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Assignment 1 Report

Results

I was not able to obtain any results. I am not sure how to extract results from a filtered image. For some reason my filtered image resulted in a white picture (a matrix with all values being 255). Even if I was able to run the filter through the image, I am not sure how the resulting filtered image would be able to tell me where the eyes are.

To be honest, I really have no clue where to even start on a problem like this with no formal teaching on the matter.

Algorithm Description

My algorithm first reads in my template image I am using as a filter. It is an image of an eye. It then converts both the filter image and the incoming image to grayscale for faster processing. It then runs the eye filter over the image and gets the resulting filtered image.

At this point I do not know how to extract the location of the eyes out of the resulting filtered image.

Difficulties of Problem

This problem is very difficult – besides not knowing what to do – if someone did know what to do the problem is still very complicated due to the nature of images. First, images come in lots of different sizes, so searching for objects that can be in an infinite size range, in pictures that can be of infinitely different sizes is very hard. Secondly, images have depth to them since they are capturing the 3D world, so finding objects far off in the scene is difficult, especially if the resolution is bad or there is noise in the picture. Finally, pictures are taken in an infinite array of lighting conditions, rendering a picture of an object in a multitude of different light situations completely different. Also, when looking for eyes, the human face can be rotated along the x axis, the y axis or the z axis, making the shape and location of the eyes infinitely different and hard to detect.