Master’s Project Description

# Problem

Given a secret message or image, embed that information into two other innocent images. The only way the secret is revealed is if the two encoded “innocent” images are stacked on one another. Based on previous research, I will want all three of the images involved to have the same dimensions. The secret message can be text converted to a JPEG or PNG file. Ideally, the description process should not require a computer, i.e. if the two encoded images are printed on transparencies, then the secret image or message will be revealed when the transparencies are stacked.

# Expected Solution

I plan on taking advantage of the size variant visual cryptography scheme, which allows images to keep their original dimensions after being encoded. Other visual cryptography schemes increase the dimensions of the encoded images to store the distributed secret information. Once the initial set up is in place for images composed of black and white pixels, I will move to implementing the encoding on gray-scale images using the halftone visual cryptography scheme. The final product will use the color visual cryptography scheme. This will allow the users to take advantage of color images as either secret images or innocent images to be encoded.