# CS 211 Lab 3

In this lab, we will once again be working with PPM files. This time around, we will combine two images using a "green screen" effect. Without any constraints to the problem, performing a green screen overlay effect can be quite difficult as there are a number of factors that must be considered. For this lab, we will simplify the green screen effect's requirements in the following way:

1. We will assume that both the green screen image and the original image have the same dimensions.
2. We will assume that both images also have the same number of pixels per line. Note that the PPM specification doesn't say how many pixels are on each line of any given file.

## Green Screen Algorithm

1. Let target\_file refer to the original image.
2. Let key\_file refer to the "green screen" image.
3. Let final\_file refer to the combination of the original and green screen image.
4. Let key\_color refer to the RGB value in the 0,0 column/row of key\_file.
5. Simultaneously loop through each line in both target\_file and key\_file.
6. For each pixel in the line:
   1. Determine if the RGB value matches key\_color. If there is a match, output the pixel from target\_file into final\_file. If there is not a match, output the pixel from key\_file into final\_file.

## Implementation

For this lab, I'll leave the particulars of the lab's implementation up to you.

## Sample Images and Output

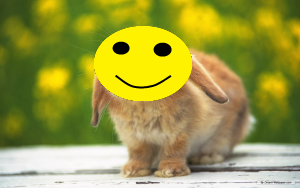
We will use the bunny picture from PA2 as the target file:



We will use my crudely-drawn smiley face as the key file:



Note that the green background in the above image serves as the key color. When combined, we get the following image:



Here is the output of my program:

