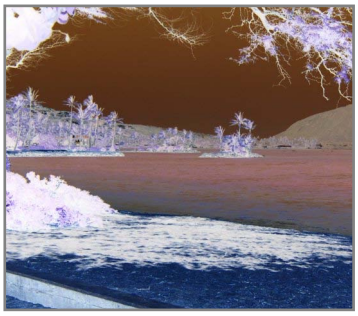
GP

Transform a Picture into a Negative...and Back Again!

WHAT TO DO

Negation is the process of replacing the color of pixels with their inverse. Since the inverse of the inverse is the orginal, negation is an example of a reversible effect. In this project, you will transform an image into a negative and then reset the image by reversing the effect. Check out more cool effects on the next page!

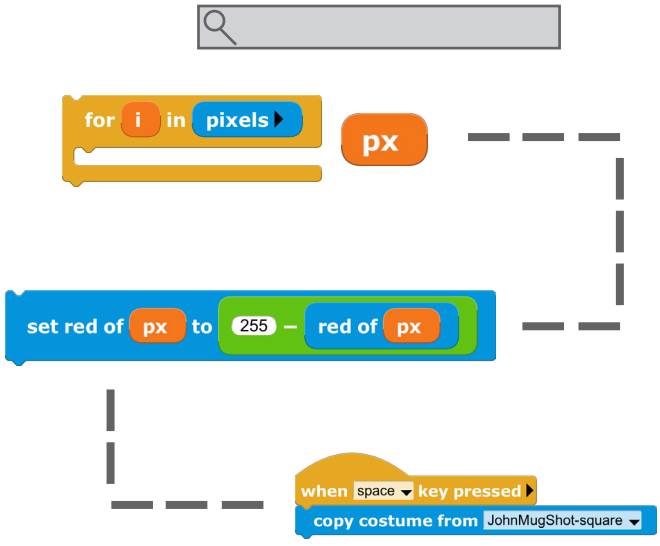
HOW TO DO IT

In order to change the pixels in the image, we need to create a variable representing the pixels. Find the ***for*** block in the control category and click to change the "i" to "px" to represent the pixels in the image.

Next, we want to develop a way to search through all the pixels of the image and inverse their colors. To do this, set the red pixel values to 255 minus the red of the pixels. To make copies of the "px" block, click and drag it out of the ***for*** block. Repeat for the green and blue pixels.

Lastly, we want to clear the effect when we click a key. Use the copy costume block to reset the image.

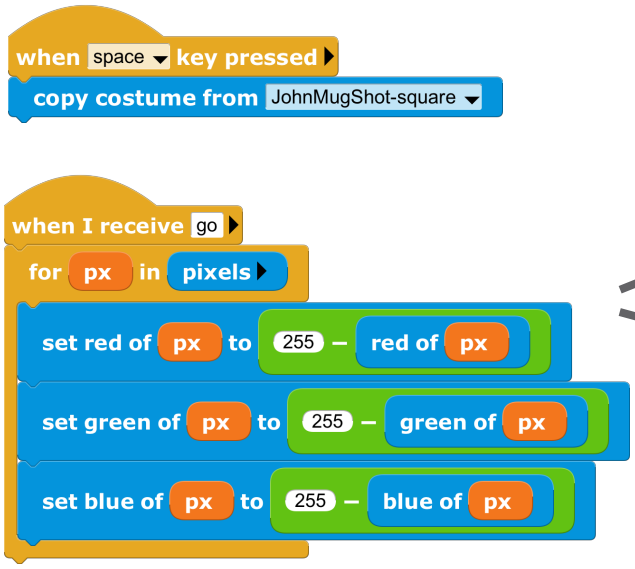
HINT
Use the search bar in the blocks palette to quickly locate blocks.

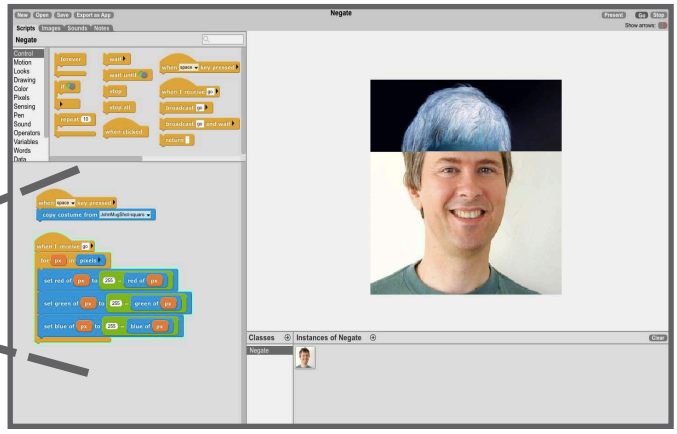


Why 255?
GP uses 8-bits to store the amount of red, green, and blue in each pixel and 8-bit integers have a range 0 to 255.

continued

GP





HINT
Turn off Show arrows: *to see the image without the arrows following the mouse.*

Remix 1

How might you add another image to manipulate?

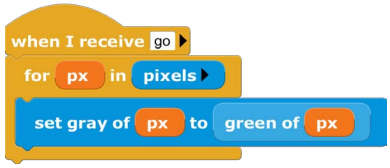
Remix 2

How might you animate the image to switch back and forth forever?

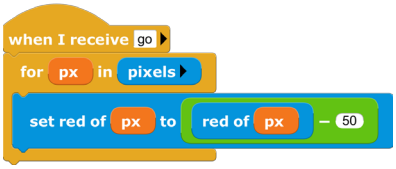
What's Next?

Try out these effects! Which ones are reversible?

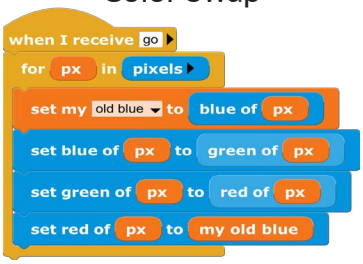
Grayscale



Reduce Red



Color Swap



But wait, there's more! Click Open then *Examples*. Choose *Demos* and then the *Pixels* folder to see projects with more effects like *Sketchy*, *Speckled*, and *Warhol Effect*.