Why isn't CMY suitable for printers?

The cyan, magenta, and yellow (CMY) inks used in printing are not perfect and do not absorb light perfectly. As a result, mixing these inks in equal amounts does not produce a pure black but rather a dark brown or seppia color. To achieve a true, deep black, essential for high-quality text, an additional black ink is used. Furthermore, printing with composite black uses more ink and results in higher costs. That's why adding black (K) to CMY model is crucial for printers.

Why do YUV, YIV and YCbCr color models use blue and red chrominance and not green chrominance?

The YUV, YIV, and YCbCr color models use blue and red chrominance instead of green chrominance because our eyes are more sensitive to green. The luminance component (Y) in these models already captures enough information to reconstruct the green part of the image. As a result, there is no need to use green as a separate chrominance component, allowing the models to focus on blue and red for chrominance instead.

Which are the steps of the JPEG compression which lose data?

Complimenti!

- Image preparation ✓
- DCT ✓
- Quantization ✓
- Matrix linearization
- Huffman and Zero Encoding

Provide an example of image for which JPEG is not the correct choice

Scrivi il tuo messaggio...

Puoi rispondere diverse volte

An example of an image for which JPEG compression is not a good choice is one with high-contrast color changes (for instance an image that captures a striped tshirt). Since colors in the picture change with high contrast, the pixels in an 8x8 block change gradually the color from a tonality to another. This is due to the fact that the dominant color is different in some portion of the same block. When small variations are essential, as in this scenario, discarding them (as JPEG does with lower-frequency components during quantization) decreases the ability to accurately reconstruct the original contrast. That's why JPEG compression works better with gradual changes and can lose minor details.

Invia