Instructions of the Digital Camera Contest v1.3.2

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I. Introduction

Digital Camera Contest is held in our laboratory every year. You will get 3 sets of images (30 images per set, 90 in total) and compare the output images of your algorithm with SONY's images. At least 5 images are better than SONY's in each set, you can join our lab. The purpose of the DC contest is to examine the ability for image processing.

The testing images and the program files are in the following link.

https://drive.google.com/open?id=1jP5KzSy8mckc7aIEmYHsMtJNx-uyoTMy

II. Steps

A. *Step1*

Unzip Round I~III.zip, and you will get 30 sets of images. For each image, you will get 2 files with different extensions, that is "*.jpg" and "*.srf". The jpg files are the image files processed by SONY camera, they are the images that your output images are compared to. The srf files are the raw image files captured by SONY camera, you need to apply some image processing method on it by your program, in order to make the result better than SONY's images.

B. *Step2*

In this step, you need to transform the srf files to the clear files by the program we provided. Use "**給新生的 DC 競賽資料/sony_raw_decrypt/Debug/sony_clear.exe**" program to process all srf files. You'll get the corresponding .clear files. If you want to finish it in the windows command line, please execute the following command — "sony_clear.exe 001.srf".

C. *Step3*

The program "給新生的DC競賽資料/code/image.cpp" is the example program, which already implement the basic image processing algorithm. All you need to modify is in the program "image.cpp", that means you need to implement your own algorithm, or modify the functions that are already exist in the program. The goal is to optimize the algorithm to make the output images "look" better than the images of SONY camera.

When you are already satisfied with your algorithm, please follow the next step to output the result images.

D. *Step4*

Compile the program "給新生的DC競賽資料/code/image.cpp", you'll get an executable file. After using the executable file to process all the clear files, the program will output bmp files, which are the result files that you need to send back to us. If you want to finish it in the windows command line, please execute the following command — "xxx.exe 001.clear".

E. *Step5*

You have to send the zip files contained all 90 images outputted by your program. And we will check whether the images outputted by your algorithm are better than the images that processed by the algorithm of SONY, which is the .jpg files mentioned in the setp1. Masters and Doctors in our laboratory will vote between the results outputted by you and SONY, to determine which one is the better image.

Finally, if at least 5 images outputted by your algorithm are better than SONY's in each set, and you can join our lab.