JPEG

Which half (or 90%) to lose?
how to loge it

Each aspect tumble = decide what is important

1. Color - sensitivity
   \[ YIQ \rightarrow YCrCb \]
   Quantize differently
   Downsample

2. High Frequencies just the details
   
   Convert to freq.
   DCT \[ \rightarrow \]
   highly quantized HR = probably zero
   quantize differently

3. Clever coding to make entropy obvious
   high frequencies mainly zero (after quantize)
   put them last (lots of zeros at end)
   "and the rest is zero" \[ \leftarrow \] RLE coding
   Huffman Coding
Rasterization + Sampling

a Dot:

\[ \ldots \ldots \quad \leftarrow \text{aliasing - it's too HF for grid} \]

1 nearest neighbor \Rightarrow aliasing = positional error

\[ \text{Looks like } \ldots \ldots \]

\text{make splat bigger}

\text{blurrier - but smooth}

\text{can tell where it is, but lose sense of “small dot”}

Sometimes aliasing is not so bad -

need a more “global” picture

\text{Font Hinting:}

\text{want edges to be crisp}

\text{want spaces preserved}

\text{Pixel Aligned Graphics (usually not 3D open GL)}

\text{concious choice on sharp edges}

\text{treat horiz/vertical special}
Back to drawing...

The Interactive Graphics Abstraction Set:
- Triangles
- Transforms (w/ homogeneous coordinates)
- Z-buffer
- Composite / blend
- Stencil
- Texture
- Local lighting

What can you build with these?
How can you extend / new abstractions

Why do a few things well....