Project

- Digital Camera
  - User Interface
  - Compression and Storage
Display

- Live Video
- Capture
- Shoot Button
- Cursor
- Last Picture
Display

Capture

Click!
Display
Display

Live Video

Capture
Storage

Row, Column = Address

ZBT Ram 1

Click!

Compression

ZBT Ram 2

Your Picture
Image Compression

- 2D Discrete Cosine Transform: decomposes image into frequency components
  - Apply 1D transform to rows and then to columns
  - Separately transform 8 x 8 blocks of image
  - Eye acts as natural low pass filter
    - Only store low frequency components of image
Image Compression

- ZBT Ram can store ~ 5-6 pictures
Possible Additions

- Visual effects such as zoom, rotate, and blur
- Watermarked symbol that appears after processing the image
Questions?