

FINAL PROJECT

Note Title

4/14/2009

Team A | David | Jessica | Wei

Salman | Albert | Wilson

Jay | Matt | Ziang | Kieren | Blaze

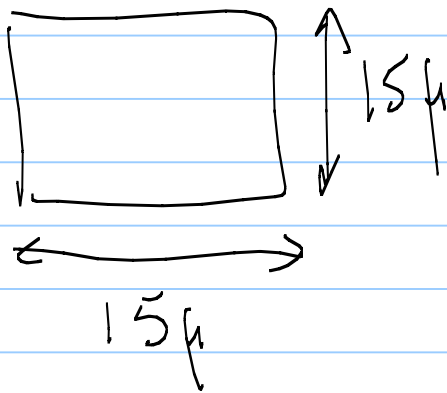
Joe

Team B

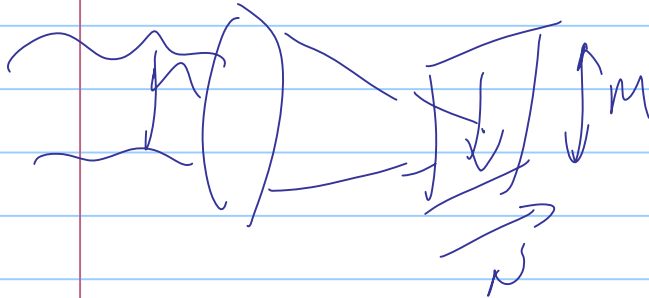
Yufeng | Paul | Charles | Adam

Alex | Shawn | Grant | Rob

Man



Visual Processor



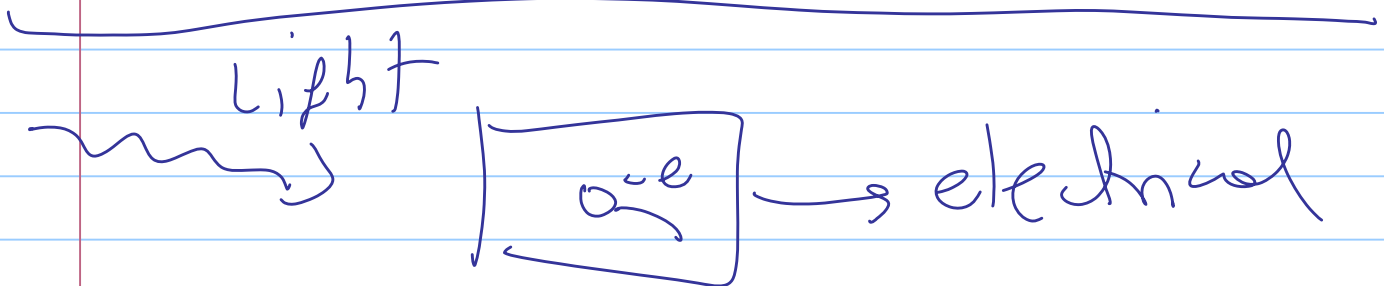
- 1) Capture data B
- 2) Photocell. B
- 3) Array ? B
How big? A

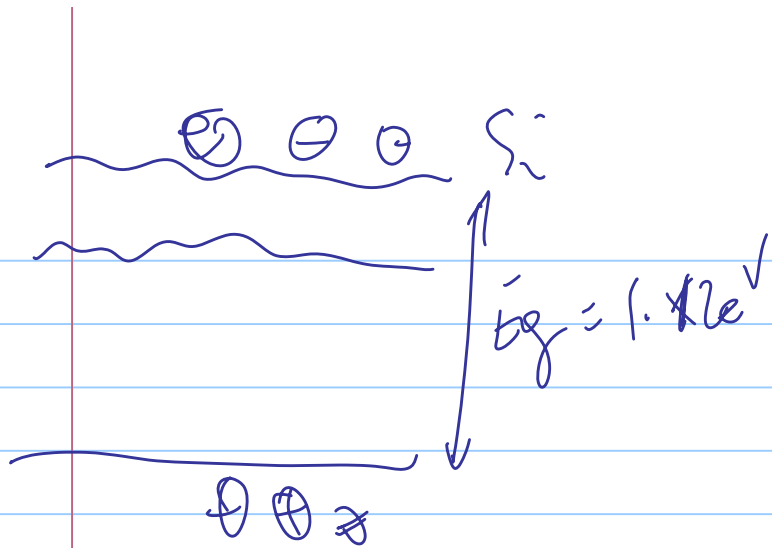
How to relate lens size to array size? B

↓
2mm x 2mm

Wavelength of light A
~~400~~ 600 nm $\frac{1}{2}A$
 Design for long wavelength $\frac{1}{2}A$

Small size high resolution A
 low cost B

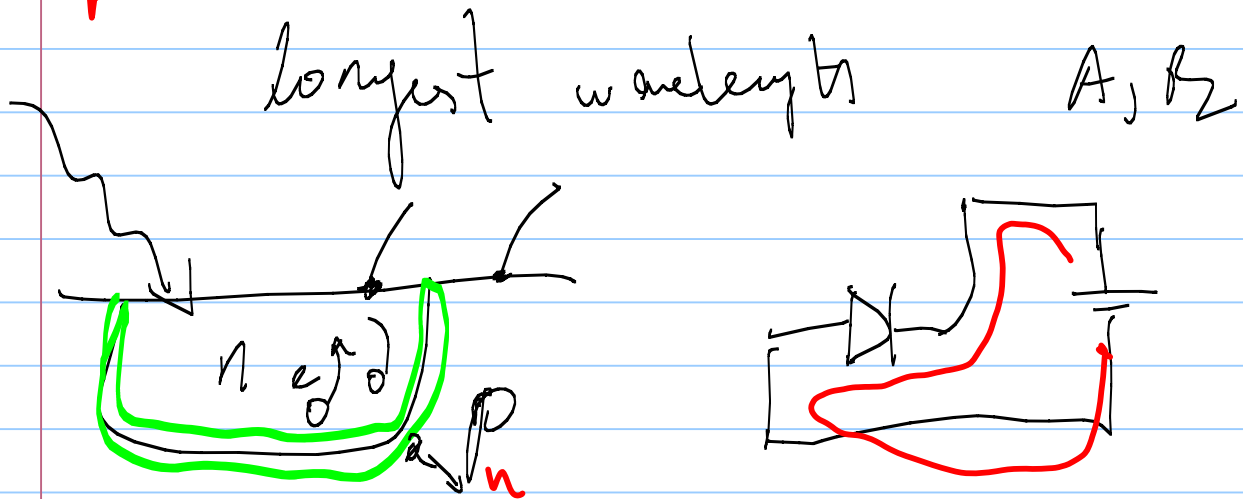




Does light have enough energy B

$$E = h\nu$$

2) Calculate the limits of sensitivity for Si photodetector

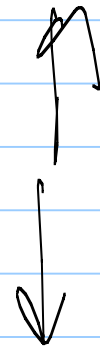


$$QE = 0.5$$

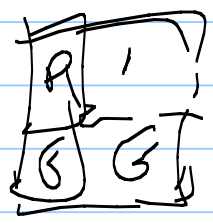
Sensitivity

Large pixel

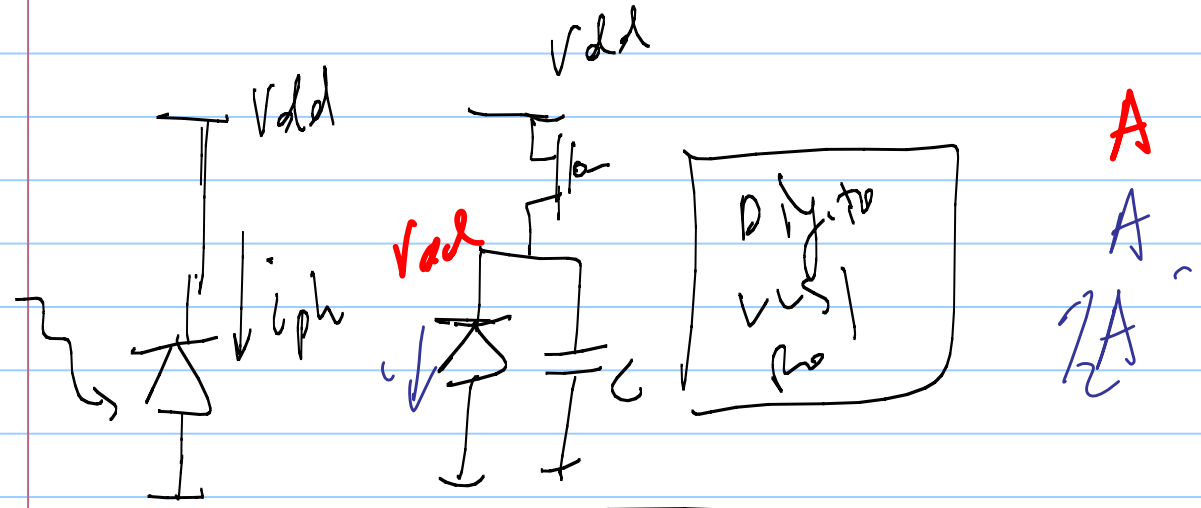
Small pixel



How do we encode color ? A



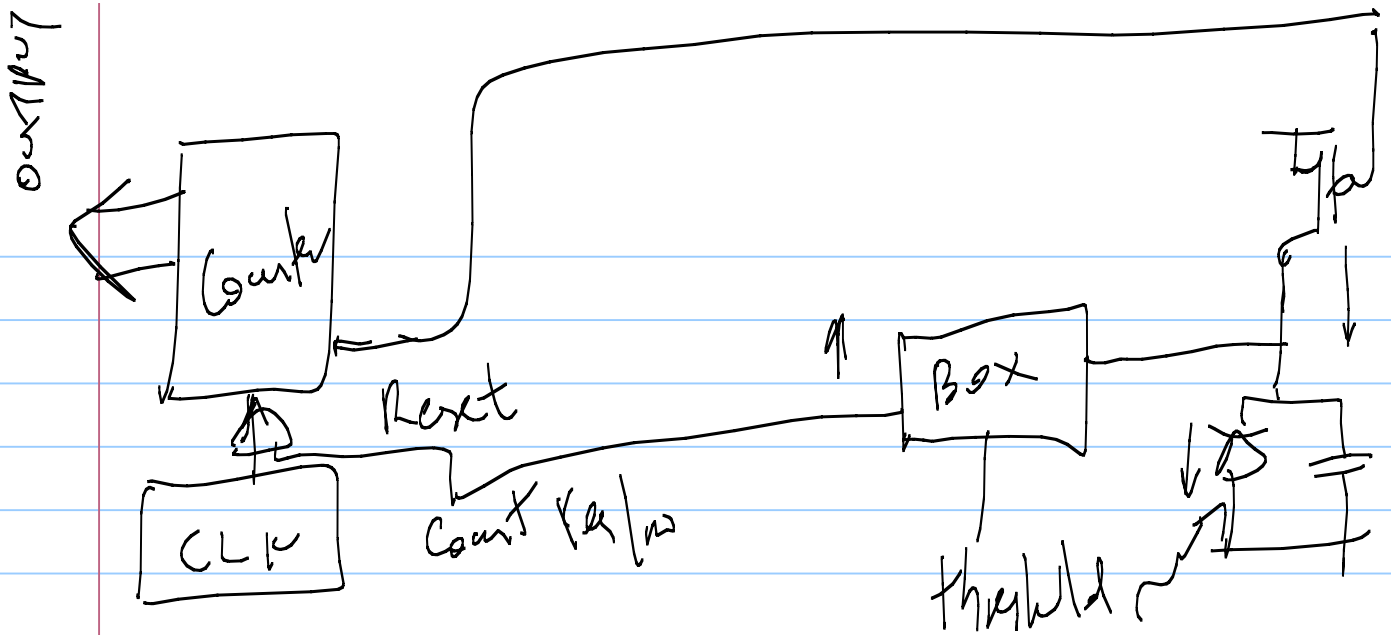
Problem with segment



3) Look at the tradeoff is $C / (V_{dd} / T_{discharge})$

ADC ?
 Threshold
 AND Gate
 Counter UP/down

~~B~~
 A
 AA



way piped gets a dash?

~~B~~

how about space

A

how down read from counter

A

Can I have a flip flop

~~B~~ / B

Clock frequency related to light intensity

A

