Mini-project: Chromakey

Who knows what this is?
Mini-project: Chromakey

Green screen is an example!
Example: Background Subtraction

- Take a picture of a girl and put her on the moon
Example: Background Subtraction

- Make a picture of a girl on the moon.
- Her against the wall
- Just the wall
Example Solution

- For each pixel in the picture
  - get the corresponding pixel from the background

- Are the colors close?
  - This must be where the girl is NOT!

→ So replace the original pixel with the moon pixel
Result...
What happened?

- colors on the shirt ~ the colors of the wall
Chromakey!

- Weathermen!
  - Pose in front of a blue screen
  - Swap all “blue” for the background
Pseudo-code

def chromakey(source, background):
    for each y  #do the rows
        for each x  #do the columns
            get source pixel sourcePX
            if color of the sourcePX IS green  #???
                get background pixel’s color
                set color of sourcePX to be the background color
Which would work to test if a pixel is green?

a) \( \text{getGreen(pixel)} > 200 \)
b) \( \text{getRed(pixel)} + \text{getBlue(pixel)} < \text{getGreen(pixel)} \)
c) \( \text{green} = \text{makeColor}(0, 100, 0) \)
\[ \text{distance(getColor(pixel), green)} < 15 \]
d) \( \text{getGreen(pixel)} > 50 \)
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