Presentation: Introduction to Graphic Design and Image Formats

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What is Graphic Design?

Content:

- Graphic design is the art of combining images, text, and colors to communicate a message visually.
- Used in:
  - Posters
  - Logos
  - Social media posts
  - Websites

Common tools: Canva, Adobe Photoshop, Illustrator, Figma, GIMP

Two Main Types of Images

Type	Description	Best For
Raster	Made of pixels (tiny squares of color)	Photos, digital art
Vector	Made of paths and shapes (mathematical)	Logos, icons, drawings

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Raster Images

- Formed by a grid of pixels
- Quality **depends on resolution**
- **Blurry when zoomed in**

📷 Examples: digital photos, screenshots

🖌️ Tools: Photoshop, GIMP

Vector Images

- Use lines and shapes defined by math formulas
- **Scalable without losing quality**
- Great for logos, icons, illustrations

✒️ Editable in: Illustrator, Inkscape

Common Image Formats

Format	Type	Supports Transparency?	Best For
JPEG	Raster	✗ No	Photos, web images
PNG	Raster	✓ Yes	Transparent backgrounds
GIF	Raster	✓ Yes	Simple animations
SVG **Ai**	Vector	✓ Yes	Logos, scalable graphics
WEBP	Raster	✓ Yes	Web-optimized images
TIFF	Raster	✗ No (usually)	High-quality print photos
PSD	Raster	✓ Yes (Photoshop)	Editable Photoshop projects

JPEG Format

- **Raster image**
- Best for photos
- **Lossy compression** (smaller size, lower quality)
- No transparency support

Tip: Use JPEG for online photos when size matters more than quality

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PNG Format

- **Raster image**
- Best for graphics with transparency (e.g., logos)
- **Lossless compression** (better quality)
- Larger file size than JPEG

SVG Format

- **Vector image**
- **Scalable** without quality loss
- Editable and lightweight
- Used for icons, logos, simple illustrations

Tip: Ideal for web and mobile graphics

When to Use Which Format

Use Case	Recommended Format
Logo	SVG, PNG
Photograph	JPEG, PNG
Icon	SVG
Transparent Background	PNG
Animation	GIF, SVG (with code)
Print (High Res)	TIFF, PNG

Raster Image Editing – Key Terms

Term	Explanation
Resolution	Number of pixels in an image (e.g., 1920×1080). Higher = better detail.
DPI (Dots Per Inch)	Used for print; controls how dense the image prints (e.g., 300 DPI = good for print).
Canvas	The working area (like a blank sheet of paper) where you place your image.
Layer	A separate level of content. You can stack multiple layers and edit them individually.
Masking	Hiding parts of an image without deleting them. Used for effects and adjustments.
Selection	Choosing a specific part of the image to edit (using tools like marquee, lasso, etc.).
Crop	Remove unwanted outer areas of an image.
Clone Stamp	Copy pixels from one area to another (often for removing blemishes or objects).
Histogram	A graph showing brightness levels in an image (used in color correction).
Filters	Predefined effects that change the appearance (e.g., blur, sharpen, vintage).
Adjustment Layer	A layer that applies color or tone changes without changing the original image.
Compression	Reducing file size (JPEG uses lossy, PNG uses lossless).

Vector Image Editing – Key Terms

Term	Explanation
Anchor Point	A point that defines the shape of a vector path (used in drawing tools like the Pen Tool).
Path	A line or shape created using anchor points.
Stroke	The outline of a path (can change color or thickness).
Fill	The color or pattern inside a shape.
Bezier Curve	A smooth, curved line defined by control points (used to draw precise shapes).
Group / Ungroup	Combine or separate multiple vector elements to move/edit them together or individually.
Object / Shape	Any element in a vector design: square, circle, text, etc.
Layers	Similar to raster, layers are stacked elements; artboards define different pages or canvases.
Convert to Path	Turning text or shapes into editable paths.
Outline Text	Converting text into vector shapes so fonts aren't required when opening the file elsewhere.
Gradient	A gradual blend between two or more colors.
Opacity	Transparency level of an object. 0% = fully transparent, 100% = fully visible.

Common to Both

Term	Meaning
Palette	A range of colors used in a design.
Aspect Ratio	Ratio of width to height (e.g., 16:9 or 4:3).
Export	Saving the project in a different format (e.g., PNG, JPEG).
Color Modes	RGB (for screens), CMYK (for print), Grayscale.
Vectorization	Converting a raster image (like a photo) into a vector format.
