

Report on A1

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The procedure i used to capture picture is to put my camera in a very stable platform and use Manual instead of Av (Aperture-first) or Tv(Shutter-first) to maintain the same shutter time and aperture width in the backgrounds and their composites. Also I turned off any adjustment made by the camera itself so that the object i want to cropped out with stay the same colour. The reason why i put on a stable platform is to eliminate any possible for one object to dislocate thus the object get in the ColorOut picture with not have collisions. I tried to photographed in a rather dim room but i found out that there is still exposure compensation automatic made by the camera itself so i tried to turn the lights on and get a better result.

First Test

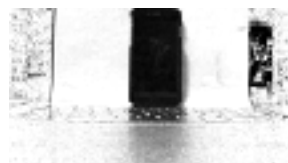
I firstly used the front side of my iPhone which is a little bit of reflective as the object i want to crop out.



back1



back2



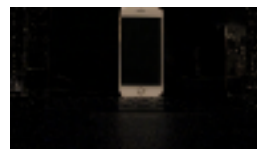
alpha



comp1



comp2



colorOut



backIn



result

I noticed that although i controlled perfectly but the result is still a little imperfect. I noticed that the shadow can cause the problem since the keyboard can display different shadows when there is a white paper which reflect more light on it and the black screen which reflect less. And

somehow the phone screen is deemed transparent. It can't distinguish the difference between reflect and transparent very well.

Second Test

Then i turned over my phone and use the neither reflective nor transparent phone case.



back1



back2



alpha



comp1



comp2



colorOut



backIn

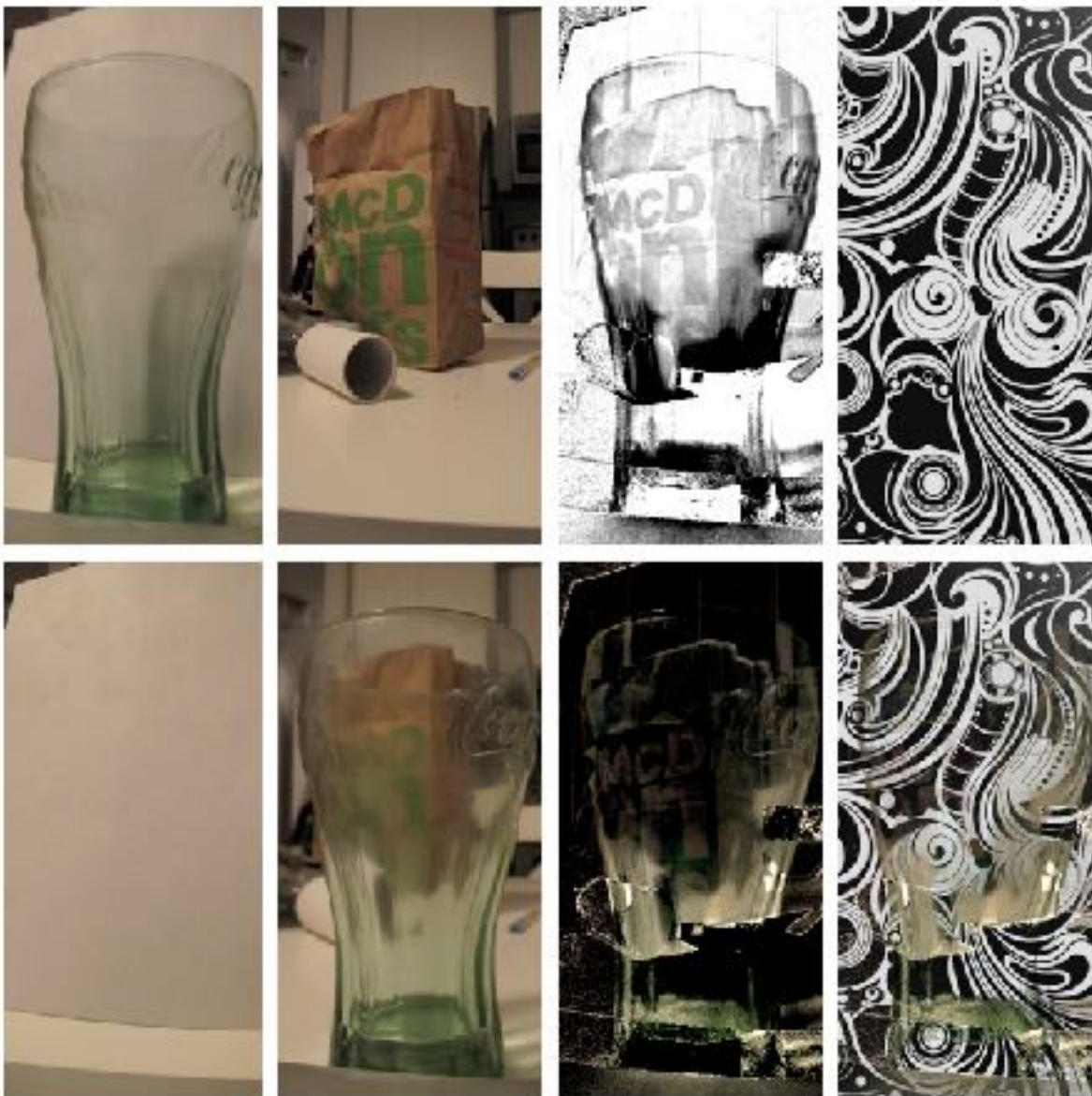


result

Though i can still see some keyboard there but now my phone is clearly cropped out and changed another background which is more anticipated result.

Third Test

This time i tried a glass cup to see how it handles transparent object.



The transparent glass cup works as I expected, however, the shadow caused one collision in the glass and one collision on the side of the glass.

The downside of triangulation matting

This method has various limitations: (1) It needs a total of four pictures to crop out the object at the foreground which is costly (2) The photography environment and conditions(which includes camera itself) has to be unchanged which is not easy to achieve (3) If anything which shadow and reflective surface, it can cause undesirable object to appear at the foreground.

Written question

The reason why the alpha isn't zero is because there is wrinkles on the original white background and its composite. Thus it creates shadows. Shadows makes alpha value a little higher than it should be.

