Triangulation Matting Report

For the Triangulation Matting method experimental evaluation. I found this method need strict condition with output position.

-**The first experiment**: try to implement Triangulation Matting method with **object's position of input composite image that slight different** with two composite images

The inputs I used:

All the image was taken by iphone with normal setting.

backA.jpg 
backB.jpg 

compA.jpg 
compB.jpg 

Matting RUN:

```
python viscomp.py --matting \
        --backA ./report/Back01.jpg \
        --backB ./report/Back02.jpg \
        --compA ./report/Comp01.jpg \
        --compB ./report/Comp02.jpg \
        --alphaOut alpha.tif \
        --colOut col.tif
```

OUTPUT

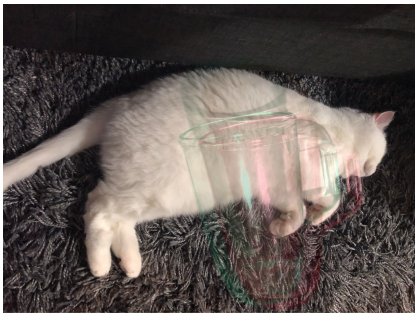
alphaOut.jpg 
colOut.jpg 

As above we can see the alphaOut.jpg and colOut.jpg is different with what we expected. The output image display two glass **overlap** each other. Since glass's position in compA.jpg and compB.jpg is slightly different. And also this method miss catch the shadow of the glass as the object.

Compositing RUN:

```
python viscomp.py --compositing \
        --alphaIn alphaOut.jpg \
        --colIn colOut.jpg \
        --backIn ./report/cat.jpg \
        --compOut output.jpg
```

Then I composite with this image:

 → The output: 

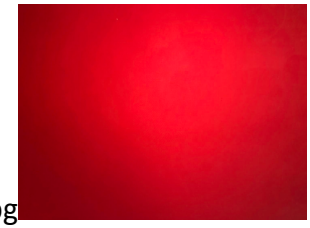
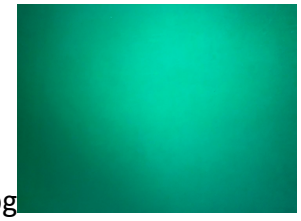
Coclusion:

This method can get failure easily when the object's position is slightly different between two input images. And in the real world, it is hard to take images with different background, and keep every pixel of the object at the same position.

The shadow problem: And this method cannot handle shadow of the object. Sometimes, we do not want keep the shadow after matting

-**The second experiment**: try to implement Triangulation Matting with **object of input composite images with same position**:

The input image:

backA.jpg  backB.jpg 

compA.jpg 

compB.jpg 

Then the alphaOut and colOut I got:

alphaOut.jpg 
colOut.jpg 

Then compositing:


→The Output 

much better than last experiment.

The **limit of this method** I got: Triangulation Matting need to be very precise with position of object in the two composite input images. Otherwise, this method will produce two object **overlap** each other.