UI Design and Prototyping

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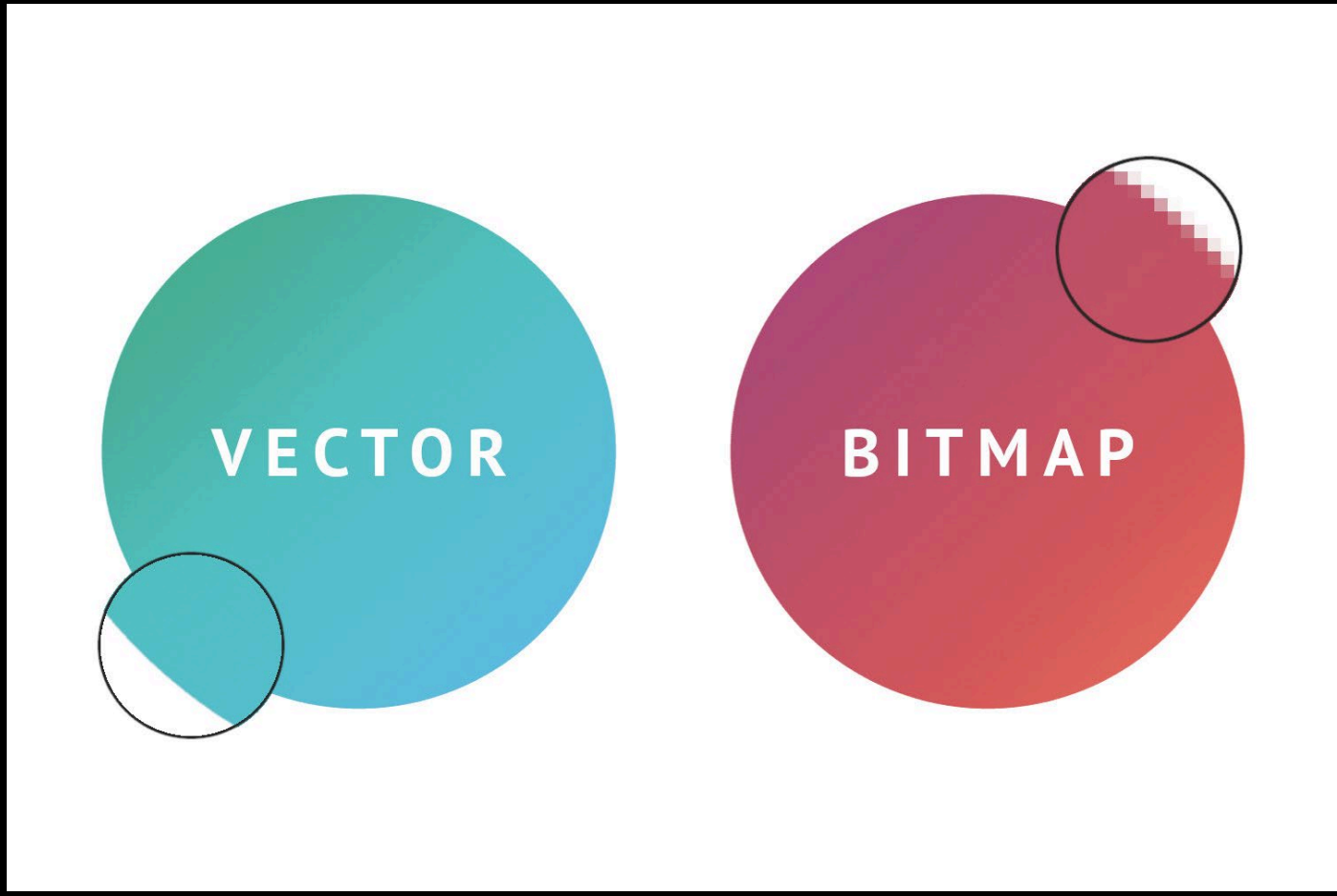
(adapted from Margit Tenoosaar’s presentation)

Images

Raster and Vector Graphics

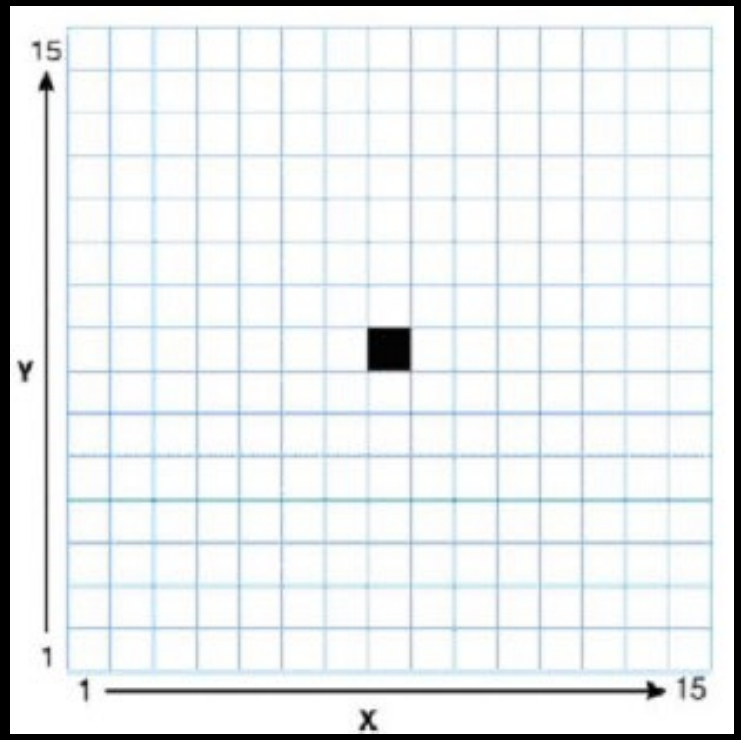
- Raster images are made of pixels, tiny squares of color
- Vector graphics are made of vectors or mathematical paths



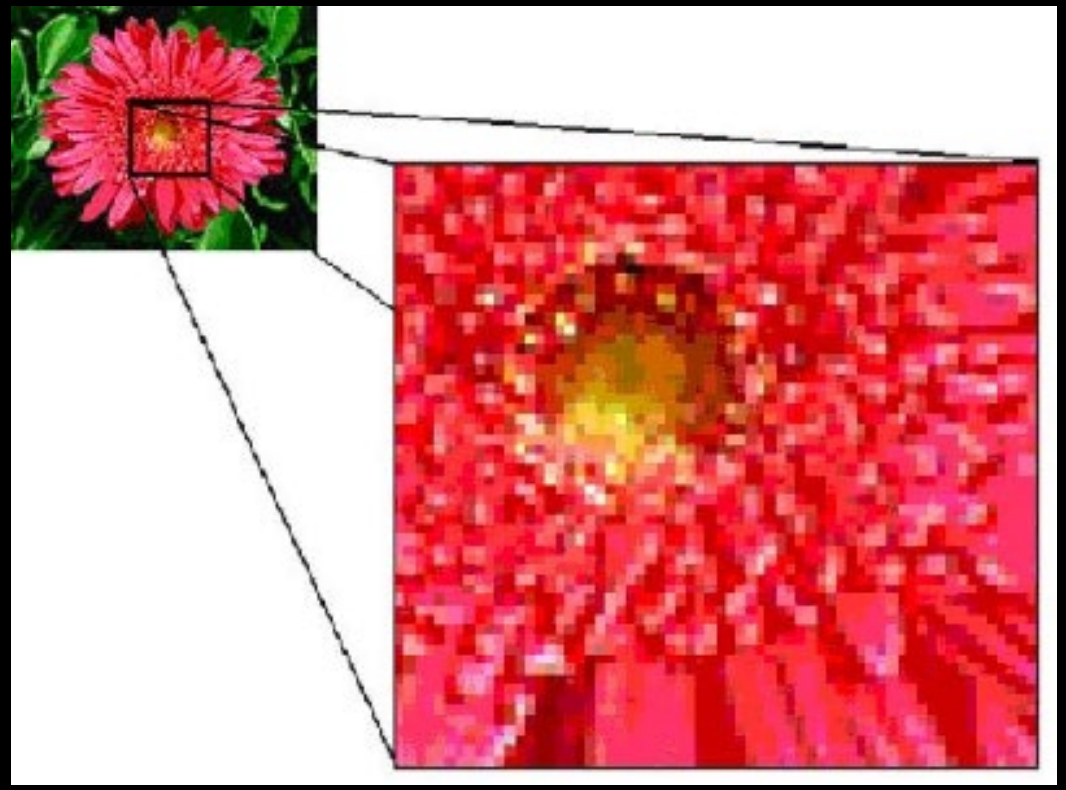
Raster graphics

In computer graphics, a raster graphics or bitmap image is a dot matrix data structure that represents a generally rectangular grid of pixels (points of color), viewable via a monitor or other display medium.

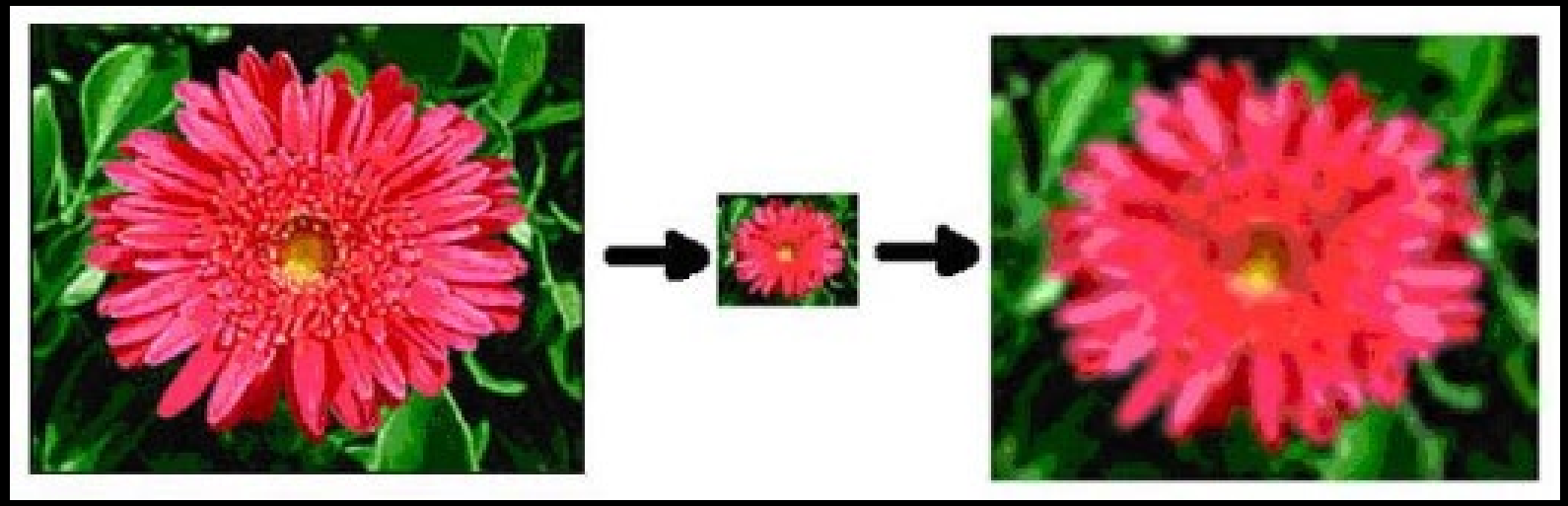
Pixel



Behind a picture:



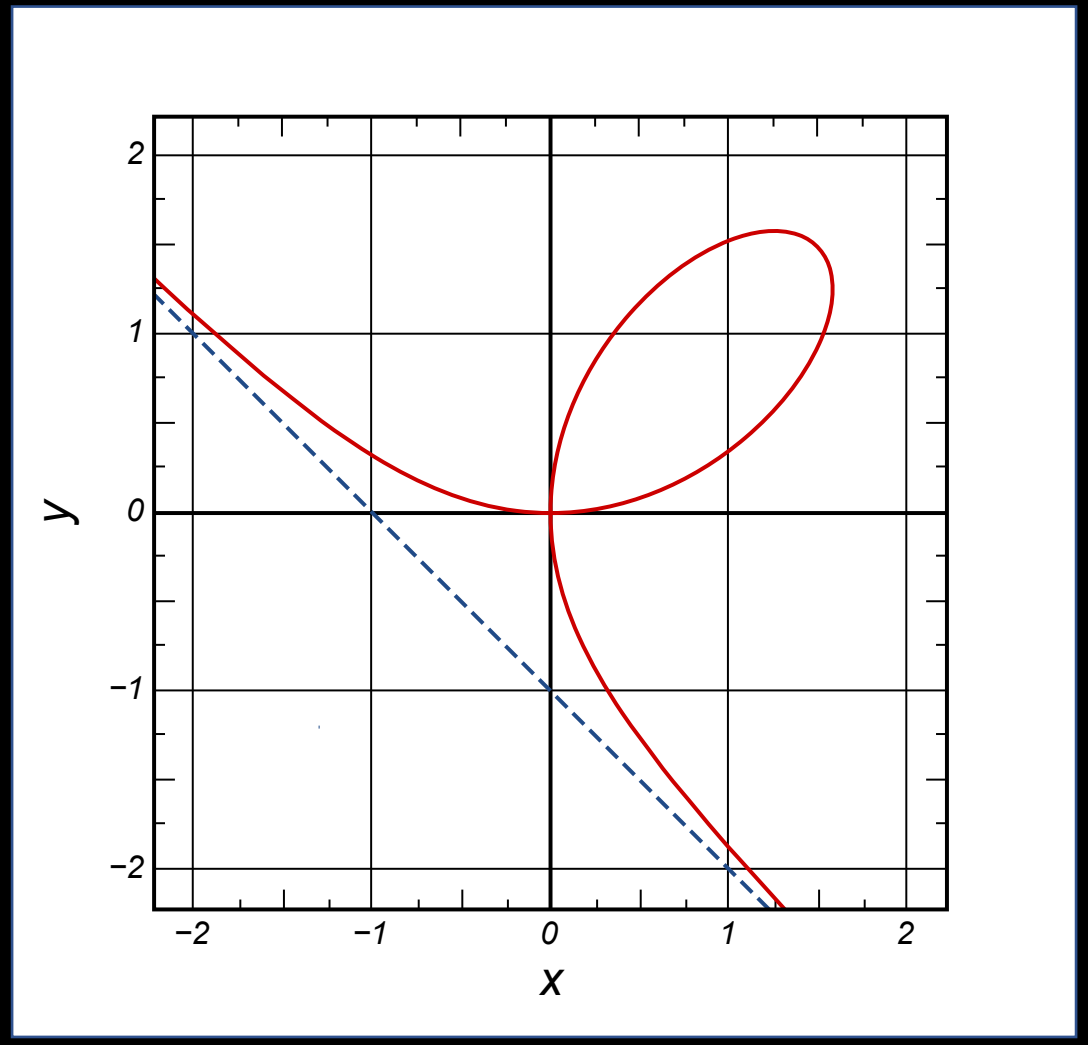
Limitations of Raster graphics:



Vector Graphics

Vector graphics is the creation of digital images through a sequence of commands or mathematical statements that place lines and shapes in a given two-dimensional or three-dimensional space. In physics, a vector is a representation of both a quantity and a direction at the same time.

Vector



Scalability of Vector Graphics

Common Raster formats

.png

.jpg or .jpeg

.gif

.tiff

.psd

Adobe Photoshop

	✓ Pros	✗ Cons
JPEG	Small file size 24 bit color	Low image quality no transparency
PNG	High image quality 8 bit and 24 bit color support Supports transparency	Large file size Slow upload speed online
GIF	Small file size Higher quality image Supports transparency	Only supports 8 bit color
TIFF	Very high quality Supports layers, transparency, and full color	Extremely large file size (not suitable for web use)

https://www.widen.com/blog/whats-the-difference-between-png-jpeg-gif-and-tiff

Common Vector File Formats

.eps

.pdf

.svg

.sketch

.ai

Adobe Illustrator

Sketch

Figma

What should I use?

	JPEG	GIF	PNG-24	SVG
Vector				YES
Raster	YES	YES	YES	
Unlimited colors	YES	-	YES	YES
Transparency	-	YES	YES	YES
Scalable	-	-	-	YES
Animations	-	YES	-	YES

Size is important

Export graphics

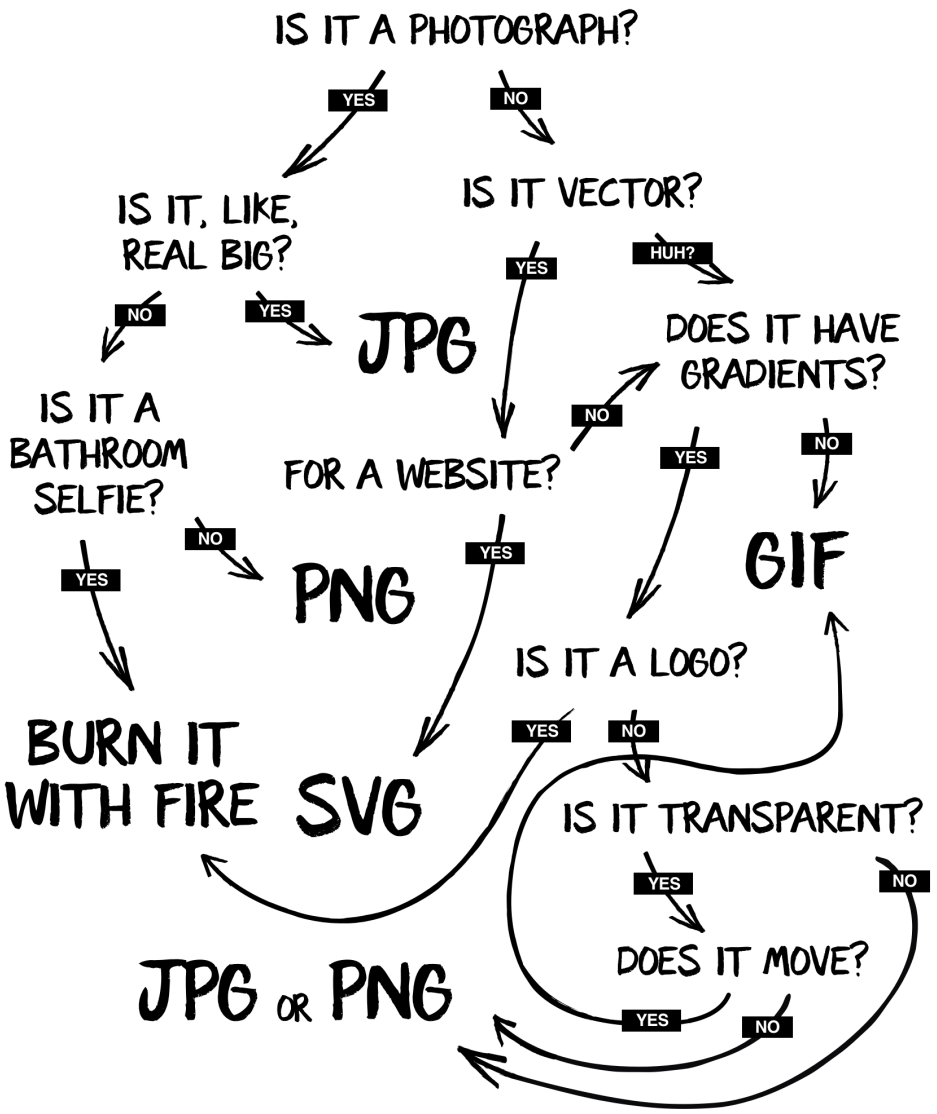
FILE TYPES	FILE SIZE
PNG	47 KB
PNG-8	19 KB
GIF	25 KB
SVG	20 KB
JPG 100	132 KB
JPG 80	82 KB
JPG 60	58 KB

Export photo

FILE TYPES	FILE SIZE
PNG	2.9 MB
PNG-8	1.1 MB
GIF	1.3 MB
SVG	4.2 MB
JPG 100	625 KB
JPG 80	353 KB
JPG 60	238 KB

https://www.foregroundweb.com/image-size/

JPG, PNG, GIF, OR SVG?



modo modo

https://modomodoagency.com/2019/01/22/jpg-vs-png-vs-gif-vs-svg-image-format-guide/

WebP

WebP is a modern image format that provides superior lossless and lossy compression for images on the web. Using WebP, webmasters and web developers can create smaller, richer images that make the web faster.

WebP is supported in Google Chrome, Firefox, Edge, the Opera browser.

https://caniuse.com/webp

WebP

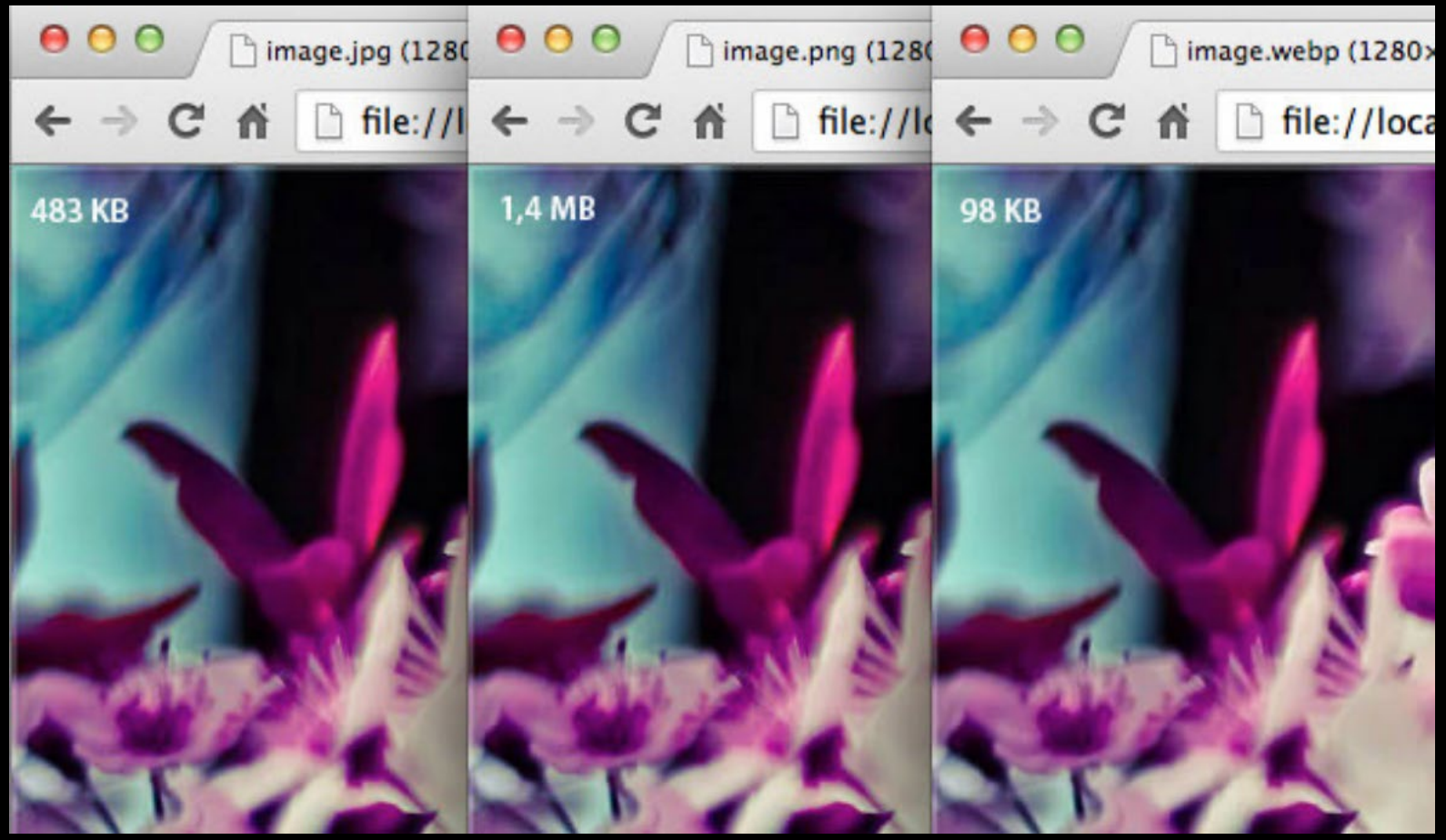


image.jpg (128
file://l
483 KB
image.png (128
file://lc
1,4 MB
image.webp (1280×
file://loca
98 KB

WebP fallback

Using WebP Images with Fallback (usefulangle.com)

Image	File Name	Original Size	Compressed JPG	WebP Format	
	jpg-to-webp-1.jpg	480 KB	407 KB	43 KB	
	jpg-to-webp-2.jpg	659 KB	578 KB	113 KB	
	jpg-to-webp-3.jpg	787 KB	715 KB	127 KB	
	jpg-to-webp-4.jpg	617 KB	543 KB	61 KB	
	jpg-to-webp-5.jpg	605 KB	543 KB	70 KB	

Task

Start planning your own logo:

- First and/or last name, or just initials or your nickname, artist name…
- Choose a typeface that will support your message and try different versions in Figma

+ You can design a picture logo with Figma or Illustrator if you wish

Read more

https://99designs.com/blog/tips/image-file-types/

https://modomodoagency.com/2019/01/22/jpg-vs-pngvs-gif-vs-svg-image-format-guide/

Task

Add examples of logos in your style guide. You can also add a moodboard to your style guide at this point (optional).

Your style guide should now include examples of:

A Logo on a light and a dark background

Colors (primary, secondary, accent colors and their usage)

Fonts examples for different typography elements

Moodboard about what message your personal brand sends out (optional)