**Blending - Solution**

1.Method Description：

    First, to generate the stacks or pyramids. I applied Gaussian filter with different sigma values to the original images, this formed each level of my image stack for both images. I first set up an initial sigma, the relationship between the sigma we use and the level number is new_sigma = init_sigma * (2**level-1). For each newly generated level of the image stacks, I subtracted the last level of the this level to get the Laplacian pyramids for both of the image1 and image2. Using the similar methods with levels subtracting each other, I built a Gaussian Pyramids for the mask. Eventually I used the formula from page 230 to get the final pyramids, and add up every level of the pyramids to generate the blended image.

2.Oraple:
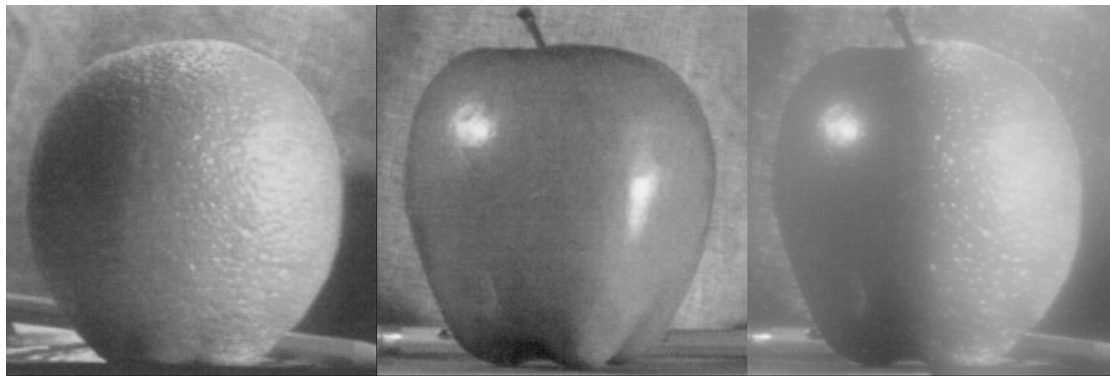
3.Blends of my own choice

    At first I tried the blending with the game concept art of my favorite video game, Red Dead Redemption, just to see if my blending algorithm works for other images that can be blended via the vertical seam, even though the two pictures are not as well-blended as the orange and apple images(They are quite different in shapes), I got relatively good results.


    I did not make any modifications for this, except that I realized two images might

have different sizes, so I modified my code so that one image always have the same size with another.

To test the horizontal blending of two images, I used the image processing software to rotate the original image picture provided. This leads to the following blended images for orange and apples.
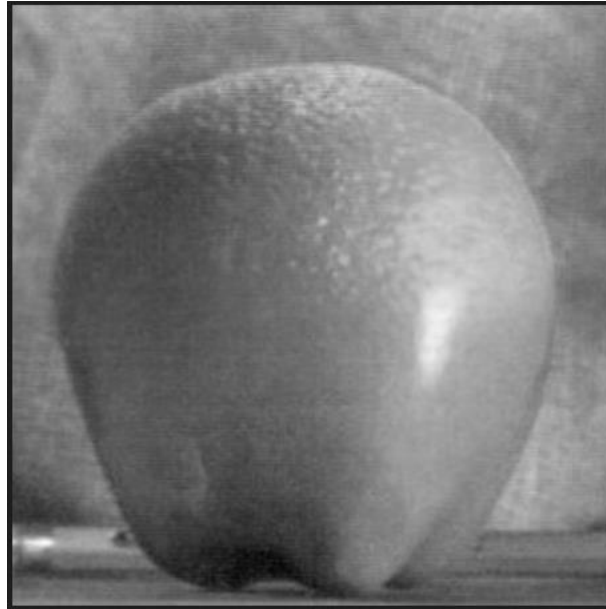
For further testing, I used two screenshots from video game MEDIUM, here are the results:
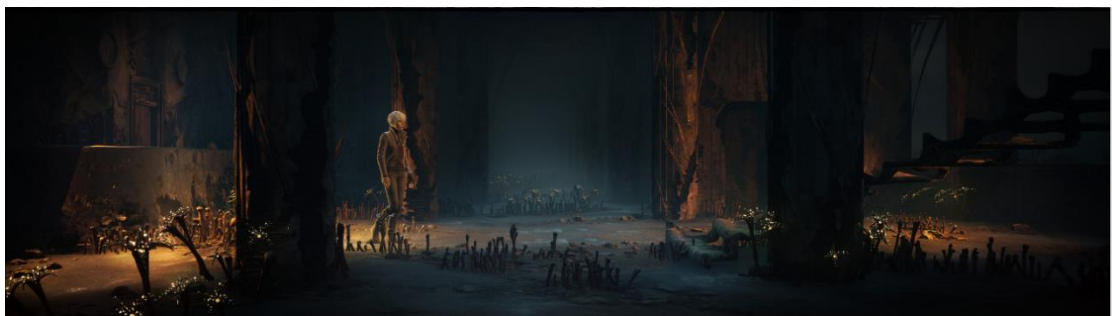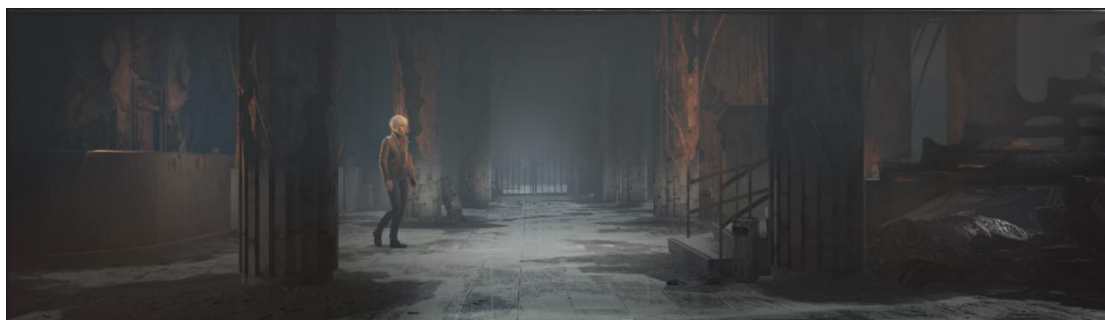
The two images are extremely similar by themselves (this game is pretty good! I strongly recommend), which results in a perfectly blended image.