COMPRESSING XKCD IMAGES

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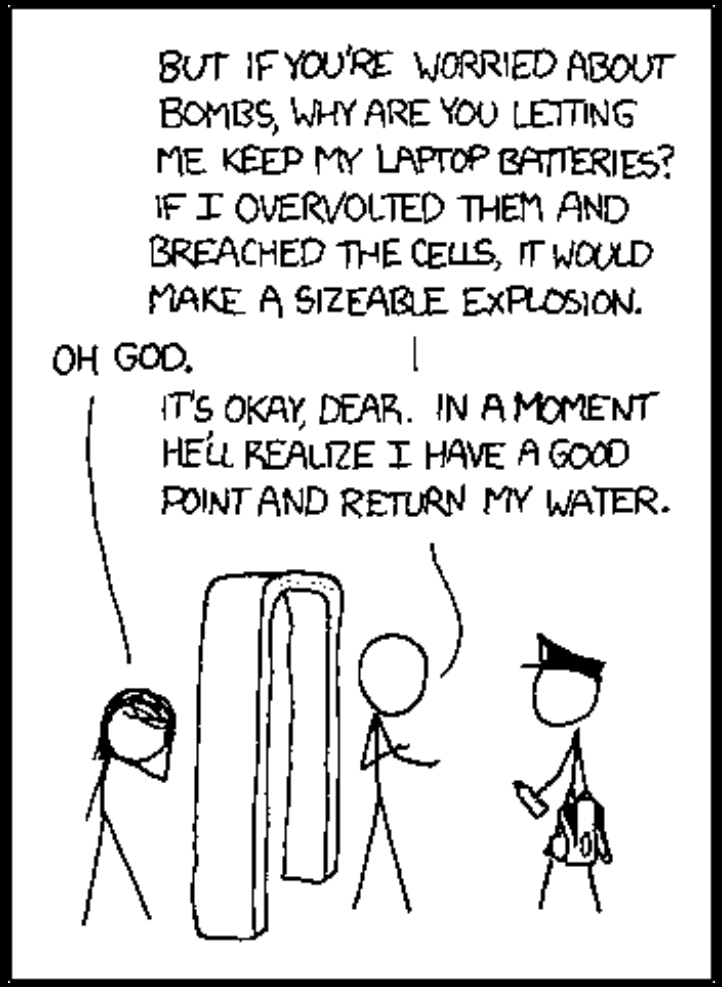
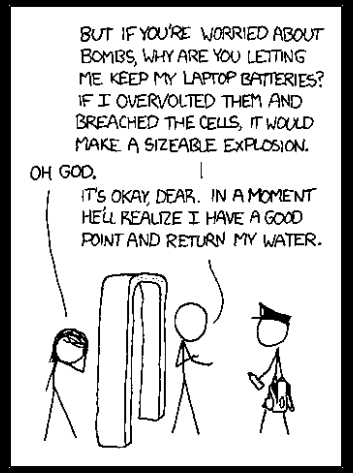
XKCD IMAGE EXAMPLE



COMPRESSION AND DECOMPRESSION ALGORITHM

- Stored height and width
- Stored location and length of horizontal black strips
- Used 1st bit to tell if the integer ahead was 7 bits long or 15 bits long. (0 for 7 and 1 for 15, giving a total of 8 or 16)

- Decompressed image:



EFFICIENCY

- For the example xkcd image, it reduced the size of the image from an original 21 kb to 19 kb.
- This is less than 1 bit per pixel.
- .9 bits per pixel for the example image
- Compression (compressed kb/original kb):
  - 532: 16/29
  - 758: 11/22
  - 809: 27/48
  - 889: 13/20
  - 1067: 13/27