What are common ways to optimize media assets?

There are three tools to consider when using media, such as images, on your web pages: the size, the format, and the compression.

Let's talk about the size of your images first. When you are building a website, you'll often style images to display in a specific size. For example, you might have an image display at a 640x480 resolution. 640 represents the width while 480 represents the height in pixels. When preparing your image you want to scale it to a 640x480 size to match that styling. If you serve an image that is 1920x1080 but you are styling it to be much smaller, you're requiring your users to download unnecessary data. A smaller resolution results in a smaller file size.

The next thing to consider is your file format. Two of the most common file formats are PNG and JPG, but these are no longer the most ideal formats for serving images. Unless you need support for older browsers, you should consider using a more optimized format, like WEBP or AVIF.

Finally, you can run compression algorithms on your images. A compression algorithm is used to reduce the size for files or data. There are options like pngcrush to compress your images locally, or you can use online compression tools. However, it's worth noting that specific file formats, such as JPG, are not lossless. Lossless means that the original data can be perfectly reconstructed from the compressed data. If you try to compress a JPG image, it will result in a degraded quality. You should keep all these things in mind when selecting images for your web pages.