo-editors or image-editing graphics software such as Adobe Photoshop and Corel Photo-Paint are designed for creating and editing bitmap graphics.

PDF: Portable Document Format, a file format developed by Adobe Systems. PDF captures formatting information from a variety of desktop publishing applications, making it possible to send formatted documents and have them appear on the recipient's monitor or printer as they were intended. To view a file in PDF format, you need Adobe Reader, a free application distributed by Adobe Systems.

RAW: This is a lossless image format offered by some digital cameras. The JPEG image produced by a camera is an image processed by the camera's software in which variables such as sharpness, contrast, saturation and white balance are applied to the digital image based on the camera's settings. RAW on the other hand is the direct unprocessed image as seen by the camera's sensor. It allows the post-image processing using any of the camera parameters (i.e. sharpness, contrast, etc.).

DPI: DPI means paper printer Dots Per Inch while Some programs such as Adobe Photoshop are now calling the setting of what used to be shown as DPI as pixels/inch or pixels/cm. It's a bit of one step forward, two steps back since they still have it sitting in a section called "Resolution" leading people to mistakenly think that it has something to do with the digital resolution of the photo.

PPI: PPI means digital Pixels per Inch. But in many instances the term DPI is used when in fact PPI is what is really meant. Even in these articles there is crossover of terms, since many software programs continue to use the legacy term DPI to mean PPI.

Difference between a raster file and a vector file

Raster images are made up of pixels, while vector images are formed by mathematical curves and paths. Being comfortable with the ins and outs of both formats and how they translate when exported is an essential skill for every designer.

Raster Images

If you surf the web, chances are you have seen a raster image. Raster, or bitmap, images consist of tiny squares called pixels. These pixels contain bits of color and when combined, they build images. The more pixels in an image the higher the quality, and vice versa. When you zoom in on an image the pixels become more apparent while the details of the image become blurry.

Notice how the edges of the tropical pattern below become pixelated and jagged when magnified. This is a key indicator of a raster-based image. Obvious pixels make an image look unprofessional and unsightly. As a rule of thumb, it is best to **only downsize** a raster image to avoid heavy pixilation.

Due to the abundance of pixels in a raster image, the file sizes can be substantial. An illustration with higher DPI (dots per inch) or PPI (pixels per inch) will be larger in size and data, which can be worrisome when there are limits to image storage or restrictions on uploaded file sizes.

Tip: You can quickly cut down file size by reducing the resolution to 72 PPI for online images.

When to Use Raster Images

Raster images are used in photography and digital applications. When you take a picture with a phone or a camera the image is recorded as pixel data, and when these images are uploaded online the end result is a raster image. To edit these images you need access to raster-based programs like Adobe Photoshop or Shutterstock Editor. For design work, it is best to use these programs for photography and imagery only; avoid using them to design logos and icons.

File Formats for Raster Images

Raster files are saved in various formats:

- **.tiff** (Tagged Image File Format)
- **.psd** (Adobe Photoshop Document)
- **.pdf** (Portable Document Format)
- **.jpg** (Joint Photographics Expert Group)
- **.png** (Portable Network Graphic)
- **.gif** (Graphics Interchange Format)
- **.bmp** (Bitmap Image File)

While all of these display pixels, each file format has its own distinct display settings. Some files take up additional data and use higher resolutions, while others take up less storage but tend to be lower in resolution and quality.

Vector Images

Vectors use a different approach to image renderings. They are made of paths and curves dictated by mathematical formulas. These paths and curves are produced exclusively through design software's designed for vectors, like Adobe Illustrator or Sketch. Due to their algorithmic makeup, vectors are infinitely scalable and remain smooth and crisp even when sized up to massive dimensions.

Even when scaled to substantial proportions, this [pattern](#) below remains clean and exact. Elements like fonts render the same way: When sized up or down, they retain their quality.

A vector image's formulaic makeup keeps file sizes to a minimum in comparison to its raster counterparts. This comes in handy when there are restrictions to file sizes or image storage. While a vector image file has many advantages, there are compatibility issues when shared. You must have access to vector-based programs in order to edit the native files.

When to Use Vector Images

Programs such as Adobe Illustrator or Sketch are best used to create and manipulate vector images. Avoid raster-based programs such as Adobe Photoshop when incorporating vector elements that need to be scaled.

Vectors' scalability make them ideal for design work consisting of logos and icons. Both logos and icons require immense details and many size options, usually depending on their application. For example, you might use a logo on something as small as a business card or something as large as a billboard. Vectors are ideal for large or small format prints, because rasterized designs will lose quality when resized.

File Formats for Vector Images

Vector files can be saved or edited in these formats:

- **.ai** (Adobe Illustrator document)
- **.eps** (Encapsulated PostScript)
- **.svg** (Scalable Vector Graphic)
- **.pdf** (Portable Document Format; only when saved from vector programs)

Color Mode

Greyscale: The Greyscale is an image in which the value of each pixel is a single sample, that is, it carries only intensity information. Images of this sort are also known as black-and-white)

CMYK: The CMYK color model (process color, four color) is a subtractive color model, used in color printing, and is also used to describe the printing process itself. CMYK refers to the four inks used in some color printing: cyan, magenta, yellow, and key (black).)

RGB: The RGB color model is an additive color model in which red, green, and blue light is added together in various ways to reproduce a broad array of colors. The name of the model comes from the initials of the three additive primary colors, red, green, and blue.
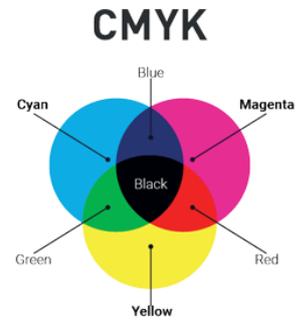
RGB: Red, Green, Blue

RGB

- Additive colour model
- For computer displays
- Uses light to display colour
- Colours result from trasmitted light

Magenta
Blue   Red
White
Cyan   Yellow
Green

Red+Green+Blue=White
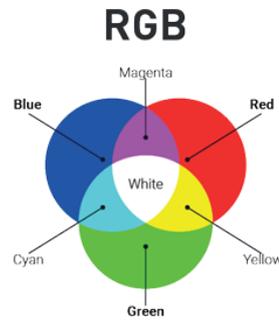
CMYK: Cyan, Magenta, Yellow, Black

CMYK

- Subtractive colour model
- For printed material
- Uses ink to display colour
- Colours result from reflected light

Blue
Cyan   Magenta
Black
Green   Red
Yellow

Cyan+Magenta+Yellow=Black

For learn more about image standards visit:

https://helpx.adobe.com/photoshop/how-to/image-resizing-basics.html?playlist=/services/playlist.helpx/products:SG_PHOTOSHOP_1_1/learn-path:get-started/set-header:ccx-designer/playlist:ccl-get-started-1/en_us.json&ref=helpx.adobe.com